

Climate Change as a Threat Multiplier of Forced Migration: Political Economy and Human Security in Coastal Communities of Sukabumi, Indonesia

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Abstract:

This study analyzes how climate change functions as a threat multiplier that drives forced migration in the coastal areas of Sukabumi Regency, West Java, through a political economy lens and the human security framework. The study advances the argument that migration from coastal regions does not arise solely from natural disasters as physical threats, but from the cumulative process of environmental and economic vulnerability that gradually delegitimizes the viability of life in places of origin. Using a qualitative case study approach, the research collected data through in-depth interviews with key stakeholders—namely the Environmental Agency of Sukabumi Regency, the Sukabumi Office for the Protection and Services of Indonesian Migrant Workers (P4MI), the Sukabumi branch of the Indonesian Migrant Workers Union (SBMI)—as well as prospective migrants from coastal communities, and complemented these data with policy document analysis and official online sources. The findings show that climate change has tangibly undermined the economic base of coastal communities through the intensification of tidal flooding, rainfall instability, coastal abrasion, and infrastructure damage, which directly weakens the fisheries sector, coastal agriculture, and local tourism. These ecological disruptions precipitate the collapse of household economic security, as reflected in income volatility, rising debt burdens, and the narrowing of livelihood options, thereby framing migration as a survival rationality rather than a free choice of social mobility. In this context, migration frequently occurs through non-procedural channels, significantly increasing vulnerability to labor exploitation, human trafficking (*tindak pidana perdagangan orang*), and violence in destination countries. By applying the human security framework, this article demonstrates the simultaneous interconnections among environmental security, economic security, and personal security in the lived experiences of forced migration among Sukabumi's coastal populations. The theoretical contribution of this study lies in conceptualizing forced migration not as a binary category, but as a spectrum of experiences shaped by structural pressures—climate change, political-economic inequality, and weak social protection—thereby positioning migration as a symptom of systemic failure in ensuring human security in coastal regions that are increasingly vulnerable to climate change.

Keywords: Political Economy, Human Security, Forced Migration, Climate Change.

Abstrak:

Studi ini menganalisis bagaimana perubahan iklim berfungsi sebagai *threat multiplier* yang mendorong migrasi paksa di kawasan pesisir Kabupaten Sukabumi, Jawa Barat, melalui lensa ekonomi politik dan kerangka keamanan manusia (*human security*). Penelitian ini berangkat dari argumen bahwa migrasi dari wilayah pesisir tidak semata dipicu oleh bencana alam sebagai ancaman fisik, melainkan oleh proses akumulatif kerentanan lingkungan dan ekonomi yang secara bertahap mendeklegitimasi keberlangsungan hidup di wilayah asal. Dengan pendekatan kualitatif studi kasus, data dikumpulkan melalui wawancara mendalam dengan pemangku kepentingan kunci—Dinas Lingkungan Hidup Kabupaten Sukabumi, Pos Pelayanan Perlindungan Pekerja Migran Indonesia (P4MI) Sukabumi, Serikat Buruh Migran Indonesia (SBMI) Sukabumi—serta calon migran dari wilayah pesisir, dan dilengkapi dengan telaah dokumen kebijakan serta sumber daring resmi. Temuan penelitian menunjukkan bahwa perubahan iklim secara nyata memperburuk basis ekonomi masyarakat pesisir melalui intensifikasi banjir rob, ketidakstabilan curah hujan, abrasi pantai, dan kerusakan infrastruktur, yang secara langsung melemahkan sektor perikanan, pertanian pesisir, dan pariwisata lokal. Gangguan ekologis tersebut memicu runtuhan *economic security* rumah tangga—ditandai oleh volatilitas pendapatan, meningkatnya beban utang, dan menyempitnya pilihan mata pencaharian—sehingga migrasi dimaknai dan dijalani sebagai rasionalitas bertahan hidup (*survival rationality*), bukan sebagai pilihan mobilitas sosial yang bebas. Dalam konteks ini, migrasi kerap berlangsung melalui jalur non-prosedural, yang secara signifikan meningkatkan kerentanan terhadap eksloitasi tenaga kerja, tindak pidana perdagangan orang (TPPO), dan kekerasan di negara tujuan. Dengan menggunakan kerangka *human security*, artikel ini menunjukkan keterkaitan simultan antara *environmental security*, *economic security*, dan *personal security* dalam pengalaman migrasi paksa masyarakat pesisir Sukabumi. Kontribusi teoretis penelitian ini terletak pada pemaknaan migrasi paksa sebagai spektrum pengalaman yang dibentuk oleh tekanan struktural—perubahan iklim, ketimpangan ekonomi politik, dan lemahnya perlindungan sosial—sehingga migrasi dipahami sebagai gejala kegagalan sistemik dalam menjamin keamanan manusia di wilayah pesisir yang semakin rentan terhadap perubahan iklim.

Kata Kunci: Ekonomi Politik, Keamanan Manusia, Migrasi Paksa, Perubahan Iklim.

INTRODUCTION

Climate change as a consequence of global warming has become a central issue in contemporary global political economy (Johnston, 2020; McNaught, 2024; Okita, 2021). The 2023 report of the Intergovernmental Panel on Climate Change (IPCC) confirms that greenhouse gas emissions generated by human activities have driven an increase in global surface temperature to approximately 1.1°C during the 2011–2022 period (Lee et al., 2023). International commitments to limit global temperature rise—as articulated in the Paris Agreement to the United Nations Framework Convention on Climate Change—emerge from the recognition that global warming constitutes not merely an environmental problem, but a multidimensional threat capable of triggering climate-related disasters and disrupting *human security*. Within this framework, scholars increasingly conceptualize climate change as a *threat multiplier* that exacerbates social, economic, and political vulnerabilities, particularly in regions highly dependent on natural resources (Mason, 2013).

The scientific community has increasingly emphasized the close linkage between climate change and the rise of forced migration (Arenilla & Rada, 2020; Koçi, 2024; Piguet, 2008). Climate change damages settlements and infrastructure, degrades ecosystems, and generates health disturbances through heat waves, floods, forest fires, cyclones, and coastal abrasion—all of which directly threaten the sustainability of human life. In many contexts, these ecological pressures transform into economic pressures that erode livelihoods and push individuals and households to migrate under conditions that are not fully voluntary. Migration in this context no longer represents a free adaptive choice, but rather a survival strategy amid limited alternatives, thereby generating *human security* concerns such as labor exploitation, human trafficking, and non-procedural migration (McAdam, 2012; Quinn & Ruiz, 2022).

