The background image shows a geothermal power plant site. In the foreground, two workers wearing blue long-sleeved shirts and dark pants are bent over, working on a large, cracked, reddish-brown earth surface. They are wearing large, flat, light-colored hats. In the middle ground, there are several concrete structures and pipes, with a person in a blue shirt standing near them. In the background, there are more industrial structures and a mountain range under a clear sky. White steam is rising from the ground in several places.

ADB Geothermal Debacle in Indonesia: a case study of ADB financed Dieng Unit 2 Geothermal Power Plant Project

Risma Umar and Yudith Sari Dewi

**Aksi! for gender, social and ecological justice
2025**

Title: ADB Geothermal Debacle in Indonesia: a case study of ADB
financed Dieng Unit 2 Geothermal Power Plant Project

Authors: Risma Umar & Yudith Sari Dewi

Editor & translator: Titi Soentoro

Layouter: Yudith Sari Dewi

All the photos are a courtesy from Aksi!, Perpustakaan Rakjat, and Aliansi
Rakyat Menolak Geothermal Dieng

Published for the first time in 2025 by Aksi! for gender, social, and
ecological justice

Jalan Kalibata Tengah XVII B No. 25, Kalibata, Jakarta Selatan, 12740
sekretariat@aksiforjustice.id
www.aksiforjustice.id

Foreword

Aksi! conducted an investigation from December 1 to 7, 2024, regarding community resistance on the Dieng Plateau in Central Java against the Dieng Unit 2 Geothermal Power Plant (GPP), which is funded by the Asian Development Bank (ADB). The Dieng Unit 2 GPP is an extension of Dieng Unit 1 GPP, which has been in operation since 2002 and is managed by PT. Geo Dipa Energi (GDE), an Indonesian state-owned enterprise. The locations of Dieng Unit 1 and Unit 2 GPP are in areas with high population density, close to hotels, homestays, and restaurants. The Dieng Plateau is a well-known tourist destination in Central Java, Indonesia, and is also home to potato farmlands, which serve as the primary source of income for local communities.

The Dieng Unit 1 GPP has left a long trail of damage, including air and water pollution, minor earthquakes, pipe explosions, and toxic gas leaks (H₂S) that endanger villagers and workers. From the construction until the operation phase of the Dieng Unit 1 GPP, the communities have endured a decline in their quality of life, from difficulties with clean water and health problems to decreased income from agriculture to the loss of agricultural land as the primary source of livelihood for Dieng community. Moreover, intimidation from the security force and their hired thugs, criminalisation of villagers who opposed the project, social conflicts among the community, and other negative experiences. The problems triggered by Dieng Unit 1 GPP have led to severe community resistance against its expansion to Dieng Unit 2 GPP.

In addition to the lessons learned from the Dieng Unit 1 GPP, the villagers in areas designated for the Dieng Unit 2 GPP experienced similar bad practices from the GDE. These included a lack of information regarding the exact location of the project, including the new wells, coercion to sell their lands, and intimidation tactics when they resisted. When the villagers rejected the Dieng Unit 1 GPP expansion, the local government, GDE, and ADB ignored the affected Dieng community's interests, opinions, and voices. The lack of transparency of information, pseudo-consultation, and intimidation of villagers who rejected the project have become bitter realities the community has faced from 2019 until now.

The Asian Development Bank (ADB) overlooked the negative experiences of the communities in the Dieng Plateau regarding the Dieng Unit 1 GPP when deliberating the Dieng Unit 2 GPP project proposal. It even classified the Dieng Unit 2 GPP as a Category B project and approved the project proposal. This kind of ignorance must come to an end to prevent further harm. We need to acknowledge the struggles of the affected communities in defending their rights to land and natural resources. The definition of clean energy should be redefined to incorporate the communities' perspectives, especially the women, concerning their lives, livelihoods, environment, and natural resources, as they are most affected by these decisions.

Jakarta, April 2025

Aksi! for gender, social, and ecological justice

Abbreviation

ADB	Asian Development Bank
ANDAL	Analisis Dampak Lingkungan (Environmental Impact Assessment/ EIA)
CO2	Carbon dioxide
CTF	Clean Technology Fund
EIA	Environmental Impact Assessment
GCF	Green Climate Fund
GDE	Geo Dipa Energi
GPP	Geothermal Power Plant
H2S	Hydrogen sulfide
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IFIs	International Financial Institutions
IUCN	International Union for Conservation of Nature
JBIC	Japan Bank for International Cooperation
JPIC-OFM	Justice, Peace and Integrity of Creation – Ordo Fratrum Minorum
PLN	Perusahaan Listrik Negara (state-owned enterprise)
KfW	Kreditanstalt für Wiederaufbau
LHK	Lingkungan Hidup dan Kehutanan (Environment and Forestry)
MDB	Multilateral Development Bank
NGO	Non-Government Organization
OCR	Ordinary Capital Resources
Permen	Peraturan Menteri (Ministerial Decree)
Permenkes	Peraturan Menteri Kesehatan (Ministerial of Health Decree)
PGSP	Power Generation Sector Project
PLTP	Pembangkit Listrik Tenaga Panas Bumi (Geothermal Power Plant/ GPP)
PMN	Penyertaan Modal Negara (State Capital Participation)
PP	Peraturan Pemerintah (Government Order)
PT	Perseroan Terbatas (Limited Liability Company)
RPL	Rencana Pengelolaan Lingkungan (Environmental Management Plan)
RPL	Rencana Pemantauan Lingkungan (Environmental Monitoring Plan)
SEAEI	Sustainable Energy Access in Eastern Indonesia
SIAP	Sustainable Infrastructure Assistance Program
SIEP	Sustainable and Inclusive Energy Program
SOE	State-owned Enterprises
SPS	Safeguard Policy Statement
TA	Technical Assistant

Introduction

In 2020, ADB provided a loan to PT. Geo Dipa Energy (GDE), an Indonesian state-owned enterprise, amounted to USD 300 million in investment in the development of Dieng Unit 2 and Patuha Unit 2 Geothermal Power Plants (GPPs), each with a capacity of 55 MW. The loan is a business to business loan or direct lending.¹ The Dieng Unit 2 is an expansion of the Dieng Unit 1 GPP project that operated since 2002. The Dieng unit 2 GPP project has been prepared since 2019 in the form of funding preparation, project planning, and preparation of procurement documents. The physical activities of the project would begin in 2022-2023. In 2012, GDE received funding from Bank Negara Indonesia (BNI) and Bank Rakyat Indonesia (BRI) to develop Patuha and additional State Capital Participation (PMN) of IDR 700 billion to expand Dieng Unit 2 GPP.

GDE manages Dieng Unit 2 GPP in the Dieng Plateau area at an altitude of around 1600 - 2100 meters above sea level in Banjarnegara Regency and Wonosobo Regency, Central Java Province. Dieng Unit 2 GPP is considered a national strategic project that has obtained a principle permit² according to the Decree of the Minister of Energy and Mineral Resources No. 2789 K / 30/2012 concerning the Affirmation of Geothermal Management Areas in the Dieng Plateau area to conduct geothermal resource management with an area of 113,400 hectares.

