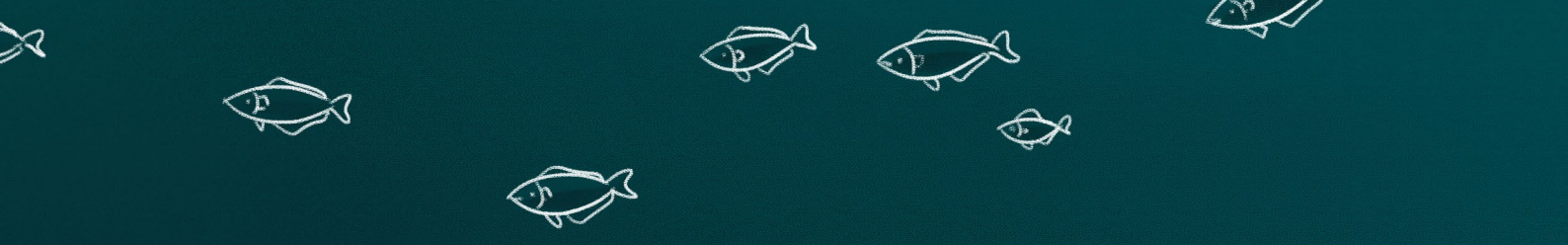




PLANET
INDONESIA

Bridging Community Finance and Conservation

Insights from Community Governance Bodies
in West Kalimantan, Indonesia



Authors

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About



Planet Indonesia (PI) tackles the tragedy of the commons in tropical ecosystems. Their holistic, rights-based model supports Indigenous Peoples and Local Communities through territorial rights, inclusive governance, ecosystem management, and improved financial security. PI works through long-term partnerships with community groups and prioritizes scaling through supporting locally-rooted CSOs. They provide funding and technical support to Indonesian partners, working to strengthen a thriving civil society network.

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Acronyms

CGB	Community Governance Body
FGD	Focus Group Discussion
NRM	Natural Resource Management
NPM	Net Profit Margin
NGO	Non-governmental Organization
PIA	Participatory Impact Assessment
SHF	Smallholder Farmers
SSF	Small-scale Fishers
ToC	Theory of Change
YPI	Yayasan Planet Indonesia

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Abstract

International development and conservation organizations are increasingly using financial inclusion as an avenue to help support socio-economic and environmental outcomes. Despite widespread efforts to strengthen rural livelihoods all over the world, few studies investigate the relationships between financial inclusion initiatives and environmental conservation.

This study is based on Yayasan Planet Indonesia's financial inclusion initiative which is currently being implemented in partnership with Community Governance Bodies (CGBs) situated in West Kalimantan, Indonesia. The research uses respective theories of change to analyze connections through four distinct pathways: the Governance Effect, the Debt Cycle Effect, the Human Capital Effect, and the Goodwill Effect. Effects are assessed using data from monthly reports of savings and loan associations nested within 39 community governance bodies along with data from a preexisting Participatory Impact Assessment (PIA). PIA data was sourced from focus group discussions with 476 participants. The PIA revealed that 72% of focus groups mentioned both financial security and environmental management outcomes when assessing financial inclusion activities. This study ultimately found that the relationship between financial inclusion activities and environmental outcomes is impacted by a variety of factors. These findings have relevance for practitioners and communities globally as concrete evidence is presented as to how financial inclusion services can advance wide domains of life while advancing participation in community governance.



— Traditional fisherman preparing his boat. Photo: Planet Indonesia

SECTION 1

Introduction



— Woman with *ambung* (woven basket) returning from farming in a *ladang*.
Photo: Planet Indonesia

Many rural households, smallholder farmers (SHFs) and small-scale fishers (SSFs), suffer from limited access to financial services and a high debt burden (Hollar 2011; Mhlanga et al. 2020; Mohammed et al. 2018; Pomeroy et al. 2020). This often leads to low levels of socio-economic resilience in the face of unpredictable market prices and other types of economic shocks (Li et al. 2021; Mozumder et al. 2024; Sirtaine et al. 2023).

The economy and environment are often at odds, especially in remote areas, where natural resource extraction is a common way to improve the household economy. Governments and non-governmental organizations alike promote financial inclusion programs as a way to improve local livelihoods and provide access to financial services. The concept of financial inclusion itself began to emerge around the 2000s as a strategic priority among international development organizations. It has since become more relevant to conservation (Sirtaine and Gonzalez 2023; The World Bank 2024; UNCDF 2017). Recognized as part of the UN 2030 Agenda for Sustainable Development (UNGA 2015), financial inclusion can serve as a means to enfranchise SHFs and SSFs into the formal financial market (Mhlanga et al. 2020; Pomeroy et al. 2020). Policy mechanisms include increasing financial literacy, decreasing risk within financial institutions, and creating a culture of saving (Pomeroy et al. 2020; The World Bank 2024; UNCDF 2017). This helps to reduce the inequities found in rural, poor, and minority communities by reducing financial risk and uncertainty (Mohammed et al. 2018; Pomeroy et al. 2020; Thalut et al. 2020; UNCDF 2017).

The relationship between financial inclusion and conservation has only recently been further studied, with increasing recognition of their interrelatedness in achieving Sustainable Development Goals (Ozili 2023). The underlying logic is that by improving access to financial institutions, communities gain the stability needed to invest in longer-term environmental stewardship. Currently there are numerous conservation organizations that are increasingly taking up financial inclusion activities based on evidence that socio-economic conditions influence environmental amenities (Wild et al. 2021). There are several case studies which show financial inclusion can deliver positive changes to the environment and conservation by influencing behavior and attitudes (Hollar 2021; Thalut et al. 2020), but this does not always have the same effect, though outcomes are context-dependent; in China, for example, financial inclusion was associated with increased environmental pressure (Li et al. 2021). Financial inclusion, however, can positively impact conservation work, but the complex relationship between the two relies upon the support of contextual and mediating factors. This raises a central question: through what mechanisms does financial inclusion contribute to conservation outcomes, and how might these pathways inform the design of community-based conservation programs?

In response to this question, we developed a Theory of Change (ToC) diagram based on the financial inclusion and conservation work of Yayasan Planet Indonesia (YPI), a conservation NGO based in West Kalimantan, Indonesian Borneo.

