When the Dust Settles: Miners' Lived Experiences of Survival and Transformation

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ABSTRACT. The Sipalay Mine in Negros Occidental province, Philippines, highlights the dual role of mining as both an economic driver and a source of enduring community challenges, underscoring the need for more inclusive, people-centered post-mining policies. However, limited research explores how former miners experience survival and transformation after mining closure. This study aimed to explore the lived experiences of former miners regarding the adaptive strategies during systemic abandonment. Their stories would challenge favorable approaches to mining closure and demand a reorientation. A descriptive phenomenological design was utilized. Purposive sampling involved ten former miners aged 70-82, six from the Barangay (District) Canturay and four from the Barangay San Jose, who are alive and reside near the mining area. In-depth, semi-structured interviews were conducted, and recordings were transcribed verbatim. Data analysis, following thematic analysis, utilizes the Guided AI Thematic Analysis (GAITA), an adaptation of King et al.'s (2018) Template Analysis. This framework positions the researcher as a reflexive instrument guiding GPT-4 in four stages. Two main themes emerged: (1) survival roadmap and form after mining closure, and (2) transformation conditions and development of the former miners. While the sub-themes transpired: (1.1) adaptability and skill diversification, (1.2) resilience and psychological coping mechanisms, (1.3) community networks and mutual support systems, (1.4) entrepreneurial initiatives and informal economies; and (2.1) skill reorientation and lifelong

learning, (2.2) identity reconstruction and psychological adaptation, (2.3) resourcefulness and innovation in economic survival, (2.4) social capital mobilization and networking. In conclusion, this study demonstrates that successful post-mining transitions require resilient, adaptable communities supported by diversified livelihoods, lifelong learning, social cohesion, and inclusive, collaborative governance to foster sustainable, community-centered development amid complex socio-economic challenges. This study contributes actionable recommendations to empower local governments and stakeholders in managing post-mining transitions through early closure planning, economic diversification, and lifelong learning initiatives. It also highlights the importance of integrating social support, inclusive participation, and continuous monitoring to ensure sustainable and community-driven recovery.

INTRODUCTION

The mining sector has historically played a vital role in driving economic development, particularly in regions rich in mineral resources (Wang et al., 2024; Michaux & Michaux, 2021; Githiria & Onifade, 2020; Panda, 2014). Its operations often restructure local economies and social systems, simultaneously providing employment and facilitating broader socio-economic transformation (Unger et al., 2020). Mining activities contribute to the formation of intricate and interdependent community networks, which enhance local adaptive capacity and resilience (Sutrisno et al., 2023). This analysis is situated within the framework of the United Nations Sustainable Development Goals (SDGs), specifically Goals 8 and 11, which promote inclusive economic growth and decent employment, and advocate for sustainable cities and communities, respectively (Maphiri et al., 2021). Achieving long-term sustainability in mining-dependent areas requires integrating environmental responsibility and social equity into both public policy and corporate governance structures (Tian et al., 2024).

Mining facilitates economic development through employment, fiscal contributions, and the establishment of key infrastructure such as roads, water access, and education systems. However, these benefits are not equitably shared, with marginalized communities often bearing the brunt of environmental harm and health-related risks (Chaudhary, 2024). Such asymmetries foster distrust and conflict between corporations, governments, and residents, revealing the limitations of profit-driven narratives. It is

presumed that the mining sector illustrates how community development programs, livelihood training, and stakeholder engagement can contribute to post-extractive resilience (Yu et al., 2025). It also prioritizes social investment, and local agencies play a critical role in mitigating the long-term socio-economic vulnerabilities experienced by mining-dependent populations (Haroon & Hayyat, 2025).

In the Philippine context, mining has been formally positioned as a national economic strategy, with the state forging alliances with private industry bodies such as the Chamber of Mines (Nem Singh & Camba, 2020). The Mining Act of 1995 exemplifies the country's effort to strike a balance between national development objectives and localized resource sovereignty, particularly in Indigenous and ancestral territories (Wijaya & Camba, 2025). It is said that governance complexities intensify during corporate failures, which highlight the fragility of centralized control in extractive policymaking. Decentralized governance, participatory consultations, and benefit-sharing mechanisms are central to achieving equitable outcomes (Cairney et al., 2023). In the same vein, the legislation also obligates companies to ensure community welfare during closure periods, offering a legal foundation for socially responsive mining governance (Vivoda et al., 2019; Jackson et al., 2023).

