

# COLLECTIVE ACTION ON LAND TENURE AND CLIMATE CHANGE



## Structural violence against women farmers in land control amidst climate change

This case study is based on a research on the Adaptive Capacity of Natural Farming to Climate Change in the Bina Desa program that was implemented in 2024. The analysis is complemented by a qualitative approach through relevant literature, minutes of internal activities, and in-depth interviews with women farmers selected by purposive sampling.

This case study aims to contribute in mainstreaming land rights in the climate change discourse, undertaken as part of GFAiR's Collective Action on Land Tenure and Climate Change, coordinated by ANGOC, and funded by the European Commission (EC).

### Land and people, tenure systems, and land governance

Land has a multidimensional meaning that goes beyond economic value in Indonesia. It serves as a living space, a sociocultural identity, and a spiritual entity managed communally by indigenous and local communities based on inherited wisdom. However, this perspective often clashes with the modern State system, which treats land as a legal object owned by men as head of families, regulated through registration and certification. Since the colonial era, the dualism between customary tenurial system and State agrarian law has continued.<sup>1</sup> Although the 1960 Basic Agrarian Law (UUPA) was intended to decolonize land governance and guarantee justice through the principle of the State's right to control, in practice this principle is often used to legitimize large-scale land grabbing by corporations, especially in the extractive and agribusiness sectors, at the expense of the rights of indigenous peoples and farmers.

Investment-biased land governance (e.g., the land bank concept)<sup>2</sup> encourages land commodification, triggers prolonged agrarian conflicts, and marginalizes local ecological knowledge crucial to sustainability. Amidst these conditions, various efforts in agrarian reform, social forestry, and advocacy for the recognition of indigenous territories continue to develop,<sup>3</sup> but land governance in Indonesia relies heavily on the State's bias.

<sup>1</sup> Bachri, S. (2017). *Agrarian conflict and the politics of land in Indonesia*. Routledge

<sup>2</sup> Jurnal Hukum dan Hak Asasi Manusia. (2023). Land tenure and utilisation challenges of the land bank concept in Indonesia. *Jurnal Hukum dan Hak Asasi Manusia*, 7(3), 20750

<sup>3</sup> Noer, M. (2019). Reforma agraria dan perhutanan sosial: Tantangan dan peluang. *Jurnal Agraria*, 1(1), 1–15.

This case focuses on stories in two communities in Indonesia: a) Pasrujambe Village, Pasrujambe District, Lumajang Regency; and b) Salassae Village, Bulukumpa District, Bulukumba Regency. Located at the foot of Mount Semeru, Pasrujambe village is in the highlands at an altitude of 650 meters above sea level. The administrative area of Salassae Village is flanked by two rivers, namely the Salajueng River to the north and the Annyorang River to the south. The distance between the two islands is approximately 1,123 kilometers. The selection of these locations was based on considerations of differences in regional characteristics and empirical findings relevant to land tenure issues and climate change. The history and practice of land tenure in Indonesia, as reflected in Lumajang Regency (East Java) and Bulukumba Regency (South Sulawesi), demonstrate the complexity of the country's tenure system and agrarian governance, which is still dominated by State and corporate claims to land. This situation often clashes with the historical, customary, and livelihood rights of local communities.

In Lumajang, the overlap between Perhutani (State-Owned Forest Management Enterprise) and forest village communities demonstrates tenurial conflicts stemming from the formal and legal designation of forest areas without meaningful participation of communities who have traditionally depended on the forest for their livelihoods. Meanwhile, in Bulukumba, the protracted conflict between indigenous communities and PT London Sumatra Indonesia (Lonsum Company) demonstrates how the legacy of colonial land tenure, reinforced through the Right to Cultivate (HGU), continues to conflict with customary rights, even after legal recognition of customary forests.

Thus, formal legal recognition does not automatically resolve contestations over land control and management. These two cases emphasize that the tenurial and land governance system at the local level are still dominated by unequal power relations. The State and corporations have a dominant position over land, while the people – indigenous communities and small farmers, men and women – must fight through legal and political mechanisms to obtain recognition and substantive agrarian justice.

