

***BEYOND MINING: STRATEGIES FOR DEVELOPING A RESILIENT AND
DIVERSIFIED ECONOMY IN SAWAHLUNTO***

**MELAMPAUI PERTAMBAHAN: STRATEGI PENGEMBANGAN EKONOMI
YANG TANGGUH DAN TERDIVERSIFIKASI DI SAWAHLUNTO**

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ABSTRACT

Sawahlunto, a former coal mining town in Indonesia, is undergoing a complex transformation toward a diversified and resilient economy. After the closure of its mines, the city faced severe economic contraction, rising unemployment, and stagnation in infrastructure development. This study explores Sawahlunto's efforts to diversify its economy beyond mining through sustainable tourism, creative industries, and agriculture. Using a qualitative research approach, data were collected through semi-structured interviews with stakeholders, including former miners, government officials, community leaders, and entrepreneurs. The findings highlight persistent gaps in infrastructure development, workforce transition, policy coordination, and community engagement. Despite its UNESCO World Heritage status, the benefits of tourism are distributed unevenly, and the tourism offerings are still underdeveloped. Vocational retraining programs are not adequately aligned with actual market needs, with only 40% of displaced workers successfully transitioning into new sectors. Additional structural barriers, such as limited access to capital, weak digital infrastructure, and insufficient collaboration between public and private sectors, further hinder economic revitalization. A comparative analysis with Essen (Germany) and Luang Prabang (Laos) reveals best practices, including developing heritage-based tourism, inclusive governance, and community-based tourism models. This study proposes a strategic framework that integrates economic diversification, sustainable tourism, and workforce development, emphasizing the need for policy reform, infrastructure investment, and stakeholder collaboration. By adopting inclusive and heritage-sensitive strategies, Sawahlunto has the potential to become a model for post-industrial transformation in Southeast Asia.

Keywords: *Economic Diversification, Sustainable Tourism, Workforce Transition*

ABSTRAK

Sawahlunto, sebuah kota bekas tambang batu bara di Indonesia, sedang mengalami transformasi kompleks menuju ekonomi yang lebih beragam dan tangguh. Setelah penutupan tambang beberapa waktu silam, kota ini menghadapi kontraksi ekonomi yang tajam, meningkatnya pengangguran, dan stagnasi infrastruktur. Penelitian ini mengkaji upaya diversifikasi ekonomi Sawahlunto melalui pengembangan pariwisata berkelanjutan, industri kreatif, dan sektor pertanian. Dengan menggunakan pendekatan penelitian kualitatif, data dikumpulkan melalui wawancara semi-terstruktur dengan berbagai pemangku kepentingan, termasuk mantan pekerja tambang, pejabat pemerintah, tokoh masyarakat, dan pelaku usaha. Temuan menunjukkan masih adanya kesenjangan dalam pengembangan infrastruktur, transisi tenaga kerja, koordinasi kebijakan, dan keterlibatan masyarakat. Meskipun telah ditetapkan sebagai Situs Warisan Dunia UNESCO, manfaat pariwisata belum terdistribusi secara merata dan atraksi pariwisata masih terbatas. Program pelatihan ulang tenaga kerja belum sepenuhnya selaras dengan kebutuhan pasar, dengan hanya 40% pekerja yang berhasil beralih ke sektor baru. Hambatan struktural seperti keterbatasan akses modal, infrastruktur digital yang lemah, dan rendahnya kolaborasi publik-swasta turut menghambat revitalisasi ekonomi. Analisis komparatif dengan Essen (Jerman) dan Luang Prabang (Laos) menunjukkan praktik terbaik seperti pengembangan pariwisata berbasis warisan, tata kelola inklusif, dan model pariwisata berbasis komunitas. Studi ini menawarkan kerangka strategis yang mengintegrasikan diversifikasi ekonomi, pengembangan pariwisata berkelanjutan, dan penguatan kapasitas tenaga kerja, dengan penekanan pada reformasi kebijakan, investasi infrastruktur, dan kolaborasi multipihak. Dengan mengadopsi strategi yang inklusif dan sensitif terhadap warisan budaya, Sawahlunto berpotensi menjadi model transformasi pasca-industri di Asia Tenggara.

Kata Kunci: *Diversifikasi Ekonomi, Pariwisata Berkelanjutan, Transisi Tenaga Kerja*

INTRODUCTION

Economic diversification is a crucial strategy for regions aiming to reduce their dependence on a single industry, especially those historically reliant on extractive sectors like coal mining. Such towns often experience economic volatility and downturns. Implementing a structured diversification strategy that incorporates emerging sectors such as tourism, creative industries, and sustainable agriculture is essential for achieving economic resilience and long-term growth. These sectors not only create new job opportunities but also encourage the responsible use of local resources.

Sawahlunto, Indonesia, once a thriving coal mining town, has undergone significant economic and social transformations due to the decline of its primary industry. The closure of coal mines in 2003 marked a critical turning point, resulting in an economic crisis. The mining sector's contribution to the GDP plummeted from 60% in 2000 to below 15% by 2024. This decline led to a sharp rise in unemployment rates, which, despite various efforts, stood at 8.5% in 2024, significantly higher than the national average of 5.6%.