Based on YPI's core model, discussions with key staff members, and a review of the literature, we identified four pathways which link financial activities and environmental outcomes: **the Governance Effect, the Debt Cycle Effect, the Human Capital Effect, and the Goodwill Effect. This paper evaluates these four pathways to understand how financial inclusion programs can contribute to conservation outcomes in coastal and terrestrial landscapes.**

PATHWAY 1

The Governance Effect

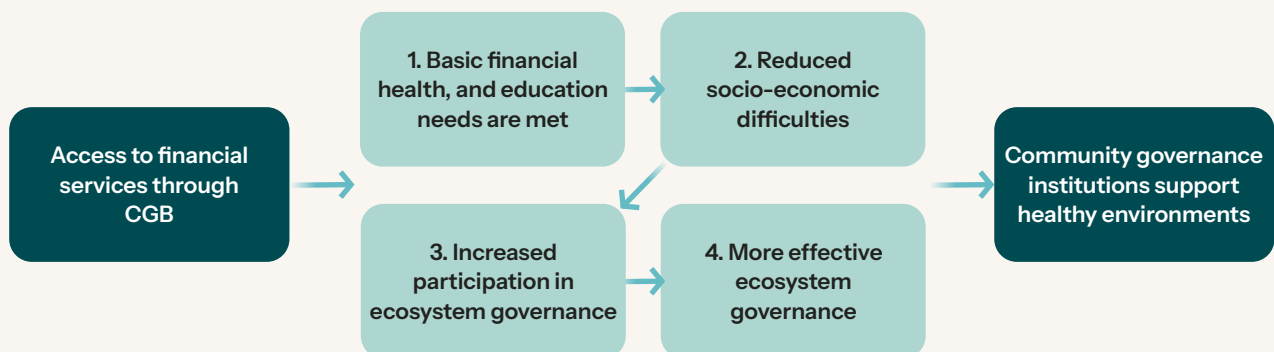


Figure 1: The Governance Effect. Source: Planet Indonesia

The Governance Effect occurs when financial inclusion activities remove socio-economic barriers to participation in ecosystem governance. Limited access to financial services may hamper community participation in ecosystem governance, for example because people may be embarrassed about their high debts (Armitage et al. 2012; De Oliveira et al. 2024; Segovia-Vargas et al. 2023).

In contexts where debt burdens or financial insecurity reduce participation in collective decision-making, financial inclusion may lower these barriers. Evidence from community forestry in Nepal suggests that economic incentives significantly increase participation in governance institutions (Adhikari et al. 2014), and governance quality is widely recognized as a determinant of conservation outcomes (Armitage et al. 2012; De Oliveira et al. 2024).

PATHWAY 2
The Debt Cycle Effect

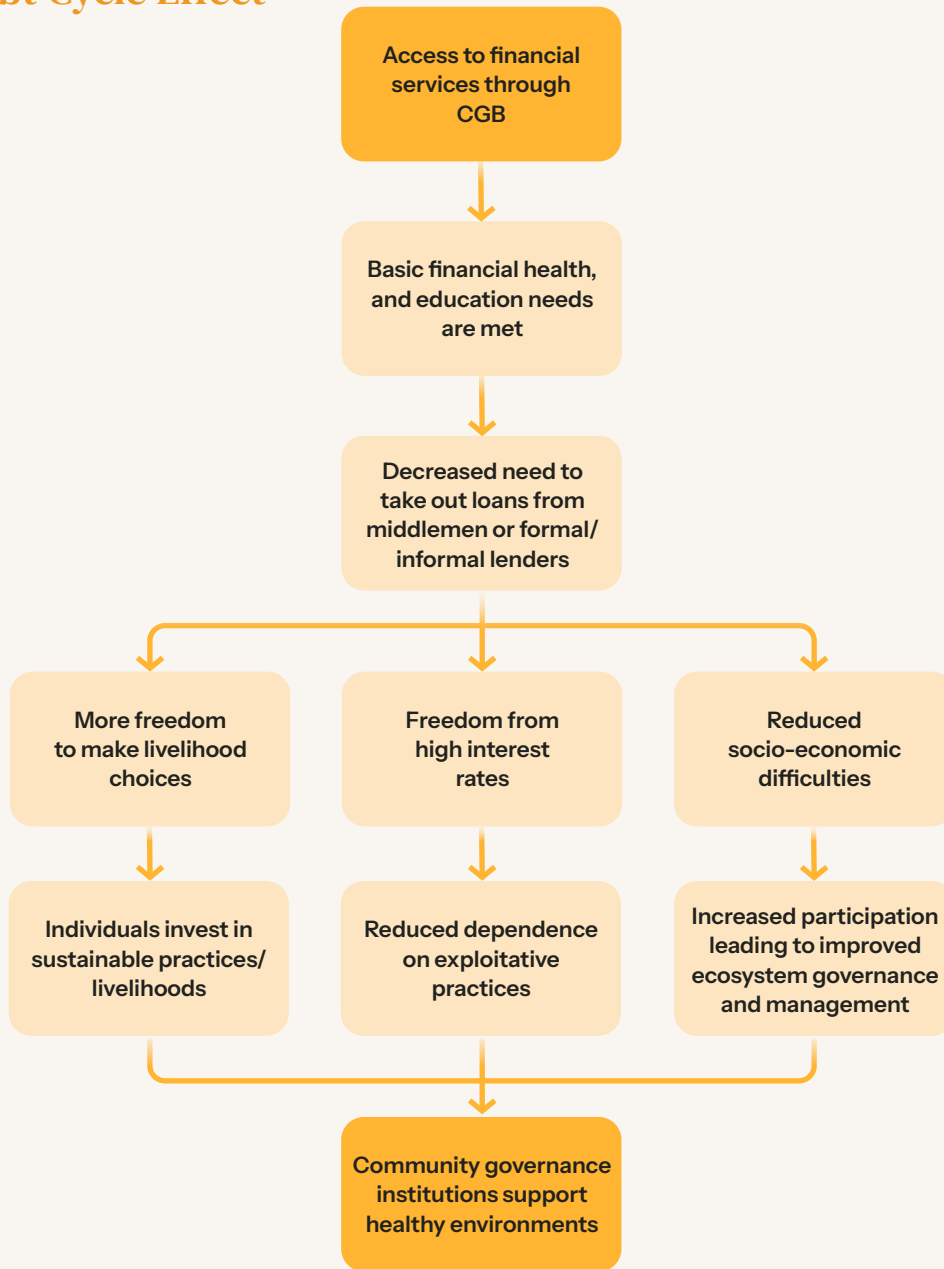


Figure 2: The Debt Cycle Effect. Source: Planet Indonesia

The Debt Cycle Effect occurs through decreased dependence on high-interest loans (Pomeroy et al. 2020). When households are repeatedly caught in debt cycles and borrow money to pay off existing loans, they often resort to what can be observed as extractive and unsustainable practices (Mozumder et al. 2024; Thalut et al. 2020). Financial inclusion activities can

empower SHFs and SSFs to invest in more sustainable livelihoods (Segovia-Vargas et al. 2023). In Aceh, Indonesia, 1% interest loans were implemented through a cooperative, contributing to greater community awareness of conservation and helping finance sustainable fishing and farming practices (Novriyanto et al. 2012).