However, despite the Mining Act and mechanisms for ensuring the long-term community welfare, mining closure introduces abrupt economic and social dislocation, often plunging communities into unemployment, infrastructure loss, and population decline. When closure planning is absent or poorly executed, affected communities face prolonged ecological damage and institutional abandonment (Bainton & Holcombe, 2018). Experts argue that sustainable transition requires participatory planning, long-term support systems, and community-informed strategies (Mancini & Sala, 2018). However, these best practices are unevenly implemented, leaving many regions to cope with residual consequences years after the last mineral is extracted. Reframing closure as an integral phase of the mining lifecycle is crucial for addressing the persistent socio-economic impacts that follow industrial exit (Widana, 2019).

The history of the Sipalay Mine in Negros Occidental, Philippines, exemplifies the duality of mining as both an economic stimulant and a source of prolonged community vulnerability. Developed through foreign and domestic investment, the mine transformed the locality during its operational years. However, its closure generated unmet developmental promises and exposed the fragility of externally driven progress. Hence, this study aims to address this gap by examining the lived experiences of affected miners, whose personal narratives reveal adaptive strategies amidst systemic neglect. These stories

would challenge favorable approaches to closure and demand a reorientation toward inclusive, community-centered post-mining policies that prioritize survival, dignity, and transformation.

MATERIALS AND METHODS

Design

This research employed a descriptive phenomenological approach to examine the lived experiences of former miners. The phenomenological approach is particularly suited for eliciting rich, nuanced insights into the subjective realities of individuals who have navigated and adapted to multifaceted and challenging contexts. The approach used in this study delves deeply into and captures the essence of the lived experiences of the former miners, with an emphasis on revealing the shared structures and universal meanings of experience as experienced by different people. By putting researcher presumptions aside and letting former miners' voices speak for themselves in their purest form, this approach further supports the study's aim of comprehending the fundamental human experiences of the former miners in Sipalay Mine, particularly their survival and transformation.

Setting

The study was conducted at two locations near the community of the Sipalay Mine ruins, operated by Maricalum Mining Corporation in Sipalay City, Negros Occidental Province, Philippines. The study settings were selected considering both accessibility and geographic proximity to reduce expenses, given the research's limited funds. Initial mapping of the former miners who are still alive and willing to share their stories was performed with the help of the two Local Government Units of Barangay (district) Canturay and San Jose. The study settings were selected considering both accessibility and geographic proximity to the researcher.

The researcher selected the community of former miners as the study setting to capture a comprehensive and richly detailed understanding of the phenomenon under investigation (Bright, 2011). This context provides a valuable lens through which to explore the evolving lived experiences of individuals, recognizing that their narratives unfold dynamically over time and are shaped by the specific temporal and situational factors inherent to their experiences (Petitmengin et al., 2019), thereby strengthens the study's credibility and reliability by ensuring that the data collected authentically represents the former miners' lived realities (Ankrah et al., 2024).

Informants

A purposive sample of ten former miners aged 70-82, six from the Barangay (District) Canturay and four from the Barangay San Jose, was voluntarily and willingly asked to share their experiences of overcoming obstacles to survive and transform after the closure of the mining operations. The selection criteria guide the scope and rigor of research, ensuring that studies are meaningful, relevant, and trustworthy. Inclusion criteria were (1) a former miner, and (2) still staying near the community of the Sipalay Mine. These criteria guide the decision on which studies, data, or informants to include or exclude. By choosing informants most qualified to provide insight into the phenomenon being studied (Aguinis & Solarino, 2019), the author ensures that the focus and ethical methodological framework are established, which is also essential for reducing bias and enhancing the research's transparency (Jacobs et al., 2021; Bradley et al., 2020).

Data Collection

Data were collected through semi-structured face-to-face interviews with former miners from the Sipalay mine community who are still alive and living in the area. The data collection process consisted of three phases.. Phase 1 on November 06-09, 2023 for initial mapping, scheduling of the informants for face-to-face interview, and signing consent forms were also obtained from the informants after a thorough explanation and translation to their native tongue on the purpose of the study, while Phase 2 was on November 20-24, 2023 for the face-to-face interview, and Phase 3 was on December 04-07, 2023 for the member-checking.

This approach was chosen to allow for in-depth exploration of informants' lived experiences, perceptions, and insights related to survival and transformation following the closure of mining operations. It allowed for the flexibility to probe emergent themes and seek clarification during the interview process. Interviews were conducted in informants' homes, a setting chosen to ensure their comfort, maintain confidentiality, and minimize external distractions. Each session lasted approximately 45 to 60 minutes and followed a semi-structured interview guide consisting of open-ended questions, translated into the informants' native language, aligned with the study objectives. The interviews focused on key themes, including narratives of survival strategies and processes of transformation in the aftermath of mine closure.

