

Multidimensional Impacts of Transmigration Program on Local Communities' Lives and Transmigrants in Konawe Regency, Southeast Sulawesi, Indonesia

Karsadi¹, La Aso², Hamuni¹, Muhammad Idrus¹

¹Department of Civic Education, Faculty of Teacher and Education, Halu Oleo University, Kendari, Indonesia

²Department of Language and Literature, Faculty of Cultural Studies, Halu Oleo University, Kendari, Indonesia

Corresponding Author: La Aso

DOI: <https://doi.org/10.52403/ijrr.20250255>

ABSTRACT

The transmigration program has a multidimensional impact on local communities and transmigrants. This research analyses the positive and negative effects of transmigration program implemented by Indonesian Government. The research results show that transmigration program contributes to improving the welfare of local communities and transmigrants, creating social integration, cultural assimilation, and acculturation, providing labor to accelerate regional development, and raising the spirit of nationalism. In another aspect, the transmigration program is considered a failure because it has given rise to agrarian conflicts followed by social tensions between local communities and migrants. Narrowing local community *lebensraum* is the main cause of agrarian conflict. The unresolved agrarian conflict in Tawamlewe village is an example of the failure of the transmigration program.

Keywords: Transmigration impacts, welfare community, social integration, agrarian conflict

INTRODUCTION

Some environmental activists and academics doubted the effectiveness of transmigration policy implemented by the Indonesian government. Some of them viewed transmigration policy was at a crossroads, creating dilemma. Viewed from demographic aspect, transmigration policy aimed to redistribute population from Java to outside Java, as well as to improve community welfare and regional development, but from environmental aspect, it caused environmental damage and social and agrarian conflicts in the transmigration areas.

In Indonesia, population resettlement policy, which was known as transmigration, was perhaps rather unique in the sense that it covered almost all purposes from simple to the most highly complex goals. Tracing back the history of population resettlement applications from the beginning of the twentieth century until today showed that the goals continuously changed according to the immediate needs of a particular government. The ambiguity and multiplicity of the goals apparently provided the state with a convenient vehicle to be manipulated for various purposes, and this is most likely the underlying reason for the successive

regimes in Indonesia continuing the policy or transmigration was a failed policy.^[1]

During New Order era, Indonesian government sent transmigrants totaling 1,662,000 heads of families or covering approximately 8,000,000 people from Java, Madura, Bali, and Lombok to be placed in transmigration destination areas in Sumatra, Kalimantan, Sulawesi, Maluku, and Irian Jaya.^[2] Sending them was based on Indonesian government regulations through Law Number 3 of 1972 concerning Transmigration. This regulation focused on the distribution of population in Indonesia with a demographic-centric paradigm, without considering other aspects such as environmental sustainability and narrowing the lebensraum of local communities.

During the reform period, criticizing the transmigration program in Indonesia emerged from various groups, including environmental and campus activists. The main issues are concerned to environmental damage, narrowing of lebensraum, marginalization of local communities, and social conflicts between local communities and transmigrants. The criticism was caused by government's program of supply-side paradigm, but not demand-side oriented so the program created problems of detrimental to the interests of local communities. Javanization and Balinization issues existed in the program implementation.

Criticisms from environmental and campus activists as well as the emergence of various problems received a positive response from government that changed the transmigration regulations. Government together with House of Representatives (DPR) passed Law Number 29 of 2009. The change lies in the orientation shift from demographic-oriented to development-oriented. The paradigm shift could overcome the problems in the transmigration program; however, at the implementation level, transmigration faced challenges related to agrarian conflicts.