PATHWAY 3

The Human Capital Effect

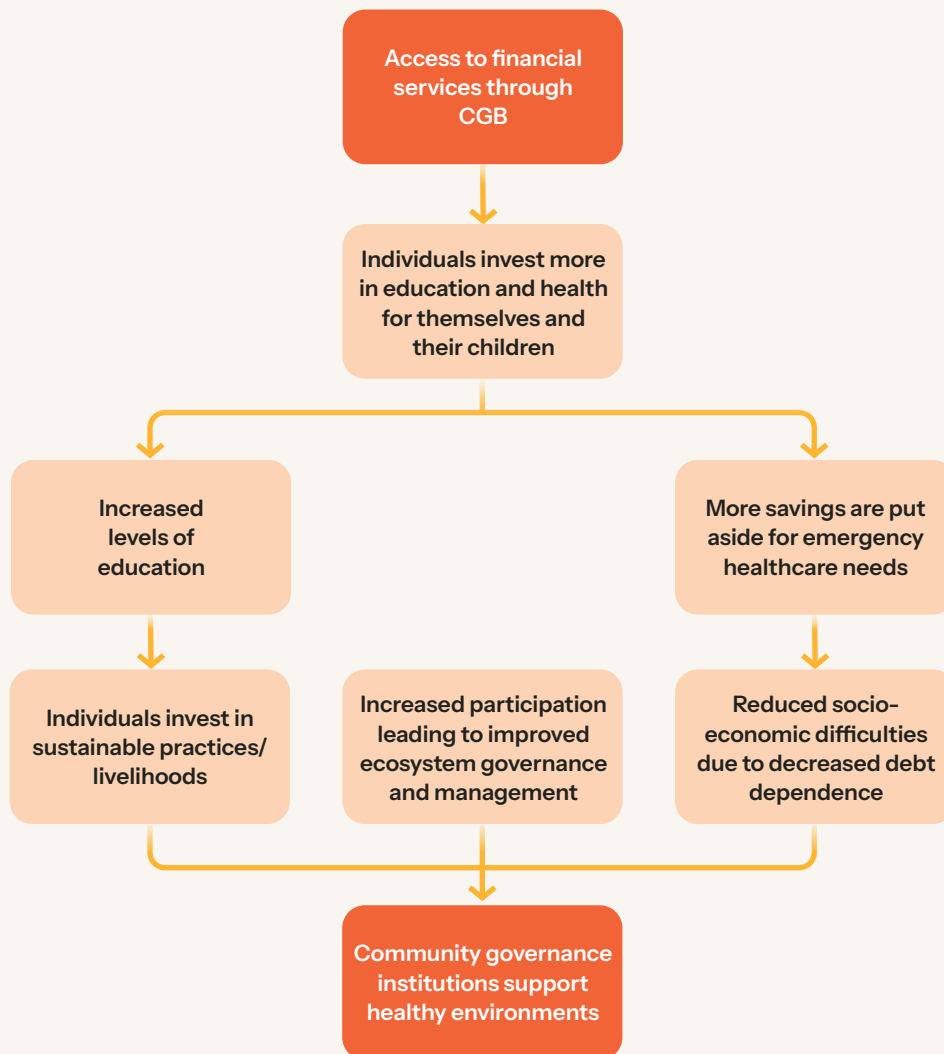


Figure 3: The Human Capital Effect. Source: Planet Indonesia

The Human Capital Effect occurs when financial services improve individual education and health outcomes, which increases investments in sustainable livelihoods as well as participation in ecological governance and management. Lack of access to affordable finance is a key barrier to accessing health and education services (Mohammed et al. 2018; Pomeroy et al. 2020; Segovia-Vargas et al. 2023). **Financial inclusion can therefore lead to higher literacy rates due to greater**

financial access. Higher literacy makes it easier for individuals to obtain and understand information about conservation (Bechtel 2010). Financial inclusion can also mitigate the impact of health emergencies (Banerjee et al. 2022). When health and education needs are met, individuals have more capacity to consider issues such as conservation that are beyond their immediate needs (Massingham et al. 2023; Wang et al. 2022).

PATHWAY 4**The Goodwill Effect**

Figure 4: The Goodwill Effect. Source: Planet Indonesia

The Goodwill Effect centers upon the idea that NGOs must overcome opposition or distrust to engage communities in conservation projects (Singleton et al. 2019). Leveraging social networks, recognizing communities as rights holders in conservation, and integrating social well-being into programs can help build trust as an external NGO (Massingham et al. 2023; Pomeroy et al. 2020). Greater trust leads to increased participation in

landscape governance, including ecosystem management (Auer et al. 2020). A study on SSFs in Sulawesi, Indonesia found that higher income and greater trust in community leaders led to greater compliance with fishery closures and other co-management rules (Kushardanto et al. 2022). The Goodwill Effect therefore hypothesizes that accessible financial services will increase positive perceptions and trust toward the NGO.

SECTION 2

Context and Methods



— Local fishers & government officials set out to a patrol station in Karimata.
Photo: Planet Indonesia

2.1 Yayasan Planet Indonesia's Core Model: Community-led Governance Bodies

YPI is an NGO headquartered in Pontianak, West Kalimantan, Indonesia. The organization aims to conserve at-risk ecosystems through advancing community-led governance bodies and embraces a core model that focuses on four key pillars (**Figure 5**). The first pillar, rights and access, ensures that communities have the legal basis for effective natural resource management (NRM). The second, supporting participatory management, includes land-use planning, mapping, fisheries and mangrove management plans, and a community-led patrol. The third pillar, inclusive governance, supports and grows Community-led Governance Bodies (CGBs) to facilitate decision-making at the local level. The final pillar, regenerative livelihoods, integrates financial security, healthcare, and literacy to ensure basic needs are met while also amplifying resilient livelihoods.

CGBs are a key output of YPI's model, supporting communities to create local socio-economic and environmental goals through engaging village rights-holders in community development and conservation (Planet Indonesia 2022; Novick et al. 2023). Since the first CGB was established in 2017, over 5,000 members across West Kalimantan have participated to date (Miller et al. 2020). The CGB approach was developed through community focus group discussions (FGDs) and continues to evolve with active community involvement (Planet Indonesia 2024).