Interviews were conducted by the principal researcher and a co-investigator, who, although not involved in the preparation of this manuscript, acted as a gatekeeper. All interviews were audio-recorded with the participants' prior written informed consent. Additionally, field notes were taken during each

session to document nonverbal cues and contextual details that could inform subsequent analysis. Data collection continued until thematic saturation was achieved and no new concepts or insights emerged from subsequent interviews.

Data Analysis

The data were analyzed using thematic analysis to specifically identify and interpret recurring patterns or themes within the interview transcripts. Thematic analysis utilizes the Guided AI Thematic Analysis (GAITA), an adaptation of King et al.'s (2018) Template Analysis. This framework positions the researcher as a reflexive instrument guiding GPT-4 in four stages: (1) data familiarization; (2) preliminary coding; (3) template formation and finalization; (4) theme development (King et al., 2018). This method facilitated a structured yet adaptable approach, enabling the elicitation of rich and meaningful insights from informants' narratives. The combination of a guiding framework and the flexibility to explore emergent themes allowed for a deeper understanding of individual experiences within their specific socio-cultural contexts.

OVERSEEING REFLEXIVITY AND BRACKETING

The researcher recognized that his professional positioning and personal background had the potential to influence various stages of the research process, including data collection, interpretation, and analysis. To address this reflexivity, the researcher engaged in ongoing self-reflection and maintained critical dialogue throughout the study, thereby fostering transparency and mitigating potential biases.

A key component of this reflexive process was the use of reflective journals, through which the researcher systematically documented and actively set aside personal biases, assumptions, and preconceived notions in an effort to bracket their potential influence on the research. Regular peer debriefing sessions and open discussions were also conducted to critically examine emerging interpretations, acknowledge possible subjectivities, and enhance the overall credibility and trustworthiness of the study.

In this view, the researcher's diverse disciplinary backgrounds contributed to a more balanced interpretive lens, helping to mitigate individual biases. Transparency regarding their positionality was maintained throughout the reporting process, offering critical context on how their professional and personal experiences may have influenced various stages of the research. This intentional, reflexive stance ensured that informants' voices remained at the forefront and that data interpretation was firmly anchored in the empirical evidence, rather than being shaped by the researcher's preconceptions.

MEASURE OF TRUSTWORTHINESS

This study was underpinned by qualitative principles of trustworthiness, guided by the evaluative criteria proposed by Lincoln and Guba (1985, 1986), as cited in Enworo (2023). Throughout the research process, systematic efforts were undertaken to uphold the standards of credibility, dependability, transferability, confirmability, and authenticity, thereby ensuring the rigor and integrity of the study.

To establish credibility, iterative member validation was employed during interviews to ensure that the findings accurately represented the perspectives of former miners. Responses were summarized and clarified to confirm a precise interpretation. A systematic coding process and cross-verification of emerging themes further improved the analysis's reliability and integrity. On the other hand, dependability was ensured through a thorough audit trail that recorded every step of the research, thereby ensuring its reliability. This supported transparency and made it easier for others to repeat the study. To address transferability, it provides detailed descriptions of the context, allowing readers to see how the findings might apply to other situations. In looking into its confirmability, it was strengthened via systematic documentation and literature control, facilitating external validation and reducing researcher bias. In contrast, authenticity was maintained by deliberately choosing participants with profound experiential knowledge and adhering to stringent inclusion criteria. At the same time, the utilization of direct quotations preserved the depth and veracity of their lived experiences.

ETHICAL CONSIDERATIONS

Firstly, this study was submitted to the in-house review committee, which the university conducts, and it suggested all parameters for conducting and collecting data from the informants. Secondly, a personal visit and courtesy to the Local Government Units for initial mapping and scheduling of the former miners within their jurisdictions. Thirdly, prior to the commencement of interviews, signed consent forms were obtained from the informants after a thorough explanation of the study's purpose and translation into their native language to ensure a clear understanding of what was expected of them as participants, along with reassurance regarding anonymity and confidentiality. Furthermore, it was ensured that participation in this study was entirely voluntary, and individuals could withdraw at any time without consequences.

RESULTS

Description of the informants

The informants were former miners of the Sipalay Mine, operated by Maricalum Mining Corporation (MMC), who were directly involved in the company's operations prior to its closure. In 2001, when the MMC closure revealed its legacy on miners' livelihoods, local government units and the community (Ubaldo et al., 2023) were also affected. These ten informants are still residing in the nearby mining areas, namely Barangay (district) Canturay and Barangay San Jose in Sipalay City, Negros Occidental, Philippines.