In Indonesia, studies on the impacts of climate change have expanded across multiple fields, including its effects on farmers' incomes (Sinaga et al., 2024), food security (Anjani et al., 2024), maritime geography (Setyanabi & Mulyanie, 2024), human rights (Faturohman et al., 2024), and sea-level rise in specific coastal areas such as Pangandaran (Dasanto et al., 2022). Several studies have also begun to link climate change with migration, such as Latifa and Romdiati's (2017) analysis of migration governance policies in North Lombok and East Lombok, which highlights responses from both central and local governments. However, these studies show that migration policy in Indonesia still tends to frame migration primarily as an instrument for reducing unemployment and increasing the welfare of Indonesian migrant workers, rather than as part of a climate change adaptation strategy. Another study

by Handayani and Kumalasari (2015) positions migration as a future adaptive capacity in the northern coastal areas of Java, yet does not explicitly address the dimension of coercion or its implications for human security.

In the context of Sukabumi, existing research on climate change largely focuses on sector-specific issues, such as the effects of climate change on rice production (Siska et al., 2022), tourists' experiences in confronting climate change (Rahmat et al., 2025), and changes in sea surface temperature and chlorophyll-a concentration (Suherman et al., 2021). To date, few studies have explicitly linked climate change to forced migration among Sukabumi's coastal communities within a political economy and human security framework (Dinas Lingkungan Hidup Kabupaten Sukabumi, 2025). Yet climate change in this region has increasingly worsened coastal economic conditions through the rising frequency and intensity of disasters, which in turn push migration under coercive and high-risk circumstances.

As an archipelagic country, Indonesia faces particularly acute threats from climate change. With 17,508 islands and a coastline stretching approximately 81,000 kilometers, Indonesia's coastal regions occupy the most vulnerable position in relation to climate impacts. Data from the Meteorology, Climatology, and Geophysics Agency indicate significant temperature anomalies, including record-high anomalies in September 2025 (BMKG, 2025a, 2025b). At the global level, nearly 50 percent of the world's coastal wetlands have disappeared over the past century due to human pressure, sea-level rise, and extreme climate events (Lee et al., 2023). In Indonesia, approximately 199 coastal regencies and cities face climate change threats, with 40 of them classified as having very high coastal vulnerability indices, potentially resulting in the loss of settlements and livelihoods (BRIN, n.d.).

Sukabumi Regency constitutes one of the coastal regions experiencing such vulnerability. With a coastline of approximately 117 kilometers and nine coastal sub-districts, Sukabumi displays geographical characteristics dominated by steep hills and southern coastal plains (Pemerintah Daerah Kabupaten Sukabumi, 2025). Coastal communities in Sukabumi rely heavily on climate-sensitive sectors such as fisheries, agriculture, and tourism. Disaster risks in this region remain high, as reflected in the National Disaster Risk Assessment 2022–2026, which records significant potential for floods, extreme weather, abrasion, landslides, and tsunamis (Badan Nasional Penanggulangan Bencana, 2025). Major floods and landslides in December 2024, which caused fatalities, mass displacement, and extensive infrastructure damage, illustrate how climate change concretely disrupts the sustainability of life for Sukabumi's coastal communities (Badan Nasional Penanggulangan Bencana, 2025).

Under these conditions, migration has increasingly emerged as a common response. Data indicate a sharp increase in the number of migrant workers from Sukabumi, rising from 944 individuals in 2022 to 6,740 individuals in 2023 (Mustaqim, 2023; Salam, 2025). In several coastal villages such as Karang Papak, coastal abrasion and environmental degradation since 2016 have driven some residents to pursue international migration, including through high-risk pathways such as employment as crew members on foreign vessels. This phenomenon demonstrates that migration in Sukabumi's coastal areas does not stem solely from economic aspirations, but from structural pressures generated by climate change that progressively erode local livelihoods.

Against this background, this article positions climate change as a political economy problem with direct implications for human security. It conceptualizes forced migration not as a fully rational and voluntary individual decision, but as a response to the accumulation of environmental, economic, and social vulnerabilities. Within the human security framework (UNDP, 1994), climate-induced forced migration links environmental security, economic security, and personal security, while simultaneously generating new risks for migrants. Accordingly, this article aims to analyze how climate change operates as a threat multiplier that drives forced migration among Sukabumi's coastal communities, and how this process reshapes human security within the context of contemporary political economy.

METHOD

This study focuses on the construction and dynamics of forced migration triggered by climate change in the coastal areas of Sukabumi Regency. The unit of analysis is the coastal community of Sukabumi, particularly the relationship between environmental change, economic vulnerability, and migration decisions made by coastal individuals and households. Accordingly, the analysis does not treat migration merely as an end outcome, but examines the social, economic, and political processes that compel migration under conditions of constraint, as well as their implications for human security.

The study adopts a qualitative approach with a case study design (Creswell, 2018). The qualitative approach allows the research to capture meanings, experiences, and perceptions of actors affected by climate change and

migration—dimensions that cannot be reduced to quantitative variables alone (Moleong, 2007). The case study design enables an in-depth exploration of forced migration within a specific social context, namely the coastal region of Sukabumi, so that the relationship between climate change, economic pressure, and migration decisions can be understood contextually and holistically (McLeod in Bakry, 2017).

Data sources consist of both primary and secondary data. Primary data were obtained from actors directly connected to issues of climate change and forced migration, including officials from the Environmental Agency of Sukabumi Regency, representatives of the Sukabumi branch of the Indonesian Migrant Workers Union (SBMI), and prospective migrants from coastal areas. Secondary data were used to complement and strengthen the empirical analysis and include policy documents, disaster reports, migration statistics, and official publications from relevant government institutions and non-governmental organizations.

Data collection employed three main techniques. First, in-depth interviews were conducted to elicit actors' experiences, perspectives, and assessments of climate change impacts and their links to migration decisions. The interviews followed a semi-structured format, allowing informants to develop narratives based on their own experiences while enabling the researcher to identify patterns and motives underlying forced migration. Second, document analysis was conducted to collect official data such as disaster reports, migration statistics, and policy documents obtained from government agencies and related organizations. Third, online source tracing was undertaken to gather secondary data from credible sources, including reports from national and international institutions and relevant online media coverage addressing climate change and migration in Sukabumi.

The study applied qualitative thematic analysis to analyze the data. Interview transcripts, documents, and online sources were first transcribed and classified according to key themes, including climate change impacts, economic vulnerability, forced migration dynamics, and implications for *human security*. The researcher then interpreted the relationships among these themes by situating them within a political economy framework and the concept of *human security*. The analytical process proceeded iteratively and reflectively to ensure interpretive consistency and to maintain coherence between empirical findings and theoretical arguments.