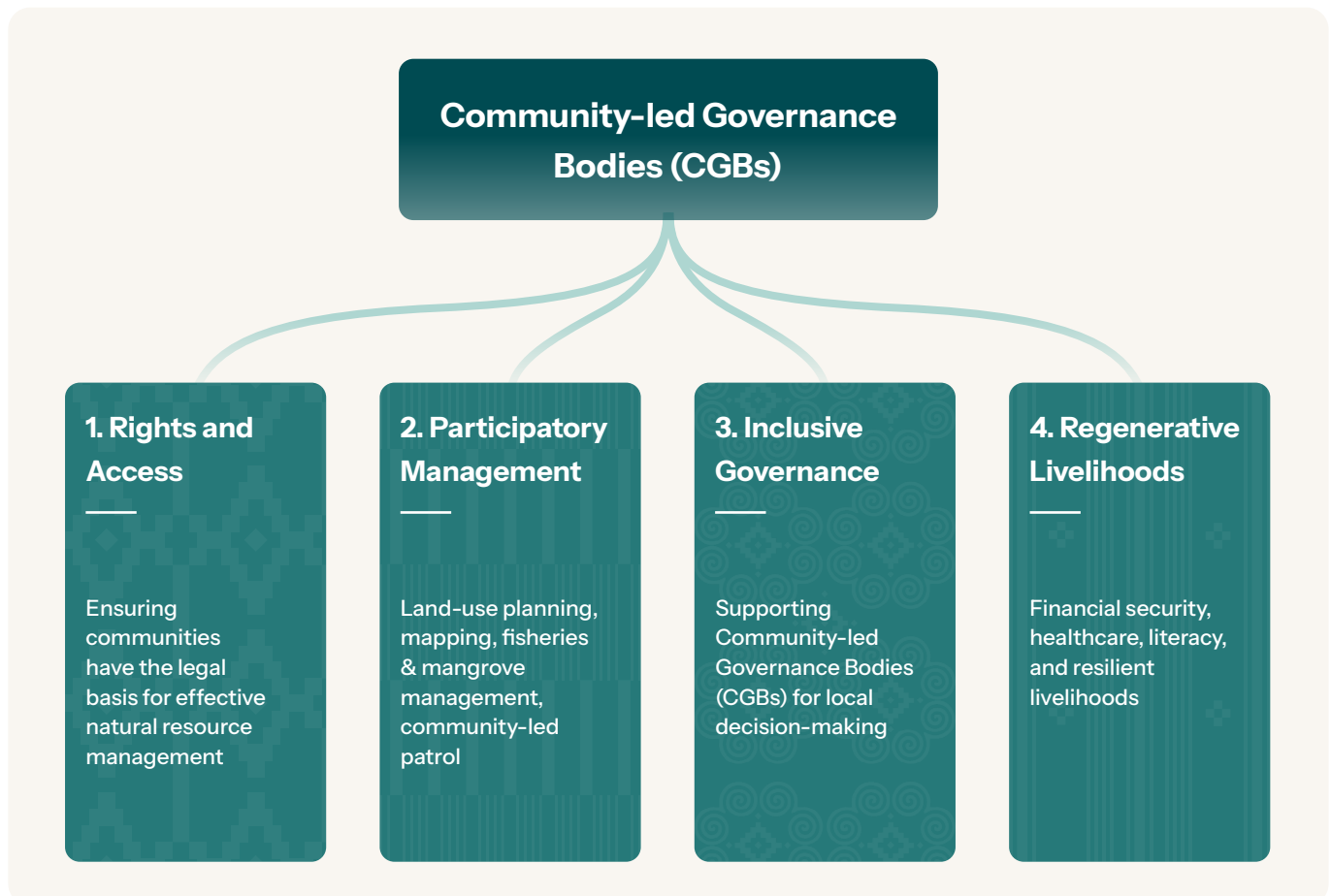


Figure 5: YPI Core Model: Four Pillars. Source: Planet Indonesia.

2.2 YPI's Financial Inclusion Model

YPI's model uses an integrated approach to address financial exclusion under the fourth pillar of the core model. Environmental safeguards are incorporated into financial services to prevent the potential negative effects that can come with financial initiatives (Miller et al. 2024a). Even within the conservation sector, YPI's model is unique. In traditional models, increased economic security is produced by higher yields and NRM is often developed separately. YPI's financial inclusion model focuses on good governance with NRM participation being incentivized. This leads to an integration of savings and loans within a conservation body focusing on flexible loan agreements, savings options that match the season, increased financial literacy, and integration of NRM.

YPI's model encourages communities to integrate zero-interest loans with flat administrative fees to cover the time leaders spend managing the group. A flat administrative fee ensures that the payments do not become unmanageable with compounded interest while ensuring the system has enough funds to maintain itself. The goal is to increase participation by counteracting the debt cycle that is perpetuated by high interest rates (Miller et al. 2024a; Miller et al. 2024b; Pomeroy et al. 2020).

In practice, financial services are organized and distributed as a sub-work group of the CGBs. Savings and loan services are implemented after the CGBs have been firmly established with elected leaders, an outline for rules of membership and participation, and safeguards have been established. To ensure financial literacy among those running the workgroup, leaders are trained in bookkeeping. In addition, individuals can opt for training on how to manage their household budgets. CGBs offer two types of loans: individual and group. Individuals can take out loans depending on how much they have saved. Generally, individuals can take out 3-5x the amount saved. For group loans, individuals must come together to form a business proposal to apply for the group loan. These loans are typically larger than an individual loan and require collateral in addition to a larger administrative fee. Both options emphasize take-home profits over high interest rates.

2.3 Landscapes and Community Livelihoods

The study area covers three major landscapes across six administrative districts in West Kalimantan, Indonesia where community finance activities have been implemented: Kubu Raya (district: Kubu Raya), Gunung Naning (districts: Sintang, Sekadau, and Ketapang), and Gunung Nyiut (districts: Bengkayang, Landak). These sites cover over 2.2 million hectares (ha) of land in both coastal (Kubu Raya) and terrestrial (Gunung Naning and Gunung Nyiut) areas (**Figure 6**). These areas intersect with where individuals live and livelihoods are sourced from. Around 27,229 people live within YPI’s area of work.

Kubu Raya has two protected mangrove forests: Hutan Lindung Seruat Pulau Tiga and Hutan

Lindung Gunung Bongkok, covering 35,509 hectares. YPI works with 7 villages in Kubu Raya, 6 of which have obtained management rights from West Kalimantan’s Ministry of Environment and Forestry under Indonesia’s Social Forestry policy (Moeliono et al. 2023). The primary livelihoods of the community living around the protected areas include fishing and plantation farming.

Gunung Naning is a 229,000 hectare *Hutan Lindung* (watershed protection) forest located across four districts, of which three have active programs. This area has lowland, submontane, and montane rainforests. Not all communities have secured forest management rights within this area, but there are several ongoing applications to the Indonesian Social Forestry scheme.

