

## **Assessing Community Media Participation for Sustainable Geothermal Development: A Case Study of Mount Suswa, Kenya**

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### **Abstract**

Many rural communities worldwide still rely on community media as their most accessible and trusted source of information due to its roots in community ownership, control, and nonprofit operation. However, despite its significant potential to amplify local voices and promote inclusive development, community media often faces critical challenges. This study aimed to investigate the impact of community media involvement on information sharing, community empowerment, and conflict prevention in geothermal projects. The study was guided by Participation Theory, which emphasizes inclusive engagement, empowerment, and shared decision-making among stakeholders. A qualitative research approach was adopted. The target population consisted of selected individuals, community media practitioners, opinion leaders, and stakeholders involved in geothermal development in the Mount Suswa area. A sample was selected using both purposive and stratified random sampling techniques to ensure adequate representation. Data were collected through key informant interviews and focus group discussions. Qualitative data were analyzed thematically. The main findings indicated that community media plays a vital role in facilitating two-way communication, increasing community awareness, reducing mistrust, and strengthening local participation in decision-making processes related to the geothermal project at Mount Suswa. Nevertheless, their effectiveness is hindered by insufficient funding, limited training, policy gaps, and technological barriers such as the digital divide. The study concluded that meaningful participation via community media is crucial for promoting transparency, reducing conflict, and ensuring the equitable sharing of benefits from geothermal development. Despite their potential, community media require structural and financial support to perform these roles effectively. The study recommends that a joint national effort should strengthen community media through supportive policies, funding, training, and participatory engagement in geothermal development. The findings point to the transformative role of participatory communication in ensuring equitable and conflict-free development in marginalized rural settings.

**Keywords:** *Community media participation, Participatory Communication, geothermal energy development, Sustainable development, Dialogue.*

## 1.0 Introduction

Megaprojects are large-scale, capital-intensive infrastructure initiatives that have become central to national development strategies worldwide due to their potential to transform economies, expand energy access, and enhance regional integration (Dimitriou & Field, 2019). Despite their strategic importance, these projects invariably have extensive social, economic, and environmental impacts on the communities that host them, often altering livelihoods, land-use systems, and local ecological balances (Wang et al., 2023). Due to their complexity, high risk, and lengthy implementation cycles, megaprojects necessitate ongoing stakeholder engagement to ensure transparency, foster trust, and enhance the sustainability of project outcomes (Servaes & Lie, 2015). Global development institutions, such as the World Bank and FAO, as well as national governments, increasingly recognize that meaningful and early community involvement in project design and implementation is vital for reducing conflict, strengthening local ownership, and enhancing long-term sustainability (World Bank, 2018). However, the diverse and culturally varied nature of host communities often necessitates communication strategies that go beyond top-down information dissemination. Instead, context-aware, culturally rooted, and participatory communication models are essential to effectively address local realities, expectations, and knowledge systems (Estrada et al., 2018).

Within this framework, community media plays a vital role in mediating tensions between project developers and local communities. When rooted in principles of community ownership, local control, and participatory communication, community media fosters public participation, enhances

transparency and accountability, and empowers communities to articulate their concerns, aspirations, and expectations (Ngugi & Kinyua, 2014; Putri & Adinia, 2018). Conversely, superficial or inadequate engagement through these platforms often increases suspicion, fuels resistance, and escalates conflicts around geothermal and other large-scale projects (George et al., 2015; Morales et al., 2018). This makes community media an essential tool for the successful realization of megaprojects, especially in marginalized, rural, and culturally distinct areas.

Regionally, in Africa, mega projects in energy, extractives, and infrastructure frequently intersect with complex socio-cultural dynamics and land governance systems. In East Africa, geothermal and other large-scale developments have disrupted pastoralist livelihoods, intensified land disputes, and heightened tensions between communities and governments (Greiner, 2020). Weak consultation processes, superficial stakeholder engagement, and top-down decision-making structures often worsen these conflicts. In such contexts, community media has proven vital for bridging communication gaps by providing culturally relevant, accessible, and localized information, especially where mainstream outlets prioritize national or elite narratives (Wasserman, 2020). Community radio, television, and digital platforms also support the achievement of the Sustainable Development Goals by facilitating civic dialogue, increasing transparency, and providing marginalized groups with opportunities to influence decision-making (Choge et al., 2023; Hamadeh, 2022).

