Finance for Integrated Landscape Management

The potential of credit unions in Indonesia to catalyze local rural development. The case of Semandang Jaya Credit Union

A report by Tropenbos Indonesia

TROPENBOS INDONESIA

About this Study

This report was prepared by Dia Mawesti , Triana Aryanto, Yulius Yogi and Bas Louman. Support was provided by Tropenbos International (TBI), partner of the CGIAR research programme on Forests, Trees and Agroforestry (FTA), a global partnership that unites international organizations engaged in research on food security. Additional financial support was provided through Mobilizing More for Climate programme (MoMo4C) financed by the Ministry of Foreign Affairs of the Netherlands and NWO-WOTRO Senior Expert Program (grant number 19753).

The report is part of a series of case studies that provide insights into various mechanisms used to increase access to finance for smallholder farmers, SMEs and communities in their efforts to contribute to sustainable landscapes. The case studies focus on the strategies used by various stakeholders to reduce the risks of selected financial flows for investors, intermediaries and recipients. These case studies follow up on recommendations made by participants in the consultative process on innovative finance for sustainable landscapes. The goal is to provide more evidence of successful strategies in order to increase access to finance for smallholder farmers, SMEs and communities (Louman et al. 2020).

This case study focuses on the various types of productive loans provided by the Social Performance Management Unit of the Credit Union Semandang Jaya that are available to finance small-scale farmers and businesses, and analyzes how these are perceived to contribute to landscape objectives and integrated landscape management initiatives in the Ketapang-Kayong Utara landscape in West Kalimantan, Indonesia.

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Photos: ©Tropenbos Indonesia — Irpan Lamago. Cover & page 38: Landscape with different land uses in Mekar Raya village, Ketapang, Indonesia; page 4: A woman processing rubber in Laman satong village, Indonesia; page 6: Landscape with different land uses in Mekar Raya village, Ketapang, Indonesia; page 7: Collecting grass for cattle in Sungai Pelang village, Indonesia; page 11: Dried paddies at the bank of Manjau forest in Laman satong village, Indonesia; page 17: Dayak woman collecting bamboo shoots from the forest near the village of Mekar Raya, West Kalimantan, Indonesia; page 34: Kamora village, in Simpang Dua landscape, Indonesia.

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Preface

This is one of a series of case studies implemented by partners of the CGIAR research programme on Forests, Trees and Agroforestry (FTA) and coordinated by Tropenbos International. These case studies of selected financial value chains provide insight into the strategies of their various stakeholders to increase the participation of smallholders in the transformation to resilient landscapes.

Most tropical rural landscapes are subject to high rates of deforestation and forest degradation, which makes them more vulnerable to climate change and other shocks. Smallholders are important actors in these processes, but rarely benefit from existing financial flows. They need to be considered when investing in tropical rural landscapes.

The methodology used by the case studies was designed to be implemented by FTA and its partner organizations, which are studying finance for integrated landscape management. The methodology is useful in a wide range of cases, although the authors specifically intend it to apply to the processes that key informants considered to be successful in supporting landscape initiatives and/or in increasing access to finance for all possible recipients — including marginalized and disadvantaged groups — within landscapes. Applying this methodology in a range of cases will contribute to generating an information base of comparable results. People can draw lessons from this information base to design processes that support inclusive financing for integrated landscape initiatives.

The methodology comprises three phases.

Phase 1 involves an in-depth interview with the implementing agency (IA), which plays a central role as broker of or intermediary for financial flows to landscape initiatives. This phase aims to define six things: 1) the main sources of finance and their characteristics; 2) the principal groups of recipients; 3) the financial flows associated with the various sources and recipients; 4) the process of managing and channelling funds; 5) the financial mechanisms applied and their underlying rules; and 6) the risks and barriers involved, from the perspective of the IA. In addition, the interview in Phase 1 will identify the stakeholders to be interviewed in the subsequent phases.

Phase 2 involves collecting data related to the sources of finance, recipients (groups and individuals), and the providers of non-financial services who engage with them. It includes interviews with four types of key informants, who were identified during Phase 1: 2a) representatives of the finance sources; 2b) representatives of recipient groups; 2c) service providers engaged with recipients; and 2d) selected individual recipients and non-recipients (particularly smallholders). Phase 2 focuses on risk perceptions, the barriers perceived by each of the stakeholder groups, and ways to reduce the perceived risks and overcome barriers. Phase 2 efforts also seek to determine the extent to which the financial flows meet stakeholder expectations, as well as the perceived effects of the financial flows on sustainability goals in relation to the landscape.

Phase 3 involves validating the information gathered in Phase 2. Focus group discussions held in Phase 3 involve representatives of principal recipients and groups of recipients, service providers, the implementing agency, and other stakeholders who are relevant to the financial flows.

This case study focuses on the various types of productive loans provided by the Social Performance Management Unit of the Credit Union Semandang Jaya that are available to finance small-scale farmers and businesses, and analyzes how these are perceived to contribute to landscape objectives and integrated landscape management initiatives in the Ketapang-Kayong Utara landscape in West Kalimantan, Indonesia.

SECTION I

1. Introduction

In 2019, Tropenbos Indonesia and Tropenbos International conducted a Landscape Analysis of Financial Flows (LAFF) in Ketapang-Kayong Utara landscape, Indonesia (Rossanda et al. 2020) to generate an understanding of the landscape economy and to identify the most important financial flows within its sectors. The LAFF process identified the way that funds flow between actors within five key economic sectors in Ketapang-Kayong Utara landscape: conservation and sustainable use of forests; rice cultivation; swift house production; oil palm cultivation; and mining. The analysis also portrayed how these flows affect social and environmental landscape objectives. It found that both private and public financial flows were perceived to have positive effects on local economic development. The analysis found, however, that financial flows originating from public sources had neutral or positive impacts on other landscape objectives, while privately sourced funds were perceived to have much more negative effects on these other landscape goals. Identifying the interactions and effects of the existing financial flows within a landscape provides an understanding of the improvements needed to make it more sustainable and climate-resilient.

Although investing in sustainable land use in developing countries has growth potential, it often has, or is perceived to have, high risks and often requires more time to implement (Guarnaschelli et al. 2018). Furthermore, smallholders, local farms, and forest producer organizations — which are essential parts of the landscape, because they work directly in natural resource management — have limited access to finance. Thus, in order to achieve international commitments to a sustainable and climate resilient world, there is a need to do two things: 1) increase finance that contributes to sustainable agriculture, forest and other land uses, and that takes into account multiple activities; and 2) ensure that more of that finance benefits those people who need it most: smallholder farmers and agricultural and forest-based small businesses (Louman et al. 2020). Innovative financial mechanisms with non-conventional approaches are needed to address the barriers for smallholders and micro, small and medium enterprise (MSMEs) so they can have access to finance to transform their businesses into more sustainable land uses and value chains that support landscape objectives. Currently, three innovative financial initiatives have the potential to increase financial flows to sustainable landscapes: blended finance, green bonds and crowdfunding (Louman et al. 2020).

Within this context, the partners of the CGIAR research programme on Forest, Trees and Agroforestry (FTA), coordinated by Tropenbos International (TBI), carried out a series of case studies that analyze the arrangements and risk mitigating mechanisms applied by the financial entities that are considered to have positive impacts on smallholders and the landscapes they inhabit. Tropenbos Indonesia, in collaboration with Tropenbos International (TBI), conducted one of those case studies from October 2020 until January 2021. The case study analyzed an existing mechanism aimed at financing the people who most need it in the landscape economy: smallholder farmers, and agricultural and forest-based small businesses. The financial mechanism is provided by Credit Union Semandang Jaya in Simpang Dua Sub-district, Ketapang District, West Kalimantan. The case study provides insight into the mechanism, one of the few financial flows that exist in Simpang Dua Sub-landscape, and one that supports integrated landscape management and processes for mitigating the associated barriers and risks for smallholder farmers and for micro, small, and medium enterprises (MSMEs). It is expected that this study will help participants to further develop and scale up existing innovative financial schemes and promote the improvement of similar financial schemes to support integrated landscape investments that apply a multi-stakeholder approach.

SECTION II

2. Literature review

2.1 Integrated landscape management

Under the conditions of a changing climate, integrated landscape management offers great opportunities for synergies between adaptation and mitigation activities in tropical agricultural landscapes and for exploring how agricultural systems and landscapes can be designed and managed to achieve these synergies (Harvey et al. 2013; Scherr et al. 2012; Locatelli et al. 2015). One of the major barriers to benefitting from these opportunities is the lack of finance for integrated landscape management initiatives (Louman et al. 2020). Such initiatives have demonstrated promising potential to mobilize and support diverse stakeholders across sectors to work jointly toward shared landscape objectives for a wide range of human needs, economic goals, and ecosystem objectives in Africa (Milder et al. 2014), Latin America (Estrada-Carmona et al. 2014) and Asia (Zanzanaini et al. 2017).

Although the finance and conservation sectors are working on innovative mechanisms to achieve finance for landscapes (Shames and Scherr 2020) these mechanisms are still not of a scale to address the unequal distribution of finance for commercial purposes and finance for sustainable development and conservation (Tobin-de la Puente and Mitchell 2021).

2.2 Landscape finance

Despite a number of challenges, including limited access to finance, the agricultural sector and the agribusiness sector have been cited as driving forces for income generation and job creation, and as providing the backbone of most economies (Miller et al. 2010; Salami et al 2010; World Bank 2013). In developing countries such as Indonesia, some argue that economic development requires a shift from agriculture to manufacturing and services, a shift that is already occurring in Latin American countries. Landscape finance should probably be oriented both to more sustainable production and conservation and to the creation of more downstream processing and services at scale, in order to support existing trends in rural landscapes (Hecht 2010).