RESULTS AND DISCUSSION

Climate Change as a Threat Multiplier in the Economic Vulnerability of Coastal Communities

The coastal region of Sukabumi Regency, West Java, presents a distinctive vulnerability context shaped by the combination of physical geography, economic dependence on natural resources, and high exposure to hazards. Sukabumi Regency has a coastline extending approximately 117 kilometers, from Cibangban Village (Cisolok District) to Ujunggenteng Village (Ciracap District). Administratively, the coastal area encompasses nine districts—Cisolok, Cikakak, Palabuhanratu, Simpenan, Ciemas, Ciracap, Surade, Cibitung, and Tegalbuleud—with a topography characterized by hills and coastal plains; the southern coastal hills are known for their steep and undulating terrain, with slopes reaching up to 40 percent (Sukabuminow.com, 2023). This spatial structure matters because most coastal households depend on climate-sensitive sectors—marine fisheries, coastal agriculture, and local tourism—so ecological disturbances rapidly translate into immediate economic pressure.

This vulnerability becomes more pronounced as climate change manifests through intensified hydrometeorological hazards and infrastructure damage that disrupts productive activities. Climate change along the Sukabumi coast cannot be read as a purely environmental threat; it unfolds as a series of events that destabilize local economic foundations through flooding, abrasion, extreme weather, and landslides that damage roads, bridges, electricity networks, and public facilities. Data from the National Disaster Management Agency (BNPB) in the December 2024 Disaster Information Bulletin record that disasters in Sukabumi Regency resulted in 10 fatalities, two missing persons, 7,834 evacuees, and 23,318 affected individuals, alongside large-scale damage to housing and public facilities. In practical terms, climate change operates through tangible material damage: it halts mobility, obstructs logistics distribution, and delays economic recovery for households that rely on daily income.

At the livelihood level, field findings show that climate-related disruptions primarily affect three key sectors—tourism, fisheries, and local service-based activities that sustain coastal monetary circulation. Information from Trisda (Head of the Division for Pollution and Environmental Damage Control, Environmental Agency of Sukabumi Regency) confirms that after agro-industry, tourism functions as the backbone of the regional economy; however, disasters at the end of 2024 paralyzed coastal tourism, mainly because landslides and road network damage disrupted access to tourist destinations (Trisda, interview, October 7, 2025). This paralysis did not stop at a mere “decline in visits,” but immediately severed income chains at the micro level, affecting small traders, local transport providers, informal workers, and accommodation businesses that typically depend on long-holiday peaks.

Secondary data reinforce this interpretation by showing how the December 2024 disasters directly reduced tourist mobility during the Christmas and New Year holiday period of 2025 (Hasyim, 2024). The Regional Secretary of Sukabumi Regency, Ade Suryaman, stated that southern tourism destinations suffered the most severe impacts; subsequent landslides closed the national Bagbagan–Kiaradua road in Cimapag Hamlet, Loji Village, Simpenan District, and access to the UNESCO Global Geopark Ciletuh Palabuhanratu was repeatedly shut down, preventing vehicles from Pelabuhanratu from passing through (Rohman, 2024). The most visible indicator appeared in changes in traffic flow and route congestion: H-2 to H-1 before New Year, which usually produce spikes in visitation and congestion, proceeded normally during the 2024–2025 transition without significant increases (Rohman, 2024).

This decline in visitation immediately resonated within the accommodation economy, which functions as a multiplier engine in coastal tourism areas. Ade Suryaman noted that hotel occupancy rates, which exceeded 90 percent during the 2023–2024 year-end period, dropped to below 30 percent during the 2024–2025 transition (Salam, 2025a). From a *human security* perspective, these figures represent more than tourism statistics; they signal the erosion of economic security among coastal households dependent on daily and seasonal income. When disasters and adverse weather suppress tourist mobility, communities lose not only income but also certainty—at which point climate change operates as a threat multiplier that accelerates the shift from economic vulnerability toward more extreme survival strategies, including migration pressures.

The coastal fisheries sector faces equally severe pressure through damage to production facilities and disrupted distribution of catches. Field findings indicate that tidal flooding and high waves in the Palabuhanratu area and along the southern Sukabumi coast forced thousands of fishers to cease fishing activities. The Indonesian Fishermen's Association (HNSI) of Sukabumi Regency recorded that approximately 6,000 capture fishers could not go to sea due to tidal flooding, caused by both extreme weather conditions and damage to fishing vessels. Fishers' material losses were estimated at around IDR 4.5 billion, including damaged boats and dozens of fishermen's buildings in coastal areas such as Ujunggenteng, where at least 45 structures were reported damaged (Nugraha, 2024; Nugraha, 2024). In some locations, the impact proved total: in Ujunggenteng, more than 1,500 fishers reportedly could not fish at all because their fleets suffered severe damage.

These pressures did not merely halt production; they also severed coastal fisheries supply chains. Damage to docks, boats, and loading facilities limited fishers' mobility and slowed distribution to local and regional markets. When floods and landslides also damaged bridges, main roads, and electricity networks, several coastal areas experienced isolation for several days up to approximately one week. Under such conditions, catches—if available—could not reach markets on time, transaction costs increased, and fishing households lost income certainty. Although local governments provided basic assistance, HNSI noted that this aid failed to offset economic losses because productive fishing activities had not fully recovered (Nugraha, 2024).

These conditions demonstrate that climate change does not merely “reduce production” in fisheries; it generates cascading effects that amplify income volatility and deepen structural poverty. Some fishers temporarily shifted to low-wage informal jobs—such as motorcycle taxi drivers, construction laborers, fish vendors, or small-scale seafood retailers—as short-term survival strategies. This shift marks the weakening of household economic security while illustrating how climate disruptions function as a threat multiplier: ecological damage triggers micro-level economic crises, increases dependence on debt, and erodes long-term adaptive capacity. Within a human security framework, these layered pressures open pathways toward extreme choices, including forced migration, when the fisheries sector no longer guarantees livelihood sustainability for coastal communities (Nugraha, 2024).

This vulnerability also explains why the label “disaster” fails to fully capture the impacts of climate change along the Sukabumi coast. What operates on the ground is an accumulation of crises—weather uncertainty, asset damage, recovery costs, income decline, and stalled economic activity—that gradually weaken traditional survival strategies. At a certain point, households no longer negotiate seasonal risks but confront prolonged economic crises. Piguet (2008) helps clarify this mechanism: climate change increases the frequency and severity of ecological disruptions that ultimately erode natural resources and the economic bases of communities, making economic vulnerability not a “side effect” but the primary channel of insecurity.

Here, the concept of the threat multiplier becomes analytically central. Climate change does not replace long-standing structural pressures on coastal communities—such as unequal access, limited social protection, and uneven state capacity—but intensifies them (Gueldry et al., 2019; Huntjens & Nachbar, 2015). From a political economy perspective, climate impacts are not neutral: they disproportionately affect groups whose livelihoods are closest to nature and who possess the least risk-buffering capacity. When the state and institutions fail to ensure

rapid recovery—through road access, electricity, docks, and productive assistance—climate change magnifies existing vulnerabilities and pushes households into a phase of “emergency calculation” in search of alternative income sources (Caporaso & Levine, 1992). At this stage, migration pathways—including risky migration—emerge as options that appear increasingly economically rational, even as they remain problematic for *human security*.