Presentation of themes and sub-themes

The study identified two main themes and eight subthemes, namely: (1) former miners have a survival roadmap and form, (2) the transformation conditions and development after closure of the MMC. These themes and subthemes are presented in Table 1 and are described and discussed in the subsequent subsections.

Table 1: Identified Themes and Sub-themes

Themes	Sub-themes
1. Survival roadmap and form after mining closure	1.1 Adaptability and Skill Diversification 1.2 Resilience and Psychological Coping Mechanisms 1.3 Community Networks and Mutual Support Systems 1.4 Entrepreneurial Initiatives and Informal Economies
2. Transformation conditions and development of the former miners	2.1 Skill Reorientation and Lifelong Learning 2.2 Identity Reconstruction and Psychological Adaptation 2.3 Resourcefulness and Innovation in Economic Survival 2.4 Social Capital Mobilization and Networking

Theme 1: Survival roadmap and form after mining closure

This theme reflects the survival roadmap and form after mining closure, suggesting that informants with firsthand experience provide crucial insights into the adaptive strategies, social restructuring, and economic moves communities undertake to survive. Informants take the positive to continue in their life journey and reshape their lives following the shutdown of mining operations.

Sub-theme 1.1 Adaptability and Skill Diversification

Former miners (informants) consistently highlight how they articulate their evolving responsibilities and changing socio-economic conditions by acquiring new skills and adapting their roles to sustain livelihoods and community resilience. The following quotes illustrate how former miners experienced adaptability and skill diversification. For instance, the coding, 01-018, explains that 01 refers to informant 1 and 018 refers to line 18 of the informant's response.

01-018: "Ang sa akon indi gid tudo problema ko kay tungod may duta ko at least may angat ko sa trabaho (I have no big problem because I have my farm to work and utilize for farming to uplift our socio-economic conditions)."

03-090: "Iya na ubra pananom sang kahoy. Nakaluy-an man ining palibot akon ini asta to sa ubos (planting trees here and extended up to there, which I have planted before)." 03-092: Huo ang mga kahoy, kis-a gabaligya man ko kahoy kag panagod sang mga sapat, baboy, karabaw, baka (Yes, that planted trees sometimes I sell it as pieces of wood. Doing raising and fattening animals like pig, tamaraw and cow)."

06-026: "Lakat ta sa Bacolod tay ngita ta obra panday sa Robinson (We will go to Bacolod-[capital of Negros Occidental province], dad- [father], working as a construction worker in Robinson-[construction firm])." Kay nangita si Maban ang foreman namon sang una nangita si Maban operator sa pison kag sa gridder kag sa bulldozer (Maban-[equipment rental owner] is looking to work as foreman and operator of pison, gridder and bulldozer)."

Sub-theme 1.2 Resilience and Psychological Coping Mechanisms

Former miners reflect on how to draw on inner strength, cultural values, and community support to navigate the mental and emotional challenges brought about by mining closure and socio-economic turmoil. The excerpts below illustrate how resilience and psychological coping mechanisms manifested among informants:

06-028: "Kaluy-an man sang Ginoo gid nga amo ko sini na, nga perte gid nakon kapigado sang una te may duwa ko ga eskwela pano na sulbar nako sila, kupot

lang gid ko sa Ginoo. Pag pangamuyo sa pagkapigaduhon indi gid guro makatapos sila (In the mercy of the Lord, why am I doing this, despite hardships and challenges in life, especially since my children were still studying in college. I prayed to the Lord that my hardships and challenges would be blessed positively. My prayer was answered when my children graduated).” …“Depende lang gid sa imo ideya kung ano imo mahimo. Ang kabataan maluoy kaman nga imo pa untaton kay ga asikaso man sila sila pag eskwela (It depends in your idea on what to do. I have concerns about my children's future, specifically whether they will continue studying in college. However, my children were positive to continue and to finish studying in college despite struggles and challenges because of the mining closure).”

07-210: “Siling ko sang una ga eskwela pa siling ko pigado ta sa allowance medyo pugong pugong ha. Ti subong ang magulang ara man sa kwan, sa LCC na nag graduate gali HRM sa LCC. Sang una kundi nag kwa na ang magulang HRM tapos nagkwa masteral, nag maestra man sya…(I have said, when my daughter was studying college to spend wisely of your allowance because we are struggling with our budget, but now my daughter graduated at LCC [La Consolacion College] with a degree of HRM [Hotel and Restaurant Management]. She took a master’s degree and became a college instructor).”