Access to financial services has been shown to strengthen capacity for economic growth and increase resilience to outside shocks (Demirgüç-Kunt et al. 2018). Smallholder farmers, local farms, and forest producer organizations encounter challenges in obtaining access to finance due to their lack of understanding of financial concepts, the nature of the financial instruments, the level of aggregation, and the distance to financial services in remote locations. These factors affect their ability to raise funds, not only to get or stay in business, but to move to more sustainable land-use practices (Louman et al. 2020). This lack of access to formal financial services affects the manufacturing, processing and marketing stages. Smallholder farmers also face several additional longstanding challenges that hinder their agricultural productivity and growth. These are low productivity, stemming from the lack of access to markets and technology; inadequate sustainability of product grades, standards and quality in agricultural product marketing; a weak legal and regulatory framework for agricultural and forest product marketing; and inadequate market research (Salami et al 2010; Isaga 2018).

It is not only farmers or agribusiness entrepreneurs who experience difficulties. Banks, as major suppliers of finance, also face various challenges in providing finance to agribusiness enterprises. According to the World Bank (2013), unfavourable interest rates, complex application procedures, lack of information and high collateral requirements are among the major challenges to both the demand and supply of finance. Collateral requirements by commercial banks in developing countries have been a contentious issue in MSME financing, particularly in the agribusiness sector (Wattanapruttipaisan 2003). In some cases, commercial banks deem the collateral insufficient in view of the size of the loan requested; in other words, they see the proposed expansion as too large for the size of the firm (OECD 2004). Banks may also have insufficient information about some aspects of potential borrowers and have difficulty in assessing the creditworthiness of agribusiness entrepreneurs, especially those located in remote areas (OECD 2004). Agribusiness entrepreneurs may lack a credit history and financial reports, which banks use to assess their creditworthiness. As a result, banks tend to require more collateral and set higher interest rates to compensate for these risks (Wattanapruttipaisan 2003; Coates et al. 2011; OECD 2013; MAFAP 2013).

In Ketapang-Kayong Utara landscape, in Ketapang and Kayong Utara districts of West Kalimantan, Indonesia, agriculture and forests are crucial parts of the landscape and major sources of income for local communities. Landscape finance for the agriculture and forestry sectors does not address several of the sustainability objectives for the landscape (Rossanda et al. 2020). Although financial flows originating from banks have positive impacts on the local economy, these flows have negative effects on landscape objectives due to the lack of strong environmental, social and governance (ESG) principles related to the loans (ibid.). In Ketapang District, palm oil has become the largest commodity for the agricultural sector, contributing about 15% of the district's GRDP (Gross Regional Domestic Product). However, financial flows to the palm oil sector have very negative impacts on landscape objectives. Although financial flows from the banking sector to palm oil companies, palm oil and crude palm factories, and out-grower cooperatives have benefited the economy of local people, they also contribute to land clearing, deforestation, reduction of local biodiversity, and water pollution (ibid.).

SECTION III

3. Research methodology

This case study is part of a larger research effort that applies locally adapted versions of a research methodology developed under a collaboration between TBI and the World Agroforestry Centre (ICRAF). Other case studies are being developed by IIX (Indonesia), Ecotrust (Uganda) and Tropenbos Ghana in collaboration with Touton (Partnership for Productivity, Protection and Resilience in Cocoa Landscapes, Ghana), and additional cases will be developed.

This research uses the methodology from the manual developed by Primo et al. (2021), which proposes **three phases**:

1. In-depth interview with the implementing agency (IA);
2. Key informant interviews; and
3. Feedback and validation.

The authors of this case study adapted the methodology to the conditions in the study area, including implications of the COVID-19 pandemic.

3.1 Research objectives

General objective

The general objective of the case study was to provide insight into arrangements linked to financial flows for integrated landscape management, and mechanisms for mitigating barriers and risks, in support of multi-stakeholder negotiations on integrated landscape finance schemes.

Specific objectives

1. Determine the expectations of various stakeholder groups with regard to landscape finance, underlying arrangements, and the extent to which these meet their respective expectations;
2. Identify risk perceptions in relation to financial flows and mitigation strategies and the resulting risk exposure for each stakeholder group; and
3. Define the main barriers for expanding integrated landscape finance and options for overcoming them.

The research was conducted as a case study to generate an in-depth understanding that enables the participants to tell their story and to form a close collaboration between the researchers and the key informants. The case study method involves a range of tools to collect empirical material in order to allow participants to answer the research questions with maximum breadth. Semi-structured interviews were conducted, along with group meetings and document collection. Collecting empirical material from multiple sources allows it to be cross-checked (Yin 2009). The research focused on the financial flows from a credit union, a financial source in the landscape that is different from traditional forms of banking. Credit unions take the form of member-based cooperatives, and often have branches in sub-districts that are accessible and affordable for smallholders and local MSMEs.

3.2 Area of study

The study was conducted in Simpang Dua Sub-district, located in the northern part of Ketapang District, West Kalimantan Province and one of Tropenbos Indonesia's area of intervention. See Figure 1. Simpang Dua is an upstream agroforestry mosaic mineral landscape with mostly Dayak communities. It is 380 km away from Pontianak, the capital city of the province, and about 230 km from the capital city of Ketapang District. Both cities can be reached using land transportation. Simpang Dua Sub-district consists of six villages: Batu Daya, Kamora, Mekar Raya, Kampar

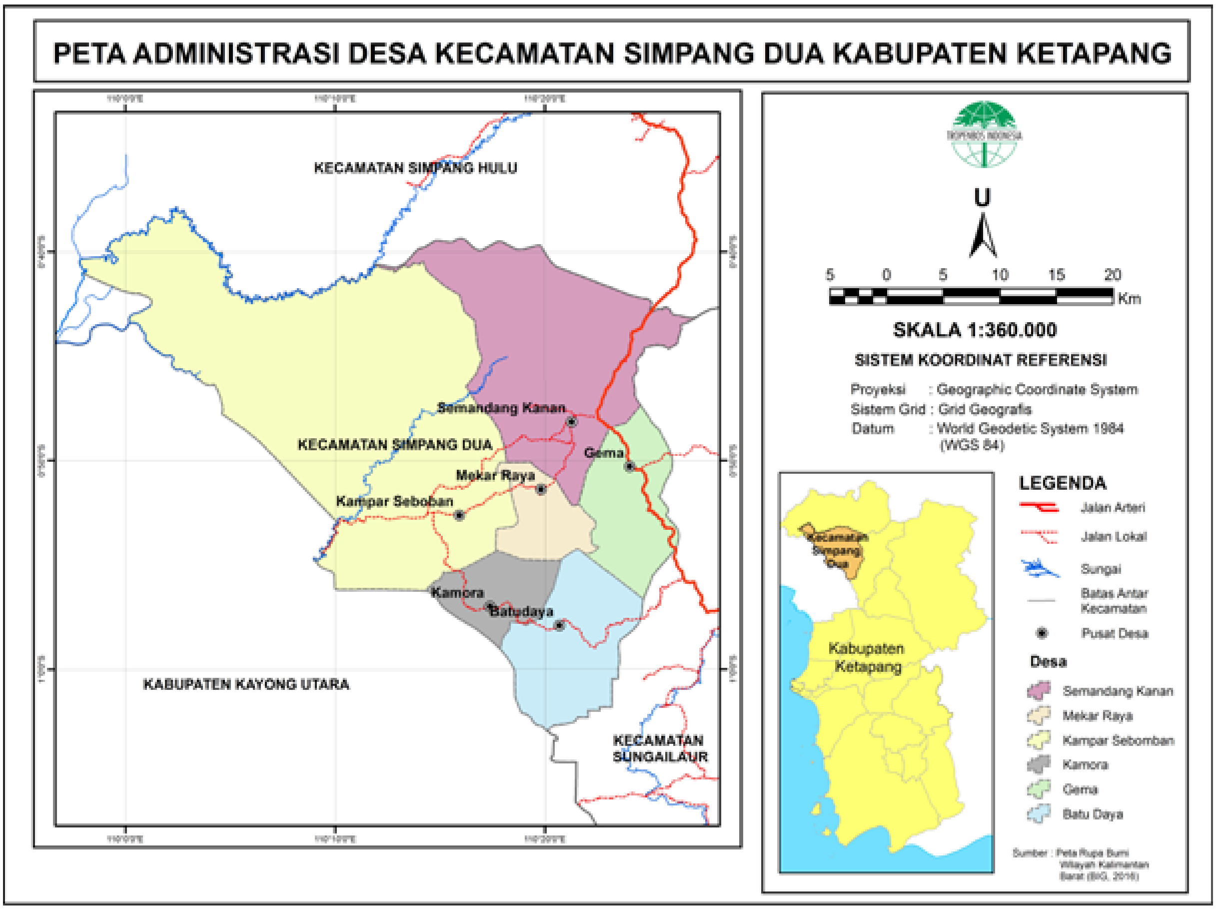

Figure 1. Area of study

Sebomban, Gema, and Semandang Kanan.[1] The Trans-Kalimantan Highway crosses through the last two villages.

Simpang Dua covers an area of 1,048 square km and has a population of 8,374. The average population density is 8 people per square km (BPS 2019); however, the population distribution is uneven. More people live in areas with better access to transportation and public services.

Of the 104,810 hectares of land that stretches around Simpang Dua, 97.94% is agricultural land, 1.50% is non-agricultural land, and 0.56% is rain-fed rice fields. Rice and rubber cultivation are the predominant economic activities in Simpang Dua. However, there has been a significant decrease of 23.63% in rice production, from 1,756 tonnes in 2014 to 1,341 tonnes in 2016 (BPS 2019). On the other hand, the oil palm plantation area has nearly doubled, from 3,366 ha in 2018 to 6,346 ha in 2019.[2] The traditional agroforestry and mixed garden system is still common. BPS (2020) recorded the production of several commodities, such as coconut, coffee, fruits (mango, durian, banana, papaya, rambutan, jackfruit), vegetables (chilli, tomatoes, cucumber), and medicinal plants (ginger, galanga, East Indian galangal, turmeric). Most traditional agroforestry systems are locally developed land-use systems that contain home gardens and forest gardens. Local community livelihood strategies include raising livestock, fisheries (freshwater fishery and pond cultivation), and small-scale manufacturing/ processing (palm sugar, rattan and bamboo

1 https://ketapangkab.bps.go.id/publication/2019/09/26/5edc255c49fec77379fe3358/kecamatan-simpang-dua-dalam-angka-2019.html

2 https://ketapangkab.bps.go.id/publication/2020/04/27/b76d0e5383942883e0c68920/kabupaten-ketapang-dalam-angka-2020.html

crafts, blacksmith, welding workshop, motorcycle repair shop). Additionally, Simpang Dua has ecotourism potential due to its proximity to Batu Daya Hill dan Gunung Juring National Park.