The transmigration program had dilemma; on one hand, it aimed to improve the living standards of farmers from Java, Bali, and

Lombok for national integration and unity, but on the other hand, it had negative impacts, namely environmental degradation, and social and agrarian conflicts between transmigrants and indigenous people. The conflicts found in the various studies conducted by experts.^[3] The transmigration policy improved transmigrants' welfare and redistributed population and labor supply,^[4,5,6] created socio-economic integration between migrants and indigenous people.^[7,8,9,10,11] The negative impacts availed in the social conflicts^[1,12,13,14,15,16] in which indigenous people resisted the government,^[17,18] and did not receive environmental damages.^[16,19,20]

The presence of Javanese transmigrants contributed to strengthening social integration in Tanah Laut regency based on the concepts of cultural-religious life, socio-economic life and a sense of nationalism,^[7] while in Central Sulawesi from a socio-economic aspect, the program could integrate transmigrants with locals, but from the aspect of agrarian resources, the two groups fought over agrarian resources at the transmigration location.^[3,16]

Studies showed the program in East Kalimantan caused land disputes between transmigrants and locals,^[3,21] while other studies proved the program in Papua Province caused local community resistance because agrarian resources were the main source; their lives were damaged, and, at the same time, their lebensraum began to narrow. Even though Papuans faced Indonesian military, they continued to resist because the program was considered detrimental to their interests.^[17,18,22]

Research showed the program had negative impacts in environmental damage and social conflicts in the forms of violent acts by locals.^[12,13,14,16,18] The negative impacts affected the transmigration destination areas in Sumatra, Kalimantan, Sulawesi, and Papua, and declined after the program stopped.

In several areas, the opening and procurement of land for transmigrants brought conflicts with local customary law.

The law stated agrarian resources in the form of customary land and sago trees on customary land constituted property of locals as their main source of food and livelihood, especially in Kalimantan and Papua. The compensation and recognition provided by the government to locals for the loss of agrarian resources was deemed inadequate and still detrimental to them; this condition raised resistance to the program.^[18,22,23]

RESEARCH METHODS

The research was carried out at Konawe Regency, Southeast Sulawesi Province (SSP) from September 2024 to February 2025 and used a qualitative approach. The data collection was done by deep interviews, nonparticipation observation, and documentation. In-depth interviews were conducted with the key informants, who were members of the government, such as village and district officials, and heads of transmigration; elements of society, such as local leaders, community leaders from among transmigrants and indigenous people of Uepai and Amesi village and transmigrants at Tawamlewe were involved. In-depth interviews were also conducted with some Forum activists for Environment (WALHI) in SSP, Agrarian Reform Consortium (KPA) in SSP, and PUSPA human rights and other NGO activists in Kendari. The data were analyzed by following Miles and Huberman's model. Steps in data analysis were data collection, reduction, display, and conclusion drawing/verification.^[24]

RESULT AND DISCUSSION

The implementation of transmigration in Konawe Regency (KR) from the 1970s to 2024 contributed significantly to the welfare of local communities and migrants. The

increase in welfare was driven by the potential of this area for development of food crop agriculture, plantations, animal husbandry, trade, and service sectors. With several large dams, the pace of agricultural development accelerated, so that agricultural productivity increased rapidly to improve people's welfare. The migrants' presence also made a significant contribution to the transformation of skills and technology for local farmers. Before their arrival, the local agricultural system was oriented towards shifting cultivation (or *mondau* 'moving farming') but when transmigrants came, they slowly abandoned the *mondau* and practiced agricultural intensification.

Since 1970s, the central government designated KR as a transmigration destination from Java, Bali, and Lombok and in 1999, based on data from SSP Transmigration Service Office, the number of transmigrants placed in Kendari Regency (now KR) amounted to 26,373 heads of families or 109,233 people. With this large number, KR became one of the main food storage areas in SSP. Rice productivity in this area increased in line with the regional government's rice field expansion program. Several districts where transmigration was located having extensive rice fields included Pondidaha, Amonggedo, Meluhu, Wonggeduku, Uepai, Tongauna, Abuki, and Oneembute. As the largest rice production center in SSP, KR had two large dams, namely Wawotobi Dam built in 1985 and Ameroro Dam built in 2023 and in 2025 Alosika Dam finished in Rounta and Asinua regions. Alosika contributed significantly to economic growth, especially the productivity of food crops (rice) in SSP (see Fig. 1). With this dam, farmers could plant rice 2-3 times a year and increased productivity of food crops.

