



PRISMA

PRISMA Progress Report and Implementation Plan (PRIP) and Annual Plan

July - December 2022



Kementerian PPN/
Bappenas



Australian Government

PRISMA

PRISMA Progress Report and Implementation Plan (PRIP) and Annual Plan

July - December 2022



Kementerian PPN/
Bappenas



Australian Government

Contents

List of Abbreviations	i
Indicator Definitions	vi
Glossary	viii
Executive Summary	1
Key semester achievements	Operations & finance
Program relevance	Challenges, risks and management response
Delivery context	Annual plan
Market system strategy explained	Lessons learned
Portfolio progress	Progress in cross-cutting areas
Progress against systemic change	Partner survey
Achievements	
Chapter 1: Program Relevance	26
Key semester achievements	Relevance to GoA strategy
Relevance to GoI strategy	Relevance to SDGs
Chapter 2: Portfolio Overview and Progress	32
Program context	Pigs
Independent strategic review	<ul style="list-style-type: none"> • Sector highlights (progress against MSS) • Systemic change story • Farmer story
Progress towards systemic change	Vegetables
Dairy	<ul style="list-style-type: none"> • Sector highlights (progress against MSS) • Systemic change story • Farmer story
<ul style="list-style-type: none"> • Sector highlights (progress against MSS) • Systemic change story • Partner perspectives • Farmer story 	Other sector progress
	Challenges, risks and management response
Chapter 3: Cross-cutting Area Progress	76
Policy engagement	Environment and climate change
Results measurement and learning	Strategic communications
Gender equality, disability and social inclusion	

Chapter 4: Annual Plan	96
Preparation of the annual plan	Cross-cutting workplan
Implementation strategy for 2023	Sector climate stocktakes and improvement for 2023
Sector work plans for 2023	
Chapter 5: Operations and Finance	106
Progress	Annual workplan
Chapter 6: Lessons Learned	110
Annexures	114
Annex 1: Progress against MSS	Annex 4: Sector climate stocktakes
Annex 2: Annual workplan per sector	Annex 5: Detailed key performance indicators
Annex 3: Partner survey	Annex 6: Value for money

List of abbreviations

ACIAR	Australian Centre for International Agricultural Research
AI	Artificial Insemination
Agrosid	PT Agrosid Manunggal Sentosa
AIHSP	Australia-Indonesia Health Security Partnership
ASF	African Swine Fever
AUD	Australian Dollar
AWP	Annual Work Plan
Bappenas	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
BAST	Berita Acara Serah Terima (Records of Transfers)
BBSDLP	Balai Besar Litbang Sumberdaya Lahan Pertanian (Center for Research and Development of Agricultural Land Resources)
BEAM	Building Effective and Accessible Markets
BITPRO	Direktorat Perbibitan dan Produksi Ternak (Livestock Breeding and Production Directorate)
BNI	Bank Negara Indonesia
BNPL	Buy-Now-Pay-Later
BPTP	Balai Pengkajian Teknologi Pertanian (Agricultural Technology Study Center)

BSN	Badan Standardisasi Nasional (National Standardisation Agency)
B2B	Business-to-Business
CEO	Chief Executive Officer
CV	Commanditaire Vennootschap (Limited Partnership)
DFAT	Department of Foreign Affairs and Trade, Australia
DISTAN-KP	Dinas Pertanian dan Ketahanan Pangan (Provincial Agriculture Office)
DPI	Dairy Processing Industries
EDA	Environmental Desk Assessment
EOPO	End of Program Outcomes
EWINDO	East West Indonesia (seed company)
FDS	Full Drone Solutions (machinery company)
Fintech	Financial Technology
GAP	Good Agricultural Practices
GEDSI	Gender Equality, Disability and Social Inclusion
GFP	Good Fertilising Practices
GHP	Good Handling Practices, Good Husbandry Practices or Good Harvesting Practices
GOA	Government of Australia
GOI	Government of Indonesia

Ha	Hectare
HH	Household
HYV	High-yielding Rice Seed Variety
ICN	Intervention Concept Note
ICT	Information and Communications Technology
IDR	Indonesian Rupiah
IP	Intervention Plan
ISP	Intermediary Service Providers
ISR	Independent Strategic Review
KUR	Kredit Usaha Rakyat (Smallholder Credit Scheme)
KPI	Key Performance Indicator
LPEM UI	Lembaga Penyelidikan Ekonomi dan Masyarakat Universitas Indonesia (Institute for Economic and Social Research)
LSD	Lumpy Skin Disease
MoA	Indonesian Ministry of Agriculture
MSD	Market Systems Development
MSP	Machinery Service Provider
MSS	Market System Strategy
MT	Metric Tonnes
NAIC	Net Attributable Income Change
NTB	Nusa Tenggara Barat (West Nusa Tenggara Province)
NTT	Nusa Tenggara Timur (East Nusa Tenggara Province)
OJK	Otoritas Jasa Keuangan (Financial Service Authority)

