Tropentag 2026
September 16-18, 2026
Conference on International Research on Food Security, Natural Resource Management and Rural Development
organised by the Universities of Göttingen and Kassel, Göttingen, Germany

Initiating Collective Reframing and Agency in Oil Palm Landscapes: Insights from a Village-Level Transformation Lab, Indonesia.

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Abstract

Framing in the monoculture plantation system in developing countries is often related to complex socio-ecological dynamics, such as farmers' high dependence on palm oil yields, the declining role of farmer groups, and the normalization of environmental degradation. This research examines how the participatory Transformation Lab (T-Lab) attempt to dismantle these dynamics by sparking collective reframing and fostering early collective agency in the palm oil monoculture landscape. Using a qualitative approach, including participatory scenario workshops, interviews, walkshops, and research journal notes, the T-Lab focuses on sustainable and transformative land-use practices and is located in Pematang Kabau Village, Jambi Province, Indonesia. Data were collected from March 2022 to October 2023 and analyzed using a socio-ecological systems (SES) perspective and framing-reframing analysis. Our results reveal that the participatory T-Lab process involving smallholder farmers, women's groups, youth, and local leaders shifted from an initial focus on adjusting practices within the existing palm oil-dominated system to new learning that questions the assumptions, values, and fundamental rules that shape local livelihood choices and land use. This cognitive shift has given rise to four concrete action units: organic fertilizers, women's nutrition gardens, cattle-oil palm integration, and maggot cultivation combined with digital media. Although the formalization of village rules supported the initial collective agency, its reach is still overshadowed by structural obstacles, particularly the negative experiences of past top-down program failures. Our study supports the importance of integrating cognitive reframing with village government budget support schemes and market guarantees to sustain the transition.

Keywords: Collective governance, Collective reframing, Early agency, SES, T-Lab

Introduction

The transformation toward sustainability in complex social-ecological systems not only involves changes in technology, policies, or management practices (Folke et al., 2016; Scoones, 2016) but also requires an essential shift in the way actors frame issues, talk about shared values, build a shared vision, and collaborate to create pathways to sustainability (Pereira et al., 2020). The framing of agroecological transitions, such as how actors use land, will determine what is considered important, how causes are described, and what actions are deemed appropriate (Wittmayer et al., 2019; Gaitán-Cremaschi et al., 2020). Considering that each actor brings diverse experiences, values, and interests, sustainability issues cannot possibly have a single meaning. At this point, the pathways-to-sustainability approach becomes relevant because it creates space for multiple pathways of change (Leach et al., 2007) and shows how alternative sustainability pathways are socially constructed and bounded by local political-economic structures (Scoones, 2016). In the context of monoculture plantations, such a framework is

indispensable for examining landscapes that operate as locked-in social–ecological systems (SES) (Goldstein et al., 2020).

A strand of the literature indicates path dependency and systemic lock-in in commodity-plantation areas. For example, from an economic perspective, the high daily cash liquidity from palm oil makes farmers reluctant to take risks by switching to or adding other commodities (Clough et al., 2016; Rist et al., 2010). From an institutional aspect, the imbalance of power relations, informal debt ties with middlemen, and the declining role of village cooperatives limit the emergence of alternative economic choices (Peluso & Lund, 2011; Rist et al., 2010). Meanwhile, from a cognitive lock-in perspective, local communities tend to accept declines in environmental quality, such as the clean water crisis and biodiversity loss, as a reasonable risk for economic survival (Clough et al., 2016). From a historical perspective, the imbalance of power is not solely caused by the expansion of monoculture. However, it is also closely related to the patterns of patronage and territorialization of the past state, which shape the vulnerability structure of local communities today (Peluso & Lund, 2011).

Unlike individual reframing, which refers to separate changes in personal point of view, collective reframing encourages actors to engage in reflective dialogue until they actually align to take joint action (Benford & Snow, 2000; Charli-Joseph et al., 2023). Transformation Labs (T-Lab) offer a collaborative arena designed to disrupt these lock-ins through collective reframing (Westley et al., 2011; Charli-Joseph et al., 2023). However, T-Lab studies and broader sustainability-oriented labs still focus on social innovation outputs, collective action, and policy (McCrory et al., 2020), and have not yet extensively explored the negotiation of understandings regarding sustainability, or the early articulation of transformation pathways, especially in areas dominated by monoculture plantations (Charli-Joseph et al., 2023; Goldstein et al., 2023).