In response to these challenges, Sawahlunto has focused on developing heritage tourism, eco-tourism, and sustainable agricultural practices. The tourism sector has demonstrated growth, with a 22% increase in visitor arrivals between 2020 and 2023. This influx generated substantial revenue of IDR 75 billion in 2023. However, the transition faces several obstacles, including the need for workforce reskilling, infrastructure development, and attracting investment. Only 40% of displaced workers have successfully transitioned to new industries, underscoring the necessity for improved

vocational training. Infrastructure continues to be a challenge, with only 65% of planned road and transport projects completed. Furthermore, foreign direct investment (FDI) remains low, accounting for only 10% of total inflows.

This study provides a comprehensive analysis of Sawahlunto's economic diversification efforts, focusing on barriers to progress and recommending strategic approaches for a sustainable transition toward a resilient and dynamic local economy. It examines policy interventions, stakeholder engagement, and best practices for post-industrial towns. The research questions address Sawahlunto's economic diversification needs, strategies for sustainable tourism, and the roles of stakeholders in promoting a resilient tourism sector. The objectives are to assess tourism's economic impact on the local economy, identify sustainable practices that preserve heritage while promoting tourism growth, and evaluate the long-term tourism feasibility for Sawahlunto.

Literature Review

Economic diversification is a vital strategy for regions aiming to lessen their dependence on a single industry, especially in economies that have historically relied on extractive resources like mining or oil. Diversification involves expanding the economic base by developing new sectors, including manufacturing, services, tourism, and technology. According to the International Monetary Fund (IMF, 2024), diversification enhances economic resilience by decreasing vulnerabilities to external shocks, fostering long-term stability, and creating new job opportunities. This is particularly important for areas like Sawahlunto, which are moving away

from coal mining as their primary economic activity. The city's shift toward tourism and creative industries exemplifies the principles of diversification and seeks to stabilize the local economy amidst the decline of traditional industries.

The theoretical foundation for economic diversification is rooted in the Structural Change Theory proposed by Arthur Lewis (1954). This theory suggests that economic development involves transitioning labor from low-productivity sectors, such as agriculture and mining, to higher-productivity industries like manufacturing and services. This transition necessitates investments in education, infrastructure, and technological advancements. In the case of Sawahlunto, moving from mining to tourism and creative sectors requires structural adjustments and a reallocation of resources to enhance human capital and develop infrastructure that supports these industries. This aligns with the Human Capital Theory (Becker, 1993), which emphasizes the significance of education and skill development in improving economic performance. For Sawahlunto, it is essential to prioritize vocational training in hospitality, digital skills, and entrepreneurship to prepare the workforce for new opportunities.

The Resource Curse Hypothesis, articulated by Sachs and Warner (1995), explains the paradox where countries rich in natural resources often experience slower economic growth than those with fewer resources. This slower growth can result from factors such as economic volatility due to fluctuating resource prices, neglect of other economic sectors, and governance challenges. Sawahlunto's economic history illustrates this pattern; as coal resources diminished, the city faced economic decline, highlighting the risks of over-

reliance on a single resource. To address this challenge, Sawahlunto should implement robust diversification policies that encourage investment in non-mining sectors, support innovation, and improve governance. The city can learn from examples such as Norway and Chile, which successfully diversified their economies by channeling resource revenues into education, infrastructure, and industrial diversification efforts (World Bank, 2023).

The Economic Complexity Theory, proposed by Hidalgo and Hausmann (2009), enhances our understanding of diversification by suggesting that economies should develop industries that build on their existing capabilities. Instead of moving away from its mining heritage, Sawahlunto can incorporate this legacy into its diversification strategy by leveraging its historical and cultural assets or exploring other sectors. Strategies such as developing heritage tourism, promoting artisanal crafts related to its mining past, and encouraging ecotourism align with the city's unique identity while steering the economy toward new, sustainable directions. Empirical evidence supports this approach; cities like Bilbao in Spain and Essen in Germany have successfully transitioned from industrial decline to economic revitalization by transforming their industrial legacies into cultural and tourism assets (OECD, 2023).

Investment in infrastructure is crucial for fostering economic diversification by enhancing accessibility, connectivity, and business opportunities. The World Economic Forum (2023) emphasizes that regions undergoing industrial transitions should prioritize investments in physical infrastructure, such as roads, ports, and digital networks, to attract investors and stimulate the development of new economic sectors. Inadequate

infrastructure can create operational challenges for businesses, ultimately reducing economic competitiveness. In Sawahlunto, the lack of completed infrastructure projects has hindered the city's economic transition. The Sawahlunto Regional Infrastructure Plan (2024) indicates that only 65% of the planned transportation, road, and digital infrastructure developments have been completed. The absence of a well-developed transportation network poses challenges for tourism growth, making it difficult for local and international visitors to access heritage sites. Research from the World Bank (2023) reveals that regions with inadequate infrastructure attract lower levels of investment due to the logistical and operational constraints faced by businesses. In Sawahlunto, foreign direct investment (FDI) accounts for only 10% of total capital inflows, significantly lower than the 30% share of businesses in comparable transitioning economies (Indonesian Investment Coordinating Board, 2024).

Tourism is widely recognized as a key driver of economic diversification, particularly in post-industrial towns transitioning away from traditional industries. According to the United Nations World Tourism Organization (UNWTO, 2024), sustainable tourism promotes economic growth, preserves cultural heritage, and enhances local employment opportunities. Since its designation as a UNESCO World Heritage Site in 2019, Sawahlunto has seen substantial growth in tourism revenue, which increased by 22% between 2020 and 2023 (Sawahlunto Tourism Board, 2024). Despite these promising figures, the town remains heavily dependent on heritage tourism, which restricts the long-term sustainability of its tourism sector.