3.3 Data collection

Data was obtained from both primary and secondary sources. Primary data was collected through the use of a semi-structured questionnaire with the implementing agency (Phase 1) and key informants (Phase 2). Secondary data was obtained from existing publications, journals, and other sources, including online sources.

Preliminary research identified three sources of financial flows in the study area:

1. **Agri-company**
   The amount of the financial flow and its area of disbursement are quite limited. The source is corporate social responsibility (CSR) funds, which cover only the geographic and thematic area of work of the respective company. Most CSR activities are implemented within the territory targeted to those communities in the surrounding area that are directly affected by the company's activities.
2. **Formal financial institution (Bank BRI)**
   As a state-owned bank, BRI has a mandate to focus on providing credit for micro, small and medium enterprises (MSMEs). In 2019, more than 80% of its loan portfolio was directed to the MSME segment. However, it is still very challenging for smallholder farmers in the agroforestry sectors to get loans, especially since financial institutions perceive financing agribusinesses as high risk. In addition, most smallholder farmers lack the assets to be used as collateral for a loan, and so they are perceived as unbankable.
3. **Credit union**
   Different from a traditional bank, a credit union is a cooperative that provides savings and loan products. Given their structure as a cooperative, credit unions are an alternative financial service provider for people who do not have access to banks or other financial services. Credit unions in Kalimantan, especially in Ketapang District, have contributed significantly to rural finance by providing tailor-made products that serve the needs of their members. These credit unions have the potential to strengthen their commitment to integrated landscape management.

Formal financial institutions such as BNI, BRI, Bank Mandiri and Bank Kalbar provide KUR (Kredit Usaha Rakyat/People's Business Loan). This government-subsidized credit scheme has lower interest rates and is aimed at financing small-scale businesses and MSMEs that are not eligible for conventional credit. There are three types of loans:

1. **KUR micro** — working capital and/or investment loan up to IDR 25 million[3] and a maximum tenor of two years;
2. **KUR retail** — from IDR 25 million to a maximum of IDR 200 million, and a maximum tenor of three years for working capital loans and five years for investment loans; and
3. **KUR migrant workers** — to cover the departure cost of migrant workers, with a limit of IDR 25 million and a tenor that is tailored to the duration of employment contract or to a maximum of 12 months.

KUR are rarely obtained by businesses in Simpang Dua, mainly due to the distance to the bank's branch offices, but also because of the complicated procedures and requirements, especially for smallholder farmers and MSMEs. There is a possibility that KUR has been accessed by big businesses in the sub-landscape, although no data are available to confirm this assumption.

3 The exchange rate as of January 29, 2021 was 1 EUR = 17,032 IDR.

Womens' Group Savings and Loans (Simpan Pinjam Perempuan/SPP) provide revolving credit for productive activities in order to improve womens' livelihoods. SPP was one of the activities conducted by the National Program for Community Empowerment in Rural Areas (PNPM MP) under the Ministry of Home Affairs and Ministry of Villages, Development of Disadvantaged Regions, and Transmigration. However, the program ended in 2014 and the revolving fund schemes failed to continue without its support.

To date, credit unions have become the major source of funds for local people in Simpang Dua, both for consumptive and productive purposes. At least four CUs serve people in Simpang Dua: CU Semandang Jaya, CU Pancur Dangeri, CU Lantang Tipo, and CU Semarong. The last two currently do not have branch offices in Simpang Dua, but are widely accessed by the community members through credit union representatives.

This study provides insights to the financial mechanisms that can support integrated landscape management within Simpang Dua Sub-landscape, and it focuses on the financial flows from CU Semandang Jaya (CUSJ), one of the most frequently accessed financial sources in the area. CU Semandang Jaya is also of interest since it has developed a Social Performance Management Unit that has specific loan products targeted to smallholders and farmers in the agricultural sector.

3.3.1 Selection of key informants

Through the in-depth interview with the implementing agency (CU Semandang Jaya) in Phase 1, it was learned that CUSJ provides several types of loans. In addition, in 2017 CUSJ adopted an innovative financing scheme called Social Performance Management (SPM) that aims to support productive business activities, especially in the agroforestry and ecotourism sectors. However, this scheme has yet to be widely applied in the Simpang Dua area. This case study selected key informants for Phase 2 who are beneficiaries of productive loans[4] in the agroforestry and MSMEs sectors and whose financed activities are considered to have positive effects on social, economic and environmental objectives. In addition, CU members who are not beneficiaries of any loan products were interviewed in Phase 2 to provide insights on the risks, barriers and impacts of the financial flows. Potential key informants for both the recipient and non-recipient categories were suggested by CUSJ. Other key informants from the local and district-level government provided a more general overview of the existing financial flows in the sub-landscape.

Key informants interviewed included:

- one representative of CUSJ (financial flow source);
- nine CU members who receive productive loans (financial flow recipients);
- three CU members who do not receive any loan products (financial flow non-recipients);
- one representative of local government (Simpang Dua Head of Subdisctrict/Camat); and
- four representatives of district-level government (Agriculture, Animal Husbandry and Plantation Office of Ketapang District and Cooperatives, MSMEs, Industry and Trade Office of Ketapang District).

Key informants from recipient and non-recipient groups live in Semandang Kanan village and Gema village and were interviewed at their home/business in their respective village, while the district government officials were interviewed in their work base in Ketapang District. The General Manager of CUSJ was interviewed virtually, using the Zoom platform.

4 The borrowers of productive loans repay the lender from the income generated by the loan.

3.3.2 Feedback and validation

A focus group discussion (FGD) was held in Phase 3 to validate the collected data and receive feedback. It also allowed team members to obtain additional information that was not captured during the interviews. To ensure that the discussion was effective, the FGD was limited to 15 people from relevant stakeholder categories. Participants included the management of CUSJ, members of CUSJ (both recipients and non-recipients), and relevant stakeholders who had been interviewed in Phase 2. Participants from the recipient group were selected based on gender, age group, type and scale of business and amount of loans, as well as their perceived risks and barriers. A resource person who understands financial flows from other financial institutions (in particular, banks) joined the FGD to provide external expert opinion and enrich existing perspectives.

Since key informants had limited knowledge of the financial flows from CUSJ within Simpang Dua sub-landscape, the first session of the FGD discussed the overall financial flows within the landscape, the perceived risks of and barriers to these flows, and the support needed to overcome those barriers. More in-depth discussions on the financial flows from CUSJ were conducted in a second session, to capture the impacts of the flows on economic, social, and environmental objectives.

Limited resources and time, distance, as well as Covid-19 restrictions, made it difficult to gather all the participants in one place, so the FGD was a combination of face-to-face (offline) and online meetings. Participants who live in the Simpang Dua area joined an offline meeting, while participants outside the area joined the FGD through the Zoom platform. During the face-to-face meeting, all participants complied with the local Covid-19 health protocol.

SECTION IV

4. Main findings

4.1 General background of key informants

Of the 18 key informants interviewed in this study, five are female and range in age from 29 to 58 years old. Of these five women, three were financial flow recipients (representing one-third of that group of key informants).

All the key informants who were CU members have established businesses, with sales ranging between IDR 1,000,000 and 20,000,000 per month. While some of the businesses are self-managed, sometimes with the help of a spouse, other businesses, especially in the oil palm plantations, provide jobs for an additional two to five workers, who are generally family members or local residents, with a kinship payroll system[5]. Palm oil is one of the main commodities in the landscape: three-quarters of key informants are independent oil palm farmers. This activity is sometimes combined with raising other crops; for instance, rubber, jengkol, paddy, and chilli. One of the key informant farms fish and sells both raw and grilled fish. Other key informants make a living from non-agribusinesses of trade and services such as a food supplies stall, local coffee shop, crafts, mechanical workshop, and small-scale building contractor.

Two informants have been members of CUSJ since it was established in 1991, and are loan recipients. One non-recipient informant joined CU for less than six months. Most of the loan recipients initially joined CU to get access to convenient and affordable credit, not necessarily just for productive purposes, but also for emergency needs. Meanwhile, all non-recipients stated that they would like to join a CU to save money so that in the future they would be able to afford to buy valuable assets such as land. Another reason to join a CU is the additional health insurance it provides, with an affordable annual premium, that reimburses CU members for inpatient and outpatient health costs. Two non-recipient respondents said they had savings in other financial institutions, including Credit Union Lantang Tipo, Credit Union Pancur Dangeri, and BPD Kalbar (West Kalimantan Regional Development Bank), while one recipient has a car loan from Bank Mandiri. Only one of the respondents from the non-recipient category foresaw the need for additional capital from financial institutions to develop his independent oil palm plantation business, particularly to buy seeds and fertilizer. Other non-recipients who have businesses in non-agricultural sectors do not plan to obtain financing to develop their business in the near future. Six of nine respondents from the recipient category have palm oil as their main commodity, but only half of these six palm oil farmers borrow money from CUSJ for their independent oil palm plantation business; for instance, to buy seeds and fertilizer and to pay for labour costs for clearing and maintenance.

4.2 General overview of the financial flow

This study focuses on the productive loans, provided by Credit Union Semandang Jaya. Currently, the operations of CUSJ cover the area of West Kalimantan and the eastern part of Central Kalimantan, with 1 head office and 36 branch offices. At the end of 2020, it had 50,246 members, including 3,024 members in Simpang Dua Sub-district.