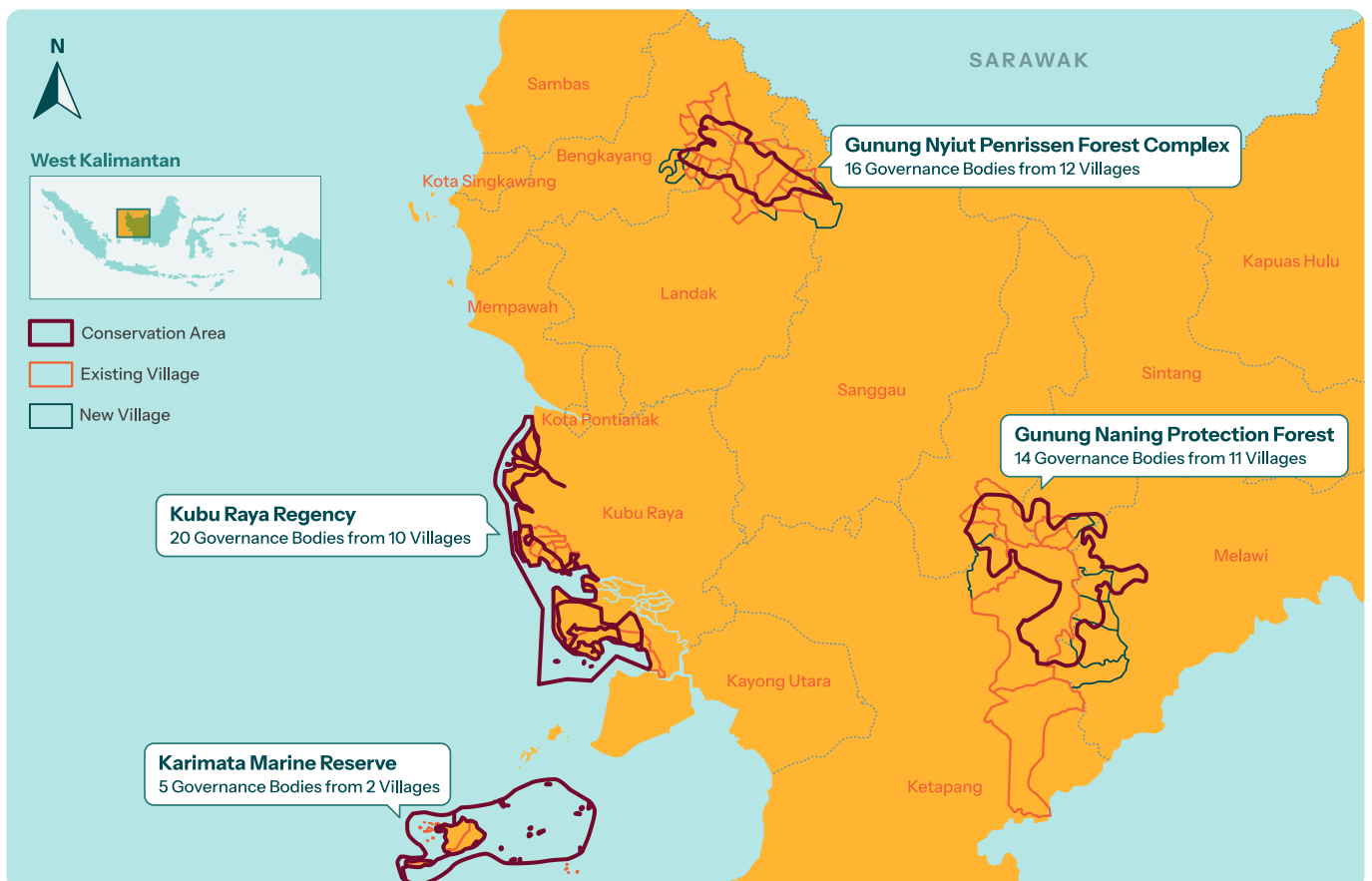


Figure 6: Map of villages and protected areas where YPI works. The villages highlighted in the Karimata Marine Reserve are not included in this study. Source: Planet Indonesia.

The Gunung Nyiut Nature Reserve in West Kalimantan, Indonesia is 91,700 ha of montane, sub-montane, lowland rainforest. West Kalimantan's *Balai Konservasi Sumber Daya Alam* (Natural Resource Conservation Agency) has formal management rights over the Reserve. Although YPI's programs are centered in the Reserve, it also operates in the surrounding landscape which also includes Protection Forest (which entails a lower level of government protection), Production Forest, and Non-Forest Areas.

Data Collection

Data for this paper were compiled from multiple sources and through different collection methods. The savings and loan data is sourced from the working groups within each of the CGBs. The data represents a summary of savings and loan information updated monthly by YPI's technical team. This data has three key aspects: savings, individual loans, and group loans. CGB data were at times incomplete, additional information was collected from Participatory Impact Assessments (PIA), following the same methodology of Miller et al. (2020) and Novick et al. (2023). Data for the PIA were collected from five districts within West Kalimantan. Each CGB conducted 1 to 3 FGDs depending on the size of the CGB and willingness to participate. Focus group compositions were women-only (13 FGDs), leaders-only (11 FGDs), or mixed (14 FGDs). FGD sizes ranged from 7 to 21 participants. A total of 38 FGDs were conducted with 476 total participants. FGD meetings ranged from 3-4 hrs, with the leader-only FGDs tending to last the longest. Additional anecdotal information was collected by the YPI team through conversations with CGB members in Kubu Raya to contextualize some of the more quantitative data. All identities for the data presented in this paper are confidential.



38

FGDs were conducted

13

women-only groups

11

leaders-only groups

14

mixed groups

Data Analysis

Statistical analysis and the related figures for both datasets were produced with the help of R version 4.3.2. This paper aims to evaluate the financial inclusion programs implemented by CGBs supported by YPI through understanding specific savings and loan data and PIA data (which indicates community responses to the program). Both the PIA and the data collection from the CGBs were conducted as part of YPI's monitoring, evaluation, and learning plan.

Individual and group loans were considered separately to gain an understanding of the different uses of loans. In many visualizations, unavailable observations are taken out. The variable covering ‘reasons for individual loans’ was condensed from 16 to 8 categories. The variable marked ‘types of group loans’ was condensed from 58 categories to 6 categories. Average savings, average individual and group loan sizes, and average number of members in a group were calculated by finding the mean of each variable across six districts in 2023. The net profit margin (NPM) was calculated using the following formula:

$$\left(\frac{\text{Net Profit}}{\text{Loan Size} + \text{Net Profit}}\right) * 100.$$

The NPM seeks to measure the percent of revenue that net profits make up. Revenue can be understood as the sum of the size of the loan taken out by the business and its net profits. NPM is interpreted as the percentage of money brought in that becomes income for the business.

This paper looks specifically at financial activity indicators collected by YPI. FGD members were asked to create a comprehensive activities list based on their knowledge of the program, which was condensed down to broader activities (Miller et al. 2020; Thung et al. 2026). They then discussed the most significant changes in the community since the implementation of the CGBs and created an influence score based on the influence their activities had on these changes. The influence scores were ranked on a Likert scale of 0 to 3 (0 = no influence, 1 = weak influence, 2 = moderate influence, and 3 = strong influence; rankings were also given a negative sign if they skewed negatively). Based on the FGDs, YPI combined all the financial inclusion responses into 11 activities undertaken by the CGBs. In addition, 24 different outcomes were identified based on the FGD responses as having been influenced by the activities. For this analysis, the 24 outcomes were condensed down to 7 overarching outcomes. From there, the mean influence score for each outcome based on all the activities was calculated for all FGDs and across different FGD types.



— Community members from Dusun Tauk look at camera trap results at the Tagong Research station.

Photo: Planet Indonesia

SECTION 3

Results



— One of the more than 70 small islands found within the Karimata marine reserve.
Photo: Planet Indonesia



3.1 Community Governance Bodies Savings and Loans

YPI’s savings and loan program has been implemented across all three major landscapes which cover six districts. The financial inclusion program has been implemented in 37 CGBs. In 2023, total savings within the CGBs range from Rp 4,210,000 (US\$ 271.05) to Rp 188,842,300 (US\$ 12,158.27).

Individual loan sizes ranged from Rp 100,000 to Rp 30,000,000, with over 10,000 loans being issued since 2018. About 41% of individual loans have been taken out by women (**Figure 7**). The most frequently cited reason for a loan application was for agriculture (34%), followed by education (17%) and daily needs (14%) (**Figure 7**). Women took out more loans for education than men. Most individuals requested loans and spent the funds on activities that enhance livelihoods through avenues such as agriculture, fisheries, and entrepreneurship.