Several key challenges hinder its growth. Firstly, the limited

diversification of tourism activities restricts the town's appeal. Studies indicate that regions that successfully diversify their tourism offerings such as adventure, culinary, and community-based activities achieve greater long-term resilience (Dangi & Jamal, 2021). Secondly, infrastructure constraints pose significant obstacles. The lack of high quality hotels, transportation options, and tourism facilities diminishes Sawahlunto's ability to attract international visitors. Data from the Sawahlunto Tourism Board (2024) reveals that only 5% of foreign tourists visiting West Sumatra include Sawahlunto in their itineraries, highlighting the pressing need for improved tourism infrastructure and effective global marketing strategies. Additionally, unregulated tourism expansion can lead to overcrowding, pollution, and a loss of heritage authenticity (Butler, 2023).

In contrast, Essen, Germany, has successfully transformed from a coal mining hub into a vibrant cultural tourism destination by repurposing old mining sites (World Bank, 2023). Likewise, Luang Prabang in Laos has implemented strict heritage preservation policies while promoting eco-friendly tourism (UNESCO, 2023).

Workforce transition is crucial for economic diversification, especially in regions experiencing significant structural economic changes. As economies shift away from resource extraction industries, labor markets must adapt to new opportunities in tourism, services, and technology-driven sectors. According to the Organisation for Economic Co-operation and Development (OECD, 2024), successful economic transformation depends on comprehensive workforce development policies that focus on reskilling, upskilling, and fostering

entrepreneurship. Human Capital Theory (Becker, 1993) argues that investments in education and skills training enhance workforce productivity and stimulate economic growth. Structural Change Theory (Lewis, 1955) posits that as economies evolve, labor must be systematically reallocated through targeted training and policy interventions.

Case studies of post-industrial transitions provide valuable insights. For example, the Ruhr Valley in Germany, once dominated by coal mining, successfully increased employment transition rates by 70% through vocational training and public-private partnerships (European Commission, 2023). Similarly, Pittsburgh, USA, utilized university-business partnerships to create reskilling programs (Carnegie Mellon University, 2023). In Sawahlunto, which has historically relied on coal mining, the region is now facing substantial labor market disruptions. Despite government-led retraining efforts, only 40% of displaced miners have successfully transitioned to alternative employment (Sawahlunto Labor Department, 2024).

Understanding the internal and external factors that influence regional economic transformation requires practical diagnostic tools. SWOT analysis and PESTLE analysis offer a comprehensive framework for assessing institutional capacity, market readiness, and contextual challenges. SWOT analysis, which stands for Strengths, Weaknesses, Opportunities, and Threats, is a strategic management tool used to evaluate an entity's internal and external positioning (Gürel & Tat, 2017). Strengths and weaknesses relate to internal capabilities, while opportunities and threats pertain to external market trends (Dyson, 2004). On the other hand, the PESTLE framework—covering

Political, Economic, Social, Technological, Legal, and Environmental factors—provides a macro-level tool for analyzing external environmental influences (Yüksel, 2012). Each component addresses a critical area of impact (Rastogi & Trivedi, 2016).

Stakeholder mapping is essential for identifying entities that influence or are affected by economic transitions (Freeman, 1984). By mapping stakeholders' levels of interest and influence, planners can develop inclusive governance mechanisms (Bryson, 2004). Additionally, the PDCA (Plan-Do-Check-Act) cycle, introduced by W. Edwards Deming, encourages continuous improvement by organizing development interventions into four cyclical stages (Deming, 1986; Moen & Norman, 2006).

RESEARCH METHODS

This study employs a qualitative research design that follows a structured process comprising five key phases: Identification, Literature Review, Data Collection, Data Analysis, and Recommendations. The research begins with a clear definition of the problem statement and the formulation of objectives to guide the inquiry.

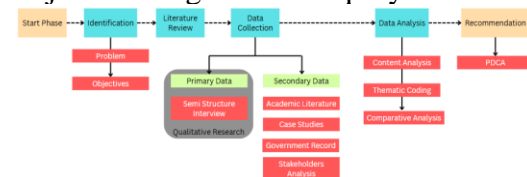


Figure 1. Research Process

The Identification phase focuses on understanding the challenges faced by Sawahlunto as it transitions from a mining-dependent economy to one that is more diversified and sustainably driven by tourism. An extensive literature review is conducted to establish a robust theoretical foundation, incorporating academic research, case studies, policy documents, and

government records relevant to economic diversification and sustainable tourism.

Data Collection integrates both primary and secondary data sources to thoroughly investigate the research problem. Primary data is gathered through semi-structured interviews with 11 carefully selected respondents, each representing key stakeholder groups involved in Sawahlunto's economic transformation. Participants are chosen through purposive sampling, focusing on individuals with direct knowledge or policy-level involvement. The interviews, lasting between 45 and 90 minutes, are conducted in person in either Bahasa or English, and then transcribed and translated with informed consent. The interview protocol is developed around three central themes: economic diversification, tourism development, and workforce transition. Secondary data is collected from reliable sources, including academic literature, case studies, policy analyses, and government records (e.g., BPS Sawahlunto, Sawahlunto Regional Development Reports), as well as stakeholder reports and UNWTO & OECD Reports.

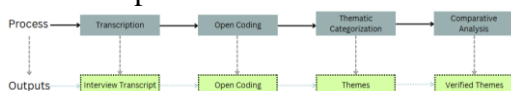


Figure 2. Data Process

During the Data Analysis phase, qualitative techniques such as content analysis, thematic coding, and comparative analysis are utilized to identify significant patterns, themes, and policy implications. The approach is rooted in thematic analysis (Nowell et al., 2017; Kiger & Varpio, 2020). This phase includes four main stages: transcription and preparation, open coding (Castleberry & Nolen, 2018), theme categorization (Saldaña, 2015; Braun &

Clarke, 2019), and comparison and triangulation (Noble & Heale, 2019).