CUSJ was initiated due to concerns that the local economy in the Balai Semandang area of Ketapang District was dominated by off-takers who preferred to barter instead of buy local people's products with money. This resulted in a lack of cash, which local people needed for various reasons, including supporting youth studying in a nearby city. In 1991, Ketapang Diocese's Commission for Socio-Economic

5 Agreements are made to compensate labourers for their contributions to production. These vary in rates and terms of payment and are usually linked to crop cycle and marketing arrangements rather than regular payments.

Development (PSE) facilitated basic training for local people as the initial stage of the establishment of CUSJ.

The CU functions like other financial institutions, with its core business being financial products and services. However, as a cooperative, CU is owned and operated by the people it serves and aims to serve its members rather than to make profits. Not only does it provide savings and loans with better and more competitive interest rates, it also provides other services; for instance, solidarity funds[6], money transfers, training, and assistance for its members.

Despite being founded in November 1991, CUSJ did not obtain formal status as a legal entity as a cooperative at the district level until 2001; this status was acknowledged by the provincial government in 2011.

Being a member-owned entity, the CU's sources of funds come from its members in the form of Main Savings (Simpanan Pokok), Mandatory Savings (Simpanan Wajib), Voluntary Savings (Simpanan Sukarela), other savings accounts, earnings from loan interest, and business units that also serve to support the economic development of the CU's members. Main Savings, in the amount of IDR 1,000,000, must be deposited as a requirement to apply for CU membership. Mandatory Savings amounts to IDR 30,000 per month and applies to all CU members. Both types of savings reflect members' ownership status as CU shareholders, and the funds can't be withdrawn throughout the membership period.

The other savings accounts the CU Semandang Jaya provides have different characteristics (Table 1).

Table 1. Saving products, Credit Union Semandang Jaya

TAMAN (Tabungan Masa Aman)	TAMAN is a savings account with a minimum deposit of IDR 30,000,000 and a fixed interest rate, even when the member withdraws some of the money. TAMAN is used as the basis for applying for a loan and it automatically becomes collateral for the loan. If a member is unable to pay a loan instalment and interest payments, CU will immediately withdraw funds from TAMAN to pay the amount in arrears.
TUAS (Tabungan Untuk Anak Sekolah)	TUAS is a savings account that aims to support education funds for schoolchildren, ranging from preschool to high school/equivalent.
PASIMPONG	PASIMPONG is a savings account with daily interest; money can be withdrawn anytime during working hours. PASIMPONG can also be used as loan collateral. When used as collateral, funds cannot be withdrawn if the loan is considered high-risk.
THR (Tabungan Hari Raya)	THR is a savings account that is commonly used to save money for annual religious holiday celebrations.
TAMAPAN (Tabungan Masa Depan Pendidikan)	This is a savings account for parents who want to establish a higher-education fund for their children. TAMAPAN savings accounts can be financed through loans, meaning that members can borrow the money from the CU, deposit it in their TAMAPAN savings account and pay monthly instalments on the loan. The funds cannot be withdrawn until the loan is paid off. Members who have TAMAPAN savings accounts are eligible to be included in a scholarship program for higher education.
TANDUR (Tabungan Darurat)	TANDUR is an emergency savings account to deal with urgent family or personal financial problems due to illness, accidents, house fires, natural disasters, layoffs, and repair of vehicles.
TAJA (Tabungan Berjangka)	TAJA is a timed deposit savings account; i.e., it has a date of maturity. People must hold the money for a fixed term to receive the interest in full.

6 With certain annual contribution, members of CU Semandang Jaya can have the benefit of health insurance of immediate family members, compensation for family upon the death of CU member, and compensation for house fire damages

CUSJ also provides six types of loans:

1. **Productive loan**
   A productive loan can be used to generate income (from the activity generated by the loan) and provide returns for members.
2. **Consumptive loan**
   A consumptive loan is incurred to purchase or finance consumable goods and services, such as vehicles (motorcycle, car, speedboat), electronics, home renovations, and weddings.
3. **Capitalization loan**
   A capitalization loan is used to open a new savings account or to increase existing savings. This type of loan is often used by new members to finance Main Savings and fulfil the requirement for membership status. CU members can also use this type of loan to increase their savings, with the amount of the loan directly credited to the member's savings account. Capitalization loan also refers to a loan of an amount equal to or lower than the existing savings.
4. **Land and housing ownership loan**
   This type of loan can be used to purchase a house, land, or properties as a personal asset.
5. **Education loan**
   This type of loan can be used to finance higher education (high school and universities).
6. **Medical loan**
   This type of loan can be used to pay medical bills.

This case study focuses on the various types of productive loans provided by CUSJ that are available to finance small-scale farmers and businesses that contribute to integrated landscape management initiatives. See Table 2.

Table 2. Productive loans provided by Credit Union Semandang Jaya

Type of loan	Characteristic	Platform[7]	Interest rate (on a monthly basis)	Maximum time period
Working capital	• Targeted to the MSME segment; for instance, food supplies stall, commodities trade (rubber, palm oil, vegetables), kiosks, automotive workshops, restaurants, and property. • Collateral is needed in the form of CU savings account, land and house certificates, business permits/ letter of the cultivation registry.	Savings amount at a minimum of 30% of the total loan	1.8% effective rate[8]	60 months
Agriculture, livestock and plantation business loan	• Targeted to independent and individual businesses in the agriculture, livestock and plantation sectors.	Saving amount at a minimum of 30% of the total loan	1.25% effective rate; 0.75% flat rate[9]	60 months

7 Platform refers to the maximum amount of the loan relative to the borrower's savings. Several types of loan require a minimum percentage of funds in members' savings account compared to the amount of loan they're requesting.

8 The effective rate takes into account the effects of compounding and the fees charged. It is calculated on the outstanding loan balance. See also "flat rate" (Footnote 6).

9 The flat rate is calculated on the entire loan principal over the course of the loan tenure. See also "effective rate" (Footnote 4).

Type of loan	Characteristic	Platform[7]	Interest rate (on a monthly basis)	Maximum time period
	• Collateral needed in the form of CU TAMAN or PASIMPONG savings account, land and house certificates,[10] business permits/ letter of the cultivation registry.			
Green economy loan	• Targeted to small-scale agricultural and fisheries businesses • Conducted under Social Performance Management (SPM) unit in each CU branch office	Maximum amount of IDR 5 million	1.5%	12 months
PINTAR (Pinjaman Sebentar/ short-term loan)	• Targeted to productive businesses sectors with opportunity to produce in a short period of time (funding short-term businesses). • Collateral needed in the form of CU TAMAN or PASIMPONG savings account, land and house certificates, business permits/ letter of the cultivation registry. • Not applicable for restricted or illegal businesses such as illegal mining, illegal logging, gambling, loan sharks, and other businesses that are contrary to the prevailing social values and norms. • Cannot have previous or current non-performance loans • Loan interest can be paid in advance or during the repayment period. • Loan instalments can be paid on a daily or weekly basis. • CU members can obtain another type of loan, once at least 50% of the existing loan has been paid. • The penalty for late payment after the contract period ends is 1% per day of the outstanding amount. • If there is no payment after a maximum of 10 days after the contract period ends, the collateral will be confiscated, as agreed in the loan statement letter.	IDR 1 million – 30 million IDR 31 million – 200 million	2% 1.8%	6 months

10 SKT (Surat Kepemilikan Tanah/Land Ownership Letter) issued by the sub-district government, are commonly used as collateral since most people in the area do not have land certificates, which are issued by BPN (Badan Pertanahan Nasional/National Land Agency). Basically, SKT is not a proof of ownership of a land right but rather a land registration document that is proof of physical control over the land.

Type of loan	Characteristic	Platform[7]	Interest rate (on a monthly basis)	Maximum time period
Project-based capital	• Funds infrastructure projects such as construction of roads, bridges, offices, housing, irrigation, schools, etc. • SPK (Work Order) from the project provider is required. • Collateral can be in the form of savings accounts, SITU (business location permit), SIUP (business permit), Company Registration Certificate, or land and house certificates. • Loans are disbursed in instalments, as per progress of the funded project • Loan payments can be made either when the project is complete or in stages, according to the agreement.	30% of the total capital up to a maximum loan of IDR 500 million	1.8%	12 months
Group loan	• Targeted to agricultural, plantation, livestock, and fisheries business groups. • All group members must be members of CUSJ. • Official proof of the formation of the business group must be provided by an inauguration decree from the Head of Village. • A statement letter with sufficient stamp duty, signed by all group members and stating their willingness to pay off the loan, must be provided. • A letter is needed stating that the group members are willing to get assistance from CUSJ. • A group business analysis proposal is required. • Copies of the ID cards of all group members are required. • Loan payments are made by a group representative, namely the Chairperson or Group Treasurer, in accordance with the agreement. • Collateral must be provided in the form of savings, land or house certificates in the name of one of the group members.	10% of the total capital to a maximum of IDR 100 million	1.8%	24 months

In 2017 CUSJ established a Social Performance Management (SPM) unit that specifically provides loans for productive agribusinesses that support a green economy, including those in agriculture, livestock, plantations, fisheries and ecotourism. The unit also manages group loans that are disbursed as part of a package that includes technical assistance. The SPM unit assesses the business potential in the area surrounding each branch office, including businesses that require technical support as well as financial support. The unit coordinates with other stakeholders, including relevant government officials, to conduct training and capacity building to develop the selected businesses. SPM also helps CUSJ members to sell their products by finding markets and connecting them with buyers. Currently, the SPM unit provides technical and business assistance to 17 groups and 66 individuals that received productive loans from CUSJ.