In Jambi Province, Indonesia, large-scale land conversion since the 1980s, peaking in deforestation during the 2000s and 2010s (Margono et al., 2014), has transformed species-rich rainforests and rubber agroforests into vast oil palm monocultures (Drescher et al., 2016). These shifts are marked by severe biodiversity loss, the homogenization of smallholder livelihoods, and a heightened vulnerability to global commodity price fluctuations (Drescher et al., 2016; Clough et al., 2016). Smallholders' land-use choices in this landscape tend to follow short-term financial profitability at the expense of ecological functions (Clough et al., 2016).

This study focuses on Pematang Kabau (PK) Village, Sarolangun Regency, Jambi, to address two central questions: 1) How does the collective reframing of sustainability unfold within a rural T-Lab in an oil palm-dominated landscape? 2) What early indications of collective agency emerged from this process, and which constraints limited them?. Therefore, this study aims to examine how the collective process of framing sustainability unfolded in a rural T-Lab within a structurally locked-in oil palm SES, and what early indications of collective agency for pursuing transformative pathways it produced among participating groups.

Material and Methods

The research location is PK Village, Sarolangun Regency, Jambi Province, one of the buffer villages in the Bukit Duabelas National Park (TNBD) area. Pematang Kabau is a post-transmigration village with a diverse demographic composition, including transmigrant farmers from Java, local Malay residents, and the indigenous Anak Dalam community. Based on initial participatory land-use characterization with local actors, about 70% of the village land is planted with oil palm, 20% with rubber, and the remaining area is used for rice fields and other crops.

Data collection took place from March 2022 to October 2023 through three stages of participatory T-Lab. Participants were selected through a combination of purposive and snowball sampling, representing village government, small farmers, women's groups, youth, and community leaders. During data collection, Problem Trees, Venn Diagrams, and Walkshops were used to uncover SES locked in the village (Wickson et al., 2015). Thematic analysis was used to code the data (Braun & Clarke, 2006). Initial categories were derived from the concept of

framing (Charli-Joseph et al., 2023) and the SES perspective (Ostrom, 2009; Folke et al., 2016). Actor attributes (farmer groups, Cooperative unit), Governance Rules (formal/informal village regulations), Resource Units (oil palm, intercropping practices) were used to analyze how cognitive reframing altered actors' perceptions of SES interactions. The main unit of analysis is the participants' narrative statements that show gradual discourse adjustment based on the three phases of T-Lab: (a) Problem Analysis Phase (articulation of underlying concerns), (b) Reframing and Reflection Phase (double loop learning and discursive shift), and (c) Scenario Phase and Vision Bridge (opening up collective imagination and co-creation business model).

Results and Discussion

The Dynamics of Framing Sustainability in the T-Lab Stages

The first part of the results reveals that the sustainability framework is fragmented based on economic interests, daily activities, and authority among actor groups:

- Smallholder Farmers: Framing sustainability as household economic stability through daily financial income stability. For example, farmers choose palm oil because of its labor efficiency (harvest intervals of 10 days compared to rubber, which must be harvested every morning) and its more stable selling price. Although aware of the ecological damage (hardened soil, dried wells), this is considered a reasonable consequence to meet family needs and children's education costs.
- Village Elite (village head, farmer group leader, village figures): Framing sustainability in a limited way on the physical infrastructure development (asphalt roads, gas station) and achieving the administrative status of 'Independent Village', while accepting environmental degradation as a side effect of economic growth.
- Women's Group: Sustainability is framed as household food security and skill enhancement to increase household income. The conversion of yards into palm oil plantations undermines household food sovereignty, forcing families to buy all their vegetable and rice needs from stores and increasing the economic burden, especially when palm oil prices have decreased. For example, one participant revealed that: "….*Rice is important for many people in the village because it is their staple food. But right now, paddy production is going down*" (Informant 25, 26 years old).
- Youth Group: Sustainability is associated with modernity, as in urban areas, the diversity of non-agricultural job fields (such as motorcycle repair workshops), and the availability of time to pursue hobbies like fishing and playing volleyball (work-life balance).