In the final Recommendations phase, all findings are synthesized into strategic policy suggestions aimed at fostering economic diversification and sustainable tourism development in Sawahlunto. To ensure these suggestions are practical and effectively guide stakeholders toward achieving the outlined goals, they are developed into a comprehensive implementation roadmap organized using the PDCA (Plan-Do-Check-Act) methodology. The PDCA model promotes continuous improvement by dividing development interventions into four iterative phases: planning, implementation, evaluation, and refinement, encouraging adaptive governance and iterative learning.

RESULTS AND DISCUSSIONS

This section provides a thorough analysis of Sawahlunto's economic transition, utilizing both primary data gathered from stakeholder interviews and secondary data from comparative case studies. The findings are organized within a conceptual framework that highlights the challenges and opportunities related to economic diversification, tourism development, workforce transition, and community participation. Following this analysis, we present a comprehensive business solution along with a phased implementation plan.

Research Findings from Interview

The qualitative data collected from eleven key stakeholders, including former miners, government officials, tourism operators, community leaders, entrepreneurs, and heritage experts, provided important insights into Sawahlunto's transition after mining. A thematic analysis of the interview transcripts identified four main themes

that highlight the primary challenges and perspectives related to this transformation.

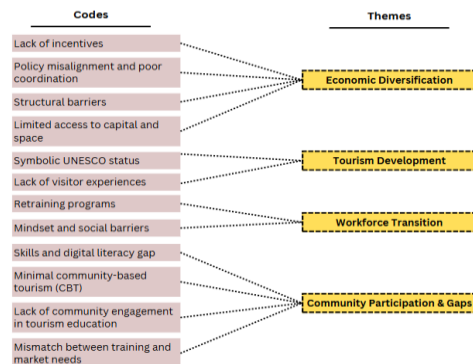


Figure 3. Thematic Coding Analysis

Economic Diversification

This theme highlights the fundamental structural, policy-related, and socio-cultural challenges that are hindering Sawahlunto's development of an inclusive, post-mining economy. A significant issue is the lack of structured incentives to facilitate the transition away from mining-dependent livelihoods. As a former miner, VR, articulated, "Initially, there was no interest from them in moving to other sectors... there was no primary incentive." This inertia is exacerbated by policy misalignment and poor coordination among government agencies, state-owned enterprises like PT.BA, and the local community. RK, an employee in the tourism sector, remarked, "Unclear government plans... actions do not match the verbal intentions," and "the planning strategies never reach the community level."

There are structural barriers to entrepreneurship, particularly regarding land ownership (SHM certification) and access to capital. LK, a local community member, pointed out, "We can't open a business without SHM... the process stops with the government." Entrepreneur BR added, "People want to build businesses, but permits and space are limited," and "Inadequate access to

capital and land restricts local entrepreneurship." SL from the Culture Ministry observed the untapped potential in other sectors: "Agriculture and culture could complement tourism. But sectoral integration is still weak." TJ from the census ministry confirmed the slow progress: "Retraining success remains low. Infrastructure is not progressing at the expected pace." These testimonies underscore that diversification remains largely aspirational due to these interconnected constraints.

Tourism Development and UNESCO Impacts

Sawahlunto was designated as a UNESCO World Heritage site in 2019, raising expectations for growth driven by tourism. However, stakeholders have reported a consistent disconnect between this recognition and tangible economic benefits or improved visitor experiences. The UNESCO status is often viewed as symbolic rather than transformative. MJ, a local community member, expressed, "It's just a name. There's no economic movement for transition... It's just a status. Tourists leave disappointed due to poor facilities and a lack of experiences."

This sentiment is echoed by the absence of immersive visitor experiences. RK, a tourism operator, explained, "Visitors come with expectations, but they leave disappointed. There are no guides, no programs, and no stories being told." Heritage researcher Jeroen corroborated this ongoing issue: "Since my first visit in 1984, there has been very little change in interpretive services... The UNESCO status is not reflected in the visitor experience." These observations highlight underdeveloped tourism infrastructure, poor destination management, and a failure to convert heritage assets into compelling tourism products.

Workforce Transition and Human Capital Development

The transition from a mining-centric economy requires a substantial shift in the workforce, but this process faces numerous challenges. A major issue is the ineffectiveness of current retraining programs. RG, a local government representative, pointed out a "lack of synergy between the government, PT Bukit Asam, and the community... most end up unemployed after training." This statement highlights poor program design and insufficient follow-up support.

LK and RK both noted that the training lacks clarity and does not provide adequate follow-up or connections to actual job opportunities. In addition to these programmatic issues, deep-rooted mindsets and social barriers complicate adaptation. SY, an educator, observed, "The community is not mentally prepared. The mining mindset is still strong, and tourism is not taught in schools." VR also mentioned that it is challenging to shift habits from active mining to more passive tourism employment. There is a significant mismatch between the training content and actual market needs, which exacerbates the situation. RK and BR stated that the curricula are impractical and lack connections with the labor market, with employers not involved in developing training modules. TJ confirmed the overall low success rate of retraining efforts, underscoring the need for a comprehensive overhaul of the approach.