### **Local/community context and climate change event: tenure status, people's welfare, and livelihoods**

The research findings show that climate change increases the vulnerability of rural communities through various interrelated threats. In Pasrujambe Village, the results of the 2023 Climate Vulnerability focus group discussion (FGD) identified the main threats as tornadoes, landslides, and plant pests and diseases – with pests and diseases being the most damaging risks, occurring almost every year for the past five years. The shift and variability of the rainy and dry seasons trigger an increase in pests and diseases such as fungus in corn, stemborer and monkey pests in coffee, and planthoppers and rats in rice plants.

Meanwhile, the Salassae Village faces threats from pests and diseases, landslides, wet-droughts, and flooding – with flooding being the most dominant disaster, occurring up to three times annually due to the low-lying location of rice fields, proximity to rivers, and minimal embankment protection.

The impact of climate change on both villages is very significant on residential land, particularly affecting the livelihoods of residents. In Pasrujambe Village, pest and disease attacks damaged 60 to 80 percent of

livelihood assets manifested as decreased crop yields, increased workload and hours of farmers (both men and women), and financial losses of up to 163.2 million Rupiah (approximately USD 9,762) per planting season and 362.4 million Rupiah (approximately USD 21,677) per year, mostly due to crop failure and increased production costs.

Expenses have soared due to longer work hours and additional workload of farmers, spraying services, purchase of agricultural machinery, and high prices of chemical inputs. The risk of pests and diseases also contributes to the pollution of soil, water, and vegetation for animal feed – ultimately threatening the sustainability of the agricultural system.

In Salassae Village, flooding is caused by the low-lying terrain of rice fields near the river, which lack adequate protective embankments. The distance between the river and the rice fields, separated only by a half to five-meter-wide embankment, allows river water to easily overflow into agricultural land.

Consequently, the flooding carries rocks, sand, and mud, which originate from erosion and landslides upstream, into residents' rice fields. Floodwaters in these rice fields damage soil fertility and vegetation, resulting in repeated crop failures, land degradation, damage to agricultural and livestock infrastructure, increased transportation costs, and the risk of unemployment. Damage to productive assets and infrastructure directly undermines the welfare, right to a decent livelihood, and the economic resilience of rural communities.



Floods in Salassae Village, Pengamatan.  
*Photo by Bina Desa.*

### **Impact of climate change on tenure relations, governance, and land rights**

The climate crisis has become a reality that significantly exacerbates agrarian vulnerability and triggers conflicts over land and natural resources. Changing rainfall patterns, increasing temperatures, droughts, floods, and sea level rise, act as threat multipliers that suppress land productivity, ecosystem sustainability, and the security of people's livelihoods. At the local level, these ecological pressures are intertwined with unequal land tenure structures and governance, as seen in both research locations where conflicts between communities and State and corporate actors narrow farmers' and indigenous peoples' access to land and natural resources.

A similar situation is reflected in Salassae Village. Based on 2016 land use data, the village has an area of 917.29 hectares, dominated by agricultural land of 756 hectares, indicating that farming is the main basis of livelihood and economic identity of the community. This high dependence on agricultural land makes the community highly vulnerable to the impacts of climate change and land conflicts. Thus, issues of land rights, ownership structures, and actors who control land are key factors in understanding local vulnerability and community adaptive capacity to climate change.

As sharecroppers on State land managed by Forest Management Company, farmers do not have ownership rights or long-term security over what they till. Farmers' access to land is temporary and dependent on a rental scheme, where they are required to pay land rent to Perhutani (State-Owned Forest Management Enterprise). Amidst these limited rights, all production costs – from land cultivation, seed purchases, to plant maintenance – are borne by the farmers themselves.

Historically, the land has been a living space and source of livelihood for the farmers for generations. However, they do not have security of land tenure, either for themselves or for future generations. This uncertainty of access and lack of guarantee of land rights continues to overshadow the lives of farmers, especially women, whose position is increasingly vulnerable in the land tenure structure.

### Key affected groups/sectors

Both the threat of pests and diseases as well as regular flooding have an impact on rural communities, including smallholder farmers, livestock breeders, and vulnerable groups such as women farmers, farm laborers, female heads of households, and the elderly.