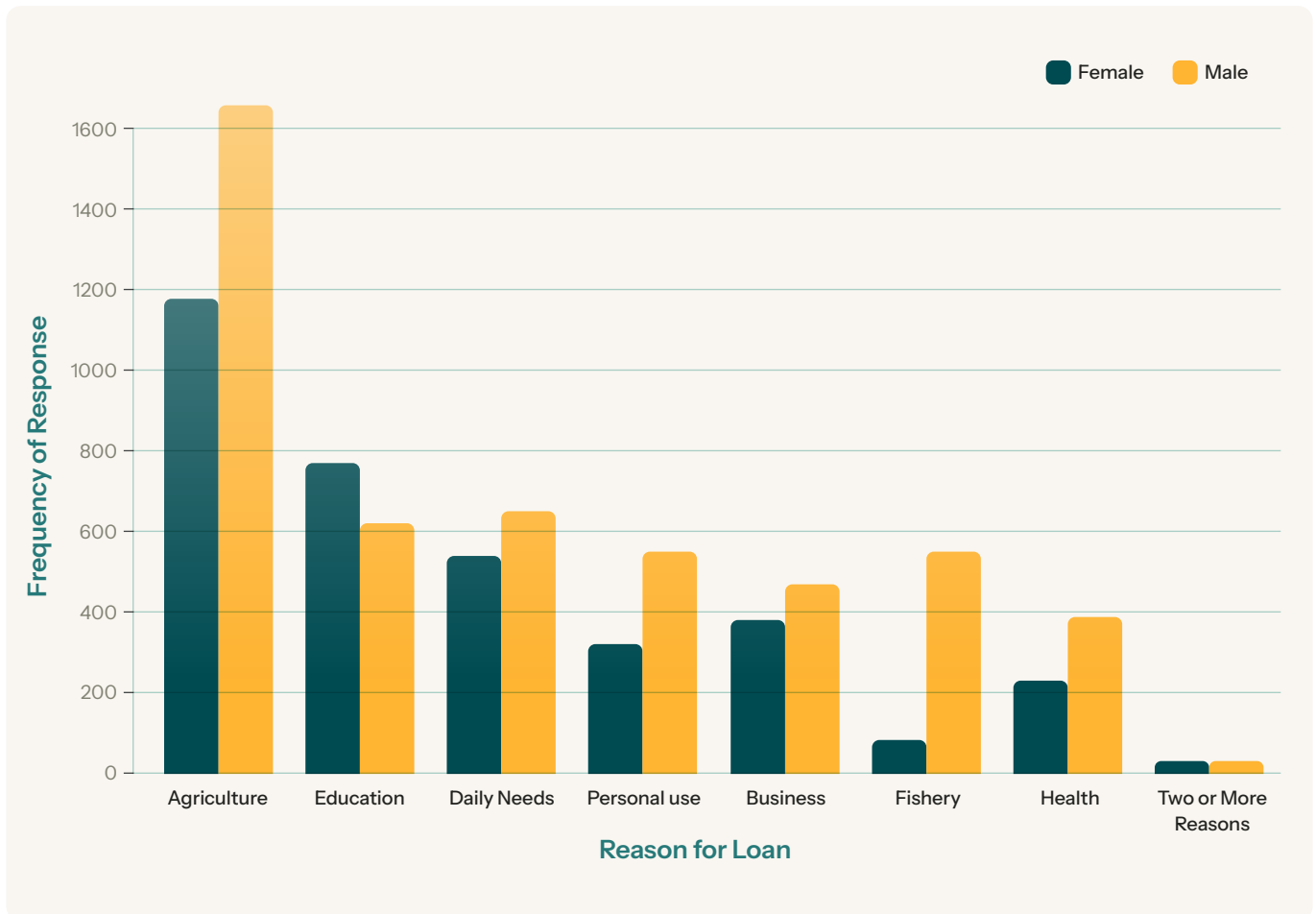


Figure 7: Reasons for taking out a loan by number of individuals from November 2018 to April 2024. Data is gender disaggregated with female (dark green) and male (yellow) representing the frequency of responses. Source: Planet Indonesia.

Group loans were only implemented in three districts: Bengkayang, Landak, and Kubu Raya. Since 2021, over 250 group loans have been given out, ranging from Rp 1,000,000 to Rp 35,000,000. Kubu Raya has a larger range of loan sizes but shares a similar range of profits to Bengkayang (**Figure 8**). In Bengkayang, loan takers made the most profit, in one case even turning a Rp 6 million loan into an estimated Rp 20 million profit (**Figure 8**). Profits remained fairly low in Landak, never exceeding Rp 5 million. Landak had the highest NPM (21%), followed by Kubu Raya (20%) and Bengkayang (16%). The average NPM was at 19%.