Community Participation and Gaps

A recurring theme discussed was the limited community-based tourism (CBT) and the general exclusion of local communities from both the planning and benefits of tourism development. PU, a library activist, expressed, "Most

tourism profits go to a few vendors; we are not involved in planning or benefiting," and added, "No cooperatives or community-led tourism groups exist yet." This sentiment of feeling like spectators rather than participants was widespread.

The gap in skills and digital literacy further restricts community engagement. PU noted, "The internet and digital tools are weak; we cannot market our products effectively," and mentioned that "the community has no training in digital tools or platforms." This is particularly concerning for youth involvement. SY highlighted the lack of community engagement in tourism education, stating, "Youth are not introduced to tourism... they don't see it as a future," and emphasized that "educational institutions do not support tourism knowledge yet." These gaps in participation, digital empowerment, and education hinder the development of an inclusive and resilient economic model.

Comparative Analysis

Sawahlunto's efforts to diversify its economy face significant challenges when compared to Essen, Germany, and Luang Prabang, Laos. These challenges are primarily due to a fragmented governance structure and limited engagement from the private sector.

Economic Diversification

Sawahlunto struggles with a fragmented governance system and lacks strong private sector involvement (Sawahlunto Regional Development Report, 2024). In contrast, Essen has strategically utilized EU structural funds to develop innovation zones (European Commission, 2023). Meanwhile, Luang Prabang has empowered local communities through heritage zoning and UNESCO frameworks (UNESCO, 2023). Sawahlunto has a GDP growth

rate of 3.5% and an unemployment rate of 8.5% (BPS Sawahlunto, 2024), which contrasts sharply with Essen's high GDP per capita (World Bank, 2023) and Luang Prabang's strong local tourism economy (UNWTO, 2024).

Tourism Development

Despite its UNESCO status, Sawahlunto's tourism growth is hindered by poor infrastructure and deficiencies in destination management. Essen's Zollverein World Heritage Site has become a key economic anchor (United Nations University, 2023), and Luang Prabang offers robust heritage interpretation and eco-tourism packages (UNWTO, 2024). In Sawahlunto, there is inadequate signage and a lack of guided experiences for tourists.

Workforce Transition

Sawahlunto's retraining programs have only a 40% transition rate, with a focus on basic hospitality and small business skills, which are insufficient given the cultural reliance on mining. In contrast, Essen has implemented comprehensive reskilling programs for technology and services (European Commission, 2023), while Luang Prabang emphasizes training in tourism enterprises and craft skills (UNESCO, 2023).

Community Participation

In Sawahlunto, community involvement is passive, with a low presence of community-based tourism (CBT), and the benefits of tourism are concentrated among a few. Conversely, Essen actively engages locals in museum activities and festivals (World Bank, 2023), while Luang Prabang promotes community-based tourism cooperatives (UNESCO, 2023) that ensure widespread benefit sharing among residents (UNWTO, 2024).

Business Solutions

Based on a thorough analysis of Sawahlunto's economic challenges, stakeholder insights, and lessons learned from other regions, this section presents a strategic framework aimed at successfully transitioning to a diversified and resilient local economy. The framework is built around four key pillars: institutional reform and stakeholder integration, modernization of infrastructure, transformation of the workforce and development of human capital, and the creation of a vibrant tourism ecosystem.

Institutional Reform and Stakeholder Integration

To address the fragmented governance and poor coordination identified by stakeholders, the following actions are proposed:

- **Establish a Sawahlunto Economic Transition Task Force:** This multi-stakeholder body, consisting of representatives from the Mayor's Office, Bappeda, the Ministry of Tourism, PTBA, ITB, UNAND, the private sector, and community organizations, will serve as a centralized coordination unit. Its purpose is to facilitate strategic planning, monitor policies, and enhance inter-agency communication, thereby directly addressing policy misalignment and the lack of synergy. This participatory governance approach aims to promote shared accountability and inclusive decision-making.
- **Simplify Regulatory Frameworks:** We will tackle bureaucratic hurdles related to business permits and land certification (SHM) by establishing a streamlined, digitized one-stop service center. This center will feature an accessible online portal to reduce delays, accelerate business

registration, and improve the investment climate, particularly for small and medium-sized enterprises (SMEs) and rural entrepreneurs.

- **Design Targeted Investment Incentives:** To attract foreign direct investment (FDI) and local capital, we will develop a package of fiscal incentives, including tax holidays, capital grants for sustainable tourism, low-interest credit for SMEs, and land lease discounts. These incentives will be strategically aligned with growth sectors such as heritage tourism, sustainable agriculture, and digital creative industries, drawing lessons from successful regional transitions like that of the Ruhr Valley.

Infrastructure Development

Recognizing infrastructure as a critical backbone currently hindering growth, the plan includes:

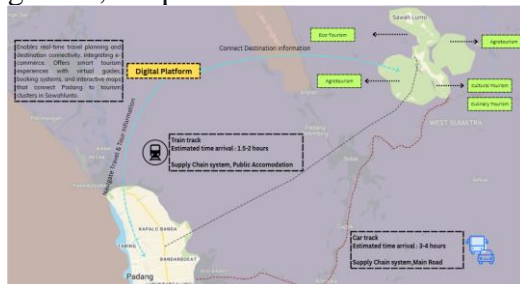


Figure 4. Infrastructure and Digital Roadmap Connection

- **Transportation Connectivity and Digital Infrastructure:** Enhancing physical access is crucial through the rehabilitation of roads, the establishment of intermodal connections particularly to Padang and Bukittinggi and the provision of reliable public transport to tourism sites and remote villages. At the same time, improving internet access in rural areas, setting up public Wi-Fi in tourism zones, and supporting mobile applications (such as interactive digital maps, booking portals, and virtual tour guides) will enhance the

visitor experience and engage the community, addressing the existing issues with weak digital infrastructure.