OPD	Organisation of People with Disabilities
OPV	Open-Pollinated Variety (a hybrid seed)
PCC	Program Coordinating Committee
PPP	Purchasing Power Parity
PRISMA	Promoting Rural Income through Support for Markets in Agriculture
PRIP	Progress Report and Implementation Plan
PSEKP	Pusat Sosial Ekonomi dan Kebijakan Pertanian (Indonesian Center for Agricultural Socio Economic and Policy Studies)
PSP	Private Sector Partners
RKP	Rencana Kerja Pemerintah (Government Work Plan)
RML	Result Measurement and Learning
RPJM	Rencana Pembangunan Jangka Menengah Nasional (National Mid-Term Development Planning)
SDG	Sustainable Development Goals
SME	Small and Medium Enterprise
SNI	Standard Nasional Indonesia (National Standards)
SOE	State-Owned Enterprise
UD	Universal Design
USD	American Dollar
VAT	Value-added Tax
WEE	Women's Economic Empowerment

Indicator definitions

Direct Intervention Cost	PRISMA's contributions to the intervention-related budget, as described in the partnership agreement or memorandum of understanding
Existing Intervention	Intervention that is currently running and/or commenced this semester
ICN	An intervention concept note is an initial document outlining the main features and context of a planned intervention
Indirect Intervention Cost	PRISMA's contributions to implementation staff costs (and travel costs), result, management and learning costs (including studies) connected to the intervention, and implementation related capacity building and communication costs
Investment Leverage by Partner	The ratio of the actual value of additional investments by partners to the actual intervention costs
Investment Leverage by Sector	The ratio of the actual value of additional investments by partners, intermediate service providers, and farmers to the actual intervention costs
Investment Per Farm Household	The average actual intervention costs per farm household
IP	An intervention plan is a detailed document containing all information and data relevant to the decision to start the intervention
ISP	Intermediary service providers are small or medium-size enterprises in the up- or down-stream value chain of a partner enterprise of PRISMA (i.e., either buying from farmers and selling to partners or buying from partners and selling to farmers); they can also have important functions, e.g., as information providers or lenders
KPI 1	Number of smallholder farming households with increased net income attributable to PRISMA's interventions
KPI 1a (new)	Number of smallholder farming households under the USD2.50 purchasing power parity poverty line with increased net income
KPI 1a (old)	Number of smallholder farming households under the USD2.00 purchasing power parity poverty line with increased net income
KPI 1b (new)	Number of smallholder farming households under the USD5.50 purchasing power parity poverty line with increased net income
KPI 1b (old)	Number of smallholder farming households under the USD2.50 purchasing power parity poverty line with increased net income
KPI 2	Net attributable additional income for benefited farming households in IDR
KPI 2a	Net attributable additional income for benefited farming households under the USD1.90 purchasing power parity poverty line (extreme poverty) in IDR

KPI 2b	Net attributable additional income for benefited farming households under the USD2.50 purchasing power parity poverty line in IDR
KPI 3	Number of intermediary service providers providing additional/improved access to innovation to farmers
KPI 4	Women's economic empowerment effectiveness within PRISMA innovations
KPI 5	Value of additional turnover of intermediary service providers in IDR
KPI 6	Number of intervention partners (private and public sector)
KPI 7	Number of intervention partners (private and public sector)
KPI 8	Value of attributable additional and/or more inclusive investment by public and private sector in IDR
KPI 8a	Value of attributable additional and/or more inclusive investment by public and private partners in IDR
KPI 9	Number of crowding-in businesses/institutions induced by PRISMA
KPI 10	Number of responding businesses/institutions induced by PRISMA
KPI 11	Number of policy engagements
NAIC	Net attributable income change is an additional income generated from a specific technology or input promoted by PRISMA during one production cycle. For livestock, the measurement period is 6 months.
New Intervention	An intervention that started this semester
Outreach	Number of smallholder farming households with increased incomes
Partnership Outreach	Outreach that comes directly from PRISMA's partner in the targeted area
Pipeline	Projection value from potential new interventions which are still at the idea/ICN/ IP stage
Projection	Projection value from existing and new interventions
Quality Management Tool	A tool to assess intervention quality over time, from ICN to IP and implementation.
Social Return on Investment	The ratio of the actual value of farming household's net-income increase compared to the actual intervention costs
Total Intervention Cost	Total of direct and indirect intervention costs
Total Outreach	Partnership and wider market outreach
Wider Market Outreach or Households	Outreach that comes from PRISMA's partners in other areas, other market actors in the targeted areas, and other market actors in other areas that are attributable to PRISMA's interventions