In 2006, the Japan Bank for International Cooperation (JBIC) conducted a feasibility study in collaboration with West Japan Engineering Consultants (WestJET). From 2013 to mid-2029, PricewaterhouseCoopers (PwC), in partnership with Electroconsult (ELC), updated the feasibility study with updates including electricity generation study and reservoir evaluation to assess the feasibility of developing a geothermal field, including technical design of production wells and design of a power generation system.

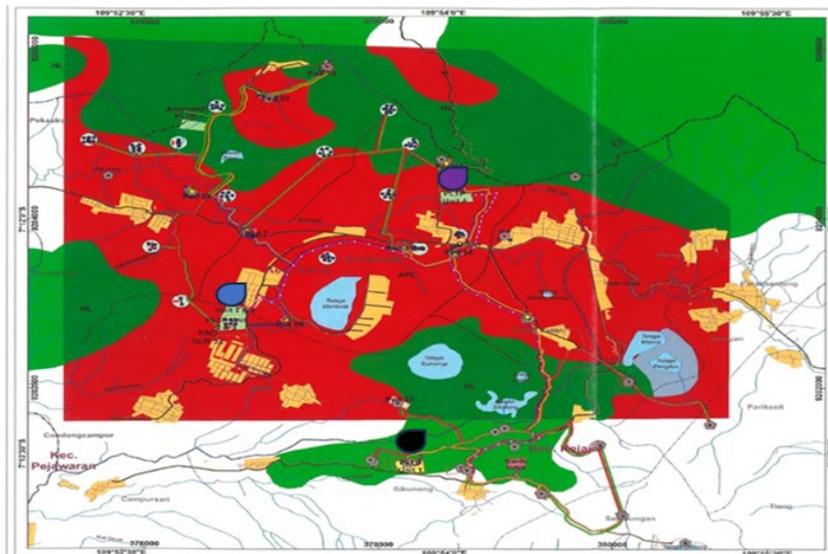
Since 2018, GDE has started the Dieng Unit 2 GPP Project by identifying investment costs for a 60 MWe power plant with an estimated investment cost of USD 150 million for the construction of drilling pads infrastructure, production well testing and re-injection, FCRS (steam, brine and condensate pipes, valves, separators and pumps), power plant installations, 150 kV transmission lines from the power plant to the PLN Dieng substation.

¹ <https://www.tempo.co/ekonomi/dapat-pinjaman-dari-adb-geodipa-tambah-kapasitas-pltp-614240>, <https://www.adb.org/id/news/adb-approves-300-million-loan-increase-indonesias-geothermal-electricity-generation>

² A permit obtained by a person or legal entity that will utilize space for a large-scale business place

Dieng Unit 2 GPP's includes constructing a new power plant, substation, transmission line, and pipeline network. Although the Project won't add any new well pads/drilling sites, it will build 10 new wells and re-drill 12 wells on existing well pads. Activities include (a) drilling new wells for geothermal fluid production and re-injection, (b) construction of a fluid collection and re-injection system, (c) power generation, and (d) a transmission interconnection system between the power plant and the network which includes a new 6 km underground transmission line to the Dieng substation.³

Dieng Unit 2 GPP requires an estimated land area of around 308,289 m² (30.8 ha). GDE already owns around 30.53 ha of the necessary land, while the remaining 3,010 m² is the community's private land. This expansion requires land clearing and acquisition, which has resulted in the eviction of farmers' livelihoods. Part of the land owned by GDE is being managed/used by tenant farmers and sharecroppers for potato crops. Other GDE's land located in a protected forest area that has obtained an IPPKH Permit⁴ since 2013 and will expire in 2037.



Map of Dieng Geothermal Working Area (WKP) Unit 2 that covers existing 13 well pads and 15 new wells. The black dot shows the Dieng Unit 1 GPP; the blue dot shows the expansion location for Dieng Unit 2 and 3 GPP; the purple dot shows the location for Dieng Unit 4 expansion.
 Source: Geodipa Energi (Persero), Addendum of AMDAL and RKL-RPL, the development of Dieng Unit 2 GPP

³ Sondakh, G.G. 2018. Proyek Geothermal Dieng. Penilaian Risiko untuk Keputusan Ekspansi 60 M. PT Geo Dipa Energi persero. <https://gogn.orkustofnun.is/unu-gtp-report/UNU-GTP-2018-26.pdf>

⁴ a permit to use a forest area for development purposes without changing the function and designation of the forest area

The Dieng Unit 2 GPP is above the Sethulu spring, a vital water source for the villagers of Bakal and Condong Campur villages and surrounding villagers' farms, which poses potential risks. The Project plans to build 15 drilling spots, including in the hamlets of Sikunang, Sileri, Keranjang, Karangtengah, and Bakal villages⁵. The construction site, located a mere 2 (two) meters from densely populated residential areas, will involve land acquisition of 3,010 ha. The spot of the Dieng Unit 2 GPP drilling well is 200 meters from the Sethulu spring, a water source of the villagers in Karangtengah and Bakal villages. The Dieng Unit 2 GPP construction comprises well pads and turbines for 10 wells and five production wells, while the rest are injection wells.

The resistance of Dieng Community against Dieng Unit 1 GPP and the expansion of Dieng Unit 2 GPP

The Dieng community has been living in close proximity to high-risk geothermal projects for years. Since the preparation of Dieng Unit 1 GPP their experiences have been far from positive. They have endured gas explosions, pipe explosions, toxic gas leaks, health problems, decreased income, environmental pollution, decreased water quality to become cloudy and salty, land grabbing, criminalisation of villagers, social conflicts between villagers, and other negative experiences due to the impact of Dieng Unit 1 GPP. These experiences made the villagers oppose Dieng Unit 2 GPP, an expansion of Dieng Unit 1 GPP.

The Dieng Unit 1 Geothermal Power Plant Project

GDE has operated the Dieng Unit 1 GPP since 2002. PT Pertamina, since 1974 or 1989/1990, prepared the development of the Dieng 1 based on Presidential Decree No. 2 of 1981. Pertamina then had the authority to explore and exploit geothermal resources for energy generation and to sell the product to the PLN (state-owned electricity company). From 1994 to 1997, Pertamina collaborated with California Energy. In July 2002, GDE was established with PT Pertamina shares of 67% and PLN 3%. In 2011, Pertamina returned its GDE shares to the government. In December 2011, GDE received a status as a state-owned enterprise. In 2015, the government added capital participation for development so that the government's shares were 93.3% and PLN's 6.67%.

Issues in the preparation and exploration of the Dieng Unit 1 GPP:

- The preparation and exploration stage of the project included initial surveys, permits, environmental impact analysis, environmental management plans, and environmental monitoring.

⁵ Source: Geodipa Energi (Persero), Addendum of AMDAL and RKL-RPL, the development of Dieng Unit 2 GPP

- GDE and the Wonosobo Regency government did not publish the Environmental Impact Assessment (EIA) of the Dieng Unit 1 GPP. Therefore, the public could not access the document.
- There was a lack of meaningful public consultation, particularly with potentially affected communities in the Dieng Unit 1 GPP area. The potentially affected communities did not get information on project objectives, potential impact risks, project activities, funding sources, and compensation processes for those who would be displaced and resettled.
- GDE shared information only with the offices of the village heads, which were attended by the representatives of GDE, security forces, village government staff, and some community members who supported the GPP Project. In those meetings, GDE and the local government only shared information that the GPP would bring benefits and economic improvements to the community in the villages around the project and regional and national economic benefits. They promised jobs for the communities and assistance for agricultural and other businesses or other social activities in the villages.