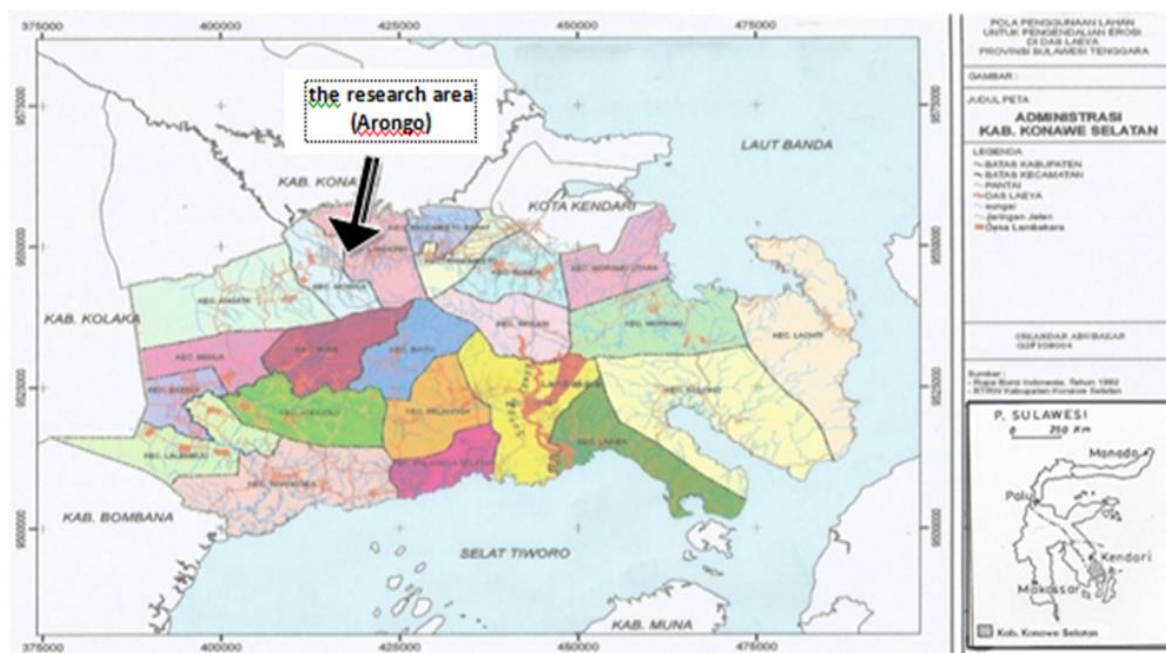


Figure 1. Community Welfare and Acceleration of Regional Development

The transmigrants' presence in KR contributed to local farmers in the transformation of agriculture from shifting cultivation to settled agriculture (rice fields). The acceleration of agricultural transformation from transmigrants to locals occurred because some locals became part of transmigrants. The transmigrants from Java, Bali, and Lombok mingled and interacted with local transmigrants and local communities in cultivating agricultural land, planting rice, and post-harvest. Thus, social integration in the agricultural sector went well by modern agricultural transformation. The use of modern agricultural technology, from tilling the land to harvesting rice, proved that agricultural development in KR, especially in transmigration locations, went well and advanced. At several transmigration locations, modern rice mills belonging to transmigrants were available. Modern rice harvesting and milling vehicles helped them and indigenous people, especially during the harvest and rice milling process, even though such modernism coincided with rains. The economic growth in several transmigration locations was also marked by the traditional markets for the circulation of goods and money, especially buying and selling transactions for agricultural

products, such as rice, fruit, and vegetables. Traders from Kendari City visiting traditional markets at transmigration locations helped migrants and native residents to sell agricultural products to them. Traditional markets developed rapidly as trading centers in Amonggedo, Amisiu, Meluhu, Lalonggowuna, Padangguni markets, and other traditional markets at transmigration locations. The thriving agricultural and trade sectors were supported by transportation; some of which belonged to transmigrants, such as trucks, public transport vehicles, rice harvesting vehicles, among others.