The SPM focuses on providing assistance to recipients of a Green Economy Loan or Group Loan. A Green Economy loan (see Table 2) targets farmers who are starting small-scale agriculture and fisheries businesses. Most of its recipients are small-scale horticultural farmers (chilli, corn, cucumber, watermelon, green mustard and peanuts), fish farmers (catfish, parrot fish, goldfish), and chicken breeders who produce food supplies for the local market. Since the loan supports newly established small businesses, it provides a grace period, allowing the loan to be repaid after the first harvest, although the first instalment must be paid no longer than three to six months after the loan agreement has been signed. Green economy loans can be obtained by individuals or groups and can be provided as a double loan, meaning that beneficiaries are able to obtain another type of loan in the same loan period. Once the scale of the business improves and the recipient needs a larger loan, he or she is no longer eligible for a Green Economy Loan. All recipients of Green Economy Loans are entitled to business assistance from CUSJ. This aims to improve the capacity of the farmers regarding technical skills for farming, and to link the farmers with potential markets.

Similarly to a Green Economy Loan, a Group Loan is also managed under the SPM unit. Group Loans target MSMEs, farmers, and agribusiness entrepreneur groups, and technical assistance is a mandatory component. Prior to the loan application, the group members must provide a signed document that states that they're obliged to accept technical assistance from CUSJ. The beneficiaries of this type of loan receive regular training associated with the business, such as in components of the agricultural system, including cultivation, raising seedlings, planting, treatment, harvesting, post harvesting, and primary product processing. Since the expertise of CU staff members in these specific subjects is limited, they collaborate with relevant government agencies to conduct the training. This helps them improve the skills and capacity of the loan beneficiaries so that they are able to develop their business by improving the quality and quantity of their yields. Furthermore, Group Loan beneficiaries also get coaching sessions in business management, accounting, and marketing.

All type of productive loans can be accessed only by CU members, and each type of loan serves different segments. For instance, Green Economy loans can be used only to finance new agriculture business that require a small amount of capital in a short period (maximum 12 months). When businesses become more mature and need larger amounts of capital, individual members can access an Agriculture, Livestock, and Plantation Business Loan, which has no maximum amount and a longer repayment period. A PINTAR (short-term) loan is usually used by off-takers to purchase local commodities such as rubber, jengkol and durian during harvesting season. A project-based capital loan commonly targets the contractor of a government infrastructure project, so it requires a work order from the related project as part of the loan application documents.

The basic requirements for the loans are the completed application form, ID card, business permit, and certificate of ownership of the collateral (if needed). When the amount of the loan is lower than the amount of money the applicants have in their savings accounts, no collateral is needed. Prior to the loan application, CU members can have a consultation session with loan officers, who provide information about the loans, help them assess their financial capacity, and calculate the repayment schemes.

Once the application has been submitted, loan officers will analyze the creditworthiness of the applicant using a 5C framework: character, capacity, condition, capital and collateral.

- Character refers to the credibility and reputation of the applicant.
- Capacity considers the applicant's ability to repay the loan, including any additional source of income aside from his or her core business.
- Condition considers the current state of the business as well the external trends that might affect it.
- Capital considers the total capital needed by the business.
- Collateral refers to the value of the asset that is being used to secure the loan.

After this analysis, the application is brought to the Credit Committee, which consists of a loan officer, branch manager, and a member of the administration staff, to decide whether the application can be approved. If the amount of loan exceeds IDR 50 million, the approval must come from the head office level.

In 2020, CUSJ disbursed a total of IDR 292.7 billion through several loan categories; 41.2% was for productive loans. See Table 3. A similar ratio of productive to non-productive loans also applied in Simpang Dua, where IDR 8.6 billion of IDR 20.8 billion went to finance local businesses.

Table 3. Total loan disbursement from CU Semandang Jaya as of 31 December 2020 (IDR)

Type of loan	Simpang Dua	All branches
Productive	8,642,160,400	120,756,737,375
Consumptive	6,451,342,000	65,850,627,075
Capitalization	406,454,200	20,174,614,500
Land and housing ownership	4,171,502,500	63,844,878,000
Education	929,359,000	15,022,489,250
Medical	214,199,500	7,115,341,500
TOTAL	**20,815,017,600**	**292,764,687,700**

Of the total value of the productive loans in Simpang Dua, 94% was allocated for amounts higher than IDR 10 million, as shown in Table 4. The proportion of the total value of smaller loans (<10 million IDR) is lower in Simpang Dua (6%) than it is for all branches combined (16.3%).

Table 4. Total amount of productive loans (IDR) disbursed in Simpang Dua, 2020

Amount of loan	Simpang Dua	All branches
< 1,000,000	3,520,000	807,373,600
1,000,0001 – 10,000,000	512,529,000	18,829,364,000
10,000,001 – 50,000,000	4,063,800,900	54,926,046,575
> 50,000,000	4,062,310,500	46,193,953,200
TOTAL	**8,642,160,400**	**120,756,737,375**

CUSJ disbursed loans under the SPM unit to a total amount of IDR 2,619,397,000 across West and Central Kalimantan (2% of its total disbursements). The disbursement of SPM loans in Simpang Dua area is still limited. By the end of 2020, only one group of farmers in Simpang Dua had accessed Group Loans through SPM schemes. It should be noted, though, that the maximum amount of loans for agriculture, livestock, and plantation businesses is low compared to working capital loans, which are commonly used to finance MSMEs and trade activities.

And although the amount of non-performing loans (NPLs) for financial flows to agribusinesses is considerably lower than for MSMEs, the agriculture sector obtained only 13.4% of total productive loans in Simpang Dua (IDR 1.1 billion); working capital obtained almost 80% (IDR 6.8 billion). See Table 5. This situation reflects the overall condition: farmers and entrepreneurs in agribusiness sector are still reluctant to seek financial support, mainly due to their lack of experience and knowledge of the financial system. In addition, the risks associated with agricultural sectors are perceived as being considerably higher, making this sector less attractive to financial institutions and other investors, even though the data in Table 5 show that in the case of CUSJ agricultural loans have a lower rate of non-payment than several other type of loans. Despite having a Green Economy Loan under the SPM unit in place, the CUSJ branch in Simpang Dua has yet to disburse loans to support the initiatives of small-scale businesses associated with green economy activities.

Table 5. Total amount of productive loans disbursed in Simpang Dua (IDR), number of beneficiaries disaggregated by gender, and NPL rate for each type of loan, 2020

Type of loan	Male recipients	Female recipients	Total loans disbursed (IDR)	NPL (%)
Working capital	123	111	6,842,969,400	2.36
Agriculture, livestock and plantation business	31	11	1,162,061,000	2.00
Green Economy	—	—	—	—
Short-term loan	12	7	513,100,000	1.27
Project-based capital	2	0	112,350,000	2.20
Group loan	1	0	11,680,000	3.00
TOTAL	**169**	**129**	**8,642,160,400**	**2.25**

While a similar number of men and women receive Working Capital loans, only 26% of recipients of Agricultural, Livestock and Plantation Loans are from women's groups. Short-term loans, which are often used for trade businesses, are used by 36.8% of women beneficiaries. No women are the beneficiaries of project-based capital or group loans.

By the end of 2020, the NPL ratio for all productive loans from CUSJ in Simpang Dua reached 2.25%, lower than the NPL ratio of commercial banks in Indonesia at 3.2%.

4.3 Perceived risks and barriers

Investment in agricultural sectors is associated with high risks, especially because agricultural commodities are climate-sensitive, price-sensitive, and perishable. Moreover, the cycle of harvesting makes it hard for farmers to pay the monthly instalments required by financial service providers. In addition, a lack of financial management skills sometimes makes farmers less attractive to investors and may also exclude farmers from financial access. The risks of financial flows in Simpang Dua sub-landscape as perceived by the recipients during the interviews are shown in Table 6. These perceived risks were also confirmed by the financial institutions during the FGD.

Table 6. Perceived risks of financial flows

Type of risk	Level of risk	Remarks	Mitigation strategy
Decrease in commodity price	Medium to high	Commodity prices can be affected by fluctuating commodity prices on the global market and by the risk of lowered quality due to transportation. The risk of a decrease in commodity price is perceived to be high, especially for rubber.	Switch to a commodity with a better price
Low crop productivity	High	Agricultural commodities are susceptible to weather changes and pest attacks that might affect crop productivity. Also, for commodities such as rubber, the rainy season hampers farmers' ability to tap the trees and therefore lowers productivity.	Find an alternative source of income
Crop failure	Low	Rare — cases caused by weather changes or pest attacks.	Find an alternative source of income
Financial mismanagement	Low	Rare — cases where a loan was used for other purposes.	Separate business and personal financial management
Urgent personal needs	Low	Rare, since CUSJ provides loans for urgent personal needs (e.g., health, education, family matters) in addition to productive loans.	Have savings as a reserve fund

As shown in Table 6, the risk of a lower commodity price was perceived to be high by most of the FGD participants, especially for rubber, which remains the main commodity in Simpang Dua. One participant from the recipient group had already switched to another commodity and had no difficulties in paying back the loan even when the price decreases. A participant from a government agency perceived that the risk of fluctuating commodity prices is affected by global prices, market demand, and product distribution that may affect the quality of the products. A participant from the agricultural agency mentioned that the risks for fruit and vegetable farmers are greater since they produce perishable products that are easily ruined. And the fact that some agricultural commodities are perishable goods with uncertain yields can make financial institutions reluctant to provide credit.

Low productivity is considered to be a high risk, especially due to a rainy season that prevents farmers from being able to tap the rubber trees from which they derive their daily income. The risk of harvest failure is perceived to be low. It is mainly due to a change of weather, or pests and diseases, but has rarely occurred. One informant who runs a fisheries business has never experienced harvest failure. The risk of financial mismanagement due to misuse of the loan money for personal purposes is considered to be low. One of the FGD participants with a background in the banking industry had found some cases where debtors use the productive loan for purposes other than financing their business. However, such cases are not common.