Findings from the investigation

In the attempt to understand the resistance of the Dieng Community against ADB-financed Dieng Unit 2 GPP, Aksi! investigated the impacts of the Dieng Unit 1 GPP operation in five villages: Karangtengah Village, Sikunang Village, Bakal Village, Pawuhan Village, and Bitingan Village from December 1 to 7, 2024. This investigation has found various adverse impacts on the environment and biodiversity, as well as socio-economic and public health impacts on social conflict. Notably, there are specific impacts on women and children, highlighting their vulnerability in these situations.

The following is a description of several findings of the investigation, both the adverse impacts caused by the Dieng Unit 1 GPP and the resolute rejection of the expansion of Dieng Unit 2 GPP by community women and other community members.

1. Environmental, Social, Economic and Health Impacts of Dieng Unit 1 GPP

From 2002 to 2024, Pertamina's GDE operated the Dieng Unit 1 GPP. Each stage of the project's construction, from exploration to operation, has carried potential risks, particularly those that could adversely impact the environment, such as pollution and habitat destruction. These risks also extend to society, with possible health issues, and the local economy, with changes in land use and resource availability.

At the preparation and exploration stage:

A significant issue arose during the preparation and exploration stage, which involved initial surveys, permits, environmental impact analysis, environmental management plans, and environmental monitoring.

- The EIA for the Dieng Unit 1 GPP, a crucial document, was not made public by GDE and the Wonosobo Regency government. This lack of transparency significantly hindered the community and the public from accessing vital information. Moreover, there was minimal public participation in the preparation and socialisation of the Environmental Impacts Assessment (EIA), including the public consultation process related to the development of the Dieng Unit 1 GPP with communities potentially affected by the risk of adverse impacts.
- Right to Information, Consultation, and Participation.
During the project preparation and exploration, GDE did not conduct any consultation process, leading to a significant lack of community participation. The community at risk of experiencing negative impacts did

not receive any information related to the project, such as project objectives, potential impact risks, project activities, funding sources, and compensation for villagers' land. GDE only conducted socialisation at the village office, which involved the company, security forces (Babinsa), village government and community leaders, and several community members who supported the Dieng Unit 1 GPP. The project implementer only provided information about the benefits of increasing the community's economy in the villages around the project and benefits for regional and national economic income, promising the community jobs and assistance to residents for agricultural, business, and other social activity needs in the village. The other problem faced by the villagers is the change in the area's status to the Dieng Unit 1 GPP, which often results in restrictions on villagers' access to water resources, which have been a water source for the community in the local village.



Dieng GPP socialization by Geo Dipa Energi (Persero) to stakeholders and government officials in 6 villages. Source: Uje Hartono/detikcom at: <https://finance.detik.com/energi/d-4710100/listrik-panas-bumi-akan-mengalir-dari-dieng-dan-patuha>

“Socialisation meetings only invited people they selected; no women were invited, and those invited were village officials and community leaders. They were not told what would be built and what the impact would be; it was like the information was covered up. What was told to the residents was that there would only be development that would contribute to the local government budget. The residents close to the location (project) were not invited. The invited residents were not necessarily pro but people who could not say NO...” said ST from Karangtengah Village, highlighting the blatant injustice of the situation.

At the Construction Phase:



Dangerous gas alert warning board along the gas pipeline

"Information was circulated that an office would be built, but what happened was a well pad. In 2019, without any notification, fences had been built. They said the fences were for soundproofing and the company's (land) boundary. The fences came first, then the pipes went in. At that time, we didn't know what it was for or what a power plant was. We didn't know how dangerous it was; we just experienced the impacts. And wow... it turns out it's that dangerous. If we were told the risk of negative impacts of the PLTP Unit 1 Project, the villagers would reject it. The villagers here don't have enough information about the Project, and we, the villagers, feel like the Project is fooling us", said AD from Bakal Village

The construction phase included infrastructure development, drilling, and production that led to severe negative impacts related to environmental and biodiversity, socio-economic and public health impacts to social conflicts, as follows:

a. Land acquisition, compensation, and intimidation to villagers

The process of land acquisition was marred by indications of systematic land grabbing by GDE. The lack of information about the location of the Dieng Unit 1 GPP left villagers unaware that their cultivated agricultural land had become the Project's location. The compensation mechanism, which did not involve affected villagers, was below the existing standard land price. The compensation in the form of land for land did not match the quality of the expropriated land. Villagers who resisted were intimidated by certain individuals from the company and supportive village officials.

"The well pad for Well 9 of the Dieng Unit 1 GPP is located on my parents' land. At the time, they were unaware of the purpose of the project. The village head stated that the project was for the benefit of the country and pressured them to sell the land. The compensation offered for it was insufficient, while the village head profited significantly from the sale of neighbouring lands." ST of Karangtengah Village said.

b. Water Scarcity and Declining Water Quality

GDE exploration activities, which demand excessive amounts of water for drilling, are not just a current issue but also a potential long-term threat. Based on EIA and Environmental Mitigation Plan Dieng 2, 3, and 4 (Geodipa, 2021), the estimated water usage for drilling for 1 (one) well spot is 134.150 m³ for a total 70 days. With the amount of water needed, it can lead to the complete drying up of the existing springs. The construction activities of Dieng Unit 1 GPP have significantly reduced

the volume of water in villagers' springs, posing a serious threat to the long-term sustainability of clean water in the affected areas.



The picture above shows the distance of the Sethulu water spring with the Dieng Unit 2 GPP well pad, which is only 500 meters, across the villagers' farmlands. Not only does the water use potentially affect the water debit of Sethulu Springs farming and daily consumption of the villagers, but it also has the potential to be polluted. (Source: "Air Mata Air" video produced by Perpustakaan Rakjat)

"...The Geo Dipa project's substantial water requirement is significantly affecting the villagers. The project's use of water is directly reducing the villagers' water supply, leading to frequent water scarcity. This is the unfortunate reality in Sikunang village ..." according to TK from Bakal Village.

c. Earthquakes and Construction Activity Noise

Although still on a small scale due to drilling activities using the fracking method, earthquakes have caused vibrations that have damaged the houses and buildings of villagers living around the well pad. In addition, the impact of noise from bulldozers, cranes on road and power plant construction, and trucks that often pass through residential areas has caused noise.

"...the 2.5-year-old child of my sister couldn't sleep because of the noise and vibrations. Her house was shaking because of vehicles passing by, and at the same time, drilling was being carried out on Well Pad 9." said RZ from Bakal Village.

ST from Karangtengah Village said, "...while drilling Well Pad 9, elementary school children were told by their teachers to leave their classrooms because of the earthquake-like ground vibrations."