Social Integration of Local Communities and Transmigrants

KR was inhabited by various groups of ethnicity, culture, religion, regional language, social status, and other diversity, and thus, KR was heterogeneous. The transmigrants from Java, Bali, and Lombok mingled with native residents and with migrants from SSP; hence, the regency became a melting pot. Even though being different, they lived in harmony, mutual respect, and in peace. From regional resilience aspects, the harmony and peace could be the basic capital in harmonious social relations. All this could ideologically

maintain the principles of Pancasila. In other words, such regional resilience in KR could strengthen regional resilience. Social conflicts between groups of people never occurred, even though at the Tawamlewe transmigration location in Uepai district, land disputes between locals and transmigrants were found. Whatever happened, strong and resilient regional resilience in KR shaped national resilience, as Lemhanas formulated that Indonesian resilience was dynamic to support its tenacity and toughness to overcome all challenges, threats, obstacles, and disturbances from outside and directly from within.

Even though nationally, Indonesia's national resilience still faces various threats, obstacles, challenges, and disruptions, at a micro level, the regional resilience of KR is good. This can be seen from various aspects of community life in KR, both from the ideological, political, socio-cultural, economic security, and public order aspects. In this way, the regional resilience conditions of KR can contribute to building Indonesia's national resilience conditions. From an ideological aspect, the life of the people in KR ideologically no longer concerns the ideology of Pancasila. In fact, in their daily lives they already practice and apply the values of Pancasila. From a political aspect, the people of KR can maintain a conducive social and political life, as proven during the democratic festival, both during the presidential and vice-presidential elections, legislative elections, and regional head elections which simultaneously ran smoothly, safely, and peacefully. Even though they have different political choices, social relations remain good and conducive.

Apart from the ideological and political aspects, in the socio-cultural aspect, the socio-cultural life of the people in KR also appears harmonious, harmonious, and peaceful, even though socio-culturally they have different socio-cultural backgrounds. Socio-culturally, the people in KR come from various different tribes and religions,

namely Javanese, Sundanese, Balinese, Lombok people with their respective regional cultures. Most of them are migrants from Java, Bali, and Lombok, while the indigenous residents are the Tolaki tribe. Even though they have different ethnicities and regional cultures, they are able to live side by side, in harmony, harmony and peace. In fact, in several transmigration locations, there is cultural acculturation between regional cultures, and mixed marriages between ethnic groups often take place, without any obstacles or obstacles.

From an economic aspect, the presence of migrants can make a significant contribution to economic growth in KR, including improving the economy of local communities. Likewise, from the aspect of security and public order, so far the security conditions in KR have been very conducive, including at transmigration locations. This proves that regional resilience in this area is good.

Assimilation and Acculturation of Local Culture and Transmigrants

The people who live in KR are heterogeneous, in terms of ethnicity, religion, customs, regional languages, and so on. The majority of people in this area, especially in Pondidaha, Amonggedo, and Uepai subdistricts, are partly local people, namely the Tolaki people. Meanwhile, the people around the sub-district capital are migrant communities, namely transmigrants from Java, Bali, and Lombok. Apart from the majority of Tolaki people in this research location, there are also people from this area who come from ethnic groups who are immigrants from various regions, such as the Bugis, Makasar, Muna, Selayar, and Buton tribes. Even though the number of ethnic groups is very diverse, they are able to adapt and interact well, harmoniously, and peacefully.

In carrying out communication and social interactions, community groups in this area use Indonesian, although quite a few people from outside the region, such as Javanese, Sundanese, Selayar, and others often use

Tolaki. This shows that communication and social interaction between community groups is intensive and going well. The process of social interaction between community groups runs well and harmoniously. There are no longer any barriers or distinctions between the native Tolaki community and the immigrant community in various aspects of life. They need each other to meet their daily needs, especially in meeting their economic and social needs. This is shown by the harmony and harmony of society, even though they have social and economic differences.