Several other risks were identified during the FGD, although they did not specifically apply in the Simpang Dua area. According to a finance expert who had a longstanding managerial career at a local branch of a national bank, there are also external risks that might affect a debtor's ability to repay the loan, such as financial crises and other crises (natural, political, etc.) outside the influence of the debtor. Despite the risks, all loan recipients are confident that they have sufficient capacity to be able to repay the loan in a timely manner, and they have risk mitigation strategies in place, such as switching to commodities that offer a better price, alternative sources of income, separation between business and personal financial management, and savings that provide reserve funds. To avoid the risk associated with a fall in commodity prices, borrowers consider choosing commodities with a higher market price and high market demand. This has caused an increasing shift from rubber to oil palm plantations in the Simpang Dua sub-landscape.

From the lender's side, the CU perceived that financing agricultural businesses has considerably high risks. However, since CUSJ serves its members, who mostly make a living as farmers, it is committed to continuing to finance small-scale farmers, even those who are just starting their farming business, by taking several risk mitigation measures, as presented in Table 7.

Table 7. Risk mitigation strategies of the financial flow source

Category of risk	Mitigation strategy
Market risk	Establish downstream industries with marketing support from CUSJ; for example, ginger instant drink production, which uses ginger commodities produced by farmers and enhances famers' market outreach. Encourage commodity diversification to avoid severe financial losses due to crop failure or price drop.
Financial risk	Develop farming insurance to protect farmers from financial loss due to crop failure. Conduct financial education for members to prevent financial mismanagement.
Liquidity risk	Provide an emergency savings product (TANDUR) that can be used for personal emergencies, so that these problems will not affect debtors' ability to repay their loan. Provide loan schemes that align with the farming cycle; for example, through grace periods and flexible times of repayment.
Operational risk	Establish an SPM unit specifically to empower members, especially to improve their technical agricultural skills. Provide risk management training and capacity building for staff involved in loan disbursement (loan officers, managers, administrative staff). Conduct prudent loan approval processes (loan applications for more than IDR 50 million already require approval from the credit committee at the head office level).

As another risk mitigation measure, some types of loans provided by the CU require a minimum amount in the borrower's savings account, equal to 10–30% of the total loan. If the borrower falls behind in loan payments, the CU can deduct the payment from the savings account. Moreover, some types of loan do not pose any risk for CU since the amount of the loan is lower than the amount of savings accumulated by the borrower.

Participants in the FGD discussed several barriers to receiving financial flows (Table 8). Relevant stakeholders and informants from non-recipient groups identified that distance from financial institutions, lack of knowledge regarding the loan application process, lack of collateral, complicated procedures, high interest rates, absence of legality documents, and cultural barriers are still hampering access to finance in general. CU loan recipients, however, do not experience any significant barriers to obtaining their loans. Even when the interest rate from the CU is higher than that from banks, local people still prefer the CU since bank services are not widely available in Simpang Dua. Moreover, the high interest rate is not perceived as too burdensome since a significant part of the interest will flow back to the CU members in the form of Balas Jasa Pinjaman (loan repayment) and Sisa Hasil Usaha (dividend).

Table 8. Barriers to financial flows as perceived by participants in the FGD

Type of barrier	Level of barrier
High interest rate	Medium to Low
Difficulties in meeting loan application requirements	Low
No sufficient knowledge of the loan application process	Low
Cultural barriers (being reluctant to visit the financial service provider's office)	Low
Distance to financial services	Low
Lack of collateral	Low
Specific barriers for women	None

The barrier of the absence of legal documents (a loan application requirement) was perceived as Low since CU staff members provide assistance for members to apply for identity documents and for an SKT (land ownership letter) to the village authorities when necessary. If the applicants do not own collateral in the form of a fixed asset such as land or a house, their savings account can serve as collateral, but only when the amount of the loan is lower than the amount of their savings. In that case, the requirements and the application process are a lot easier.

Furthermore, no specific barriers that limit women's access to loans were identified by any of the informants from the recipient and non-recipient groups. However, one of the male informants perceived that women tend to go through a more complicated application process, with more questions from the financial institutions. One of the female recipients stated that she had to obtain approval from her spouse before applying for a loan, although during the FGD it was confirmed that approval from the spouse is also required for male applicants.

Other relevant stakeholders, however, perceived that barriers for womens' group may not yet have been identified, because fewer women apply for credit in the first place. Interestingly, in the case of CUSJ, a higher proportion of productive loans is accessed by women, even though overall, women are less likely to obtain loans (see Table 9). Of 5,916 beneficiaries of productive loans in all CUSJ branch offices across Kalimantan, 61.2% are accessed by women beneficiaries even though women accounted for only 38.9%

of the total (productive and non-productive) loan beneficiaries. Another barrier as perceived by a female informant from a district government office is that women often find it harder to access credit from formal financial institutions, because the asset that can be used as collateral is registered under the spouse's name. The situation is even more complicated for divorced women, especially when the legal status of the asset is not yet resolved.

Table 9. Number of loan recipients (all branches)

Type of loan	Male	Female	Total
Productive	2,295	3,621	5,916
Non-productive *	13,233	6,259	19,492
Total	15,528	9,880	25,408

Note: Non-productive refers to the other five types of loans: consumptive, capitalization, land and housing ownership, education, and medical.

Despite the fact that its members perceive no significant barriers to access to financial support, CUSJ has taken the following five measures to enable local businesses, regardless of their size and scale, to access its financing products:

1. Provide the Green Economy Loan as a specific product with a lower interest rate than other type of loans provided by CUSJ, except for agriculture loans. This loan targets the small business segment. The Green Economy Loan finances newly established local businesses in the horticulture, fisheries, and livestock sectors and it provides business assistance as a package along with financial support. This type of loan accommodates a repayment period in accordance with the first harvesting period, up to three to six months after the loan has been received by the debtors.
2. Conduct an outreach strategy in which a credit officer will conduct a field visit so that the consumer can have financial support without having to come to the CU's office.
3. Provide education regarding the financial products available and general financial management for the local communities in the form of financial literacy training for its members.
4. Simplify administrative processes and requirements for loan applications. While other formal financial institutions such as banks need land certificates as collateral, CUSJ accepts an SKT (land ownership letter). Loans for less than IDR 50 million can be approved at the branch office level, which can speed up approval. For debtors who apply for a loan that is lower than their existing savings, the application process will take only one working day.
5. Assist members to apply for the necessary legal documents for credit applications, including personal identity documents, business registration, and land ownership letter (SKT).

Support from the CU has, therefore, become the key factor to overcoming recipients' barriers. They can now directly access financial services more easily. Especially for smallholders and small businesses, outreach and inclusiveness are provided by financial education and literacy efforts and also driven by direct engagement and assistance and by innovative products that are tailored to their needs.

4.4 Effects of the financial flows on social, economic, and environmental objectives

Financial flows can cause positive and negative effects on social, economic and environmental objectives within the landscape. This study seeks to gain insights into the effects of existing financial flows from CUSJ on Simpang Dua sub-landscape, and to identify potential opportunities to improve their positive effects and reduce their negative effects on landscape objectives. In general, as highlighted by one of the key informants from the district-level government office, most local economies — especially those related to crop farming systems — are still traditionally managed, with limited or no access to financial services. However, the existence of CUSJ as an alternative financial source has enabled local communities to obtain finance to run their businesses or simply to own a saving account.

In general, financial recipients perceived that access to financial flows from CUSJ have positive effects on increasing revenue, supporting job creation, contributing to food security, improving social solidarity, and equalizing access to financial services. See Table 10. These perceived effects were confirmed by other stakeholders during the FGD. One of the tangible impacts of financial flows from CUSJ can be seen in the growing businesses and increasing income. This directly and indirectly contributes to the improvement of housing conditions, increases asset ownership, and expands access to higher education for local communities in Simpang Dua. The impacts of access to higher education can be the indirect result of a growing economy, and can also be due to funding schemes to pursue higher education being available. This results in local people being more confident about obtaining education loans to help secure their children's future.

Table 10. Perceived effects of financial flows on socioeconomic objectives

Type of impacts	Opinion
Increased income	Positive
Job creation	Positive
Increased food security	Positive
Business management skills	Not significant
Access to markets	Neutral
Social solidarity	Positive
Access to finance	Positive
Educational opportunities	Positive

Moreover, financial flows from CUSJ are perceived to have positive effects on social solidarity among community members, since its membership-based system enables members to recommend each other for credit. As a cooperative, CUSJ has adopted five pillars as the basis of its products and services: education, self-subsistence, solidarity, innovation, and unity in diversity. Its products can be accessed by poor people and minority groups who are left behind by conventional financial mechanisms. CUSJ has social and solidarity products that provide health insurance and compensation for death and house fires. These products are considered to bring a sense of social cohesion to its members. Loans for the agriculture and fisheries sector are perceived to contribute to food security. CUSJ has provided loans for rice farmers in Dusun Deraman, Semandang Kiri Village, Simpang Hulu Sub-district, who meet local consumption needs.

The financial flows also have impacts on economic objectives (Table 11). Such financial flows contribute to job creation, especially in the palm oil sector, that is perceived to have a multiplier effect on the local economy.

Increasing financial flows to the palm oil sector have enabled small-scale farmers to manage more land, purchase vehicles and equipment, and provide job opportunities. Similar impacts from flows to the food crop sector have yet to be identified. The impact of financial flows on the business management skills of recipient communities is perceived to be not significant, since a major part of these financial flows is oriented to the non-productive sector, and support for business management skills applies only to recipients of productive loans and not to communities in general. In a broader sense, the financial flows are also perceived to have no impacts on access to new markets for local commodities, since most local products target the local market. At the same time, some agricultural products do not have sufficient quality or quantity to meet the demands of the commercial market, although efforts have been made to link CUSJ-financed businesses to potential markets.

All participants from the recipient group agreed that the loan enables them to acquire additional assets for their businesses. One participant, who joined CU only to save money, was in doubt about taking out a loan. Through a group loan, however, he began to develop confidence in his ability and resources to repay the loan and later he perceived that a loan from CU could be a means to improve his business and assets in the future. In an oil palm plantation, loans can be used to expand the plantation area or purchase a dump truck to transport fresh fruit bunches to the buyers. The latter opens up a job opportunity for a truck driver. Two loan recipients have hired workers in their oil palm plantation in addition to the core family members; usually these are neighbours hired through a kinship payroll system. Other recipients do not have additional workers, as the scale of their business is still small enough that they can run it by themselves.