Accordingly, these findings affirm two *human security* dimensions that interlock from the outset: environmental security (flooding, abrasion, extreme weather, landslides, ecological damage) and economic security (collapsed or volatile income, household debt, loss of job certainty, recovery costs). Climate change functions as a threat multiplier because it accelerates the transition from vulnerability to economic crisis, and from economic crisis to survival decisions that ultimately open the path to forced migration as a last-resort strategy.

Forced Migration as a Survival Rationality under Economic and Environmental Pressure

This study shows that migration in the coastal areas of Sukabumi Regency cannot be understood as a free rational choice made by individuals under normal conditions. Instead, it emerges as a compelled response to the narrowing of living space caused by layered economic and environmental pressures. When climate change undermines the foundations of primary livelihoods—fisheries, coastal agriculture, and tourism—households lose the capacity to sustain local survival strategies over time. In this context, migration does not appear as an aspiration for social mobility, but as a last resort to maintain family survival. Migration becomes rational not because it is ideal, but because other alternatives have collapsed or no longer exist.

The causal relationship between climate change, livelihood loss, and migration appears clearly in informants’ narratives. Climate disruptions—tidal flooding, extreme rainfall, landslides, and infrastructure damage—halt daily economic activities and sever income flows that previously supported basic household needs (Rohman, 2024). As income declines sharply and becomes increasingly uncertain, economic pressure quickly resonates with family social responsibilities, including children’s education, health expenditures, debt repayments, and expectations attached to the breadwinner role. This accumulation of pressures blurs the boundary between voluntary and forced migration. No physical coercion orders individuals to migrate; instead, coercion operates through structural conditions that make remaining in the place of origin increasingly impossible.

Within a human security framework, this situation reflects the collapse of economic security and the intensification of livelihood insecurity (de Haan, 2022; Sudomo et al., 2023). Migrants often make migration decisions with minimal preparation, limited information, and weak protection, so migration does not proceed as a safe or well-managed process. Jejen Nurjanah, Chair of SBMI Sukabumi, emphasized that many migrants depart due to economic pressure and debt entanglement rather than long-term career planning. Promises of high overseas wages become especially attractive when local employment opportunities shrink drastically, even though the risk of exploitation remains high. In 2025 alone, SBMI Sukabumi recorded at least seven cases of migrants experiencing serious problems abroad, particularly in Southeast Asia, all of whom departed in vulnerable conditions and without adequate protection (Jejen Nurjanah, interview, October 22, 2025).

These structural pressures also explain the rise of non-procedural migration as a consequence rather than an individual deviation. When official migration channels close or appear slow and costly while economic needs remain urgent, households tend to choose faster routes even if they are illegal. The experience of I, a prospective migrant from Ciwaru Village, illustrates this mechanism concretely. Crop failure caused by extreme rainfall, the absence of savings, an unemployed husband, and children’s education needs pushed her to return to migrant work after a 21-year hiatus. With a domestic income of approximately IDR 1,500,000 per month from a home-stay business, she perceived migration as the only rational option. However, because the moratorium on sending informal workers to Saudi Arabia remained in effect, her decision placed her in the category of non-procedural migration (interview, October 22, 2025). This case shows that risky migration does not arise merely from ignorance, but from emergency calculations under conditions of extreme constraint.

This tendency to treat migration as a survival strategy must also be read within a broader structural context, namely Sukabumi Regency’s position as one of the main labor-sending regions in West Java. National data show that Sukabumi consistently ranks among the top three migrant labor-sending districts in West Java, after Indramayu and Cirebon (Rohman, 2018). Members of Commission IX of the Indonesian House of Representatives have emphasized that economic factors, welfare concerns, and strong intermediary networks play a major role in encouraging Sukabumi residents to work abroad, including through non-procedural routes. This finding matters because it indicates that migration does not arise as an incidental response to short-term crises, but has become a long-standing structural pattern embedded in household economies and the social imagination of Sukabumi

communities. Under increasingly intense climate pressure, this long-established structure functions as a ready-made pathway that accelerates migration when local livelihoods collapse.

Regional administrative data reinforce this picture by showing the scale and continuity of migration flows. Throughout 2022, the Sukabumi Regency Office of Manpower and Transmigration recorded at least 1,104 prospective migrant workers who passed official selection processes, with a relatively balanced gender distribution and a significant surge in the middle to late part of the year—a period that often coincides with heightened household economic pressure and instability in local employment sectors (Badan Pusat Statistik Kabupaten Sukabumi, 2022). These figures represent procedural migration, while, as SBMI emphasized, other migrants move outside official registration systems. Thus, the high number of migrant workers from Sukabumi reflects not only labor mobility, but also chronic livelihood insecurity exacerbated by climate change.

From a political economy perspective, forced migration along the Sukabumi coast reflects the failure of local structures to provide stable and dignified livelihoods under ecological stress. Climate change does not operate as a neutral natural phenomenon; it interacts with unequal resource distribution, weak social protection, and limited state adaptive capacity. When coastal communities bear ecological impacts generated by development processes and emissions they did not produce, while recovery and adaptation support remains slow, migration becomes a survival mechanism laden with vulnerability. In Balaam and Dillman's (2015) terms, this situation exposes unequal relations among the state, the market, and society within the global political economy.

Accordingly, forced migration along the Sukabumi coast constitutes a survival rationality shaped by structural pressures rather than individual preference. Climate change accelerates the erosion of economic security, narrows livelihood options, and pushes households into a survival mode in which migration—including non-procedural migration—emerges as the most plausible last option. Within a human security framework, forced migration does not represent a solution, but a symptom of systemic failure to guarantee freedom from want and freedom from fear for coastal communities affected by climate change.

Forced Migration and the Erosion of Human Security: From Environmental Risk to Structural Violence

This study shows that forced migration in the coastal areas of Sukabumi Regency does not end with a shift in workplace or income sources, but continues into a serious erosion of multiple dimensions of human security, particularly personal security. Empirical data indicate that residents of Sukabumi occupy a highly vulnerable position with respect to labor exploitation, fraud, physical and sexual violence, and human trafficking (*tindak pidana perdagangan orang / TPPO*) in destination countries. Throughout 2021, the Indonesian Migrant Workers Union (SBMI) Sukabumi recorded at least 32 TPPO cases, all of which entered legal assistance processes, with victims consisting primarily of adult women and at least one minor (Utama, 2021). These cases concentrated in coastal and semi-coastal subdistricts such as Cicurug, Sukalarang, Caringin, Waluran, and Nyalindung—areas structurally marked by limited local employment opportunities and high dependence on migration as a livelihood strategy. These findings confirm that migration in the Sukabumi context does not merely relocate economic risk, but transforms it into risks of violence and human rights violations.