The traditions and culture of the people at the research location show that the people still uphold regional customs traditions and culture. When holding wedding ceremonies, local people still apply the customs and traditions that have been adhered to and practiced by the Tolaki people. Even if there are people who come from immigrant communities, what's more, the marriage being held is a marriage between the Tolaki tribe and another tribe, the wedding ceremony is held according to Tolaki community wedding customs. This shows that the level of adaptation and tolerance between communities, both local communities and immigrant communities, is going well.

In the arts field, certain events, such as wedding parties, are always accompanied by a group melulo event. It seems that the art and tradition of melulo at every wedding ceremony among the people at this research location cannot be separated from community life. The wedding party which then ended with melulo together was a symbol that the people at the research location still applied the principles of togetherness, solidarity, tolerance and helping each other. Even though the people holding the wedding party are from the immigrant community, the melulo arts event is still part of the local tradition which is still carried out at the end of the party.

Community life where there is relatively no social conflict with SARA nuances is a distinctive characteristic of the community

at the research location, both from the Tolaki community and the immigrant community because they still uphold mutual tolerance and mutual respect. This attitude of tolerance and respect between communities is reflected in visiting each other during religious holidays, such as Eid al-Fitr or Eid al-Adha. Harmony and peace in community life cannot be separated from the principles and philosophy of community life. Tolaki continues to uphold the philosophy of "Inae Kosara Ieto Nggoo, Pinesara Inae Lia Sara Ieto Nggoo Pinekasara 'Who knew customs would be respected, whoever violates customs will be roughed up (punished.' Inae-nae merou, nggoieto ano dadio toono ihanuno means "Whoever is polite to others, then surely other people will be polite to him."^[24]

The philosophy of life for the Tolaki community above has a very deep meaning for the community, both for the Tolaki community itself and for communities outside the Tolaki community at the research location. Everyone is expected to live and behave according to the norms or customs that exist in local society. A person will receive a good assessment from the local community if his attitudes and behavior are by the norms or customs that apply to the local community. On the other hand, someone will receive a bad or unfavorable assessment if that person commits an act that is contrary to the norms or customs that apply in local society.

In the context of regional culture, the Tolaki people have regional cultural symbols that are different from other ethnic groups. The regional cultural symbol that is comprehensively used as a way of life for the Tolaki people is known as kalosara (kalo). For the Tolaki ethnic group, all aspects of local culture originate from kalosara (kalo). The concept of kalo in Tolaki culture has a very broad scope, which includes customs, in particular, Sara Owoseno Tolaki or Sara Mbu'uno Tolaki, namely the basic customs that are the source of all customs that apply in all aspects of the life of the Tolaki community.^[25]

Regarding social interactions with community groups outside the Tolaki ethnic group, meokahu culture for the Tolaki people is something that is very sensitive in everyday interactions. If the meokohanu culture, which is still firmly held by the Tolaki people, is not respected and even violated by other community groups, then hostility will occur. To provide evidence and examples of how strong meokahanu culture is that community groups outside Tolaki society must pay attention to. Every Tolaki person to this day is very quickly offended if they are said to be lazy, cheaters, drinkers, drunkards, gamblers, poor, insulted, and so on.^[26]

Agrarian Conflict between Local Communities and Transmigrants in Tawamlewe Village

The increase in population coming from transmigration in Konawe district has the consequence that the need for land for settlement and housing continues to increase from year to year. Meanwhile, the available land area is getting narrower due to the increasing number of permits for transmigration locations issued by regional governments. This condition has the impact of narrowing society's "lebensraum" so that it can give rise to new problems, namely the occurrence of cases of agrarian conflict, especially between local communities and migrants.

The agrarian conflict that occurred in Tawamlewe Village is an example of a unique case of agrarian conflict. Of the many cases of agrarian conflict between local communities and transmigrants in KR, the agrarian conflict that occurred in Tawamlewe Village from the 1980s until now (2024) has not been completely resolved, even though various parties have attempted to resolve it, such as a resolution by local government and law enforcement officials. Compared to cases of agrarian conflict in Tawamlewe Village, several cases of agrarian conflict between local communities and migrants, such as those that occurred in Pondidaha and Wongeduku

subdistricts, were resolved well and completely.