- **Public Facilities and Utilities:** Investing in high-quality sanitation, street lighting, clear signage and emergency services is essential for creating a safe and appealing environment.
- **Green and Heritage Infrastructure:** Investments will focus on sustainable and aesthetically pleasing designs that incorporate green building standards, as well as adaptively reusing colonial-era structures for museums, galleries, or creative workspaces. This strategy ensures climate resilience while preserving historical assets, thereby supporting both functionality and heritage conservation.

Workforce Transition and Human Capital Development

Addressing the significant gaps in current retraining efforts and the psychological readiness of the workforce, strategies include:

- **Develop Sector-Specific Reskilling Programs:** Collaborate with local businesses and tourism operators to create targeted training modules that are tailored to the specific context of Sawahlunto. This could include hospitality training that incorporates local culinary traditions, as well as agrotourism training focused on sustainable farming and digital marketing. This approach directly addresses the issue of the "mismatch between training and market needs."
- **Promote Soft Skills and Entrepreneurial Readiness:** Incorporate essential components into training programs that focus on building confidence, customer service, digital communication, problem-solving, business modeling,

financial management, and access to microcredit. These skills will help address the necessary "mindset shifts."

- Establish a Workforce Innovation Lab: Create an incubation hub in partnership with academic institutions such as ITB and UNAND. This lab would pilot innovative workforce solutions, provide mentorship, support prototype development, and organize internships and job fairs. This initiative aims to institutionalize the principles of Human Capital Theory, thereby enhancing adaptability and employability.

Tourism Economy Ecosystem Development

To move beyond narrow tourism offerings and limited community involvement, a holistic ecosystem approach is essential:

- Diversifying Tourism Offerings: To enhance our tourism sector, propose expanding beyond heritage mining to include interconnected segments:
 - Eco-Tourism: Develop guided trekking routes, eco-lodges, and environmental education programs.
 - Cultural Tourism: Organize annual festivals, craft workshops, and performances at historic sites.
 - Culinary Tourism: Establish food markets, palm sugar demonstrations, and cooking classes.
 - Agro-Tourism: Offer farm tours, village stays, and farm-to-table meal experiences.
 - Heritage Innovation: Incorporate augmented reality (AR) and virtual reality (VR) experiences at historical sites. This diversification aims to address the current lack of varied tourism experiences.

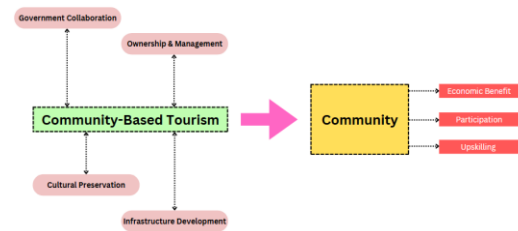


Figure 5. Community-Based Tourism Framework

- Community-Based Tourism (CBT): Implement CBT models where local communities are the primary actors in the design, management, and benefits of tourism initiatives (Kontogeorgopoulos, Churyen, & Duangsaeng, 2014). This approach promotes inclusive growth, cultural preservation, and environmental stewardship, directly responding to the identified need for increased community participation. Key inputs for success include government collaboration, local ownership, cultural preservation, and improved infrastructure.
- Creative Economy Development: Support local talents, including artisans, performers, and digital creators, through capacity-building programs, access to technology, creative spaces, and sustainable financing. This will help transform Sawahlunto into a hub of cultural resilience. Initiatives in creative tourism, such as storytelling sessions and unique crafts (e.g., coal-made souvenirs), can strengthen visitor connections. Proposed actions include:
 - Creative Economy Fund: Establish grants and microloans for artists.
 - Creative Incubators: Create a center for collaboration and business support.
 - Digital Platforms for Promotion: Launch a city-branded online marketplace (e.g., VisitSawahlunto.id).

- Youth Engagement Programs: Develop pipelines connecting schools to creative enterprises.
- Integrated Value Chain and Destination Management: Create integrated value chains alongside a comprehensive destination management strategy. Empower local micro, small, and medium enterprises (MSMEs) in areas such as accommodation, food, transportation, handicrafts, and guiding services. Encourage business clustering for collaboration. A dedicated Destination Management Organization (DMO) should coordinate intersectoral planning, regulate tourism growth, uphold quality standards, facilitate public-private partnerships, and lead branding efforts (UNWTO, 2021). A Tourism Master Plan will guide this development. These strategies are inspired by the successes observed in Luang Prabang and Essen.

Implementation Plan & Justification

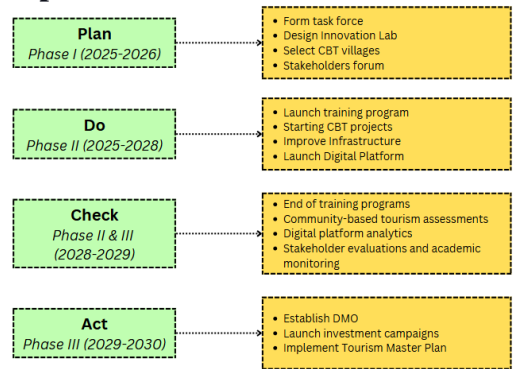


Figure 6. PDCA Framework Analysis
This study employs the PDCA (Plan-Do-Check-Act) methodology as the foundation for its implementation and monitoring framework to ensure that the proposed strategic transformation is actionable and sustainable. This iterative management model fosters continuous improvement and learning (Deming, 1986; Moen & Norman, 2006) and is particularly effective for managing

complex, multi-stakeholder development initiatives like Sawahlunto's diversification agenda.