This vulnerability intensifies due to the dominance of non-procedural migration routes involving illegal sponsors and informal networks. SBMI Sukabumi emphasized that most TPPO victims originated from non-procedural deployment schemes, particularly domestic workers sent to Middle Eastern countries that formally remain under a moratorium. The use of tourist or *umrah* visas as departure mechanisms strips migrants of all legal protection mechanisms from the outset of the migration process (Utama, 2021). Under these conditions, migrants enter deeply unequal labor relations, characterized by the absence of clear contracts, complaint mechanisms, and guarantees of personal safety. Warnings issued by the Regional Secretary of Sukabumi Regency regarding the proliferation of “rogue sponsors” further reinforce the conclusion that this problem does not stem from individual deviation, but from a recurring and institutionalized structural failure within weak migration governance.

Recent cases demonstrate that threats to the personal security of migrants from Sukabumi not only persist, but tend to intensify and expand geographically. In November 2024, three residents of Sukabumi Regency narrowly avoided becoming TPPO victims bound for Saudi Arabia after being confined in Bogor and promised high wages through illegal schemes (Fatimah, 2024). In 2025, the case of RR (23), a woman from Cisaat Subdistrict, Sukabumi Regency, revealed an even more extreme scale of violence: reports indicate that traffickers confined her, subjected her to sexual violence, and demanded ransom through an international TPPO network operating in China (Utama, 2021). The fact that RR served as the primary breadwinner—within a family marked by parental separation and a sibling with special needs—demonstrates how household economic pressure directly intersects with vulnerability

to transnational violence. In this context, forced migration operates as a mechanism that displaces crisis from local spaces into global arenas, where power asymmetries become even more pronounced.

Longitudinal data from SBMI and local government sources show that this pattern does not represent an incidental phenomenon. Throughout 2020, SBMI Sukabumi recorded at least 18 TPPO cases, five migrant worker deaths, three cases of loss of contact, and two overstay cases, all linked to non-procedural departures (Radar Sukabumi, 2020). The Government of West Java Province even had to coordinate with the Ministry of Foreign Affairs to repatriate 11 TPPO victims from Sukabumi who were detained in Myanmar in 2024, all of whom had departed without using official recruitment channels (Rohman, 2019). Other cases—including domestic workers abused by employers in Saudi Arabia (Salam, 2025c), migrant workers who disappeared for decades in Malaysia, and the death of a female migrant worker from Cimaja in Syria due to alleged employer abuse (Radar Sukabumi, 2024)—illustrate a wide spectrum of violence, ranging from economic exploitation to loss of life.

Within a human security framework, these findings demonstrate the close interconnection among environmental security, economic security, and personal security. Climate change degrades the environment and local economic bases; household economic crises compel individuals to migrate under conditions of coercion; and unsafe migration pathways increase exposure to structural violence in destination countries. In other words, forced migration does not constitute merely an issue of population mobility or labor markets, but represents a manifestation of systemic failure in protecting human security. Weak migration governance, the absence of policy recognition for climate-induced migrants, and limited state capacity to protect citizens across the entire migration cycle reinforce migrants' position as vulnerable and easily exploited subjects.

Analytically, forced migration along the Sukabumi coast must be understood as a consequence of structural violence operating across multiple scales—local, national, and transnational (Lindquist, 2018). Environmental risks and economic crises do not merely drive mobility; they also create conditions in which individuals must trade long-term safety for short-term survival. Therefore, forced migration cannot be reduced to an individual rational decision, but must be interpreted as an indicator of failure in development governance and human security systems in responding to climate change. In this context, strengthening human security does not represent a merely normative agenda, but a structural prerequisite for preventing the continued reproduction of violence against increasingly vulnerable coastal communities.

DISCUSSION

This study demonstrates that forced migration in the coastal areas of Sukabumi Regency cannot be adequately understood merely as a phenomenon of labor mobility or as an adaptive livelihood choice. Rather, such migration constitutes a manifestation of broader failures of human security under the pressures of climate change. By applying the human security framework articulated in the Human Development Report (UNDP, 1994), the findings show that environmental disruption, economic vulnerability, and personal insecurity do not operate as separate domains, but instead function as mutually reinforcing processes that progressively erode the preconditions for a safe and dignified life. In this context, migration becomes “rational” not because it promises improvement, but because local capacities to sustain life have weakened structurally.

UNDP's formulation of human security emphasizes protection from freedom from want and freedom from fear, encompassing seven dimensions: economic, food, health, environmental, personal, community, and political security (UNDP, 1994). Empirical evidence from Sukabumi illustrates how climate change functions as a threat multiplier that simultaneously destabilizes these dimensions. Environmental hazards—floods, landslides, coastal abrasion, and extreme weather—directly undermine environmental security, yet their most immediate impacts manifest through economic channels. Declining tourist arrivals, disrupted fisheries, and damaged productive infrastructure transform ecological shocks into livelihood crises. When income becomes unstable or disappears entirely, households lose not only purchasing power but also life certainty. These conditions push communities into chronic insecurity, consistent with the Commission on Human Security's (2003) description of the erosion of the “vital core of human life” (Gasper, 2005).

Within this setting, migration emerges as a survival strategy shaped by structural constraints rather than individual aspirations. Consistent with the global literature on climate-related migration (Arenilla & Rada, 2020; Koç, 2024; Piguet, 2008), the Sukabumi case shows that climate pressures rarely generate migration in a linear or mono-causal manner. Instead, climatic impacts intensify pre-existing vulnerabilities—such as limited job diversification, weak social protection, and high household dependency burdens—thereby narrowing the range of realistic options available to coastal families. Migration thus occupies an ambiguous position: it is neither fully voluntary nor directly coerced. The boundary between “choice” and “compulsion” blurs when remaining in the place of origin threatens

basic survival. In this sense, migration in Sukabumi reflects what McAdam (2012) conceptualizes as mobility under conditions of structural constraint.

The findings further indicate that the collapse of economic security quickly resonates with personal security, particularly when migration proceeds through non-procedural and informal pathways. Empirical data from SBMI, local government sources, and media reports reveal high exposure among migrants from Sukabumi to exploitation, trafficking, violence, and prolonged isolation in destination countries. This pattern reinforces Quinn and Ruiz's (2022) argument that livelihood loss driven by climate change can indirectly heighten vulnerability to labor exploitation, as migrants feel compelled to accept unsafe migration routes and high-risk employment. In Sukabumi, the persistence of moratoria on certain destination countries, combined with acute household economic pressures, fosters reliance on brokers and informal networks, effectively stripping migrants of legal protection even before departure. Consequently, migration does not resolve insecurity, but relocates and deepens it across national borders.