- **Farmers and Livestock Farmers:** Farmers lose their jobs because their land is affected by flooding, which leads to crop failure. They even lose their land because it is swept away by floodwaters. Meanwhile, pest and disease attacks reduce crop productivity, threatening the stability of their livelihoods.
- **Sharecroppers/Farm laborers:** Floods cause sharecroppers and farm laborers to lose access to work and income.
- **Women farmers:** The impacts of climate change exacerbate the situation of women who do not inherit land or who depend on State land for their livelihoods. Women farmers face both economic and domestic burdens simultaneously when facing climate change.

### Women's land rights in the context of climate change

As climate impacts reduce family incomes, particularly among women farmers, the uncertainty of land tenure experienced by farmers working on State-owned land, directly affect household livelihood strategies amidst the pressures of climate change. As explained by Mrs. Legini (a female farmer resource person from Pasrujambe Village), efforts to maintain family economic resilience force women farmers to seek additional income as farm laborers. This situation significantly exacerbates women's workload, as domestic responsibilities still fall entirely on them. This condition demonstrates how land tenure uncertainty and economic vulnerability directly impact food security and the gender-based division of labor at the farm household level.

This study also found unequal access to assistance in addressing pest and disease attacks. The decline in cardamom and banana prices due to biological damage was not accompanied by inclusive aid distribution. Women farmers, particularly female-headed households (PEKKA), were not the primary recipients of

pesticide assistance because priority was still given to male farmers. This limited capacity and lack of technical support further increased women's vulnerability. Women farmers often have to resort to strict cost-cutting measures, particularly to meet household food needs. Ultimately, the failure of this aid system forced women into debt to cover living expenses, creating a new cycle of economic vulnerability in rural areas.

According to Ms. Usrek, a resource person in Pasrujambe, the failure of the agricultural sector due to climate change has triggered increased migration. Both men and women in farming families are now leaving their villages in search of alternative livelihoods outside the agricultural sector.

Another observable effect is the impact of climate vulnerability on women farmers in Salassae Village. According to a female farmer, Mrs. Hasma (59 years old), climate change

has increased the workload of female farmers in Salassae Village, particularly in land management after the occurrence of floods and landslides. As head of her household, Mrs. Hasma cultivates the land herself, occasionally assisted by her daughter. Although she manages her own land and has authority over cultivation decisions, the impacts of climate change are still significantly felt.

Floods cause a decrease in soil fertility, so women restore it through the creation and application of microbes and compost. However, the rainy season washes away the microbes and compost, so women farmers must apply them repeatedly. This repetitive process highlights the vulnerability of female farmers who are responsible for maintaining soil fertility, even though they do not always have rights to the land they manage.

In terms of social impact, women experience social responsibilities resulting from the double burden inherent in their productive and reproductive roles in society. The testimony of a female farmer (Mrs. Rina) validated in the reflections of female farmers in Lumajang Regency: women are responsible for post-harvest management, which is carried out simultaneously with domestic work. This causes women to spend most of their time on household chores and agricultural activities, thus triggering physical exhaustion and psychological stress.

This situation has resulted in a reduction in women's social space, reflected in decreased interaction with their surroundings and the emergence of emotional expressions such as irritability, especially toward children. This double burden also reinforces women's exclusion from public spaces, including limited access to agricultural training programs and low involvement in decision-making processes. In this context,

*"From four o'clock in the morning, I woke up straight away to do housework, take care of my children and husband. Then in the afternoon, I dry cardamom. In the evening, I also give time to my children such as studying and playing, while doing housework such as ironing. Then I sleep and the next morning, I repeat the cycle. I do not have time for myself, for entertainment, or even for a nice conversation. This makes me often get angry at my children because I am tired." (Rina, 37 years old)*

the social burden on women farmers is not merely understood as an individual issue but rather a manifestation of unequal gender relations within the land ownership and management system, placing women in a subordinate position within the agrarian structure.