Double-loop learning through a series of participatory workshops, discussions, and reflective dialogues provides an opportunity for participants to implement reframing changes (Charli-Joseph et al., 2023). When faced with the analysis of water crisis and fertilizer scarcity scenarios in the 2053 projections, the participants realized that allowing the current monoculture condition (business-as-usual) would undermine the village's resilience. One village leader observed that: "....*So here's the thing, if we do nothing now, just stay silent and accept things as they are, the first impact in the future will be the destruction of the village, and our grandchildren might not even want to live here*" (Informant 37, 50 years old). The collective framing strengthened from merely 'short-term individual economic survival' to 'collective autonomy, agricultural input sovereignty, and agroecological diversification'. For example, one responded: "….*Farmers need to think about self-sufficiency to achieve food security, perhaps by learning how to make fertilizers that can be produced from agricultural waste and compost. We need to know the methods and technologies for making them*" (testimony in the participatory scenario workshop).

Initial Indications of Collective Agency and Structural Obstacles

The emergence of collective agency is indicated by actors' ability to translate new framing into concrete units of action and local governance rules. Four strategies were agreed upon: Four

strategies were agreed upon: alternative income and mutual cooperation (compost units); food from yards and rice fields (homestead, and integration of fish farming and maggots); land optimization and preservation of TNBD through communal pens; and improving the quality of human resources through village community media. To prevent capture by village elites, this collective agency is codified into local governance rules-in-use through the issuance of a Village Head Decree. These rules limit membership to a maximum of two work units per citizen and strictly prohibit dual leadership by village elites in those units.

Table 1. Cognitive Frame Transitions Across Actor Groups

Actor Groups	Initial Framing (System Lock-In)	Trigger for a shift	Transformative vision
Smallholders & Farmers' Groups	Focus on daily cash flow & reliance on subsidized fertilizers/top-down programs	Calculation of input costs, imagining a drought disaster	Input autonomy; diversified agro-ecology
Women's Groups	Burdened by domestic roles & rising household food expenditures	Yard-based "walkshops," household expenditure analysis	Household food and nutrition sovereignty
Youth Groups	Casual oil-palm labour, seeking quick financial returns, or exiting to urban jobs	Productive activities related to fisheries and social media	Village-based social enterprise (fish pond, social media)
Village Elites / Local Govt	Infrastructure development, normalization of environmental degradation as economic progress	Transparency of village fund budgets	Accountable local governance; formalized rules

Structural Barriers Limiting Collective Agency

Although local actors have engaged in cognitive reframing and sought to formalize local institutions, the collective agency of local actors may face several structural barriers:

- Scepticism stemming from stalled top-down programs: top-down programs in the past have created scepticism among local actors towards new programs, particularly regarding infrastructure aid, lack of transparency among group administrators regarding financial management, unused agricultural tools, unclear agendas, and the limited duration of technical support offered by program organizers. One farmer group leader informed that "….*In the fields, there are tractor aids, plowing tools, and even solar-powered lamps that turn on and off at night. However, those tools are damaged in less than one season because no one is responsible for maintaining the agricultural aid tools*" (Informant 16, 52 years old).
- Lock-in of informal debt to middlemen: Cognitive reframing has proven unable to eliminate the bonds of informal debt to moneylenders. As T-Lab has not yet designed microfinance institutions or group emergency credit schemes, small farmers remain bound to quick cash loans from moneylenders when facing family emergencies (such as illness or children's tuition fees).
- Market failure risk: Homestead horticulture and food crop businesses are vulnerable to local market absorption. Local actors' previous experience shows that abundant production, such as sweet potatoes, often goes unsold in the traditional market and rots for lack of off-takers.