At the Operational Stage:

GDE production operations must urgently address all risks of adverse impacts caused. The operation of the GPP has led to several negative impacts, encompassing environmental, economic, social, and health aspects. These impacts demand immediate attention and action.

a. Pipe Explosion, Gas Leakage, Waste Disposal, and Smoke from Dieng Unit 1 GPP

In 2007, a deafening explosion from the brand water pipe in Well Pad 9 resulted in 14 workers suffering serious injuries. In 2017, an explosion at Well Pad 31 during the production well injection led to six workers sustaining severe burns and requiring intensive hospital treatment. The area was almost engulfed in steam and smoke, damaging the agricultural land and potato plants of the Karangtengah villagers.

On March 12, 2022, a gas leak at Well Pad 28 Dieng Unit 1 GPP in Karangtengah Village resulted in the death of one worker and several others experiencing health issues due to inhaling toxic gas Hydrogen Sulfide (H₂S). The main effects of exposure to H₂S include irritations to the nose and lungs, and in the long term, it can lead to brain damage in humans.

Toxic gas is a looming disaster in the Dieng Plateau area, exacerbated by the hilly soil conditions that make it prone to landslides. This potential disaster underscores the urgent need for preventive measures. The mismanagement of Dieng Unit 1 GPP waste, which does not meet environmental standards, has led to environmental pollution in the affected area, endangering the safety and health of the villagers. The impact of smoke from Dieng Unit 1 GPP is also severely detrimental to potato farming communities.



*Post-well drilling conditions after the explosion which produced toxic gas which has been cordoned off with police line (source Antara Foto/Anis Efizudin
<https://www.cnnindonesia.com/nasional/20220312231707-20-770435/geo-dipa-bantah-ada-ledakan-pltp-dienq-6-korban-masih-dirawat-di-rs>)*

“...in 2017, there was a gas explosion at Well Pad 28 that claimed the life of a technician from PT. Geo Dipa. The impact of the explosion damaged the agricultural land of the Pawuhan villagers; the plants became dry and burned, and the soil turned white; the wood was white like it had been hit by snow, but the plants had died; it had turned white to charcoal deep inside. There was just a pipe leak; many died, many were dying, and many ambulances came here. Almost all Pawuhan villagers were affected by the explosion.” said SM and ZN from Pawuhan Village.



Geothermal waste disposal near Well Pad 31

"... There is a pond for temporary disposal of toxic waste. Thereafter, it is unknown where tank cars bring that waste. It seems the tank cars transport and dispose of the waste to the Sileri crater. Each production well has a temporary pond for waste disposal, which is transported and disposed in the Seleri crater. There are ponds surrounding the crater, so the waste piled up there...." said HB from Karangtengah Village, highlighting the potential environmental issues related to waste disposal.



Dying tree and plants near the GPP Well Pad 31 and waste disposal

"...Geothermal smoke affected the potato farmlands when the well pads started operating. The compensation offered was only 70 million rupiah, which was not enough to cover the capital costs, including land excavation, potato seeds, fertilisers and medicines, labor, and other costs. I asked for compensation of 100 million rupiah, but PT. Geo Dipa did not agree to it. Geo Dipa representatives went back and forth to my house to negotiate the compensation, but I refused because 70 million was not enough to cover the farming capital. At the end of 2023, I was forced to receive 70 million rupiah...." said SF, a female potato farmer and land owner.

b. Pollution and Water Quality Deterioration



GPP waste disposal near Well Pad 31

Water used for the fracking process⁶ in the Dieng Unit 1 GPP has been mixed with chemicals containing various contaminants, including Boron (B), Antimony (Sb), and Arsenic (As). Excessive exposure to Boron (B) can cause reproductive and developmental problems in children. At the same time, high exposure to antimony chemicals can cause stomach aches and diarrheas and even cause cardiovascular problems that can cause long-term damage to internal organs and heart disease. The same thing applies to exposure to Arsenic, which causes skin problems, affects child development, and increases the risk of cancer and heart disease.

This hazardous chemical liquid contamination has polluted villagers' water sources and groundwater and caused serious health threats to our fellow residents living around the Well pad (geothermal drilling well point). Several residents have experienced this condition and the negative impact of PT Geo Dipa's production activities.

⁶ Fracturing the underlying rock layers by injecting a high-pressure solution containing water and sand into the well to create fractures or cracks in the deep rock, allowing gas to flow more freely through the cracks. Source: <https://walhijatim.org/2019/10/16/mewaspada-ancaman-fracking-pltp-ngebel/>



Picture of the villagers' water reservoir. The pond on the top right shows the water become murky

"...the plants died like they were doused with hot water. In 2019, we went around looking for villages that had been affected, one of which was Nandang village. One of the affected villagers checked the water because the plants in his fields had dried up, and the fish in the pond used to store water for farming had died. Before geothermal unit 1, the water was still safe, but after the geothermal operates, that happened. When planting, the plants wilted and died. If there were dripping tap water at home, the drops would look like cement," said RA from Karangtengah village.



The above photo shows TDS (Total Dissolved Solids) level of water in Ngandam village reached 689 ppm, which is considered dangerous to drink according to the Ministry of Health (maximum limit 500 ppm) and SNI standards (range ppm safe to drink is 50-300 ppm). (Source: "Air Mata Air" video produced by Perpustakaan Rakjat)

"In the past, our community used water from the springs for our daily needs. However, with the operation of Dieng Unit 1, we have had to adjust. We can't drink the water anymore and primarily use the spring water for watering plants, despite the challenges it presents for plant growth. Geo Dipa's initiative to construct pipes from springs in other mountains and hand them over to the village government to manage. It is a significant change. We now have to pay a monthly fee based on our usage. I have to pay around 30,000-40,000 rupiah a month..." said ST from Karangtengah village.

"In Pawuhan and Pasurenan villages, water pollution is felt in everyday life. The foul smell, starting from 3 o'clock, makes breathing difficult. During Eid al-Adha, a significant cultural event, the pollution makes it challenging to wash meat since all the wells are contaminated. The villagers, who used to drink water from these wells, are now forced to find alternative sources." shared HB from Karangtengah village.

"The water source of Ngandam villagers, located under the power plant, has been significantly affected. The water, once clear, now resembles cement. Around 2014 and 2015, the peak of water pollution drastically changed its taste. In Pawuhan and Pasurenan villages, the soil was covered with a white substance, and the water tasted salty." RZ from Bakal village shared.

c. The villagers face Health Issues

The contamination of chemical liquids has caused water pollution that has seriously affected the health of communities around the well pads. Various health problems, including skin diseases, acute respiratory infections, stomach aches, pneumonia/lung inflammation, stunting, and metabolic disorders. Women are concerned about the impacts of water pollution on the health of pregnant women, children, and other community members.

"...the impact when the Well Pad 29 was built, around 2002, the water changed its taste to salty a few years later. It caused itching on the skin, dry skin, scaly and cracked skin, even rusty stainless-steel pans," said SM, RS, ZN, UM, and SF, a group of female potato farmers from Pawuhan village.

"... the fish in the lake were blistered; many said it might be because of the well." said AD from Karangtengah village.

“The stunting figure in Dieng was number 1, even in Banjarnegara Regency. We are farmers; we plant all kinds of herbs and plants that produce vitamins, but why is the stunting figure high? If we inhale H₂S for a long time, it will affect our health; our metabolism is disrupted even though we have medical plants. There was a trend that in the last 5 years, many people have had pneumonia, and the number of cases is increasing. Many villagers have stomach aches, although we cannot yet conclude that the disease is due to drinking water contaminated with heavy metals for years...” said RZ from Bakal village.