## Responses by the community to restore the environment and build resilience

Farmer groups facing flood disasters use natural farming as one of the adaptation and mitigation efforts against the impacts of climate change. Agricultural land affected by flooding becomes infertile due to being mixed with sediment and floodwater material. Farmer groups in Salassae Village (KSPS) use natural treatments in the cultivation process, starting from land preparation, seed treatment, nursery, and maintenance, including routine observation. In facing the threat of pests and diseases, farmer groups in Pasrujambe Village have the capacity to adapt and mitigate through natural farming practices such as special treatment in seed selection, maintenance using natural nutrients, and pest and disease control using natural pesticides, so as to minimize losses and expenditure on chemical inputs. Female farm laborer (Mrs. Hasna) also restores soil fertility by providing compost and microbes (rice and brown sugar) that she makes herself to prevent the threat of pests and diseases in plants due to the prolonged rainy season.

Women farmers join organizations and form study groups as a space for sharing knowledge and experience. They conduct joint training programs, processing activities, and build collective businesses that contribute to increasing adaptation capacity and mitigation efforts against the impacts of climate change.<sup>4</sup> Women farmers facing both economic and domestic burdens demonstrate increased adaptive capacity through collective work practices in agricultural cultivation. In the Sidomakmur Farmers Group, Pasrujambe Village, women farmers support each other through various forms of cooperation, such as sharing seeds, making plant nutrients, microbial processing, and composting as a group. According to a female farmer, this practice not only reduces workload and production costs but is a strategic form of mitigation. It also strengthens social solidarity, which can be an important social capital in facing the impacts of climate change.



Routine observations in the research field by farmers' group. Photo by Bina Desa.

Women farmers such as Mrs. Hasma and Mrs. Hasna overcome the impact of flooding on soil infertility by using compost and microbial fertilizers that they produce collectively. A resident of Salassae Village, 59-year old Mrs. Hasma said that *"The women's farmer group in the village is very helpful in managing nutrient production, especially during the rainy season, which is prone to flooding and landslides that impact their*

<sup>4</sup> Zidan Zulfi Abdillah, Notulensi Acara Refleksi Perempuan Petani – Gerakan Memperkuat dan Peran dalam Arah Gerakan Pertanian Alami yang Berkelanjutan, Lumajang, 18-19 November 2025, dokumen internal Bina Desa, hlm. 13

*agricultural land. Prolonged rainy conditions cause repeated microbial production. Vulnerability to the workload of women farmers encourages them to collectively create microbial reserves when the family's microbial stock is low or runs out."*

Food security was threatened due to the impact of climate vulnerability on farming families. In an in-depth interview with a member of Sidomakmur Farmer Group in Pasrujambe Village, it was shared that women farmers whose land has been affected by pests and diseases are saving on food and adapting to the situation by reducing food expenses through growing vegetables both in their own yards and on their farmer group's collective land. This has resulted in reduced food costs, eliminating the need to purchase vegetables and spices amidst the economic burdens they face due to climate change.

To enhance food security, women farmers use intercropping techniques in their home gardens, thus diversifying food crops and reducing household food expenses. Women farmers actively play a role in selecting superior seeds, especially local seeds that are adaptive to weather conditions at the research location, as an effort to minimize the risk of crop failure.

Farmer groups in the two study villages build community resilience through *arisan* (a social savings system). Such scheme provides collective savings in the form of money, livestock, and joint businesses managed on the group's collective land. This system serves as a shared economic reserve to support agricultural activities and address the risks of climate change.

## Actors involved

- **Rural communities:** farmers, farmer groups, farm laborers, sharecroppers, women farmers, and Self-Reliant Rural Communities (KSP) conduct participatory research on the adaptive capacity of natural farming to climate change.
- **Civil society organizations (CSOs) and NGOs:** Bina Desa assists KSP through education, training, and research related to the impacts and efforts to adapt and mitigate climate change.
- **Women leaders:** Women's leadership significantly contributes to collective efforts to adapt and mitigate climate change.



Learning activities by women farmers. Photo by Bina Desa.