Table 11. Perceived effects of financial flows on the economic objectives of the businesses of the recipients on economic objectives

Type of impacts	Opinion
Profit and revenue	Fluctuating – Increasing
Asset ownership	Increasing
Size of the workforce	Constant – Increasing
Financial literacy	Constant – Increasing
Business management skills	Increasing, but insignificant
Access to market	Constant – Increasing

The financial flows have positive effects on revenue. However, two FGD participants —one has a fisheries business and rubber plantation while the other has an independent oil palm plantation and rice mills — agreed that the increasing revenue is not stable and sometimes varies.

Financial flow recipients perceived an improvement in their financial literacy. At first, some joined CU only to save money, but over time they gained the confidence to borrow money to develop their business and accumulate assets. They also perceived that their business skills have improved, as indicated by the variety of businesses and the innovation in business development. For example, the recipient who has a freshwater fish farm has been able to open a small grilled fish restaurant nearby, thanks to a loan from the CU.

Access to markets has improved for recipients who run the grilled fish restaurant and rice mills. The local oil palm plantation business is still in the early stage and has not yet started its production cycle; therefore, its access to the market has not been affected by CUSJ.

Currently, CUSJ also does not play any role in the supply chain of palm oil.[11] However, members expect CUSJ to pursue marketing opportunities for oil palm fresh fruit bunches, starting with collecting data on oil palm production from its members.

Financial flows also have impacts on environmental objectives (Table 12). According to CUSJ management and members involved in the FGD, financial flows from CUSJ have enabled local people to plant abandoned land and grassland with shrubs to convert them to more productive gardens, mostly for oil palm and smaller areas for vegetables/horticultural crops. They perceived that this effort helps somewhat to increase biodiversity on the land and that oil palm plantations are not a threat to the forest area. However, there is a misconception among CU management that financing palm oil plantations by planting abandoned land can contribute to climate change mitigation, since crops with a solid stem are perceived to absorb more carbon than shrubs.

Table 12. Perceived effects of financial flows on environmental objectives

Type of effects	Opinion
Protect biodiversity	Neutral to positive
Mitigate climate change impacts	Neutral to positive
Reduce forest fires and illegal logging	Neutral to positive
Prevent illegal mining in the forest area	Positive
Diversify crops	Positive
Reduce shifting cultivation agriculture	Neutral to positive

One of the loan recipients did not know the direct impact of the financial flows on climate change mitigation and adaptation, while another thought that oil palm financing was not affecting the impacts of climate change (such as floods or uncertainty in the harvesting season) on local commodities such as durian. On the other hand, by supporting settled farming instead of conventional open rice fields, these financial flows also contribute to reducing slash-and-burn practices, and therefore have a positive environmental impact by reducing forest fires. Although it is not mandatory, loan recipients are expected to plant diverse commodities to serve as alternative sources of income and to reduce the risk of loss of income when crops fail or commodity prices drop; hence, the financial flows are perceived to have positive effects on crop diversification. CUSJ has a specific lending policy that bans financing for illegal activities, which is a positive gesture towards prevention of illegal logging and illegal mining in the forest areas. CUSJ even facilitated an agreement to prevent the communities from carrying out illegal mining in the upstream areas. The effects of financial flows from CUSJ on environmental objectives were perceived to be neutral to positive, mainly because the CU finances local businesses that cause no direct negative effects on the environment. Its lending policy specifically states that it will not finance large-scale monoculture plantations that remove forest cover.

4.5 Room for improvement

The participants in the FGD suggested various improvements that could be made to CUSJ's provision of financial services. These improvements can be divided into six categories, as shown in Table 13.

11 CUSJ was offered an agreement to supply oil palm fresh fruit bunches to a nearby processing company with a production capacity of 20 tonnes/hour. Due to the lack of resources to meet the company's production capacity and a lack of staff to handle the arrangements, this offer had to be declined.

Table 13. Suggested improvements

Category	Type of improvement
Policy	• Diversify the types of businesses that can be financed, especially to enhance loan products that finance innovative, sustainable and climate-resilient businesses • Take into account the character of the prospective members, not merely the value of the collateral • Increase the transparency of the policy and participatory decision-making processes • Add a loan portfolio focused on sustainable and climate-resilient business • Adopt environmental, social and governance (ESG) criteria
Process	• Provide sufficient information regarding the CU's products and services • Implement outreach at the village/sub-district level • Simplify loan application procedures
Internal resources	• Have additional staff available to provide assistance in the loan application process • Hire additional field staff to conduct outreach for people in the more remote areas with limited access to financial services • Hire additional staff to implement a more comprehensive loan disbursement strategy with a more effective risk mitigation approach • Create a research and development unit to map the market potential and to monitor the impacts of the financial flows
Cost	• Provide interest rate relief for certain business sectors • Lower the interest rate, especially for productive loans targeted to smallholder farmers and MSMEs
Products and services	• Provide non-cash loan schemes (fertilizers, seeds, etc.) • Increase linkages to the market
Capacity building	• Provide business assistance (production, post-production, financial management, marketing, etc.) • Provide training in technical skills (how to increase crop yields, how to make organic fertilizer, digital marketing, craftsmanship, etc.) • Provide training in financial literacy

SECTION V

5. Discussion

Meeting the expectations of the different stakeholders

Globally, the market share of CUs is declining. This can be attributed to regulatory and compliance burdens, particularly those faced by smaller CUs in many countries, but also to the depersonalization of larger CUs, making that members felt less connected to the CU and the CUs were less able to develop client specific financial products (Chepkwei 2018). Sumarwan and Taruk (2017) note, however, that in Indonesia the market share of CUs has increased. They attribute this to an approach that is innovative and implemented by strategic leadership, and where financial and social performance complement each other. The same authors also mention (ibid.) the need to provide a diversified set of financial products that are tailored to the needs of the members.

CU Semandang Jaya fits into the overall picture of successful CUs in Indonesia. It is growing rapidly, and from the interviews and focus group discussions it appears that members are content with the variety of financial products it provides. Members highly value being part of the organization and receiving benefits from the solidarity funds, thus combining financial and social objectives. Some authors (Sumarwan and Kusuma 2018) suggest that solidarity funds may be among the non-financial benefits that help maintain and increase membership. This particularly may be the case where these benefits and the financial products offered by the CU are not being delivered by the formal banking system (Sagwa and Kembu 2016).

Risks and mitigating strategies

CU Semandang Jaya is also similar to other CUs in Indonesia with respect to its proportion of loans to the agriculture, livestock and fisheries (ALF) sector. In one case in South Sulawesi, for example, only about 12% of loans are used directly for ALF investments, despite most members of credit unions being farmers (Sumarwan and Taruk 2017). CUSJ has assigned slightly more loans for ALF investments than the CU in South Sulawesi, but in Simpang Dua the proportion is slightly less. One of the constraints mentioned by FGD participants was physical remoteness. In follow-up conversations with farmers, however, potential recipients of loans also indicated that their commercial operations are small and that they prefer to use their own capital, or that of close relatives, rather than commit themselves to formal loans and run the risk of not being able to pay them back within the agreed period. This confirms the high importance that farmers and MSMEs give to risk and suggests that currently, reducing the risk of income fluctuations may be more important to them than reducing the risks of the financial instruments.

In the study area, palm oil seems to address the desire for higher and more stable income, since it is considered to have a good market and relatively stable price (Widayati et al. 2021). At the same time, converting from traditional practices to oil palm cultivation introduces dependence on one crop and the related risks of reduced production due to droughts or other factors. Local stakeholders are looking into the costs and benefits of mixed cropping with or without oil palm to reduce these risks. Results look quite promising,[12] but only if local processing can add value and if these value chains can be organized so that their products reach attractive markets.

Besides the risk of income fluctuation, FGD participants gave importance to health and emergency risks. The CU's health insurance is therefore highly appreciated. Participants thought that more should be done to develop

12 Frank van Schoubroeck (lead expert, Farmtree services, 23 June 2021), pers. comm.

agricultural insurance that could cover losses due to crop failure. This may be quite a challenge, considering the low degree of participation in an existing governmental scheme to subsidize an agricultural production cost insurance for rice producers in West Java (Mutaqin and Usami 2019). One of the limitations to developing insurance may be the lack of detailed and accurate information on past performance for the insured crops (Hess et al. 2016). This possibly limits its application to farmers who produce common commodities and have been doing this for some time; also, for producers of crops with more fragmented production areas and markets this information may not be available. Under climate change conditions that increase the number and intensity of extreme events, such insurance schemes will become more costly, and may always have to depend heavily on subsidies from government or philanthropic organizations. Some argue that in many cases other forms of risk reduction, including income diversification, may be more cost-effective (Louman et al. 2020).

On the other hand, looking at the CU's experience in contributions to solidarity funds, paying the fees for such an insurance run by the CU may be less of a barrier for farmers in Simpang Dua than it was for the farmers studied in West Java (Mutaqin and Usami 2019). This is possibly due to the identification of the Simpang Dua farmers with "their own" CU. In East Java a collaboration between an insurer, a CU and a foundation providing technical assistance to farmers resulted in a weather-indexed insurance scheme for rice farmers in 2019 (SFSA 2019); the CUSJ could learn from their experience.

Barriers to expansion and greater positive environmental impacts

Participants in the FGD recognized the lack of production quantity, quality and diversity as major barriers to stabilizing their income and thus reducing their financial risks. They linked these barriers to the need for improved access to markets and for technical assistance on a range of topics, from financial literacy, good cultivation practices and primary processing techniques to value chain organization and marketing of the products.