When situated within the Indonesian literature, these findings expose an important analytical gap that this study seeks to address. Research on climate change impacts in Indonesia has expanded rapidly, particularly regarding agricultural productivity, food security, coastal dynamics, and human rights (Dasanto et al., 2022; Fatiurohman et al., 2024; Sinaga et al., 2024). However, studies linking climate change to migration remain relatively limited and often frame migration as a development instrument or a long-term adaptive capacity (Handayani & Kumalasari, 2015; Latifa & Romdiati, 2017). While valuable, these perspectives tend to downplay compulsion and rarely situate migration within a human security framework. The Sukabumi case demonstrates that when climate pressures intersect with weak governance and limited protection mechanisms, migration cannot be assumed to be a safe or beneficial adaptive strategy, but rather serves as an indicator of systemic failure to ensure basic security at the place of origin.

The primary contribution of this study lies in positioning forced migration as the outcome of interacting security failures, rather than as an isolated calculation of individual economic rationality. By integrating the human security framework with empirical findings from a climate-vulnerable coastal region, this research shows how the collapse of environmental security triggers cascading effects: economic security weakens, livelihood options contract, and personal security becomes threatened through unsafe migration. Unlike policy narratives that frequently promote labor migration as a pathway to improved welfare, the Sukabumi findings reveal the darker side of migration, where long-term safety is sacrificed for short-term survival. This perspective aligns with Shahrbani and Chenoy's (2007) critique of development-oriented migration discourses that often overlook asymmetric power relations and the inherent risks embedded in transnational labor systems.

At the policy level, the implications are fundamental. Treating migration solely as a labor market solution or a source of foreign exchange through remittances risks obscuring the structural conditions that compel people to migrate in the first place. From a human security perspective, policy responses must prioritize strengthening in-place adaptation and comprehensive protection measures: reinforcing coastal livelihoods, developing climate-resilient infrastructure, expanding social protection for disaster-affected households, and improving migration governance. Without such measures, migration will continue to function as a "last-resort rationality" that reproduces vulnerability rather than reducing it. The Sukabumi case underscores that protecting human security in the context of climate change requires a decisive policy shift—from merely managing migration outcomes to addressing the root insecurities that render forced migration seemingly inevitable.

Overall, this study reframes forced migration in coastal Sukabumi as a symptom of layered failures—environmental, economic, and governance-related—that operate in mutually reinforcing ways. Through a human security lens, the analysis confirms that climate change threatens not only ecosystems but also the social foundations of human life. Migration, in this context, does not signify resilience, but rather serves as a warning signal of unmet state obligations and development systems that fail to guarantee human security. These findings call for integrated, people-centered responses, rather than fragmented sectoral interventions.

CONCLUSION

This study concludes that forced migration in the coastal areas of Sukabumi Regency constitutes a structural consequence of the erosion of human security under layered climate change pressures. Climate change operates as a threat multiplier that intensifies the economic vulnerability of coastal communities through environmental degradation, infrastructure damage, and the weakening of core livelihood bases—fisheries, tourism, and coastal

agriculture. Under these conditions, migration does not emerge as a freely chosen adaptive option, but rather as a survival rationality when local livelihood strategies can no longer secure household subsistence.

The findings show that the deterioration of environmental security directly resonates with the collapse of economic security, as reflected in income loss, rising household debt, and shrinking access to decent livelihood opportunities. These pressures push households into survival mode, in which migration—including non-procedural migration—becomes the last option perceived as feasible despite its high risks. In the Sukabumi context, forced migration does not represent an incidental phenomenon, but rather the continuation of long-standing structural patterns of labor out-migration that climate crises increasingly accelerate.

This study further demonstrates that forced migration directly erodes other dimensions of human security, particularly personal security. The dominance of non-procedural migration routes, weak migration governance, and the involvement of informal networks expose migrants from Sukabumi to heightened risks of exploitation, violence, human trafficking, and even loss of life in destination countries. Forced migration therefore does not merely relocate economic risk to another geographic space, but transforms it into structural violence operating across local, national, and transnational scales.

Conceptually, this research strengthens the human security framework by empirically demonstrating the close interconnections among environmental security, economic security, and personal security in the context of climate change. Forced migration should not be understood as an individual rational decision, but as an indicator of failures in development governance and in the protection of human security in climate-vulnerable coastal regions. Consequently, policy responses cannot stop at managing migration flows alone, but must prioritize climate adaptation, social protection, and migration governance oriented toward human protection.

Future research should pursue comparative analyses across coastal regions, deepen attention to gender and generational dimensions of forced migration, and explore how the human security framework can be operationalized in climate adaptation policies and migrant protection regimes. Such approaches are essential to ensure that migration no longer functions as a risky last resort, but can be prevented through the strengthening of human security in places of origin.

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REFERENCES

Anjani, S. Y., Setiawan, B., & Martasari, S. A. N. (2024). Dampak Perubahan Iklim terhadap Ketahanan Pangan di Indonesia. *Jurnal Pendidikan Dan Ilmu Sosial (JUPENDIS)*, 2(3), 46–55. doi: <https://doi.org/10.54066/jupendis.v2i3.1850>

Arenilla, S. L., & Rada, C. H. (2020). Climate Change and Forced Migration. *Migraciones Internacionales*, 11, 1–22. doi: <https://doi.org/10.33679/RMI.V111.1846>

Badan Nasional Penanggulangan Bencana. (2025). Data Bencana Indonesia 2024. *Badan Nasional Penanggulangan Bencana*. Retrieved from https://bnpb.go.id/storage/app/media/Buletin Info Bencana/Buku Data Bencana 2024/20250613_Buku Data 2024.pdf

Badan Pusat Statistik Kabupaten Sukabumi. (2022). Jumlah calon TKI/TKW yang sudah diseleksi per bulan menurut jenis kelamin di Kabupaten Sukabumi, 2022. *BPS Kabupaten Sukabumi*. Retrieved from <https://sukabumikab.bps.go.id/id/statistics-table/1/ODk0lxE=jumlah-calon-tki-tkw-yang-sudah-diseleksi-per-bulan-menurut-jenis-kelamin-di-kabupaten-sukabumi--2022.html>

Bakry, U. S. (2017). *Metode Penelitian Hubungan Internasional* (2nd ed.). Yogyakarta: Pustaka Pelajar.