Post-independence Kenya has undertaken several large-scale infrastructure and energy megaprojects, including the Olkaria and Menengai geothermal fields, the LAPSET Corridor Project, and the Standard Gauge Railway (SGR). However, many of these

initiatives have faced controversy, community resistance, and conflict, primarily due to the use of weak or ineffective communication strategies (Mkutu & Mdee, 2020). Kenya's Vision 2030 also highlights energy as a crucial pillar of national development, with geothermal expansion, including the Mount Suswa Geothermal Project (MSGP), listed among its flagship priorities (Vision 2030). Despite this strategic focus, geothermal projects in areas such as Olkaria, Menengai, and Suswa have faced ongoing challenges, including disputes over land compensation, concerns about environmental and cultural disruption, and mistrust resulting from inconsistent communication and limited community engagement (Greiner, 2020).

The Mount Suswa geothermal project provides a critical case within Kenya's renewable energy landscape. Mount Suswa, a 12-km double-crater dormant volcano straddling Narok, Kajiado, and Nakuru counties, is not only a unique geological feature but also a culturally sacred site for the Maasai community. Since 2013, the Geothermal Development Company (GDC) has undertaken exploratory drilling, generating growing concerns among residents regarding land loss, displacement, water contamination, and health risks issues that mirror documented impacts in other geothermal fields such as Olkaria. Decades of limited consultation, delayed compensation, and inadequate use of local-language communication channels have deepened mistrust, resulting in protests, road blockades, and legal disputes. These tensions reflect not only material grievances but a broader deficit in meaningful community participation. The Mount Suswa area faces major communication barriers. According to Mkutu (2023), the Mount Suswa community remains marginalized and sparsely populated, with limited access to mainstream communication channels. The area is

characterized by low literacy levels, minimal internet penetration, and a strong reliance on local networks and community radio as primary sources of information.

*"The study reveals that mainstream Maasai media cannot meet local information needs, while distant ethnic outlets are ineffective substitutes, resulting in misinformation, delays, and reduced community participation."*

Against this backdrop, this study aimed to assess community media participation in promoting sustainable geothermal development at Mount Suswa. Guided by Participation Theory, the study examines existing communication processes, identifies gaps in community engagement, and proposes strategies to enhance the inclusive, equitable, and sustainable implementation of the Mount Suswa geothermal project.

### **Problem statement**

The Feasibility and Environmental and Social Impact Assessment (ESIA) for the Mount Suswa Geothermal Project (MSGP) was conducted in 2013; however, the project stalled for over a decade due to community conflicts and related challenges (Kimanthi, 2024), with implementation only resuming in 2024. Although community engagement is vital for the sustainable realization of large-scale projects, it remains unclear how extensively the MSGP has utilized

community media to inform, involve, and empower residents during its planning and execution. Most studies on MSGP have primarily concentrated on financial, technical, and implementation aspects, with limited focus on the role of community media in fostering participation, reducing conflicts, and encouraging sustainable outcomes. This knowledge gap hampers understanding of how participatory communication strategies can bolster the long-term sustainability of MSGP. Hence, this study aims to address this gap by examining how community media participation influences the sustainable realization and social acceptance of the Mount Suswa Geothermal Project.

### ***Purpose of the Study***

This study examined the status of community media participation in Mount Suswa and assessed the effectiveness of MSGP strategies in enhancing community participation for sustainable geothermal development.

### ***Objectives of the Study***

1. To assess the status and functioning of community media in the Mount Suswa Geothermal project.
2. To evaluate the effectiveness of strategies adopted by the Mount Suswa Geothermal Project (MSGP) in enhancing community media participation and promoting sustainable geothermal development.