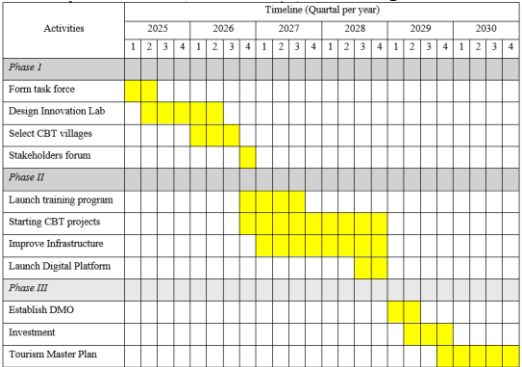


Figure 7. Gantt Chart Flow

It promotes strategic agility and ensures that interventions are regularly evaluated and refined based on empirical findings and community feedback (Galli et al., 2017). The implementation is planned in phases from 2025 to 2030.

Phase I: Foundation and Institutional Readiness (2025-2026)

In the first phase, we will establish the Sawahlunto Economic Transition Task Force, a strategic collaboration spearheaded by the Mayor's Office. This task force will include representatives from key organizations such as Bappeda, the Ministry of Tourism, PTBA (a leading coal mining company), ITB (Institut Teknologi Bandung), and UNAND (Universitas Andalas). Together, they will provide expertise and guidance to navigate the complexities of economic transformation in Sawahlunto.

A significant initiative will be the creation of a Workforce Innovation Lab. This lab will bring together the Department of Labor, academic institutions, and local businesses to design and implement reskilling programs that cater to the unique needs of various sectors, including tourism, agriculture, and technology. Through inclusive community engagement, we will identify and select pilot villages for Community-Based Tourism (CBT),

ensuring local stakeholders have a voice in the development process. In addition, comprehensive audits of existing transport networks, utility systems, and digital infrastructure will be conducted in collaboration with the Ministry of Public Works and Housing (PUPR) and the Communication and Information Agency (Diskominfo). These audits will highlight areas for improvement and investment, fostering a robust foundation for future initiatives.

Phase II: Capacity Development and Implementation (2026-2028)

In the second phase, roll out an array of targeted training programs through the Workforce Innovation Lab, focusing on essential skills for industries such as hospitality (including local culinary training), digital entrepreneurship (emphasizing e-commerce and online marketing), agrotourism (focusing on sustainable farming practices), and creative production (covering arts and crafts). The pilot CBT projects will be launched in selected villages, including Batu Tanjuang and Kubang Sirakuk Utara. These projects will focus on equipping communities with skills for effective management, empowering microenterprise development, and ensuring fair benefit-sharing mechanisms, all supported by the Tourism Office and village-owned enterprises (BUMDes).

Significant physical upgrades will be made in key tourism corridors, as guided by PUPR, to enhance the overall tourism infrastructure. It will invest in digital infrastructure enhancements, introducing a smart-tourism platform called "VisitSawahlunto." This platform will integrate essential visitor information, facilitate online bookings, and showcase local attractions, ensuring

a seamless experience for tourists and residents, driven by Diskominfo.

Phase III: Consolidation and Execution (2028-2030)

Establish a Destination Management Organization (DMO), collaborating closely with the Tourism Office and Bappeda, as it enters the consolidation and execution phase. The DMO will be crucial in formulating a cohesive branding strategy, developing diverse tourism products, setting and maintaining quality standards, and fostering coordination among neighboring villages to create a unified tourism experience.

Launch a comprehensive Investment Promotion Campaign to stimulate regional investment, partner with the Investment Coordinating Board (BKPM), and engage private investors. The campaign will focus on the creative and digital tourism sectors. A Creative Economy Fund, facilitated through partnerships with international organizations such as UNESCO and UNDP and local industry leaders like PTBA, may further support this campaign.

The culmination of these efforts will be the finalization and implementation of a city-wide Tourism Master Plan. This plan will integrate the valuable insights from our pilot projects and prioritize strategies for sustainable tourism development that respect and preserve the local environment. To maximize our impact, we will run powerful digital marketing campaigns, tapping into the expertise of media firms and social media influencers to effectively highlight the rich cultural heritage, natural beauty, and vibrant community initiatives that Sawahlunto has to offer to both domestic and international visit.

CONCLUSION AND SUGGESTION

Conclusion

This chapter presents the study's conclusions based on the findings and discussions outlined in Chapter IV. The research examined how Sawahlunto, a former mining town, can transition to a resilient and diversified economy by developing sustainable tourism and related sectors. The conclusions are structured to directly address the research questions in Chapter I.

How does tourism contribute to economic diversification in Sawahlunto?

Tourism significantly contributes to economic diversification in Sawahlunto by providing alternative sources of income as the coal industry declines. After Sawahlunto was designated a UNESCO World Heritage Site in 2019, there has been new momentum for tourism-led development. However, the actual economic impact of tourism remains limited due to weak infrastructure, a lack of diversity in tourism offerings, and insufficient inclusive governance structures. While the tourism sector has generated increased revenue and entrepreneurial opportunities, the benefits are not yet equitably distributed throughout the community. To effectively support economic diversification, tourism needs to expand into areas such as eco-tourism, agro-tourism, and creative industries. This expansion should be accompanied by improved digital infrastructure and better integration of stakeholders.