“I am afraid that later when I have children, especially girls, who need more water. If the water is polluted, what will happen to our children? We were once taught to check the air by one of the water researchers in the Bakal village area; it turned out that the air was also polluted. The H₂S content is high; if it is 0.5 ppm in Bakal village, it should normally be 0.1 ppm, according to information from the Ministry of Health. I am worried, especially because I have children,” said RA from Karangtengah village.

“When my child was a baby, he often got sick like bronchitis. I took my baby to the hospital several times. The baby had difficulty breathing, and almost twice a week receiving steam treatment. Drinking breast milk was difficult, that was until he was 2 years old...” said RN from Karangtengah village.

GDE was not transparent in providing information to the villagers regarding the results of laboratory tests on the quality of their water, which has been contaminated by chemical substances and is not suitable for consumption.

"The villagers asked the company to test the water, and when it was tested, the results said it was fit for consumption, even though the water tasted sour," said ST from Karangtengah village.

"Because in Dieng, there was no response from Geo Dipa, some villagers went to Jakarta and proposed to test the water in a laboratory. Geo Dipa conducted three tests within 3 years and always resulted in their water being fit for drinking. Because the villagers were angry, the sub-district head met with his friend who worked in the lab, and then when the test came out, it turned out that the metal content was extraordinary and not fit for drinking. Finally, they returned to Jakarta and demanded that the waste disposal pool that was previously only cast with cement could crack and the waste liquid could seep. Although there were improvements when the water was tested, it turned out to be 600 ppm, and where is the standard that 500 ppm is no longer fit for drinking " told RZ from Bakal village.

d. Air Pollution



The everyday view of daily steam from the GPP

The operation of Dieng Unit 1 GPP, which emits carbon dioxide (CO₂) and Hydrogen Sulfide (H₂S), is toxic. It causes a pungent odour, like the smell of rotten eggs. In addition to causing odour, it also has adverse effects that endanger humans and the crops of villagers, such as potatoes, carrots, cabbage, and other plants.



Farmers works on their farmlands beside the GPP

SM, Ummu, RO, AN, and SU, female potato farmers from Pawuhan village, shared their experiences, stating, “...we have to inhale the poisonous gas hydrogen sulfide (H₂S). We feel helpless against the conditions that threaten our health. I get used to inhaling this gas, especially when it is foggy and smells very pungent in the middle of the night. The smell is present every day; it is the worst from midnight until early morning, particularly when it rains, especially around Well Pad 9”.



The daily steam released above the villager’s farmland

AD and RN from Karangtengah Village stated that *"...there are chimneys. Plants under the smoke of chimneys are difficult to grow. That is what happened to our lands. The smoke from the chimneys covers my farmland, then forms water droplets, and after a while, the plants die."* AD from Karangtengah Village said that wanting to ask for compensation is incredibly difficult. More than 15 times, well pad testing has poisoned the plants of their lands.

e. Corrosion or Rust on Metal

Rust on metal roof tiles, household appliances, and vehicles occurs due to the impact of hydrogen sulfide (H₂S) gas emissions.



Corroded roofs due to air pollution

"The roof is now being painted every 2 years instead of the usual 5, all because of the acid rain from Well Pad 9. The smoke is causing rusty roofs. We, as a community, need to understand the content and its impact on the soil," emphasised ST from Karangtengah village.

"Water vapor drops fall on the roof, and the iron quickly corrodes. This rust often leads to the replacement of the house's roof, and the same happens to the car's roof. This is a problem that affects all of us," shared AD from Karangtengah village.

e. Noise and Noise Pollution

The drilling activities and routine operations of cooling towers and transformers (an electrical device that functions to change electrical voltage) at the Dieng Unit 1 GPP have caused noise and vibration. These activities have led to noise levels that exceed the acceptable standards for residential areas. Villagers experience these impacts daily, especially since GDE operation is close to residential areas and very disruptive to the villagers' activities.

Several villagers of Karangtengah, ST, RN, RA, AD, and RZ, have expressed their distress about the noise and vibrations from unit 1 in Ngandan village, which is about 2.7 km from their homes: *“The disturbances are so severe that we can feel them on the walls and in the upper part of our houses, despite the distance being only about 300 meters in a straight line. This persistent noise disrupts our daily activities, making it difficult for us to carry out our normal routines. In early 2019, my grandmother lived just 1 meter from the project fence in Karangtengah village. We discussed the constant disturbances caused by project vehicles operating at all hours, even at 7 in the morning. This is particularly disruptive when mothers are taking their children to school and when people begin their daily routines, especially in the afternoon to evening when cargo is unloaded, despite villagers being at rest. This has significantly affected our community's comfort and well-being. The noise and vibrations have not only disrupted our daily lives but also damaged our zinc roofs. Furthermore, the water we fetch near Well Pad 28 has become salty since around 2005”.*

f. Job Access and Low Occupational Health and Safety Protection.

Job access for the villagers is only for manual workers, with a short period of around 2-3 months, and an outsourcing contract system that can be laid off at any time by GDE. Generally, residents work as manual workers, such as stone workers, lifters, hazardous waste pipe cleaners if they are clogged, and security guards. Occupational Health and Safety (OHS) Protection is one of the important standards that GDE should meet in its operational activities per the OHS policy standards. However, what happened was that GDE had been negligent in guaranteeing OHS protection for toxic gas vapours in the pipe explosion incident and the Well Pad 28 explosion incident, including the absence of OHS protection for residents who work with an outsourcing system. These issues, if not addressed immediately, could lead to long-term health problems and a decline in the quality of life for the workers and residents. Threats to the safety of workers and residents around the GPP site due to operational accidents and gas leaks that continue to recur.

RA, a villager of Karangtengah, emphasised, “... the pipe once exploded. It turned out that Geo Dipa had a very high work accident rate, but it was covered up. When the pipe leaked, three workers were poisoned. Fortunately, they were rescued quickly. Security and safety in the workplace (K3) are still lacking, especially with the toxic vapour content and the extreme work, PT. Geo Dipa should pay attention to its K3. Where does the K3 come from? Is it certified or not? I am afraid that it will explode, especially near the pipe. There are 20 people from here working on the project in security, contractors, contractors and tenders, and building foundations; nobody is a technician. Their work is seasonal or tender based, except for security and women in the Geo Dipa office...”.

g. Threats to Biodiversity

The effects of water pollution, extensive land clearing, and logging have altered the area's landscape. The construction of GDE infrastructure has caused environmental damage, threatening the biodiversity of the Dieng Plateau area.

RA and PJ from Karangtengah village reported, “The construction of pipes and other infrastructure by Geo Dipa has led to landslides and subsidence. This problem has resulted in the loss of various species in the area, including plants, animals, and fish. Also, the disappearance of dragonflies and a decline in the populations of black and orange butterflies...”