### ***Literature Review***

Community media refers to locally owned and managed platforms such as radio stations, newsletters, and social media groups that operate not for profit but to serve the community's needs, enabling citizens to produce content and control media processes (Buckley, 2021). These media outlets play a vital role in fostering participation, empowerment, and local ownership by

inviting active involvement in defining agendas, generating content, and making decisions (Mhagamaa, 2015). Through participatory communication approaches, community media create spaces for dialogue, deliberation, and shared understanding, which in turn enhance trust, build social capital, and support sustainable development by aligning projects with local values and needs (Shahzalal & Hassan, 2019).

Community participation involves the active engagement of local communities in planning, decision-making, and implementation processes that affect their environment and livelihoods. Conceptually, frameworks such as Arnstein's Ladder of Participation demonstrate the range of engagement levels, from superficial consultation to genuine citizen power and co-decision-making (Arnstein, 1969). Involving communities in natural resource management provides several benefits, including increased legitimacy of interventions, higher social acceptance, enhanced sustainability of projects, and the utilization of local knowledge for context-specific solutions (Reed, 2008; Roe et al., 2009). However, effective participation can be hampered by barriers such as information asymmetry, unequal power dynamics, and socio-cultural factors that limit the voice and influence of marginalized groups, ultimately affecting the fair and sustainable management of resources (Cornwall, 2008; Mansuri & Rao, 2013).

Sustainable geothermal development involves harnessing geothermal energy in a way that balances environmental, social, and economic factors. Geothermal energy offers several notable advantages, including renewable power generation, reduced greenhouse gas emissions, and the creation of local economic opportunities through employment and infrastructure development (Shortall et al., 2015). However, geothermal projects often face sustainability challenges, including community displacement,

resource-use conflicts, and environmental impacts such as land subsidence and water contamination (Ozcelik, 2022). Effective community engagement is crucial to minimize these negative effects, foster local ownership, and enhance social acceptance, thereby helping to guarantee the long-term success and sustainability of geothermal projects (Abdi et al., 2025).

Media play a vital role in shaping public understanding and engagement in environmental and energy projects by raising awareness about issues such as climate change, renewable energy, and natural resource management (Boykoff & Roberts, 2007; Matsa & Shearer, 2021). Through news coverage, documentaries, social media, and community outlets, media can influence community attitudes, encourage participation, and even impact policy decisions by highlighting both the benefits and risks of energy projects (Agarwal et al., 2019; Nisbet, 2009). In the context of geothermal development, media framing can shape perceptions by emphasizing economic opportunities, environmental impacts, or potential conflicts, which in turn affects local acceptance and participation in such projects (Munyua et al., 2018; Ochieng & Were, 2020).

Community media encounter numerous challenges that can limit their effectiveness in supporting development initiatives. Restricted reach, low literacy levels, language barriers, and technological gaps often restrict the accessibility and inclusivity of community media platforms, diminishing their potential impact on local populations (Gumucio-Dagron, 2001; Rennie, 2006). Moreover, power dynamics within communities can shape whose voices are amplified and whose concerns are marginalized, raising questions about representation and fairness in participatory communication processes (Carpentier, 2011; Mefalopulos, 2008). Sustainability is another

vital concern, as community media projects often depend on external funding, technical support, and ongoing community engagement, which can be difficult to sustain over the long term, especially within development projects (Fraser & Estrada, 2001; Howley, 2010).

The importance of community media in effectively implementing geothermal projects in Mount Suswa and other Kenyan geothermal sites is vital, as it boosts local awareness, involvement, and ownership of development initiatives. Geothermal exploration and development in the Suswa area, part of the larger Rift Valley geothermal corridor, began in the 1980s with pilot projects and has grown in recent years to include commercial-scale energy generation, satisfying Kenya's increasing energy needs (Chebet, 2013). Past community engagement efforts in Suswa and nearby regions have shown that poor communication and limited local participation often cause misunderstandings, conflicts, and resistance. Conversely, inclusive information exchange and participatory dialogue are proven to help build trust, social acceptance, and project sustainability (Munyua & Mugure, 2019; Wambugu et al., 2021). Community media platforms, such as local radio, social media groups, and newsletters, serve a crucial role in bridging information gaps, addressing local concerns, and promoting transparent two-way communication between developers and residents, making them essential for the long-term success and sustainability of geothermal projects in Kenya.