Conclusions and Outlook

This study shows that T-Lab can be a space where actors in the lock-in palm oil system begin to question their dependence on a single commodity and formulate alternative pathways as actions of initial collective agency, namely agro-diversification, input autonomy, and formally established group rules. For village development policies, these findings suggest that a sole focus on economic efficiency and productivity tends to reinforce the status quo. An inclusive deliberative space seems necessary for the villagers themselves to formulate the direction of their changes. Furthermore, longitudinal studies are needed to evaluate whether the transformation pathways and internal rules of the groups can endure and yield economic benefits, enhance social cohesion, and increase environmental awareness among local actors.

References

1. Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.
2. Charli-Joseph, L., Siqueiros-García, J.M., Eakin, H., Manuel-Navarrete, D., Mazari-Hiriart, M., Shelton, R., Pérez-Belmont, P. and Ruizpalacios, B., (2023). Enabling collective agency for sustainability transformations through reframing in the Xochimilco social–ecological system. Sustainability Science, 18, pp.1215–1233. https://doi.org/10.1007/s11625-022-01224-w
3. Clough, Y., Krishna, V. V., Corre, M. D., et al. (2016). Land-use choices follow profitability at the expense of ecological functions in Indonesian smallholder landscapes. *Nature Communications, 7*, 13137.
4. Drescher J et al. (2016). Ecological and socio-economic functions across tropical land use systems after rainforest conversion. Phil. Trans. R. Soc. B 371: 20150275.
5. Folke, C., R. Biggs, A. V. Norström, B. Reyers, and J. Rockström. (2016). Social-ecological resilience and biosphere-based sustainability science. Ecology and Society 21(3):41.
6. Gaitán-Cremaschi, D., Klerkx, L., Duncan, J., et al. (2020). Sustainability transition pathways through ecological intensification: An assessment of vegetable food systems in Chile. International Journal of Agricultural Sustainability, 18(2), 131–150. https://doi.org/10.1080/14735903.2020.1722561
7. Goldstein, J. E., Neimark, B., Garvey, B., and Phelps, J. (2023). Unlocking "lock-in" and path dependency: A review across disciplines and socio-environmental contexts. World Development, 161, 106116. https://doi.org/10.1016/j.worlddev.2022.106116
8. Leach, M., Scoones, I., and Stirling, A. (2007). Pathways to sustainability: an overview of the STEPS Centre approach (STEPS Approach Paper). STEPS Centre, Brighton.
9. Margono, B.A., Potapov, P.V., Turubanova, S., Stolle, F. and Hansen, M.C. (2014). Primary forest cover loss in Indonesia over 2000–2012, Nature Climate Change, 4(8), pp. 730–735. doi: 10.1038/nclimate2277.Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. Science, 325(5939), 419–422. https://doi.org/10.1126/science.1172133.
10. Peluso, N. L., & Lund, C. (2011). New frontiers of land control: Introduction. Journal of Peasant Studies, 38(4), 667-681. https://doi.org/10.1080/03066150.2011.607692
11. Pereira, L., Frantzeskaki, N., Hebinck, A., Charli-Joseph, L., et al. (2020). Transformative spaces in the making: key lessons from nine cases in the Global South. Sustainability Science, 15(1), pp.161–178.
12. Rist, L., Feintrenie, L., and Levang, P. (2010). The livelihood impacts of oil palm: Smallholders in Indonesia. Biodiversity and Conservation, 19(4), 1009–1024. https://doi.org/10.1007/s10531-010-9815-z
13. Scoones, I., (2016). The politics of sustainability and development. Annual Review of Environment and Resources, 41, pp.293–319.
14. Westley, F., Olsson, P., Folke, C., Homer-Dixon, T., Vredenburg, H., Loorbach, D., Thompson, J., Nilsson, M., Lambin, E. and Sendzimir, J., (2011). Tipping Toward Sustainability: Emerging Pathways of Transformation. AMBIO, 40(7), pp.762–780.
15. Wickson, F., Strand, R. and Kjølberg, K.L., (2015). The Walkshop Approach to Science and Technology Ethics, 21(1), pp.241–264.
16. Wittmayer, J. M., Backhaus, J., Avelino, F., Pel, B., Strasser, T., Kunze, I., and Ziujderwijk., (2019). Narratives of change: How social innovation initiatives engage with their transformative ambitions. Environmental Innovation and Societal Transitions, 31, 84–95.