09-134: Ay sobra gid ya. pigado gid sang una ang kwan. Dyutay tawo na bilin di kay mga tatay nag lakat man sa iban nga lugar… Huo may ubra sila mga call center man sa Manila. Ang bata ko to nga ikaduwa kay electrical to siya (Oh more than, we experienced struggles and hardship but most of fathers (miners) went to other places to look for a job… My children are working at the call center in Manila, my second (son) is working as electrician).”

Sub-theme 1.3 Community Networks and Mutual Support Systems

This highlights how informants rely on strong social ties, shared resources, and collective solidarity to cope with adversity and rebuild stability in the aftermath of mining closure. The following excerpts demonstrate how informants experienced and engaged in community networks and mutual support systems:

02-198: “Sang wala pa kami sa Semirara sang may minahan pa dako ni amon balay babaw-dalom te gin rusdak kay gin anay… Tatlo nadi sila ga buligay hu (When we are not working at Semirara [Semirara Mining and Power Corporation in Antique province], we stay here in our house.) However, it was ruined, but still we are helping and cooperating inside the house).”

03-170: “Huo eh gahilibion… Kay gutom sya ti ang opisyo ko na mangutang ko na sa kay mari sa mercado mga tinapa, corned beef, inang mga gagmay bala. Balunon ya na, bugas, tanan tanan nga gamit nya. Pag sweldu ti duso mo

naman da eh kay pila lang man ang sweldu kagamay (Yes [eh], crying... When I was hungry, I often borrowed goods from my friend's store, such as sardines and corned beef, in small amounts. I also borrowed rice and other ingredients. When salary is received, I will pay [eh] from my humble salary)."

05-068: Ti kung nag kadto ka di sa amon nga may ara okay lang wala na sa sang bayad. Ti depende simo kung ano man ibalik mo man eh share lang eh (So if you are going to ask something, it depends for you whatever may or may not payback but I will share if ever)."

07-074: "Pwerte man pasalamat ya nga gin pursue man... ato nga time may estudyante pasa mung. Huo may mga estudyante pa si ihado... Kay ti ano bala pasalamat nga tanan nga bata ya, kanami bala nga may nabuligan ka bala nga nag successful man bala (As in, thankful for continuing that time my neighbor children are still studying college. Yes, that is my godchild. It is indeed a pleasure to be thankful and happy that my neighbor's children successfully graduated with our help)."

Sub-theme 1.4 Entrepreneurial Initiatives and Informal Economies

04-042: "Amo naman ni nga plastada na dugang-dugangan nalang. Huo, kag nag sagod ko daan sang baboy maka benta ko maka bulig gid. Ga timbanganay lang kami (This is our situation that we augment our source of income. Yes, we were raising and fattening pigs to sell, and it will help our needs)."

07-130: "May negosyo pa kami, grocery-han... Nami negosyo sang una... ang kwarta gasulod (We have business, like a grocery store... It is good to have a grocery store before... to have extra money)." 07-194: "Gamay tapos may negosyo kami nga grocery store bala (then, small business of grocery store, that is it)."

09-052: "Pang obra furniture da bala sa Minahan, tapos gin kuha ko sang manager siling ya... didto ka sa balay obra kay damo ko ipa obra simo kag may mga raket pa kami pang lagare sang mga kahoy sa bukid... (Making furniture within Sipalay Mine communities, then my former manager said, You are going to work in my house, and you will be a lumberjack as your sideline job as extra income)."

Theme 2: Transformation conditions and development of the former miners

Informants describe how they navigate personal growth and socio-economic reinvention, transitioning from their former identities to new roles through the transformation situation and development. The following quotes elucidate how former miners experienced transformation conditions and development manifested in almost three decades after mining closure:

Sub-theme 2.1 Skill Reorientation and Lifelong Learning

02-138: "Indi man kay bakante man umahon mo lang… manok, may dala sa humay (It is not, but there are areas for raising livestock like chicken with rice farming and cultivating)."

03-042: "Gabaligya sya kararuton kag utanon gina buligan ko sya, tapos gapang-uma ako kay para lang makakaon kami. Huo gwardya pa kami dyapon… (Vending root crops and vegetables after that, I am farming and planting so that we can harvest and consume them. Yes, I have worked as a security guard with comrades before)."

09-090: "Oo damo obra ko nga mga furniture… wala paman to mga electronic nga mga machine nga mga gamit sa carpentry mano-mano pagid, sa isa ka bulan buta ko na fabricate ang isa ka dako na van padala sa Manila… Sari-sari, mga cabinet (Yes, there so many I have made furniture… because that time was no electronic machine being used in the carpentry but handmade and more fabricated to fill the whole huge van transported to Manila… so many like cabinet)."