### ***Theoretical Review***

This study was guided by Participatory Communication (PC) theory, rooted in the works of Paulo Freire and UNESCO from the 1970s. Participatory Communication emphasizes dialogue as a vital mechanism for sharing information, perceptions, and opinions, thereby empowering stakeholders



(Tuftes & Mefalopulos, 2009). Unlike traditional top-down models of communication, PC focuses on bottom-up engagement, ensuring that all stakeholders actively participate in decision-making processes and project implementation (Servaes & Servaes, 2021). In the context of community media, Participatory Communication recognizes these platforms as essential tools for empowerment, enabling marginalized groups to voice their concerns, assert cultural identity, and engage meaningfully in development initiatives. The theory aligns closely with sustainable development principles by promoting inclusive, transparent, and accountable processes that foster social equity and support the long-term sustainability of projects. Core concepts such as dialogue, participation, cultural identity, and empowerment provide a strong framework for examining how community media can influence the sustainable implementation of geothermal development at Mount Suswa (Klopper & Fourie, 2018).

## **2.0 Materials and Methods**

This study adopted a case study research design. The research was conducted at Mt. Suswa, a 12-kilometre-wide double-crater dormant volcano situated at the intersection of Narok, Kajiado, and Nakuru Counties within Kenya's Great Rift Valley, approximately 80 km northwest of Nairobi. The target population consisted of community radio, community television, and community communication networks involved in the geothermal project, as well as community members residing within the project's influence area. Due to the diversity and size of the population, a mixed sampling approach was employed. This method combined various established sampling techniques to gather a broad range of perspectives relevant to the study. Purposive and snowball sampling techniques were

utilized to identify respondents knowledgeable about geothermal development and community media participation. Qualitative data were collected from 73 community members through interviews and three focus group discussions, involving 11 community members, seven youths, and eight community professionals from media stations, as well as one environmental development expert (an NEMA official). Multiple qualitative data collection methods were utilized, including interview schedules, free listing, focus group discussions (FGDs), and non-participant observation. The qualitative data were analyzed thematically, guided by the study objectives, to identify emerging themes and patterns regarding community media participation in geothermal development. All ethical considerations were strictly observed, including obtaining informed consent from all participants, ensuring confidentiality of the information provided, and safeguarding respondents' privacy throughout the research process.

## **3.0 Results and Discussion**

This study examined how community media facilitate information exchange, stakeholder engagement, and local ownership to encourage participation and sustainability in the Mount Suswa geothermal development project in Kenya.

**Table 1**

*Demographics Characteristics of the Respondents*

| <b>Demographic features</b>         | <b>Frequency</b> |
|-------------------------------------|------------------|
| <b>Age</b>                          |                  |
| Interviewees:                       |                  |
| 20-30                               | 26               |
| 31-40                               | 28               |
| 41-50                               | 12               |
| 51-60                               | 3                |
| 61-70                               | 2                |
| 71-80                               | 2                |
| FGD participants (11,7,8)           | 26               |
| <b>Total</b>                        | <b>99</b>        |
| <b>Gender</b>                       |                  |
| Male                                | 67               |
| Female                              | 32               |
| <b>Total</b>                        | <b>99</b>        |
| <b>Level of completed education</b> |                  |
| None                                | 25               |
| Primary                             | 28               |
| Secondary                           | 20               |
| Tertiary                            | 17               |
| Not disclosed                       | 9                |
| <b>Total</b>                        | <b>99</b>        |

***Current Status and Functioning of Community Media in Mount Suswa.***

The study found that access to localized media within the Mount Suswa community is severely limited following the closure of Oltoilo Le Maa FM, the only community-specific radio station, due to sustainability challenges. As a result, residents rely on broader Maasai media outlets located 78 km away in Narok Town, which do not specifically address the community's concerns regarding geothermal development. A local youth activist states the following:

*"Since our radio closed down, we have been suffering. At least we used to have 'salamu clubs'(for fan groups) where we met and talked about our issues as a community, like GDC. Currently, I am concerned because*

*the community is not as united as we need to be regarding this project, which we believe will impact us and potentially take our land. If the government listened, I would request that our radio station be reinstated and that this geothermal project be halted. We do not want it. Travelling to Narok town to Sidai radio or Ositua FM is challenging"(Interviewee No. 25).*

Media practitioners reported that the Crater villages face significant signal and network challenges, which limit the use of social media platforms such as Facebook, X, and WhatsApp. These technological barriers are compounded by low literacy levels, further restricting access to information. As a result, community members mainly depend on traditional networks, including word-of-mouth communication, public gatherings (Barazas), and the local governance system, particularly chiefs and their assistants, as the main channels for sharing information and engaging. A local elite noted:

*"We use public gatherings more as we can pass a message easily to community members about a meeting at the community school. We, the youths, use social media, especially WhatsApp, for mobilization and discussion, but the message may be delayed due to network challenges, especially when you are deep in herding cattle. Most of our parents do not have smartphones, and education levels are a challenge. Only a few community media stations can be accessed in these mountain villages, so community Barazas remain favorites" (Interviewee No. 29).*

Traditional media, including reports, questionnaires, and national newspapers, remain inaccessible primarily to local communities because they are mainly written

in English and rarely translated into local languages. Coupled with the area's remoteness and limited access to formal media such as radio or television, this greatly limits their effectiveness in reaching and engaging the population. A senior government officer also acknowledged the need for more genuine participation in the project:

*"At our level, participation is done at two levels. First, consultants are approached to advice on the project's concerns and suggest ways to mitigate them. Here, public barazas are conducted, and questionnaires are administered along with public reports. Then, NEMA (National Environment Management Authority) conducts the second level of public participation through study reports, followed by advertisements in at least two leading national newspapers, as required by law. We do not have a provision for community media and TV. However, at a personal level, I believe it would bridge the gap, as questionnaires, study reports, and newspapers are often not written in local languages. Community radio would help us address this issue." (Interviewee No. 2).*

### **Media strategies employed by the Mount Suswa Geothermal Project**

The study found that community media participation in the Mount Suswa Geothermal Project occurs at three levels: the investor (state) level, the community level, and a hybrid approach combining both. At the investor level, the Geothermal Development Company (GDC) primarily engages the community through established networks, including public Barazas and local governance leaders such as chiefs and their assistants. While these channels facilitate

information sharing, the study found that local leaders often support investors, which creates distrust and limits authentic community representation.

*"The chiefs and assistant chiefs are used to pass information to us in the mountains when GDC wants to come, but we feel that they have been corrupted and never represent our voice. They even mark and threaten those who oppose the project, ensuring they are never invited to meetings with GDC. Our leaders need to be on our side and not that of the government." (Interviewee No. 5).*

The findings also emphasize the diverse nature of the community, with various interest groups, including youth, women, local elites, and conservationists, each possessing different priorities and access to information. The exclusion of women and youth from decision-making processes remained a persistent issue, restricting their participation and weakening community bargaining power. Interviewees stressed that gender- and youth-inclusive approaches could improve representation and promote equitable benefit-sharing from the project.

### **Discussion of the findings**

The absence of a local community media outlet after the closure of Oltoilo Le Maa FM at Mount Suswa limits opportunities for meaningful community engagement, reinforcing historical patterns of marginalization. These findings emphasize a significant gap in achieving genuine participation, as sustainable development projects tend to be more successful when communities have access to localized media platforms that enable discussion, debate, and feedback (Mefalopulos, 2008; Servaes & Lie, 2015). The lack of community media in Mount Suswa hampers the community's ability to influence project decisions, weakening local ownership and trust, as also



observed in similar energy and resource projects where limited media access reduces stakeholder engagement (Okaka, 2023).