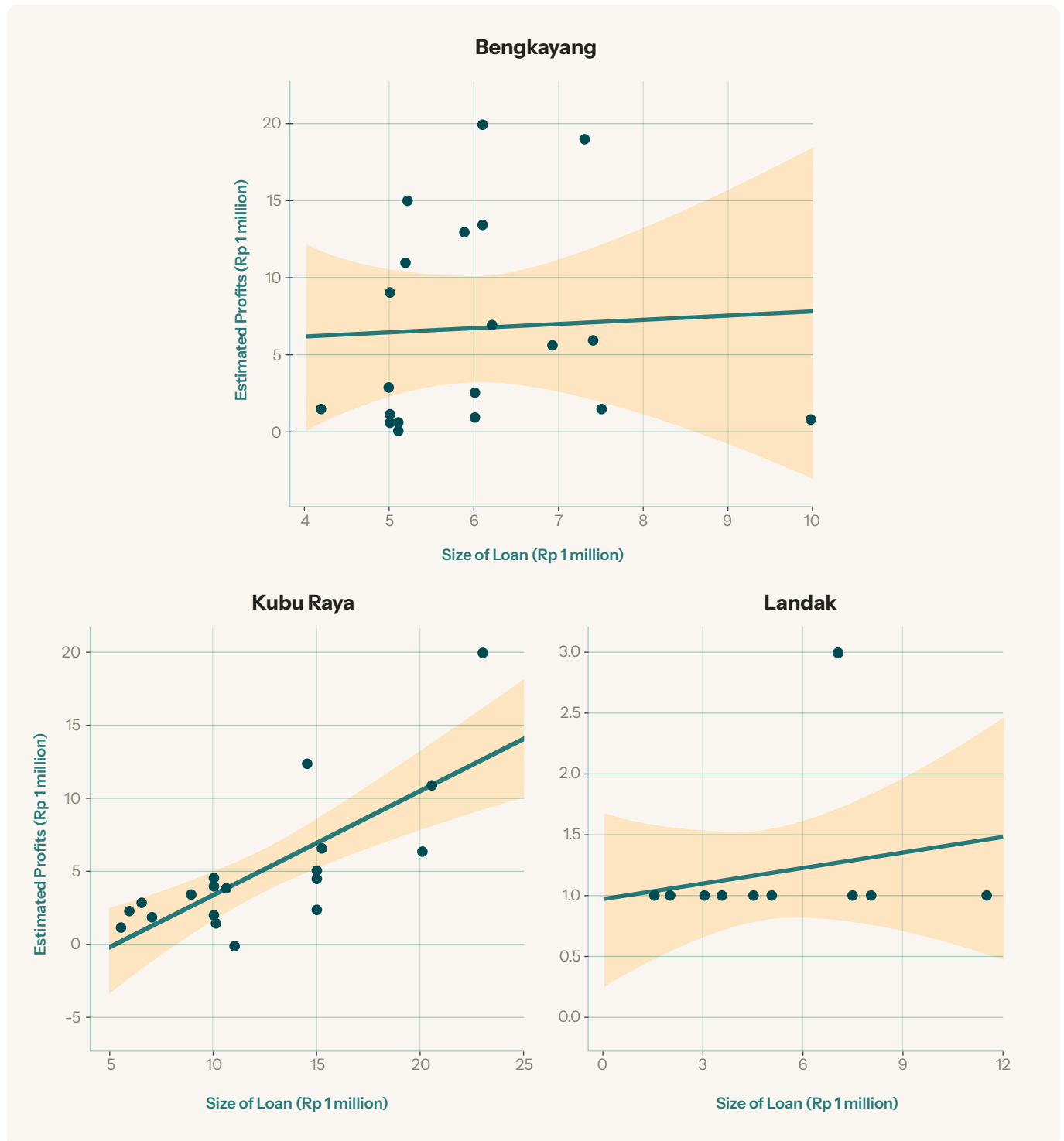


Figure 8: The size of the loan taken out by a group is compared to the estimated profits from August 2021 to January 2024. The data is faceted by district. Observations represented in the figure only include loans that have been repaid (119 loans); there are no estimated profits for loans that remain unrepaid (136 loans). Source: Planet Indonesia.

Across all three districts, the majority of groups took out loans to support pre-existing businesses (179 loans) as opposed to investment in new ventures (51 loans).

In Bengkayang most group loans were issued predominantly for agricultural purposes (Figure 9). In Landak, the majority of group loans also went towards agricultural businesses, although there were also significant investments in livestock and fishing. In Kubu Raya, most loans supported food production, sales, retail, and trade (Figure 9). Despite its coastal location, agricultural loans in Kubu Raya outnumbered those for livestock and fishing.

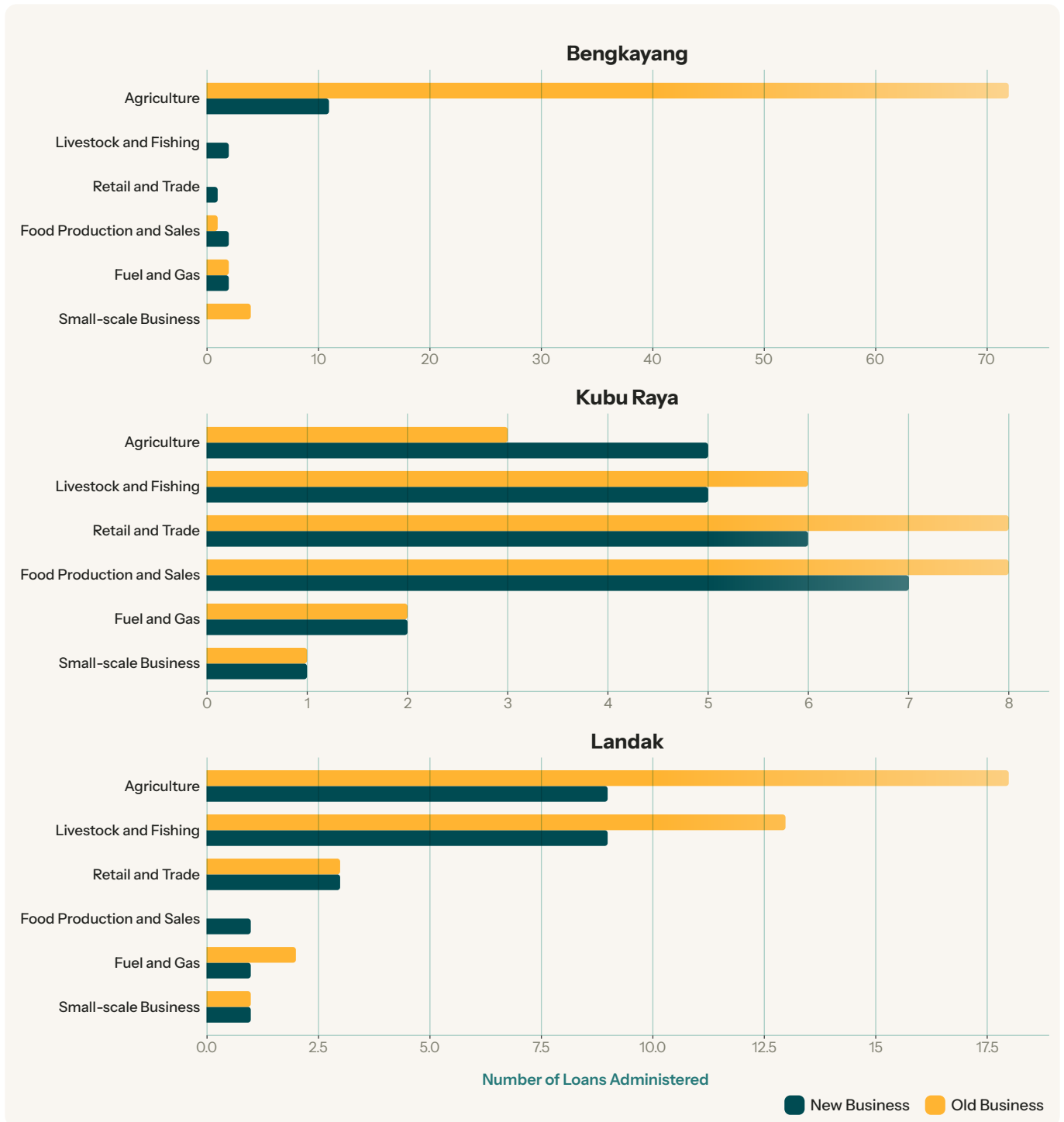


Figure 9: Looking at the types of business loans taken out by groups from the CGBs. The dark green represents loans taken out to start new businesses and the yellow represents loans taken out to support preexisting businesses. Source: Planet Indonesia.

3.2 Participatory Impact Assessment

The FGDs identified that it was community finance activities which on average positively influenced all outcomes with the exception being improved land rights (**Figure 10**). The highest average influence score was increased financial security, followed closely by improved community governance. Beyond the scope of improved land rights, it was increased environmental protection and management which had the weakest score. Generally speaking when compared to the average, women-only FGDs indicated that savings and loan activities had a lesser effect on outcomes. Leader-only FGDs tended to have a higher influence score for most outcomes. Mixed FGDs tended to line up the most closely with the average.



Figure 10: The average influence score of outcomes identified across FGD types from a PIA conducted in 2022. The influence score is only based on the impact community finance activities have on the outcomes. Source: Planet Indonesia.

Within FGDs, all but one cited improved financial security as an outcome of community finance activities. Both environmental protection and management along with financial security were mentioned together 72% of the time. While environmental protection and management along with health/healthcare were mentioned by FGDs 61% of the time.