1.2. Reasons for the Community and Women against the Development of Dieng Unit 2 GPP

1.2.1. Experience and Learning from the Negative Impacts of Dieng Unit 1 GPP

The villagers are against Dieng Unit 2 GPP because they faced more negative environmental, social, economic, health, and horizontal conflict impacts than benefits from Dieng Unit 1 GPP. They have experienced material losses, loss of livelihoods and decreased income, suffering from health problems, and even trauma. These negative impacts include:

- The health issues in the vicinity of Dieng Unit 1 GPP are severe, with villagers suffering from a range of diseases including skin conditions, respiratory problems, heart disease, cancer, and gastrointestinal issues. These health issues have not only affected the villagers but also the labourers, leading to a loss of lives and a significant threat to public health and safety.
- Trauma to safety due to various explosion incidents, like in 1978 (3 people died), in 1988 (4 people died), and the explosion of the well pads in 2007 and 2016 (2 people died). The H₂S gas leak in Well Pad 28 on March 12, 2022, caused one person to die, and eight others were rushed to the hospital due to gas poisoning. Smoke from the explosion made potato plants

turn yellow and die. Some villagers tried to replant, but the plants did not grow.

- The economic losses due to the operation of the Dieng Unit 1 GPP are substantial, with villagers experiencing a loss of livelihood, decreased income, and increased expenses. The threat of losing houses and the decrease in agricultural production and potato harvest further exacerbate the financial strain on the community.
- Air pollution and noise from Dieng Unit 1 GPP are caused by construction, injection, vehicle traffic, vibration from small-scale earthquakes, and other vibrations that cause building cracks. Air pollution includes pungent odours caused by chemicals and smoke-containing chemicals. One of the impacts is acid rain (H₂S), which damages metals such as zinc roofs, kitchen equipment, cars, motorbikes, etc.
- Water pollution and clean water crisis. The water sources are drawn for drilling operations on a large scale for 12 well spots. Water pollution is caused by, among other things, when injected, water is mixed with specific chemicals such as *Boron (B)*, *Antimony (Sb)*, and *Arsenic (As)*, and the waste is returned to the ground or silica. This process affects groundwater and soil quality throughout the Dieng area and its surroundings. Also, it decreases water availability due to its suction and pollution. The sustainability of water sources is threatened, which will affect the condition of the land used for agriculture, the daily needs of women, and the needs of household activities.
- Horizontal conflicts between families and among villagers who agree and disagree with the Dieng projects. These conflicts have led to creating a tense and divided community.



Female potato farmers work under polluted air

RA, ST, AD, and TK from the villages of Karangtengah and Bakal expressed their opposition to Dieng Unit 2 GPP, stating, *"I am against Dieng Unit 2 GPP because I have seen the impact of Dieng. There are no benefits; it is detrimental and pollutes the environment. The dangers are long-term, which makes me afraid. In 2015, in Pawuhan village, the water had become cement-like, and its taste had changed; it was sour, making it unsuitable for drinking. In the mornings, there was also an unpleasant smell due to the many wells surrounding the village. The people living on Dieng have been blessed with an abundance of water, but if a geothermal power plant operates, the villagers will suffer because their water supply will inevitably decrease, especially during the dry season when more water is needed for agriculture. This reduction in water supply will lead to lower agricultural yields and decreased income, which in turn diminishes the ability to meet daily needs, including children's expenses and education costs. Women, who often manage the family economy, will face increased challenges in meeting the basic needs of their husbands and children."*



Daily steam released from GPP

"The community rejected the project in 2019 because it was detrimental. I reject it because of the noise; if a place far away can hear it, let alone the one next to the house. Pollution is inevitable; if the wind comes from the south, the polluted air will go here. I am the only one who rejected it in this area because many of my neighbours work on the well pads as security. I have felt the smell and vibrations. If Dieng Unit 2 GPP is built, the concern is that if the far away one is reached here, what will happen to the one in front of the house? If there is no water, it automatically affects women's daily activities. The potential water scarcity would force women to spend more time searching for water sources in the dry season, disrupting their daily routines and responsibilities. Dieng Unit 1 GPP is already detrimental and must not be expanded. Therefore, it is worth fighting against Dieng Unit 2 GPP", shared AD and TK from Karangtengah dan Bakal village.

1.2.2. Community Response to the Development Plan for Dieng Unit 2 GPP

GDE conducted the socialisation of Dieng Unit 2 GPP to farmers and only villagers who supported the project plan. It did not involve affected or potentially affected communities, only some community leaders and members of the Village Representative Body. GDE did not disclose information to the community regarding the Dieng Unit 2 GPP development plan. The community did not know the land allocation that would be cleared for expanding the Dieng Unit 1 GPP. After the socialisation, the village government only informed the community that there would be additional plants for Dieng Unit 1 GPP but did not disclose the location. GDE used the village government and particular community members as communication liaisons to the villagers of Karangtengah regarding the plan and the need for additional workers. GDE did not conduct consultations; it only socialised in 4 villages, which did not involve all affected communities, including women.

"Only the village head was invited; the villagers didn't know. Some may attend, but those close to the village head," said TK from Bakal village.

"GDE has conducted four socialisation meetings, and we received information on the fourth meeting we participated. The one who came was the General Manager of the Dieng Unit 2 GPP, and we were two representatives of the youth group who came along with the village elders. In 2019, there were rumours that a health service would be developed. When the GM informed us that a 55 MW power plant would be built, we finally concluded that this would include drilling. We raised all issues. Geo Dipa answered that whether there was GDE or not, earthquakes would still occur in Dieng; water damage will happen even without GDE..." said RZ from Bakal village.

HB from Karangtengah village pointed out a significant discrepancy, stating, "...a map of villages and project plan was shown. Parts of the villages are shown as green (open space), and beside the project, a village is located a little further away, as if the project is far from the settlement. However, that map was not shown to the villagers during a meeting in the community hall. Many villagers came to the meeting, overflowing the hall, and the security forces came to guard the meeting. Many women came, and they were the loudest during the meeting. They felt talking about their lands, so intense without any burden ..."

The villagers who have experienced the negative impacts of the Dieng Unit 1 GPP, including those whose houses are located close to the Dieng Unit 2 GPP construction site, have carried out various actions against the project, including:

- A petition against the planned expansion of Dieng Unit 1 GPP was signed by 2,279 people from two villages and submitted to the Banjarnegara Regent and GDE. However, in the end, some of the signature collectors sided with the Dieng Unit 2 GPP because GDE gave them jobs. They became the defenders of the GDE project and blocked the rejection of Karangtengah villagers against the construction of Dieng Unit 2 GPP.
- In 2021, the villagers once again protested by posting rejection posters in front of their houses. Their commitment to their cause is unwavering, as the community members rejecting Dieng Unit 2 GPP and the geothermal project throughout the Dieng Plateau continue to organise and critically discuss the reasons for rejection with groups of young people from several villages in Banjarnegara Regency. In September 2022, GDE, accompanied by the Batur Sub-district Head, attempted to break through the village to clear the land owned previously by PLN that will be used as the site for the construction of Dieng Unit 2 GPP. Hundreds of Karangtengah and Bakal villages successfully blocked this attempt because GDE had violated the agreement between GDE, the Regent of Banjarnegara, and the community on January 12, 2022. The agreement stated that "PT Geo Dipa Energy may not and will not carry out any activities in the former PLN Housing before obtaining permission from the villagers. Various negative impacts from Dieng Unit 1 GPP scared the villagers around Dieng Plateau.
- In October 2022, approximately 300 villagers from Karangtengah and Bakal villages who were against the Dieng Unit 2 attended a meeting initiated by the Acting Regent of Banjarnegara to find a solution to the conflict between the villagers and GDE regarding the construction of Dieng Unit 2 GPP. The Batur Police, Military Subdistrict Command (Koramil) of Batur, and Karangtengah village government also attended the meeting. The villagers expressed their rejection of Dieng Unit 2 GPP, which is the expansion of

Dieng Unit 1 GPP, due to the negative impacts experienced by the community from Dieng Unit 1 GPP. The meeting ended in chaos without reaching any agreement and was violent as GDP workers beat, kicked, and threw chairs at five village activists.