Balaam, D., & Dillman, B. (2015). *Introduction to International Political Economy*. London: Routledge. doi: <https://doi.org/10.4324/9781315663838>

BMKG. (2025a). *Fakta Perubahan Iklim Bulan September 2025*. Retrieved from <https://www.bmkg.go.id/iklim/fakta-perubahan-iklim/fakta-perubahan-iklim-bulan-september-2025>

BMKG. (2025b, April). *Perubahan Iklim Bukan Lagi Isu Global, BMKG Tegaskan Dampaknya Nyata*. Retrieved from <https://www.bmkg.go.id/berita/perubahan-iklim-bukan-lagi-isu-global-bmkg-tegaskan-dampaknya-nyata>

BRIN. (n.d.). Potensi Dampak Perubahan Iklim bagi Masyarakat Pesisir. *BRIN*. Retrieved from <https://www.bmkg.go.id/berita/perubahan-iklim-bukan-lagi-isu-global-bmkg-tegaskan-dampaknya-nyata>

<https://brin.go.id/news/116845/potensi-dampak-perubahan-iklim-bagi-masyarakat-pesisir>

Caporaso, J. A., & Levine, D. P. (1992). *Theories of Political Economy*. Cambridge: Cambridge University Press.

Commission on Human Security. (2003). *Human security now*. United Nations Publications.

Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Los Angeles: Sage Publications.

Dasanto, B. D., Sulistiyantri, S., Anria, A., & Boer, R. (2022). Dampak Perubahan Iklim terhadap Kenaikan Muka Air Laut di Wilayah Pesisir Pangandaran. *Risalah Kebijakan Pertanian Dan Lingkungan*, 9(2), 82–94. doi: <https://doi.org/10.29244/JKEBIJAKAN.V9I2.28039>

de Haan, L. (2022). Livelihoods and Social Protection. In I. Scoones & W. Wolmer (Eds.), *The Routledge Handbook on Livelihoods in the Global South* (pp. 437–449). London: Routledge. doi: <https://doi.org/https://doi.org/10.4324/9781003014041-45>

Dinas Lingkungan Hidup Kabupaten Sukabumi. (2025). Inventarisasi Gas Rumah Kaca Kabupaten Sukabumi Tahun 2015–2023. *Dinas Lingkungan Hidup Kabupaten Sukabumi*.

Fatimah, S. (2024). 3 warga Sukabumi nyaris dijual ke Arab Saudi, diimingi gaji besar. *Detik.Com*. Retrieved from <https://www.detik.com/jabar/berita/d-7630035/3-warga-sukabumi-nyaris-dijual-ke-arab-saudi-diimingi-gaji-besar>

Faturohman, Hidayanto, L., & Fahrurroji, M. (2024). Analisis Dampak Perubahan Iklim terhadap Hak Asasi Manusia. *Terang: Jurnal Kajian Ilmu Sosial, Politik Dan Hukum*, 1(3), 1–8. doi: <https://doi.org/10.62383/terang.v1i3.346>

Gasper, D. (2005). Securing Humanity: Situating 'Human Security' as Concept and Discourse. *Journal of Human Development*, 6(2), 221–245. doi: <https://doi.org/10.1080/14649880500120558>

Gueldry, M., Gokcek, G., & Hebron, L. (2019). The Existential Threat Multiplier. In *Understanding New Security Threats*. Routledge. doi: <https://doi.org/https://doi.org/10.4324/9781315102061>

Handayani, W., & Kumalasari, N. R. (2015). Migration as future adaptive capacity: the case of Java—Indonesia. In *Environmental change, adaptation and migration: Bringing in the region* (pp. 117–138). Springer. doi: https://doi.org/https://doi.org/10.1057/9781137538918_7

Hasyim, I. (2024). Pasca-banjir dan longsor di Sukabumi: 10 jembatan putus, 6 orang belum ditemukan. *Tempo.Co*. Retrieved from <https://www.tempo.co/lingkungan/pasca-banjir-dan-longsor-di-sukabumi-10-jembatan-putus-6-orang-belum-ditemukan-1177740>

Huntjens, P., & Nachbar, K. (2015). Climate Change as a Threat Multiplier for Human Disaster and Conflict. *The Hague Institute for Global Justice*, 9, 1–24.

Johnston, J. D. (2020). Climate change literacy to combat climate change and its impacts. *Climate Action*. doi: https://doi.org/10.1007/978-3-319-95885-9_31

Koç, J. (2024). Climate Change and Forced Migration. *European Journal of Economics, Law and Social Sciences*, 8(3), 29–42. doi: <https://doi.org/10.2478/EJELS-2024-0016>

Latifa, A., & Romdiati, H. (2017). Kebijakan pengelolaan migrasi dalam konteks perubahan iklim: Kasus Lombok Utara dan Lombok Timur. *Jurnal Kependudukan Indonesia*, 12(2), 119–130.

Lee, H., Romero, J., & Team, C. W. (2023). *Climate Change 2023: Synthesis Report*. Geneva: IPCC.

Lindquist, J. (2018). Infrastructures of Escort: Transnational Migration and Economies of Connection in Indonesia. *Indonesia*, 2018(105), 77–95. doi: <https://doi.org/10.1353/ind.2018.0003>

Mason, M. (2013). *Climate Change and Human Security: The International Governance Architecture, Policies and Instruments*. London: Routledge. doi: <https://doi.org/https://doi.org/10.4337/9780857939111.00026>

McAdam, J. (2012). *Climate Change, Forced Migration, and International Law*. Oxford: Oxford University Press. doi: <https://doi.org/10.1093/acprof:oso/9780199587087.001.0001>

McNaught, R. (2024). The application of collaborative governance in local level climate and disaster resilient development – A global review. *Environmental Science and Policy*, 151. doi: <https://doi.org/10.1016/j.envsci.2023.103627>

Moleong, L. J. (2007). *Metodologi Penelitian Kualitatif*. Bandung: PT Remaja Rosdakarya.

Mustaqim, A. (2023). TKI Kota Sukabumi Masih Tinggi, Disnaker: Banyak Pekerja Migran Ilegal. *Radar Jabar*. Retrieved from <https://www.radarjabar.com/jawa-barat/9519117666/tni-kota-sukabumi-masih-tinggi-disnaker-banyak-pekerja-migran-legal>

Nugraha, A. (2024). Integrated coastal management in the current regional autonomy law regime in Indonesia: context of community engagement. *Australian Journal of Maritime & Ocean Affairs*, 16(4), 508–527. doi: <https://doi.org/10.1080/1037010X.2024.287500>

<https://doi.org/10.1080/18366503.2023.2283355>

Nugraha, A. F. (2024). Banjir rob, ribuan nelayan di Sukabumi berhenti melaut. *RRI.Co.Id*. Retrieved from <https://rri.co.id/daerah/594993/banjir-rob-ribuan-nelayan-di-sukabumi-berhenti-melaut>

Okita, Y. (2021). Preventing International Assistance becoming a Threat to Human Security: Japan's Experience in the 1995 Kobe Earthquake and the 2011 Great East Japan *Climate Change, Disaster Risks, and Human Security*. doi: https://doi.org/10.1007/978-981-15-8852-5_12