## Tenure security affects the ability of the poor to address the impacts of climate change or disaster events

Land tenure security plays a crucial role in determining the ability of poor communities, particularly women farmers, to cope with the impacts of climate change and disasters. Research findings indicate that secure access to and control over land is a key prerequisite for women farmers to build adaptation and mitigation capacity, which includes establishing sustainable cultivation systems, maintaining soil fertility, and managing climate risks. Natural farming practices employed by women farmers in both research locations reflect mitigation efforts that can only be implemented when security of land tenure is established.

However, women farmers still face unequal tenure security. In Salassae Village, women's access to land is generally limited to inheritance mechanisms that prioritize men. Meanwhile, in Pasrujambe Village, women farmers living near forest areas only have management rights to State land without secure ownership rights. This weak tenure security limits long-term decision-making in land management and weakens women farmers' capacity to recover from the impacts of climate change and disasters, while reinforcing gender-based climate injustice.

### Responses by the authorities

Government programs related to land ownership in Salassae Village are still limited and centralized, primarily through the national land certification program. A Regional Regulation prohibiting the conversion of agricultural land has been enacted, but its implementation in the field has not been effective due to limited oversight. At the district level, local government support is more focused on the development of supporting infrastructure, such as farm roads, to improve farmers' access to land and the distribution of crops.

The Pasrujambe Village Government responded to the issue of access to and management of land and forest resources by shifting its policy from a management system run by the Forest Management Company to a Social Forestry scheme. Under this model, forest management is carried out through a partnership between farmer groups and a designated management company so that farmers no longer pay management obligations to the Forest Management Company. Financial obligations are transferred to direct payments to the State in the form of Non-Tax State Revenue (PNBP). This policy change was intended to expand community access to management, increase certainty in forest resource management, and encourage fairer and more sustainable governance. In practice, however, this partnership scheme still places farmers at the mercy of partner companies and the State, thus limiting their sovereignty over land and resources.

### Summary of key issues related to land tenure and climate change

- **Tenure security:** Uncertainty over land rights hinders long-term decision-making by farmers (men and women) in land management and adaptive efforts.

- **Climate change as an agrarian risk multiplier:** through decreased land productivity and damage to livelihood assets, especially for communities dependent on agriculture but lacking secure land rights
- **Vulnerability of women farmers in land access:** limited access to and control over land due to gender-biased inheritance norms and the status of State land cultivators; this weakens women's position in facing the economic impacts of climate change and increases their burden of dual work (domestic and economic)
- **Unequal land tenure structures and power relations:** local tenure systems dominated by the State and corporations often negate communities' historical rights, trigger agrarian conflicts, limit smallholder farmers' and women farmers' access to land, and increase their vulnerability to the climate crisis
- **Gender-based and agrarian climate injustice:** women farmers are most impacted by climate change, but have the weakest access to and control over land; demonstrating the link between the climate crisis and gender inequality & agrarian injustice.



Compost and nutrition collaboration. *Photo by Bina Desa.*

## Recommendations

### ***For CSOs & NGOs***

Civil society should actively promote redistribution and strengthening of land tenure/control for farmers as a prerequisite for climate justice, where women have equal access, control and benefit. More public campaigns and advocacy efforts must be conducted to raise awareness on the climate crisis and emphasize that land tenure is a primary requirement for implementing natural farming. The implementation of natural farming or agroecology on land already owned by farmers should be strengthened by gathering support from policymakers for climate change adaptation and mitigation programs based on these technologies.

### ***For policymakers***

Government should accelerate and expand agrarian reform through land redistribution and strengthening land rights security, particularly for smallholder farmers, women farmers & poor and marginalized rural communities. Access to and security of land rights for women farmers should be ensured, including recognition of collective ownership, equal inheritance rights, and prioritization of women in agrarian reform programs. Climate justice must be integrated into agrarian and agricultural policies by making tenure security a key prerequisite for climate change adaptation and mitigation.

Women farmers should be recognized as a key stakeholder in climate change adaptation and mitigation strategies in order to mainstream gender justice perspectives in climate and agricultural policies. Lastly, the implementation of natural farming as an official climate mitigation and adaptation strategy at the village level should be widely promoted and incentivized. 💧

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## Disclaimer

The views expressed in this case study do not necessarily reflect those of GFAiR, EC, and IFAD.