The agrarian conflict that occurred in Tawamlewe Village began with the land procurement process by the government for transmigration settlement locations which was deemed not clear and clean by the local community. The recognition given by the government to local communities is considered inadequate and corresponds to several lands owned by local communities that are designated as transmigration settlement locations. In fact, up to now, these lands have been used by local communities as agricultural land for cultivating rice and sago crops. Local communities' objections to the recognition given by the government gave rise to local communities' demands for the return of agricultural land that had been given ownership rights to transmigrants. This condition has given rise to a dilemma faced by the government itself, land that is the object of agrarian conflict is claimed by both groups, namely between local communities and transmigrants.

The resolution of the agrarian conflict in Tawamlewe Village, which has not been resolved and resolved even though it has been going on for a long time, has caused tension and unrest in the community. The absence of legal certainty regarding land that is the object of agrarian conflict causes social relations between local communities and migrants to become strained. A government that is not serious about resolving the agrarian conflict in Tawamlewe Village completely and transparently will receive a bad stigma from the local community and migrants. This condition will give rise to a negative image of the transmigration program in Indonesia, as well as distrust of local communities and transmigrants towards the government which is considered very ambiguous in dealing with cases of agrarian conflict.

CONCLUSION

The implementation of the transmigration program in KR has made a positive

contribution to the acceleration of regional development and the welfare of local communities and transmigrants from the islands of Java, Bali, and Lombok. The presence of transmigrants in KR has stimulated economic sectors, especially through the agricultural sector for food and trade self-sufficiency. Apart from that, the implementation of the transmigration program has also created social integration, assimilation, and socio-cultural acculturation, so that it can encourage the realization of national integration. In this way, the transmigration program can support the creation of regional resilience, as well as increase Indonesia's robust national resilience. Even though from economic and socio-cultural aspects, the implementation of the transmigration program has had a positive impact, the problem faced by the transmigration program at the research location is the emergence of agrarian conflicts between local communities and transmigrants in Tawamlewe Village which has not been resolved completely and comprehensively to date, although Various parties have attempted to resolve it.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Tirtosudarmo, R. 2015. *On the Politics of Migration: Indonesia and Beyond*. Jakarta: Indonesia Institute of Science Press.
2. Suparno, E. 2007. *New Paradigm of Transmigration: Toward Welfare of Community*. Jakarta: Labour and Transmigration Department Republic of Indonesia.
3. Karsadi. 2020. *Transmigration and Agrarian Conflict: Agrarian Resources Conflict at Arongo, Southeast Celebes, Indonesia*. Journal of Agricultural Science and Technology (83):265-275.
4. Titus, M.J. (1992): *Transmigration and Regional Development in Indonesia: Policy Options Between Myth and Reality*. Population Journal Gadjah Mada University. Yogyakarta.
5. Hoey, Brian A. (2003): *Nationalism in Indonesia: Building Imagined and Intentional Communities Through Transmigration*. ProQuest University of Michigan (Accessed: 07-02-2017).
6. Yanmesli, Y., Rijanta, R, Sutikno S, Harahap, N. 2014. "Livelihood Strategies and the welfare of Transmigrants". Indonesia Journal of Geography Gadjah Mada University 46 (1): 13-26.
7. Alviawati, Eva. 2020. *Identitas dan Integrasi Transmigran Jawa di Kabupaten Tanah Laut, Provinsi Kalimantan Selatan*. Disertasi Ilmu Geografi UGM Yogyakarta,
8. Hardjono, J.M. (1977) : *Transmigration in Indonesia*. Kualalumpur: Oxford University Press.
9. MacAndrews, Colin and Rahardjo. (1982): *Resettlement in Southeast Asia and Transmigration in Indonesia*. Yogyakarta: Gadjah Mada University Press.
10. Kebscull, Dietrich dan Karl Fasbender. (1987): *Transmigration in the Indonesian Resettlement Programme*. Hamburg: HWWA.
11. Evers, Hans-Dieters et al. (1988): *The Social Impact of Transmigration: A Study of Settlement Area in East Kalimantan*. Padang: Andalas University Press.
12. Barter, Shane Joshua and Isabelle Cote. (2015): *Strife of the Soil: Unsettling Transmigrant Conflicts in Indonesia*. Journal of Southeast Asian Studies. The National University of Singapore (Accessed: 07-02-2017).
13. Hoppe, Michael and Heiko Faust. (2001): *Transmigration and Integration in Indonesia: Impacts on Resource Use in Napu Valley, Central-Sulawesi*. Germany: Institute of Geography, University of Gottingen (Accessed: 31-01-2017).
14. Hoshour, Cathy Ann. (2000): *Relocating Development in Indonesia: A Look at the Logic and Contradictions of State-Directed Resettlement*. Harvard University Cambridge, Massachusetts (Accessed: 07-02-2017).
15. Hosshour, Carthy Ann. (1997): *Resettlement and the Politicization of Ethnicity in Indonesia*. Bijdragen tot de taal-, Land-en Volkenkunde, Deel 153, 4de, Riau in