Glossary

PRISMA uses a market systems development approach, and like all approaches, it has developed its own specific language and terms. This section provides definitions of relevant terms to help the reader navigate this report.

Copying	This is when a number of market players (competitors) adopt comparable changes instigated by PRISMA partners – either direct copies or variants on the original innovation – that are upheld without PRISMA support. This is also a key indicator of systemic change.
Crowding-in	Crowding-in is the process of stimulating a number of market players to react to the system level changes instigated through the intervention activities. It results in greater breadth and depth within the core market functions and is a key indicator of systemic change.
Market Systems Development (MSD)	<p>In poorly performing markets, such as agriculture, critical functions, such as information, technology, infrastructure, finance, skills, standards, regulations, etc., are either absent or not working as they should. Instead of supporting sector performance, they tend to inhibit it. Changes in these functions and rules are therefore needed if a sector is to perform better.</p> <p>In practical terms, it is these ‘supporting functions’ of the market that PRISMA seeks to influence, to make them more supportive of sector competitiveness and inclusivity.</p>
Market System Strategy (MSS)	PRISMA uses a MSS framework for each sector to link its activities with partners to what it hopes to achieve in the ‘market system’ and towards achieving the program objectives. PRISMA uses a three-tiered system as a basis for the MSS – intervention area; market function; and market system change, which contributes to the sector vision.
Results Chain	A model showing the chain of causality through which PRISMA’s activities lead to poverty-reducing benefits. Results chains are tailored to specific interventions and are consequently more detailed than a MSS.
Systemic Change	When PRISMA refers to systemic change, it is describing the improvements in how a market’s supporting functions are performed, and how they contribute to improved sector performance and inclusivity. This usually involves permanent change in the way the market actors conduct business.
Wider Market Outreach or Households	Outreach that comes from PRISMA’s partners in other areas, other market actors in the targeted areas, and other market actors in other areas that are attributable to PRISMA’s interventions.

Purpose of this report

This report outlines the semester progress of the Australian-Indonesia Partnership for Rural Incomes Through the Support for Markets in Agriculture (PRISMA) against the previous annual plan and outlines the annual plan for 2023. The report follows the Australian Department of Foreign Affairs and Trade (DFAT) guidelines on progress and annual plan reporting.

Audience

This report has been written for DFAT employees, the Indonesian National Development Planning Agency (Bappenas), and other program stakeholders.

The Progress Report and Implementation Plan (PRIP) is the main coordination document between the Government of Australia and the Government of Indonesia.

Reporting Period

The PRIP covers PRISMA's performance between 1 July and 31 December 2022. This period is referred to as 'semester 2', 'S2' or the 'reporting period' in this report. The annual plan section covers the 2023 calendar year.