In general, despite efforts in this direction, financial flows from CUSJ have not significantly affected its recipients in terms of market outreach. Expanding markets is partly hampered by the lack of capacity of its members to provide consistent quantity and quality of their products in order to meet the needs of the commercial market. CUSJ is currently piloting support for the production and marketing of locally produced ginger products through Okomo Mart, a retail shop of the Semandang Jaya Group that aims to be the marketing channel for the products of CUSJ members. However, its capacity to do so is limited. This may limit further expansion of CUSJ's financial services to more farmers and to a more diversified set of agricultural options (different mixed cropping systems, primary processing, etc.).

Expansion may also mean depersonalization of the services, which in other countries was one of the factors that led to the reduced success of credit unions. A potential solution to this would be to involve more than one credit union in a landscape and seek complementary technical assistance services from locally active CSOs. This could be done in Simpang Dua through collaboration within the formal multistakeholder platforms recently established in West Kalimantan.

In general, private-sector financial flows in the Ketapang area are considered to have a positive effect on income, but they rarely have a positive effect on the conservation of the natural environment (Rossanda et al. 2020). This may be due to the fact that local stakeholders do not recognize the contributions of, for example, palm oil companies to biological corridors or key environmental areas, because they do not directly see the benefits or because those benefits are long term and may not be felt locally but only at a larger scale. Similarly, Widayati et al. (2021) found, for example, that the potential negative effects of oil palm plantations on the availability of clean water was perceived as an important risk at the district level, but was not perceived locally. Any actions to reduce that risk may therefore not be perceived as important at the local level.

Many of these private financial flows originate from banks. Participants in the case study also recognized the positive social and economic effects of the investments resulting from the CU cash flows and agreed that while they did not see negative environmental effects, such effects could be further improved; for example, by incorporating stricter environmental criteria in loan application assessments. This was also recognized by the board of the CU, who agreed to incorporate additional criteria in its lending policies that prohibit illegal mining, illegal logging, and illegal fishing activities. CU Semandang Jaya also states in its 2021 Lending Policy that it doesn't finance large-scale monoculture plantations that clear natural forests.

SECTION VI

6. Conclusions

Credit unions can support integrated landscape management by developing, strengthening and expanding innovative financing schemes that can create positive effects on landscape objectives. This is possible due to their wide outreach to local communities, in particular smallholders and small-scale entrepreneurs. With this approach and availability at the village level, CUs can provide financial access to those who are excluded from traditional banking mechanisms.

The CU in this case study is particularly well placed to expand its operations and make finance accessible to more smallholder farmers and local, agri-forest MSMEs. This is because through its representatives it brings services to the villages, provides a range of financial products that are better suited to local conditions than those of formal financial institutions, and because CU members feel they also benefit from some essential non-financial products that reduce the risks of their families in the case of health problems, death or retirement.

However, looking at the risks, barriers and effects of financial flows in the landscape, it can be seen that providing access to affordable financing mechanisms is not sufficient. The risks of falling commodity prices and low crop productivity should be addressed by strengthening the capacity of local smallholders and MSMEs to increase the quality and quantity of their products, add value to their products, and be included in the value chain. One key strategy to address risk is to consistently support local businesses with technical assistance, training and capacity building, along with providing financial support to address the specific needs of the community while remaining economically viable. However, CUSJ's limited capacity to provide additional technical assistance that helps reduce the production risks and market risks of the farmers and MSMEs remains a factor that constrains the expansion of its financial operations.

Furthermore, financial sources should ensure that the financial flows are not causing negative effects to landscape objectives, by establishing sufficient safeguards before the flow is disbursed. Integrating environmental, social and governance (ESG) principles into CUSJ's credit policy is essential and beneficial, not only to contribute to positive effects on society but also to enhance long-term financial values.

In the case of the CUSJ, providing a range of financial products to meet the needs of farmers is not sufficient to increase investments in smallholder agriculture. Financial literacy support, technical assistance and support for access to markets are as important in meeting the needs of farmers and MSMEs. Since the CUSJ has limited means to provide this support to all farmers, multistakeholder approaches are necessary. These should involve government, financial institutions, CSOs, and local communities.

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About Tropenbos International (TBI)

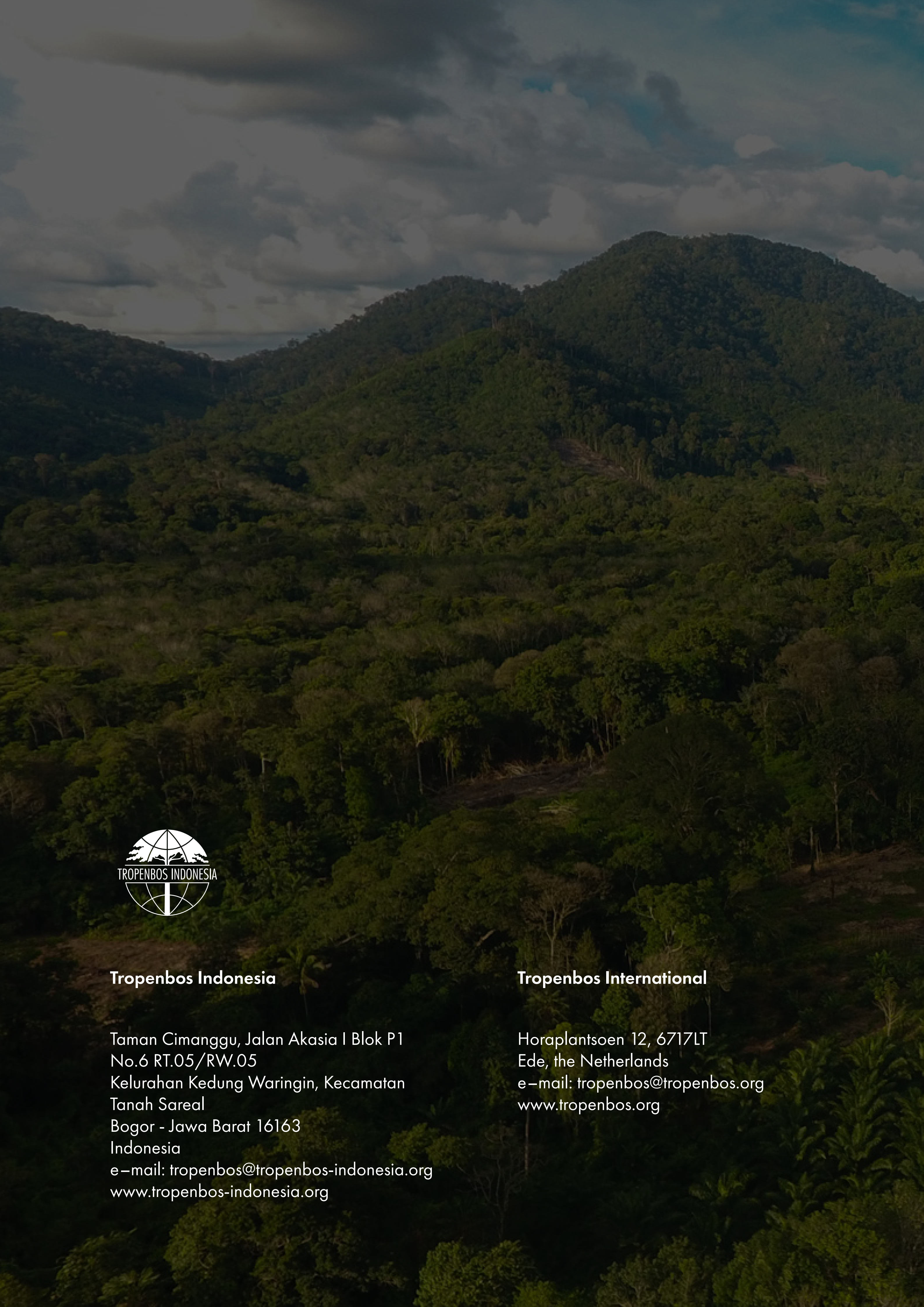
Tropenbos International (TBI) is a not-for-profit foundation that envisions a future in which forests and trees are used sustainably for the benefit of local people and the global community. By making knowledge work for forests and people, Tropenbos International contributes to inclusive and evidence-based decision making for the improved management and governance of tropical forests. TBI's longstanding local presence and ability to bring together local, national and international partners makes it a trusted partner in sustainable development. Since 2017, Tropenbos International (TBI) has been a managing partner of the CGIAR Global Research programme on Forests, Trees and Agroforestry (FTA). www.tropenbos.org

About the Forests, Trees and Agroforestry (FTA) research program of the CGIAR

The Forests, Trees and Agroforestry (FTA) program of CGIAR is coordinated by CIFOR in partnership with CGIAR centers ICRAF and Biodiversity/CIAT, and non-CGIAR partners CIRAD, CATIE, INBAR and TBI. It aims to reduce poverty, ensure food and nutrition security for all, address climate change, protect natural resources and ecosystem services, and achieve sustainable production and consumption by enhancing the role of forests, trees and agroforestry systems in addressing these challenges. FTA considers the landscape to be the spatial unit that is most appropriate to study in order to improve these contributions of forests, trees and agroforestry. The program recognizes that the sustainability of landscapes depends on seeking a balance between various objectives and land uses in order to maximize synergies and minimize trade-offs. Studying how to increase investments in land uses in such landscapes, and improving the social and environmental impacts of these investments, is one of the priorities of the FTA program. www.foreststreesagroforestry.org

About Tropenbos Indonesia

Tropenbos Indonesia is a member of the Tropenbos International (TBI) network. Tropenbos Indonesia works towards bridging the gap between knowledge and practices related to forest landscape management through the implementation of models on sustainable practices to improve tropical forest and peatland conservation and management, and local community livelihoods. Currently Tropenbos Indonesia works in Ketapang-Kayong Utara Landscape, West Kalimantan, with a coverage area of 3.5 million hectares. Tropenbos Indonesia, through TBI, has partnered with FTA to develop two case studies: one on mechanisms to improve financial access for farmers and SMEs (case presented in this publication) and another on adaptation and vulnerability strategies of communities to climate change. Both case studies are part of the MoMo4C programme and the Working Landscape programme. www.tropenbos-indonesia.org



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