10-038: "Shop lang mana hu, shop lang gid amon income da… Gapamaton kodi ubra, dako eh kay ti pakyaw pakyaw mung, ako ga ubra sang jeep nila mung. Ako ga pasad jeep halin sang una (We have a shop, and our income comes from it. We are accepting packages and rush work in our shop. I need to repair their jeep [car]. I rebuild and repair jeep [car] before)."

Sub-theme 2.2 Identity Reconstruction and Psychological Adaptation

01-068: "Tawo nga nag pabilin di ang iban pensionado, iban ang kabataan nila ato sa abroad… Oo, negosyante di pati lang para mabuhi lang gid (Most of us who stayed here are pensioners, others have children working abroad… Yes, they are doing business here, trust yourself in order to survive)."

03-082: "Kis-a indi sa kakaon gatulog lang sa, makaeskwela lang. Tungod sa kaluoy sang Diyos na survive gid nya na natapos gid niya… Tapos ang iban ko nga kabataan nga naka graduate man amo na nag gwa nag pa Taiwan (Sometimes, sleeping with an empty stomach, but continuing study to finish the college degree. Through the mercy of God, my children survive to finish the degree… Then, some of my children who graduated went abroad and work in Taiwan)."

07-038: Okay man lang kay ti at least ang mga bata bala nag successful man sa ila pag eskwela. Biskan kwan ka sa imo trabaho kapoy, daw madula lang kay ti ga tinguha man mga bata mung kag maka obra dayon (At least okay, my children are now successful after they graduated with their degree. Although your work is very tiring and exhausting, I was still positive about having a

source of income so that my children can finish their degree, because I also see my children striving to graduate and look for a job after graduation).”

Sub-theme 2.3 Resourcefulness and Innovation in Economic Survival

01-114: Ang iban kundi waay ka source of income te syempre ma salig kalang ya sa mga purupamugon mo kun ano man nga pangayo-ngayo mo man da sa mga isig kapareho mo man nga kwan man eh. Te amon binuligay amon perti man (Some former miners had no source of income, of course. Just trust your survival instinct; for instance, working in the household as a house help, so that you can bring something to the table. We were eager to help each other to survive, for those who have an extra amount of money will share with others in order to survive).”

03-138: Sa RIC ko gabaligya… Ah kung ano lang da eh mga pagkaon sang mga bata mga chichirya, mga biscuits. Daw kalingawan nalang na ya (In the RIC [learning institution for young children], I am vending… Ah whatever foodstuffs for the children like chips, biscuits).”

05-088: Huo sa nga pananom tanom man eh kararuton… Huo. Amo na asta karun dala dala ko kay ti ang akon mga tanom gagmay lang man to. Amo na guro akon papel sa pangabuhi (Yes, I am cultivating and planting root crops… Yes. Until now, I am still doing planting root crops and other plants. I think, this is my way and mission in life).

Sub-theme 2.4 Social Capital Mobilization and Networking

01-072: “Subong ang mga tilling pan anay to nga kwan gina humayan ka mga tawo subong gin balik nila bala sa humayan kay pwede man lang matamnan ka iban klase nga kwan kay duta lang man gin pang kwan dutay dutay nga mga bato (Now, the tilling pan before converted by rice field among former miners because you can still cultivate and plant rice, just picking and cleaning small rocks so that you can already utilize the land for farming).”

03-218: “Amo lang na, asta subong amo mana gina himo namon. Gapanagod kami mga sapat. Para lang makakwan ah maka bulig bulig sa kapigaduhon… daw ma turotawhay naman dyutay akon pangabuhi. Salamat sa Ginoo nga gin tagaan kita sang dyutay nga pangabuhian (That’s it, until now, that is I am doing. Raising livestock and poultry. So that it can augment our source of income and to survive along the way).”

05-052: “Asta karun kadamo ko tanom nga lubi naga tanom pa ko dyapon lubi. Sige lang ko tanom nga tanom kada may panahon nga pwede nga makakita ko nga itanom ko nga lubi gatanom ko. Siling ko naga baligya kita sang lubi. Matapas ka sang duwa ka puno patanom man koya sang lima ka lubi liwat. Huo ang model farmer ah. Activity sang Sipalay sang DA eh… May asawa ara sa

cooperative ga ubra bali clerk sya (Until now, I have a lot of coconut trees, which I planted before and am still continuing to plant coconut trees. I am selling it if they want coco lumber. The buyer will be the one to saw and slice it, then I will replant it again and again. I am a model farmer of the DA [Department of Agriculture in Sipalay City... My daughter-in-law is now working in a cooperative as an office clerk)." "Huo, nag farmer ako di sa Sipalay sa iban man diri, ti syempre may activity man sya kung may okasyon sa Sipalay. Ga participate man ang Barangay. Amo na sya na kit-an man kami sang DA sa Sipalay (Yes, I became a farmer here in Sipalay and same with former miners, so of course, there are activity in the Department of Agriculture (DA) in Sipalay and also participated in the barangay (district) in Local Government Unit level)."