Pemerintah Daerah Kabupaten Sukabumi. (2025, March). Laporan Keterangan Pertanggungjawaban (LKPJ) Bupati Sukabumi Akhir Tahun Anggaran 2024. *Pemerintah Daerah Kabupaten Sukabumi*. Retrieved from https://ppid.sukabumikab.go.id/dokumen/uploads/a_dok_ppid/20250812142332-2025-08-12a_dok_ppid142246.pdf

Piguet, E. (2008). *Climate Change and Forced Migration*. Geneva. Retrieved from <https://www.unhcr.org>

Quinn, S., & Ruiz, I. (2022). Forced Migration: Evidence and Policy Challenges. *Oxford Review of Economic Policy*, 38(3), 403–413. doi: <https://doi.org/https://doi.org/10.1093/oxrep/grac025>

Radar Sukabumi. (2020). PMI ku sayang, PMI ku malang, puluhan pekerja migran asal Sukabumi jadi korban TPPO. *Radar Sukabumi*. Retrieved from <https://radarsukabumi.com/berita-utama/pmi-ku-sayang-pmi-ku-malang-puluhan-pekerja-migran-asal-sukabumi-jadi-korban-tppo/>

Radar Sukabumi. (2024). TKW asal Cimaja Sukabumi meninggal di Suriah, diduga mendapat perlakuan penganiayaan majikan. *Radar Sukabumi*. Retrieved from <https://radarsukabumi.com/kabupaten-sukabumi/tkw-asal-cimaja-sukabumi-meninggal-di-suriah-diduga-mendapat-perlakuan-penganiayaan-majikan/>

Rahmat, A., Yaulizka, Z. H., Ramadhani, L. N., & Revalina, S. (2025). Pengalaman Wisatawan: Menghadapi Perubahan Iklim di Oasis Sukabumi. *Jurnal Inspirasi Ilmu Manajemen*, 4. doi: <https://doi.org/https://doi.org/10.32897/jiim.2025.4.1.4704>

Rohman, A. A. (2018). Kabupaten Sukabumi jadi daerah terbanyak pengirim TKI. *AntaraNews*. Retrieved from <https://megapolitan.antaranews.com/berita/42558/kabupaten-sukabumi-jadi-daerah-terbanyak-pengirim-tki>

Rohman, A. A. (2019). Hilang 10 tahun di Riyadh Arab Saudi, TKW Sukabumi ditemukan. *Antara News*. Retrieved from <https://www.antaranews.com/berita/1131584/hilang-10-tahun-di-riyadh-arab-saudi-tkw-sukabumi-ditemukan>

Rohman, A. A. (2024). Nelayan Sukabumi belum bisa melaut pascabanjir rob. *AntaraNews*. Retrieved from <https://www.antaranews.com/berita/4037208/nelayan-sukabumi-beliau-bisa-melaut-pascabanjir-rob>

Salam, H. (2025a). Bencana Sukabumi berpengaruh pada turunnya kunjungan wisatawan. *Radar Sukabumi*. Retrieved from <https://radarsukabumi.com/berita-utama/bencana-sukabumi-berpengaruh-pada-turunnya-kunjungan-wisatawan/2/>

Salam, H. (2025b). Pengangguran Tinggi, Pemkot Sukabumi Dorong Warga Jadi Pekerja Migran. *Radar Sukabumi*. Retrieved from <https://radarsukabumi.com/berita-utama/pengangguran-tinggi-pemkot-sukabumi-dorong-warga-jadi-pekerja-migran/>

Salam, H. (2025c). TKW asal Sukabumi jadi korban kekerasan majikan, merintih ingin pulang! *Radar Sukabumi*. Retrieved from <https://radarsukabumi.com/kota-sukabumi/tkw-asal-sukabumi-jadi-korban-kekerasan-majikan-merintih-ingin-pulang/>

Setyanabi, F., & Mulyanie, E. (2024). Analisis Dampak Perubahan Iklim terhadap Geografi Maritim Indonesia. *Jurnal Ilmiah Samudra Akuatika*, 8(1), 12–19. doi: <https://doi.org/10.33059/JISA.V8I1.9295>

Sinaga, P., Sipayung, A., Fauziah, A., Simanjuntak, P., & Sidauruk, T. (2024). Dampak Perubahan Iklim terhadap Penurunan Pendapatan Petani. *Journal on Education*, 6(4), 22097–22103. doi: <https://doi.org/10.31004/JOE.V6I4.6330>

Siska, W., Widiatmaka, Setiawan, Y., & Adi, S. H. (2022). Climate Suitability for Paddy in Sukabumi Regency by 2032 Using RCP 4.5 Scenario. *IOP Conference Series: Earth and Environmental Science*, 950(1), 12103. doi: <https://doi.org/10.1088/1755-1315/950/1/012103>

Sudomo, A., Leksono, B., Tata, H. L., Rahayu, A. A. D., Umroni, A., Rianawati, H., & Baral, H. (2023). Can Agroforestry Contribute to Food and Livelihood Security for Indonesia's Smallholders in the Climate Change Era? *Agriculture*, 13(10), 1896. doi: <https://doi.org/10.3390/agriculture13101896>

Suherman, A., Aryani, L., & Yulyana, E. (2021). Analisis Fungsi Peraturan Menteri Pendidikan, Kebudayaan, Riset dan Teknologi Nomor 30 Tahun 2021 dalam Mencegah Kekerasan Seksual di Kampus. *Jurnal Ilmiah Wahana Pendidikan*, 7(7), 173–182. doi: <https://doi.org/https://doi.org/10.5281/zenodo.5704133>

Sukabuminow.com. (2023, October). Kabupaten Sukabumi Miliki Ratusan Kilometer Garis Pantai, Cibutun di

Dalamnya. *Sukabuminow.Com*. Retrieved from <https://sukabuminow.com/kabupaten-sukabumi-miliki-ratusan-kilometer-garis-pantai-cibutun-di-dalamnya/>

Tadjbakhsh, S., & Chenoy, A. M. (2007). *Human Security: Concepts and Implications*. Routledge.

UNDP. (1994). *Human Development Report 1994*. United Nations Development Programme. Retrieved from <https://hdr.undp.org/system/files/documents/hdr1994encompletenostats.pdf>

Utama, R. (2021). Sepanjang 2021 terjadi 32 kasus TPPO di Sukabumi, korbannya wanita, Sekda warning sponsor TKW nakal. *Tatar Sukabumi*. Retrieved from <https://www.tatarsukabumi.id/read/8503/Sepanjang-2021-Terjadi-32-Kasus-TPPO-di-Sukabumi-Korbannya-Wanita-Sekda-Warning-Sponsor-TKW-Nakal>



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