- Transsition, pp 557-576. Brill (Accessed: 06-02-2017).
16. Cannor, C.M. (2004): *Effect of Central Decision on Local Livelihoods in Indonesia: Potencial Synergies Between the Programs of Transmigration and Industrial Forest Conversion*. Population and Enviroment, Vol. 25, No. 4 Maret 2004. Newyork.
 17. Lucas, Anton and Carol Warren. (2003): *The State, and Their Mediators: The Struggle over Agrarian Law Reform in Post-New Order Indonesia*. Southeast Asia Program Publications at Cornell University (Accessed: 06-02-2017).
 18. Colchester, Marcus. 1986. *The Struggle for Land: Tribal Peoples in The Face Transmigration Programme*. London: The Ecologist Vol.16, (2/3), 99-110.
 19. Hunter, Cynthia L. (2002): *An Appraisal of the Case Study on Forced Internal Displacement: the Madurese in West Kalimantan, Indonesia*. APMRN-Ford Foundation. Jakarta.
 20. Sukamdi, Agus Dwiyanto, Setiadi, Henry Sembiring. (2002): *Forced Internal Displacement: the Madurese in West kalimantan, Indonesia*. APMRN-Ford Foundation, Jakarta.
 21. Askahlia S, Priskila, 2022. *Perlindungan Hukum Bagi Transmigran Pola Pertanian Dalam Sengketa Pemberian Tanah oleh Pemerintah (Studi kasus sengketa Tanah Transmigrasi di Simpang Pasir Kampung Handil Bakti, Kecamatan Palaran, Kota Samarinda, Kalimantan Timur*. Tesis Magister Hukum Litigasi UGM Yogyakarta.
 22. Fauzi, Noer Rahman. (2011): *The Resurgence of Land Reform Policy and Agrarian Movements in Indonesia*. ProQuest Dissertation. Berkeley (Accessed: 08-02-2017).
 23. Toha, Kurnia. (2007): *The Struggle Over Land Rights: A Study of Indigenous Property Rights in Indonesia*. University of Washington (Accessed: 08-02-2017).
 24. Miles, M.B and Huberman. 1984. *Qualitative Data Analysis*. Jakarta: Indonesia University Press.
 25. Aswati. 2000. *Kalosara Dalam Kehidupan Masyarakat Tolaki*. Unaaha: Makalah Dalam Rangka Musyawarah Adat I Suku Bangsa Tolaki.
 26. Su'ud, Muslimin. 2000. *Nilai-Nilai Budaya Tolaki Sebagai Penupang Sistem Otonomi Daerah*. Unaaha: Makalah Dalam Rangka Musyawarah Adat Suku Tolaki I.
- How to cite this article: Karsadi, La Aso, Hamuni, Muhammad Idrus. Multidimensional impacts of transmigration program on local communities' lives and transmigrants in Konawe Regency, Southeast Sulawesi, Indonesia. *International Journal of Research and Review*. 2025; 12(2): 442-450. DOI: <https://doi.org/10.52403/ijrr.20250255>