10-010: "Huo welder. Sa welding mga electric, ti amo na ubra ko sa minahan. Diri sa gwa amo mana dyapon tapos ga pamasad ko mga sidecar, salakyan. Huo welding man dyapon (Yes, welder. In welding of the electric, so that is my work before in the mining, but now I am doing repairing and building a sidecar [a one-wheeled device attached to the side of a motorcycle, making the whole a three-wheeled vehicle] of the motorcycle, and even repairing and welding cars. Yes, I am still a welder)."

The themes outlined above offer valuable insights into the informants' lived experiences and provide a critical foundation for interpreting and contextualizing the study's findings. These thematic insights not only illuminate individual and collective responses to mining closure but also contribute to a more comprehensive understanding of socio-economic transitions in post-extractive communities, reflecting on and transforming the state of former miners.

DISCUSSION

This study explored the lived experiences of former miners in Sipalay City regarding the survival roadmap and form, as well as the transformation conditions and development following the closure of the Sipalay Mine, operated by Maricalum Mining Corporation in Negros Occidental Province, Philippines. The findings illuminate the multilayered impressions and manifestations of the survival roadmap and its form, and provide insights into the transformation conditions and development of the former miners into how survival and transformation reflect and mirror the community after the closure of the mining, and also its impact on the environment and socio-economic situations near the mining areas. The following discussion establishes these findings within the context of existing literature:

Survival Roadmap and Form after mining closure

This theme highlights the multilayered strategies employed by individuals and communities in the aftermath of mining closure, which highlight adaptability, skill diversification, and resilience through psychological coping mechanisms, strengthened community networks, mutual support systems, and the emergence of entrepreneurial initiatives and informal economies. Informants reflect their critical pathways for socio-economic survival and transformation. This encapsulates the complex interplay of reconstructing livelihoods and fostering socio-economic continuity amid structural disruption.

This aligns with a previous study that proactive measures, such as shared infrastructure use, skills development, and early closure planning, promote sustainable development in mining regions. However, stronger collaboration between mining companies and regional governments is needed to ensure more inclusive and resilient post-mining transitions (Syahrir et al., 2021). It also highlights the insufficient inclusion of local communities in mining companies' adaptation initiatives, underscoring the urgent need for context-specific, evidence-based studies and collaborative policy frameworks that prioritize community engagement to enhance resilience, ensure equitable adaptation outcomes, and address the escalating vulnerabilities following mining closure (Hakwendenda, 2022).

Indeed, despite diverse income strategies, mining communities need targeted support and more decisive government action, extending down to Local Government Units (LGUs), to achieve lasting economic resilience.

Transformation Conditions and Development of the former miners

Another theme emphasizes the importance of skill reorientation and lifelong learning, identity reconstruction and psychological adaptation, resourcefulness and innovation in economic survival, and social capital mobilization and networking as critical mediums for former miners to rebuild livelihoods, adapt to changing economic realities, and regain a sense of purpose beyond their previous identities. This would be a continuous learning process that enables them to participate meaningfully in alternative economic sectors and strengthen their resilience in the face of uncertainty.

This result aligns with Kanakis (2018), who argues that the factors influencing community well-being, which were found to align with the six forms of community capital, illustrate their interconnected nature. Social capital was particularly influential in shaping residents' perceptions of both overall well-being and the impacts of mining activities, which were more often viewed as negative than positive. These findings underscore the importance of

integrating social capital into sustainable development efforts by fostering trust and collaboration among community members, leaders, and industry stakeholders, as this is crucial for facilitating sustainable community development.

Moreover, this finding enlightens the previous study by assessing both the financial and social impacts of mining alongside environmental and economic effects. The evaluation of the sustainability of mining areas provides detailed insights into their impacts on local environments, communities, and economies. By emphasizing localized, community-focused assessments in sustainability evaluation, this approach supports a multidimensional framework that integrates ecological preservation, social welfare, and economic viability for mining communities (Yu et al., 2024).

In this view, the significance of skill reorientation and lifelong learning is vital for navigating post-mining transitions. These processes enable individuals to adapt to new economic opportunities, fostering personal growth and long-term resilience. The former miners, as they transition from extractive labor to alternative livelihoods, often reevaluate their identities of survival and acquire new competencies, making ongoing learning essential for restoring self-worth, participating in economic transformation, and social restoration.