- The community's rejection of the Dieng Unit 2 GPP in Karangtengah village and other villages against was met with intimidation, criminalisation, character assassination, and terror. Some community members who experienced trauma, especially women, began to experience fear and did not want to be involved in open fighting anymore, even though their attitude remained to reject the expansion of the Dieng Unit 1 GPP.
- The wave of community rejection of the construction of the Dieng Unit 2 GPP began to spread. On October 28, 2022, the Banjarnegara Regency government mediated the rejection of the villagers facilitated by the Banjarnegara Prosecutor's Office. Community members accepted the Banjarnegara Prosecutor's Office's invitation to attend a meeting between community members and GDE. The meeting was held at the Banjarnegara Regent's office, attended by the Acting Banjarnegara Regent, the Head of the Banjarnegara District Attorney's Office, the Director of GDE, members of the Banjarnegara Commission 2 members of the Regional House of Representatives, the Commander of the Banjarnegara Military District Command (Kodim), the Village Head and the Head of the Karangtengah Village. In the meeting, the community reiterated their rejection of the construction of the Dieng Unit 2 GPP. The community and GDE finally agreed on 5 (five) points, including no construction of power plants and geothermal wells, a development that can be carried out in the Karangtengah and Bakal village areas, and a development that does not endanger the community and the ecosystem. However, from all points of the agreement, there is no explicit clause regarding the cancellation or postponement of the expansion of the Dieng PLTP Unit 1 GPP. However, the community members perceived the construction of Well Pad 38 of Dieng Unit 2 GPP in the former PLN housing area, which is close to the settlement of Karangtengah and Bakal village.

*The following is a photo of the signing process for the agreement letter
(source: Aliansi Rakyat Menolak Geothermal Dieng)*



"We were invited to the Regency Hall in March 2023 by the National Attorney General's Office. The meeting was attended by representatives from the Ministry of Energy and Mineral Resources, the Environmental Agency of Central Java, and the Regional Police Force. The community's perspectives on the GPP were thoroughly discussed, including the villagers' rejection of the construction of unit 2," shared RZ, a representative from Bakal village.

HB said, " We have met several times with the Director, but I couldn't attend the last one with the Attorney General's Office. I heard that no definite agreement was achieved"

Kabupaten Banjarnegara. ... Desa Karangtengah, Kecamatan Batur, ...

Dengan ini PARA PIHAK bersepakat atas hal-hal sebagai berikut:

1. Pembongkaran pagar dan perataan bangunan ex mess PLN di Wellpad 38 dapat dilakukan. Selanjutnya GDE dipersilahkan untuk memasang patok sebagai pembatas area lahan milik GDE.
2. Pengambilan seluruh material proyek yang terdapat pada area ex mess PLN / Wellpad 38 dapat dilakukan dan tidak ada pembangunan pembangkit listrik (*power plant*) dan sumur panas bumi. Pembangunan yang dapat dilakukan di wilayah Desa Karangtengah dan Bakal, Kec. Batur, Kab. Banjarnegara merupakan pembangunan yang tidak membahayakan masyarakat dan ekosistem.
3. Proses pembongkaran pagar (teknis menunggu izin penghapusan aset terbit), perataan bangunan ex mess PLN, dan pengambilan material proyek pada area ex mess PLN / Wellpad 38 dilakukan selama 50 (lima puluh) hari kerja terhitung sejak surat perjanjian bersama ini ditandatangani.
4. Masyarakat Desa Karangtengah dan Desa Bakal ikut memantau dan mengawasi secara langsung kegiatan pengambilan material proyek serta perataan bangunan ex mess PLN. Pintu gerbang dibuka lebar dan akan tetap terbuka.
5. Pekerja yang akan mengerjakan perataan bangunan ex mess PLN merupakan masyarakat lokal Desa Karangtengah.

Dengan itikad baik PARA PIHAK berkomitmen untuk melaksanakan kesepakatan ini sebaik-baiknya sesuai peraturan serta menjaga situasi yang kondusif, aman, dan nyaman di area ex mess PLN / Wellpad 38, Desa Karangtengah dan Bakal, Kec. Batur, Kab. Banjarnegara.

Kesepakatan ini di buat dan ditandatangani oleh PARA PIHAK di hadapan pejabat berwenang setempat sebagai salah satu bentuk itikad baik PARA PIHAK.

Demikian kesepakatan ini dibuat untuk dilaksanakan dengan sebaik-baiknya.

<p>PT Geo Dipa Energi (Persero)</p> <p><i>Ray Armand</i> Ray Armand</p> <p><i>Juzuf</i> Izzuddin</p>		<p>Perwakilan Warga Desa Karangtengah</p> <p><i>[Signature]</i> [Signature]</p> <p><i>[Signature]</i> H. Ahmad Sujarwo</p>
--	---	--



Protest action by villagers in opposing Dieng Unit 2 GPP

"In front of the Regent in the action and dialogue, I said that the issue is not about getting free electricity or not, but the project's impact on our lives; even though the project was already running in the village, we did not enjoy it. For example, the town had no free electricity for street lighting. I also told the Regent about my friends in the Dieng 1 area in Pawuhan village. They expressed their feeling that the area smelled from the project, but thereafter, they were intimidated. During the demonstration, many women joined, but I was the most intimidated, reported to the police, and some of the police came to my house. When the company's iron was lost, so eight people, including me, were reported to the police by the company. I was too lazy to come to the police station when the police called me. A threat also came from a family member like my uncle who supported the project", said ST from Karangtengah, who shared her experience.

The community is not against development but desires a development that brings prosperity, protects Human Rights, and maintains environmental sustainability—not the other way around. Geothermal development, with its negative impact on environmental damage, destruction of community livelihoods, and threats to villagers' health and safety, is not in line with their aspirations. The operation of Dieng Unit 1 GPP and the planned construction of Dieng Unit 2 GPP have triggered social conflict among the villagers.

"They can construct in our area, but they must first repair our damaged water source to at least 98% effectiveness. Our top priority is the Setulu Spring, which serves the villages of Bakal, Condong, Gembol, Serang, and Kandangan. We obtained a WhatsApp number for public complaints; however, our messages have not been read or responded to," RZ stated.



Protest action by villagers in opposing Dieng Unit 2 GPP

The Dieng community was given various promises and enticements like jobs, assistance for village development and activities, and various CSR programs, including programs targeting women's groups in the name of economic empowerment and scholarships for the youth. On the other hand, the community members rejecting Dieng Unit 2 GPP faced various threats of terror, intimidation, criminalisation, and slander that damaged their good name among fellow villagers and weakened their struggle. They also encountered resistance from their fellow villagers employed by GDE, contractors, mass organisations, and village heads who were supporters to Dieng Unit 2 GPP.