– Shark fins at a fishing landing site. Photo: Planet Indonesia

SECTION 4

Insights



— Woman returns from fishing in Betok Jaya village of Karimata marine reserve.
Photo: Planet Indonesia

4.1 Governance Effect: Increased participation in governance can lead to enhanced social-environmental outcomes

The Governance Effect relies upon three key assumptions: 1) financial inclusion activities lead to increased participation in ecosystem governance, 2) increased participation in governance leads to improved quality of governance, and 3) improved quality of governance supports healthy environments. PIA results reveal a clear positive relationship between financial activities and their perceived impact on governance outcomes. PIA results reveal a strong perception among community members that financial inclusion contributes to good governance. Adding to existing evidence that limited financial resources for the community can limit the impact the government has on the implementation of policies such as mangrove management (De Oliveira et al. 2024), this finding shows that without financial services, the capacity and impact of the CGB is limited. Women-only FGDs saw the impact of financial activities on governance as a lesser influence, though still moderate involvement in CGBs, however, varies from village to village. It is unclear if Kashardanto's (2022) finding that women who are excluded in governing are less compliant with environmental management regulations, though further research is needed.

PIA results do not directly demonstrate a relationship between greater financial inclusion and greater governance related activities that would benefit the environment, though past research provides insight into this relationship. Novick et al. (2023) evaluated the same interventions in the same landscape and observed that higher program participation, group assets, farmer harvest rates and agroforestry involvement were associated with lower rates of poaching, illegal logging and encroachment (all statistically significant). Participation rates in villages increased steadily over time, and participation may be a proxy for the Governance Effect.

Further results have shown that **improved participation rates in governance institutions can lead to enhanced social-environmental outcomes (Adhikari et al. 2014; de Oliveira et al. 2024).**

4.2 Debt Cycle Effect: Relationships exist among livelihood improvements and greater environmental management

The Debt Cycle Effect assumes that access to financial services will decrease dependence on lenders with high interest rates (Pomeroy et al. 2020), leading to greater investments in sustainable practices that reduce dependency on extractive practices. Many of the CGBs supported by YPI choose to have zero interest rates and a flat administrative fee (Miller et al. 2024b). The majority of individual loans are taken out for livelihood purposes across genders, with agriculture being the most frequently cited reason. Most group loans taken out from the CGB are to support existing businesses rather than to create new income-generating activities. Communities take out loans to improve their livelihoods and no-interest loans allow them to do so without being locked into lifelong agreements (Pomeroy et al. 2020). As Segovia-Vargas et al. (2023) note, this decreases the risk of investing in more sustainable methods for their businesses.

The average NPM in the US is 7.59% (Damoradan 2024) and in general, a 10% net profit is considered to be good, with 20% considered to be high (Vipond 2018). Landak and Kubu Raya both had high NPMs at 21% and 20% respectively. Bengkayang also had a good NPM of 18%. Businesses were taking out loans to invest in previously existing businesses, indicating that they were seeking to improve their livelihoods, and, according to the average NPM, they were relatively successful in doing so. This also shows up in the PIA, where FGDs noted that financial activities had a moderate influence on improving livelihoods. Novick's (2023) study focusing on the same landscapes revealed that improved farmer harvests led to reduced cases of illegal logging and improved coastal management. This indicates that the relationship exists in relation to improved livelihoods and greater environmental management.



The average NPMs (net profit margins):

21%
in Landak

20%
in Kubu Raya

18%
in Bengkayang

4.3 Human Capital Effect: Health and education as a useful mediator among financial inclusion and conservation

The Human Capital Effect assumes that access to financial services will lead to a greater investment in health and education, resulting in increased participation in ecosystem governance and management. To assess the Human Capital Effect, attention must be provided to the role education and health plays as potential mediators between financial inclusion and conservation since community finance serves as a tool to address these issues (Mohammed et al. 2018; Novick et al. 2023; Pomeroy et al. 2020; Segovia-Vargas et al. 2023).

Education is the second most cited reason for someone to take out individual loans, indicating that financial services likely have an impact on the community's education. FGDs identified financial activities as having a moderate average influence on education outcomes. Anecdotally, many of the leaders in Kubu Raya noted that individuals use education loans for their children's education. If people are investing more in the next generation's education, then individuals will likely have higher literacy rates, making it easier for them to digest conservation materials (Bechtel 2010). A study in Tanzania found that individuals with higher educational attainment were more likely to support the status of protected areas (Kideghesho et al. 2006). A study in Brazil had similar findings, wherein a higher education level was associated with greater environmental awareness (Philippsen et al. 2017). Further research may prove that this is also the case across YPI's areas of work.

FGDs also identified financial activities as having a moderate impact on improving health and healthcare, despite only around 7% of loans being taken out for health purposes. This indicates that individuals are taking out loans for health when needed. Qualitative accounts from women leaders in Kubu Raya reveal impacts of financial services on health. This aligns with Banerjee's (2022) findings, whereby two women mentioned how the CGB allowed individuals to put money aside for health emergencies, with one woman mentioning how this was particularly impactful when she gave birth. Within the FGDs, health and environmental outcomes were often discussed together, indicating that there is a likely connection between these areas of life. This might indicate that health is a useful mediator among financial inclusion and conservation.

4.4 Goodwill Effect: Access to financial services can enhance positive perceptions and trust

The Goodwill Effect posits that access to financial services through CGBs will enhance positive perceptions and trust towards YPI as an external NGO, thus increasing participation in conservation. Financial inclusion services within the CGBs may build trust in YPI, as community finance and environmental programs are only established after the CGB has agreed to it. However, this alone is insufficient to determine whether the Goodwill Effect is present. Additional studies found that financial services are often one of the main motivators to join and participate in CGBs (Miller et al. 2020; Thung et al. 2026; YPI unpublished data). Given that community conservation work often hinges on positive perceptions (Miller et al. 2024c) and trust (Kushardanto et al. 2022; Auer et al. 2020), this indicates that financial inclusion may be a viable tool to bolster goodwill for sustainable NRM. For example, Kubu Raya's Dabong village initially rejected YPI's model. As trust in the organization grew through positive word of mouth from neighboring communities, local leaders eventually sought YPI's services. Financial services, along with effective leadership, were particularly impactful in building trust and acceptance among community members. Kushardanto et al. (2022) also found that trust in leadership increased community compliance with management rules in Sulawesi, Indonesia.



— Community savings club leader bookkeeping in Kubu Raya. Photo: Planet Indonesia



— An aerial view of Betok Island, Karimata. Photo: Planet Indonesia

Conclusion

Financial inclusion services were found to impact various facets of community life, including improved participation in community governance and increased financial security.

Equitable access to community finance can increase environmental management through strengthened participation within CGBs. Moreover it offers a pathway to break debt cycles by strengthening opportunities for sustainable livelihoods. Financial services can assist the improvement of other facets of well-being, including health and education, which can in turn lead to greater engagement in conservation. This suggests financial inclusion is a powerful tool that holds relevance for community conservation programs around the globe.

Other possible mediators present in the relationship between financial inclusion and conservation need to be investigated along with more studies on how the relationships hold across a variety of other regions. This study demonstrates that conservation NGOs and communities both benefit when they understand how equitable access to financial services can also widely address socio-ecological domains of life. Financial services offered through CGBs have the potential to not only improve environmental outcomes, but also significantly impact health, education, and many other outcomes.



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