Contextual Relevance and Contribution

Relevantly, it captures the complex, lived realities of individuals and communities navigating the socio-economic fallout of mining closures, particularly in regions heavily dependent on the mining industry. It underscores the multifaceted strategies employed for survival, including adaptability, skill diversification, and reliance on community support systems, which are especially vital in areas where formal support structures are limited or absent. It also contributes to the broader discourse by highlighting the importance of skill reorientation, identity reconstruction, and lifelong learning as essential processes for former miners seeking to rebuild their livelihoods and reestablish a sense of purpose. Moreover, it offers valuable insight into the role of social capital, innovation, and informal economies in enabling individuals to transition into new forms of economic participation. Collectively, these findings offer a nuanced understanding of resilience and transformation in post-mining contexts, informing the development of more inclusive and context-sensitive policies for sustainable development.

LIMITATIONS

While this study offers valuable insights into the lived experiences of former miners, particularly regarding their survival roadmap and form, as well as the conditions and development of transformation, it is essential to acknowledge

certain limitations. Firstly, the study was conducted in only two Local Government Units (LGUs), namely (district) Canturay and San Jose, located in Sipalay City, province of Negros Occidental, Philippines, which may limit the general conclusion of the findings to other former miners who are still alive and stayed in nearby barangay (district). Secondly, the data collection process, which utilized face-to-face interviews centered on personal narratives and lived experiences, may have been affected by recall bias or the tendency of participants to respond in socially desirable ways. Thirdly, although efforts were made to ensure more representation of former miners, only ten informants were identified based on the initial mapping of two areas with the help of elected local officials. Lastly, the data were collected at a single point in time, capturing the informants' experiences and perceptions during that moment. However, this limitation restricts the ability to assess changes over time, identify long-term outcomes, or establish causal relationships. In the context of post-mining community survival and transitions, this may constrain understanding of how adaptation strategies or socio-economic conditions evolve.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed for the Department of Interior Local Government (DILG), lawmakers, and community leaders:

Institutionalize Early Closure Planning and Community Transition Frameworks: The DILG and LGUs should mandate and operationalize proactive closure planning in collaboration with mining companies, emphasizing the early establishment of shared-use infrastructure, skills training, and contingency measures to mitigate socio-economic disruptions.

Strengthen LGU Capacity for Post-Mining Economic Governance: Equip local governments with the necessary tools, funding, and technical assistance to develop localized economic diversification programs, including support for small-scale enterprises, cooperatives, ecotourism, and agricultural ventures, thereby reducing dependency on the mining sector.

Promote Lifelong Learning and Workforce Reskilling: In partnership with TESDA, CHED, and other training institutions, implement community-based education and upskilling programs tailored to the needs of former miners, enabling them to access alternative livelihoods and re-enter the workforce with competitive, relevant skills.

Integrate Social Capital and Psychological Support into Recovery Plans: Encourage programs that strengthen community networks, mutual aid systems, and psychosocial services to address identity loss and mental health

challenges resulting from mine closure, ensuring that transformation is both economically and socially sustainable.

Ensure Inclusive Participation in Policy and Sustainability Assessments: Develop participatory mechanisms that enable former miners and community members to co-design resilience strategies and actively engage in sustainability assessments. This ensures that local knowledge informs decision-making and that adaptation measures reflect lived realities.

Institutionalize Monitoring and Evaluation of Post-Mining Transitions: Establish a formal monitoring body to track socio-economic outcomes in former mining communities, including employment rates, education participation, and social well-being, to inform responsive policy and adaptive governance frameworks.

CONCLUSION

This study concludes that post-mining transitions are complex and dynamic processes shaped by the resilience, adaptability, and innovation of affected individuals and communities. The findings highlight the critical role of diversified livelihood strategies and social cohesion in navigating socio-economic disruptions, while also exposing significant gaps in post-closure governance and underscoring the urgent need for more inclusive and collaborative planning among mining companies, governments, and local communities. It also concludes that lifelong learning, skill reorientation, and social capital mobilization are essential for former miners to establish sustainable livelihoods beyond extractive work, underscoring the need for integrated, community-centered development strategies that address the intertwined emotional and economic challenges of mine closure. It illustrates how former mineworkers rebuild their livelihoods and identities amid systemic uncertainty, while emphasizing the urgent need for policy frameworks that prioritize long-term, participatory, and multidimensional approaches to sustainability and well-being. This provides a crucial evidence base for fostering inclusive, locally responsive, and socially transitional communities in mining-affected communities.

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