RZ and HB revealed that "...men of GDE approached the villagers through attending various village meetings and asked about the needs of the villagers. a grassroots movement, came to the PKK, the village office asked what was needed.



The banner opposing Dieng Unit 2 GPP displayed in a meeting held by the local government, stating: "If you come to force us, we will fight you. No to drillings"

Conclusion

The testimonies of women affected by the Geothermal Power Plants (GPPs) in Indonesia, the problems caused by ADB-financed GPPs, and the stories shared by communities on the Dieng Plateau present a concerning situation. The Dieng community rejected the expansion of Dieng Unit 2 GPP due to their negative experiences with Dieng Unit 1 GPP, which led to adverse social and environmental impacts and conflicts within the community. The project proponents and the ADB have not adequately considered or evaluated these issues in the planning and due diligence process for the Dieng Unit 1 and Dieng Unit 2 GPPs.

Since 2019, the affected villagers on the Dieng Plateau have engaged in various activities to voice their concerns regarding the planned of the Dieng Unit 2 GPP, such as dialogues with local government officials and the Geo Dipa Energi (GDE), protests, and petitions. On the other hand, the local government and GDE have actively pursued their project plans through initiatives like offering free electricity and job opportunities, but they have also employed tactics such as pseudo-consultation, intimidation, threats, and criminalisation. These threats persist, fostering a climate of fear within the Dieng community.

The women and their communities in various regions of Indonesia where GPPs are situated provide compelling evidence that the extraction of geothermal energy harms their lives, livelihoods, and the environment. GPPs primarily benefit corporations, investors, and banks rather than the local communities. Therefore, geothermal energy produced by these power plants, along with their well and gas pipelines, is not environmentally, socially, or economically sustainable. The urgency of this issue requires immediate attention and action,

We cannot afford to overlook the urgent issue of the claim that geothermal energy is a clean and sustainable resource. The Asian Development Bank (ADB) and other public and private financiers must refrain from investing in Geothermal Power Plants (GPPs) to avoid jeopardising their investments, destroying the lives and livelihood of the communities, and encountering their resistance. We must take action to prevent any further harm. We must end the ignorance surrounding the struggles of affected communities. The definition of clean energy must be redefined to include the perspectives of these communities, particularly the women, regarding their lives, livelihoods, environment, and natural resources.

The Dieng community has suffered greatly from the impacts of the preparation and operation of the Dieng Unit 1 and Unit 2 GPPs. As a result, they strongly oppose the expansion of GPP Dieng Units 3 and 4, along with other GPP projects in the area. We also recognise the rejection of other communities affected by ADB and various institutions and corporations regarding existing and proposed GPP. Those projects have had devastating impacts on the environment, livelihoods, and social relations. ADB must respect the opinion of the affected community and refrain from pursuing the expansion of GPP projects in Dieng and elsewhere in Indonesia

—-000—

Attachment 1.

Methodology and Research Questions

Scope and Methodology

The scope of the field investigation is the impacts of the expansion of ADB-financed Dieng Unit 2 GPP. By identifying issues that arose from Dieng Unit 1 GPP, the field investigation aimed to understand the factors shaping the resistance of Dieng communities to Dieng Unit 2 GPP. The focus will be on women's villagers, who are directly impacted, living in the surrounding three sites of the well pads (drilling spots) of Dieng Unit 1 and Dieng Unit 2 GPPs.

This field investigation employs a methodology that combines comprehensive interviews with the villagers on the focus areas and observations of the broader neighbourhoods of Dieng Unit 1 and Unit 2 GPPs and studies the supporting documentation by other CSOs and sources. The researchers interviewed 10 to 15 village women in 5 villages who lived and worked in the surrounding area of the project sites. They have experienced direct impacts of Dieng Unit 1 GPP and will potentially be affected by Dieng Unit 2 GPP.

Research questions:

The general question of this research is the extent of the impact of the Dieng Unit 1 GPP on women, their livelihoods, and the environment, as well as the potential impacts of Dieng Unit 2 GPP that shaped the resistance of Dieng communities against Dieng Unit 2 GPP.

Specific questions for the Dieng Unit 1 GPP:

1. Project Preparation Phase

- Was there any consultation that involved stakeholders, including meaningful participation of women and potentially affected communities?
- Did women and potentially affected communities receive information about the planned Dieng Unit 1 GPP before the Project began its construction and operations?
- Did women and other potentially affected communities consent to the Project before it began operating?
- How was the process of land acquisition? Was there any compensation? Were women involved in the discussions regarding the land acquisition and compensation mechanism?

2. Project Implementation/Exploration Phase

a. Social Impact and Community/Women's Livelihood

- Before and after the implementation/exploration project, what are the sources of livelihood for women and the communities around the Dieng Unit 1 GPP project area (especially the area where the Project operates)?
- How does the Project affect women's daily lives, especially in the economy, health, and education?

b. Economic Impact

- Does the Project positively or negatively impact communities in terms of employment and income?
- Are the economic impacts generated caused long-term or only temporary, or are there potential economic risks/negative impacts faced by the Community in the future?

c. Environmental Impact

- Do project activities cause long-term environmental damage?
- Does the project cause pollution, such as water, soil, or air pollution, and other negative impacts on the Community and other ecosystems?

d. Impact on Community Rights and a Healthy Environment

- Does the Project violate the land rights of local communities?
- How does the Project affect the rights of individuals and groups - for example, the right to a decent life, a healthy environment, and the right to participate in decision-making?

e. Impact on Local Infrastructure

- How does the project impact local infrastructure, such as residents' houses, bridges, and access roads, including constructing the Project's Pipeline?

f. Impact on Policy and Social Conflict

- Does the Project have the potential to increase the risk of social conflict, crime, or insecurity in the Community?

g. Views and Assessments of Affected Women

- How do women assess the Project? Do women feel they are benefiting or being harmed by the presence of the Dieng Unit 1 GPP?

Specific question for the ADBs Dieng Unit 2 GPP

- Do women get information before the project runs and during project preparation?

- Do women participate fully in consultation, decision-making, land acquisition/other compensation processes related to the ADBs Dieng Unit 2 GPP?
- What and how is the impact of the expansion of the ADBs Dieng Unit 2 GPP on women - related to livelihood, social, economic, health, and environment based on the experience of the Dieng Unit 1 GPP?
- Will women benefit/be disadvantaged or not from the presence of the ADBs Dieng Unit 2 GPP?
- If they feel disadvantaged, have women taken action and/or been involved with other villagers/communities to reject/take action to reject the ADB's Dieng Unit 2 GPP?

–000–

Aksi! for gender, social, and ecological justice was founded on December 10, 2012 with vision to influence discourse and debate on development, environment and climate change to ensure the protection of the rights of women and their communities, and to support grassroots women's efforts in fighting for their rights. Aksi! believes that strengthening women's movements for development, economic and climate justice will advance women's rights comprehensively. Three strategies were developed, namely building capacity to empower women, campaigning to strengthen and gain support for women's voices, and advocacy for policy change.



With support from



printing supported and co-funded by EU