Executive Summary

Executive Summary

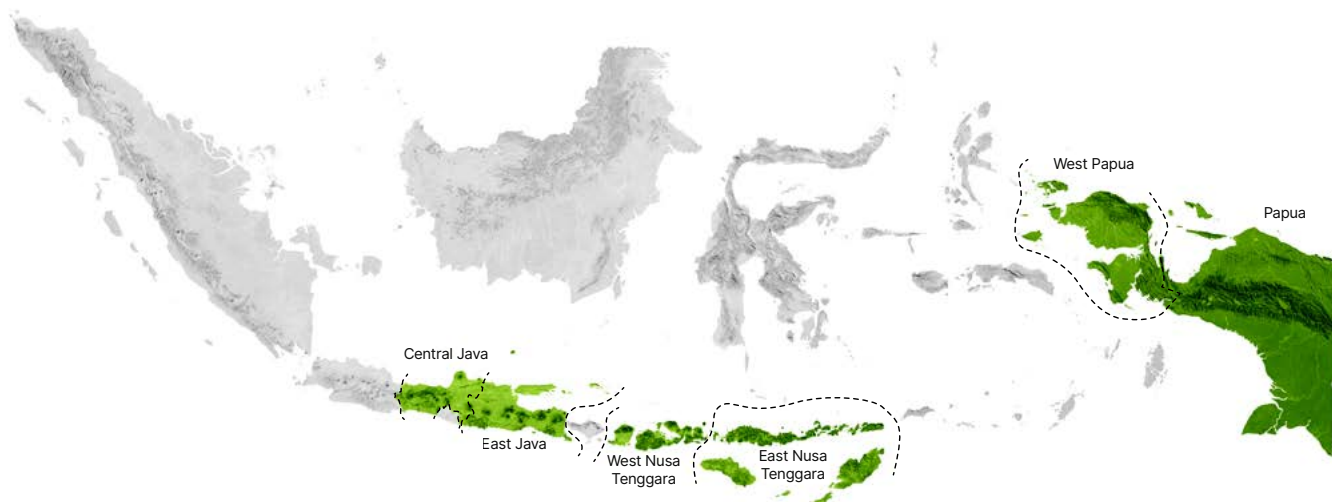


Figure 1. PRISMA provincial intervention areas

PRISMA is a market systems development (MSD) program working in 12 agricultural sectors across 6 provinces in Eastern Indonesia¹. The Australian Government (GOA) funds PRISMA through the Department of Foreign Affairs and Trade (DFAT) in cooperation with the Government of Indonesia (GOI) through the National Development Planning Agency (Bappenas). PRISMA is an AUD 88 million investment that began in 2013.

Achieving rural growth through the private sector will alleviate poverty for smallholder farmers and put Indonesia in a better position to improve its food security. The program's investments seek to change how the private sector does business in rural Indonesia so that smallholder farmers can increase their farm productivity.

PRISMA does this by:



Identifying business opportunities to improve agricultural sector performance.



Leveraging the private sector to produce and sell innovative products and services to rural men and women farmers.



Influencing the public sector to spur economic growth by improving the business-enabling environment.

PRISMA's end of program outcomes (EOPO) is to **increase the income of one million smallholder farming households by 30 percent**.

¹ Central Java, East Java, East Nusa Tenggara (NTT), West Nusa Tenggara (NTB), Papua and West Papua

Semester achievements



PRISMA has already exceeded the EOPO, reaching 1,224,574 smallholder farming households and increasing incomes by 184 percent.



PRISMA has supported the Government of Indonesia in changing the National Feed Standards for cattle and dairy feed. As a result, small and medium companies can enter the feed sector to provide affordable quality feed to smallholder farmers throughout Indonesia.



PRISMA has achieved systemic change in the cattle sector, particularly for commercial feed. The private sector is now independently serving the market with quality feed for smallholder farmers.



PRISMA has succeeded in triggering market rebound in the pig sector after 2 years of African Swine Fever (ASF). The private sector has increased sales of piglets, feed and animal health products, and farmers are beginning to restock and invest in commercial feed.



Private sector partners have invested AUD 220 million in more inclusive business models, and they intend to continue delivering these goods and services once co-financing has been withdrawn.



PRISMA has become a trusted source of field-level information for GOI and GOA on livestock disease in Eastern Indonesia for market impacts of external shocks. These include african swine fever in NTT and foot and mouth disease in East and Central Java.



Fifty-seven percent of private sector partner interventions are mainstreaming Women's Economic Empowerment (WEE) in their business models by including services and products directed at women farmers.



PRISMA is influencing farmers to reduce greenhouse gas emissions through smart agricultural practices and will now begin to measure these impacts formally.



PRISMA's strategic communications adjustments resulted in a reach of 2.7 million people via the Economist Impact campaign, a 1,200 percent increase in monthly visitors to the PRISMA website and more engagement with PRISMA stakeholders via a new LinkedIn page.

Program relevance

PRISMA is aligned with the GOI's National Medium-Term Development Plan for 2020-2024. Bappenas openly supports the program's efforts to ensure smallholder farmers have access to critical inputs in line with the Ministry of Agriculture's (MoA) strategic plan for 2020-2024. The program's strategies are well aligned with Indonesia's long-term national development plan for 2005-2025, which prioritises rural development, agricultural reform, food security, enhancing equity, and rural economic growth.