The study's finding that traditional media remain inaccessible primarily to local communities supports the view that conventional top-down communication approaches often fail to engage marginalized populations effectively (Gumucio-Dagron, 2001; Mefalopulos, 2008). This aligns with participatory communication theory, which posits that meaningful community participation necessitates communication strategies that are accessible, culturally relevant, and responsive to local capacities (Servaes, 1999). The reliance on localized networks, such as public Barazas and local governance structures, illustrates the principle of leveraging context-specific channels to facilitate engagement (Chambers, 1994). However, unlike studies suggesting that formal community media platforms, such as local radio, can significantly enhance participation (White, 2011), the Mount Suswa context shows that the closure of the only community-specific radio station and poor network infrastructure limit the effectiveness of such media. This suggests that, while participatory approaches are conceptually sound, their practical implementation requires sustained investment in local media infrastructure and capacity-building to overcome historical marginalization and ensure equitable access to information.

The fact that Mount Suswa Geothermal Project (MSGP) involves the community on three levels: the investor (state) level, the community level, and a hybrid approach, shows a positive commitment to participatory processes (Mefalopulos, 2008). However, in the absence of a dedicated community media outlet, the Geothermal Development Company (GDC) mainly depends on public Barazas and local governance leaders, such as chiefs and their assistants, to communicate

with local populations. Although these channels provide structured methods for sharing information, local leaders are often perceived as favoring investor interests, which weakens true community representation and creates distrust. This aligns with Arnstein's (1969) Ladder of Participation, which suggests that tokenistic or delegated participation, where power stays with authorities, fails to deliver genuine community empowerment. Hierarchical structures, selective communication channels, and socio-cultural dynamics, including the exclusion of women and youth, further limit meaningful decision-making, consistent with findings from similar energy and development projects in marginalized communities (Okaka, 2023; White, 2011).

While MSGP's engagement mechanisms utilize existing local networks to foster participation (Chambers, 1994; Servaes, 1999), their effectiveness is hampered by top-down communication, perceived biases among local leaders, and limited access to inclusive platforms such as community media. Strengthening community media and adopting culturally appropriate, participatory communication methods could close these gaps, empower marginalized groups, and enhance project outcomes. Addressing these issues would enable more equitable involvement, build trust, and promote sustainable geothermal development that reflects the priorities and needs of all community members (Mkutu & Mdee, 2020).

## **4.0 Conclusion**

The study reveals that the current state of community media in Mount Suswa significantly restricts meaningful involvement in geothermal development. The closure of Oltoilo Le Maa FM, the only community-focused radio station, has left residents dependent on distant Maasai media

outlets, which do not address local issues, and on traditional communication methods such as Barazas, word-of-mouth, and local governance structures. Technological challenges, low literacy levels, and the inaccessibility of formal media further restrict the flow of information, reducing opportunities for informed participation. Although the Mount Suswa Geothermal Project (MSGP) has established engagement mechanisms at the investor, community, and hybrid levels, these approaches are hindered by hierarchical structures and selective communication channels. The exclusion of women, youth, and other marginalized groups further weakens community bargaining power and fair benefit-sharing. These findings emphasize the urgent need to improve community media infrastructure, adopt inclusive and culturally sensitive communication strategies, and ensure participation that is gender- and youth-inclusive. Such measures would build trust, foster local ownership, and support sustainable geothermal development that reflects the priorities and needs of all community members.

## 5.0 Recommendation

Based on the study's findings, it is recommended that:

1. All stakeholders should revitalize and strengthen local community media to improve access to information, facilitate dialogue, and

enable residents to voice concerns, thereby enhancing local ownership and informed participation.

2. The Mount Suswa Geothermal Project (MSGP) should adopt community-specific communication methods, such as radio, workshops, and public Barazas, that emphasize transparency, two-way dialogue, and active listening rather than top-down approaches.
3. The national and county governments, together with the MSGP, should develop legal and policy frameworks that recognize community media and tackle environmental, land, and relocation issues, ensuring fair benefits, cultural preservation, and the safeguarding of community rights.

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