What challenges and opportunities does Sawahlunto face in developing a sustainable tourism sector?

Developing sustainable tourism in Sawahlunto faces several key challenges, including inadequate infrastructure, limited marketing

strategies, insufficient interpretive services, and fragmented coordination among tourism stakeholders. Community participation is minimal, with residents often excluded from planning processes and the sharing of benefits. Retraining programs do not align effectively with the needs of the tourism sector, resulting in a mismatch between the skills offered and the demands of the job market.

Significant opportunities exist to leverage Sawahlunto's cultural heritage, natural landscapes, and historical assets for niche tourism development. By investing in public utilities, enhancing transportation connectivity, improving tourism education, and developing digital platforms, Sawahlunto can establish a resilient tourism sector that promotes environmental sustainability and community inclusion.

What practices can support sustainable tourism growth in Sawahlunto?

Sustainable tourism growth in Sawahlunto can be achieved by adopting practices that prioritize inclusive governance, capacity building, and the preservation of cultural heritage. Implementing Community-Based Tourism (CBT) models is essential to ensure that residents actively participate in and benefit from the tourism economy. Establishing a Destination Management Organization (DMO) and developing a comprehensive Tourism Master Plan will provide strategic direction and quality control for tourism development. Additionally, creating a Workforce Innovation Lab, paired with targeted training programs in hospitality, digital marketing, and entrepreneurship, can enhance the preparedness of the local workforce. Forming strategic partnerships with academic institutions and the private sector is vital for

fostering innovation, supporting creative economy initiatives, and integrating tourism into broader regional development plans.

Suggestion (Saran)

Based on the findings and the implementation roadmap outlined in Chapter IV, several strategic recommendations have been proposed to support Sawahlunto's economic transformation. These recommendations target key stakeholders, including the local government, state-owned enterprises, national ministries, academic institutions, and community organizations.

- **Formalize the Task Force and Integrate into RPJMD:** The Mayor's Office should officially establish the Sawahlunto Economic Transition Task Force to ensure effective coordination and continuity of policy. The city's Medium-Term Regional Development Plan (RPJMD) should incorporate strategies for tourism and the creative economy, with dedicated budgets allocated for Community-Based Tourism (CBT), training, and innovation programs.
- **Expand CSR and Strengthen Community Role:** State-Owned Enterprises (SOEs) should enhance their commitment to Corporate Social Responsibility (CSR) by supporting entrepreneurship, reskilling efforts, and infrastructure development through targeted programs. It is important to encourage village-owned enterprises (BUMDes), youth, and civil society organizations to establish cooperatives for Community-Based Tourism (CBT). These cooperatives can manage tourism programs and ensure that benefits are distributed equitably among all stakeholders.

- **National Pilot Designation and Academic Collaboration:** The Ministry of Tourism and the Investment Coordinating Board (BKPM) should designate Sawahlunto as a pilot area for post-mining transformation. This designation should include grants, technical assistance, and investment incentives. Academic institutions, such as ITB and UNAND, should provide policy advisory support, develop training modules, conduct impact evaluations, and facilitate stakeholder engagement.
- **Youth and Digital Engagement:** Promote youth participation by encouraging digital content creation, tourism branding, and the development of creative industries that connect to local heritage.

REFERENCES

- [1] UNCTAD. (2023). *Economic Diversification and Sustainable Growth: Global Trends*. United Nations Conference on Trade and Development.
- [2] Badan Pusat Statistik. (2024). *Sawahlunto Economic Report*. Badan Pusat Statistik Indonesia.
- [3] Government of Sawahlunto. (2024). *Sawahlunto Regional Development Report: Infrastructure and Economic Strategy for Sawahlunto's Transformation*.
- [4] Sawahlunto Tourism Board. (2024). *Tourism Development and Revenue Growth Report*. Government of Sawahlunto.
- [5] Mariska, R., et al. (2024). *Economic Diversification Challenges in Post-Mining Towns*. Institut Teknologi Bandung.
- [6] Sawahlunto Labor Department. (2024). *Workforce Transition*.

- Report.* Government of Sawahlunto.
- [7] Sawahlunto Regional Infrastructure Plan. (2024). *Progress Report on Infrastructure Development in Sawahlunto.* Government of Sawahlunto.
 - [8] Indonesian Investment Coordinating Board. (2024). *Foreign Direct Investment Report.* Indonesian Investment Coordinating Board.
 - [9] Lewis, W. A. (1954). Economic Development with Unlimited Supplies of Labour. *The Manchester School*, 22(2), 139–191.
 - [10] Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education.* University of Chicago Press.
 - [11] Sachs, J. D., & Warner, A. M. (1995). Natural Resource Abundance and Economic Growth. *National Bureau of Economic Research Working Paper No. 5398.*
 - [12] Hidalgo, C. A., & Hausmann, R. (2009). The Building Blocks of Economic Complexity. *Proceedings of the National Academy of Sciences*, 106(26), 10570-10575.
 - [13] World Economic Forum. (2023). *Infrastructure Investment and Economic Competitiveness.* World Economic Forum.
 - [14] UNWTO. (2024). *Sustainable Tourism and Cultural Heritage: Best Practices.* United Nations World Tourism Organization.
 - [15] OECD. (2024). *Digital Economy and Tourism Growth: Emerging Markets and Strategies.* Organisation for Economic Co-operation and Development.