PRISMA is aligned with the GOI and GOA's post-COVID-19 recovery strategies. PRISMA contributes to the stability and economic recovery pillars of DFAT's strategy by strengthening agricultural markets and food security while safeguarding poor farmers' livelihoods. PRISMA remains well-placed to help reduce economic hardship and ensure that women and vulnerable groups play a critical role in Indonesia's recovery.

Delivery context

PRISMA has been operating for 9 years and has proven that a market systems approach is effective in delivering development aid effectively and efficiently. PRISMA has a high rate of social return, and represents excellent value for money. See our Key Achievements on pages 10-11 for more detail.

PRISMA has shown it is possible to permanently change the private sector's behaviour to ensure more inclusive business models that can lead to increased productivity for smallholder farmers and more resilient markets. Significant progress has been made towards systemic change in 4 sectors, beef, mung bean, maize madura and maize NTT and adequate

progress in an additional 3 sectors. See page 7 for the breakdown of the portfolio for systemic change.

The independent strategic review (ISR) commissioned by DFAT this semester highlighted the breadth and depth of the program's interventions and its contribution to rural development in the 6 target provinces.

In the program's final year, PRISMA will focus on building market resilience by inducing crowding-in and copying by other market players. PRISMA aims to make further progress in systemic change within key market systems.

Market system strategy explained

Market System

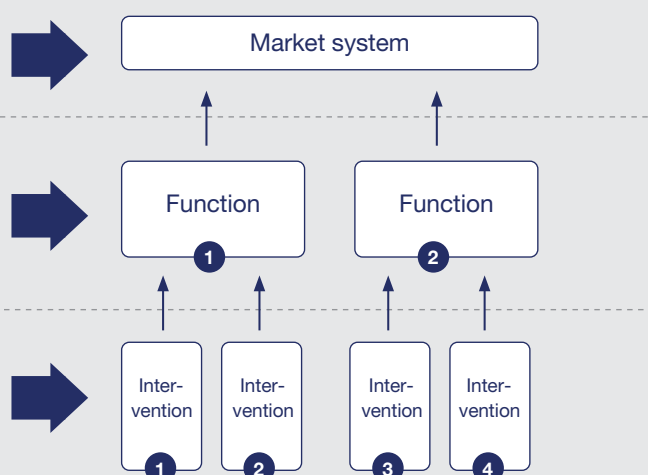
The expected high-level change in each market system

Function

Underperforming market functions that are critical and feasible to improve the market system

Intervention area

A suite of activities supported by the program to improve a specific market function



Portfolio progress





PRISMA has made excellent progress against the market system strategies (MSS) this semester (refer to Table 1 for a summary of all sectors, Chapter 2 for detail on the dairy, pigs and vegetable sectors and Annex 1 for the remaining 9 sectors). Not all sectors are progressing at the same rate. The 2-year COVID-19 pandemic and other external shocks, such as livestock disease and the war in Ukraine, have delayed progress in the newer sectors such as

finance and ICT, where there was an entire strategy reboot. This has led to different pace towards achieving systemic change as noted in Figure 2.

Significant progress has been made in influencing policy change at the national level in the beef and dairy sectors, which has contributed in no small part to PRISMA changing the face of the cattle feed market in Indonesia.

Table 1. Summary of Sector Progress for Semester 2.

For more detail on the dairy, pigs and vegetable sectors see Chapter 2 and for the remaining sectors see Annex 1.

 <p>Beef</p>	<p>There is evidence to show that more than 641,316 households have experienced an income increase of 145% as a result of PRISMA's interventions in the beef sector up to December 2022.</p> <p>The foot-and-mouth disease (FMD) outbreak significantly impeded sector growth. PRISMA supported its partners in developing adaptive strategies to minimise the impact. PRISMA facilitated collaboration between private companies (feed and pharmaceutical companies) and local governments and supported the national and provincial governments with research and an ongoing study to tackle FMD.</p> <p>Significant progress was made in changing the national feed standard policy with PRISMA succeeding in prompting the National Standardisation Agency (BSN) to issue the new standard for cattle feed in December 2022. The new feed standard allows small and medium companies to enter the market with legal status. For more detail on the steps taken to influence the policy change and the result, see infographic on pages 80-81.</p>
 <p>Crop Protection</p>	<p>PRISMA partners with crop protection companies to promote safer, cost-effective crop protection methods and products. An existing partner launched a new environment-friendly product, and another company partnered with PRISMA to enter the market for safer crop protection products. PRISMA supported the local government in Bojonegoro, East Java, to collaborate with 2 PRISMA partners to address the soil degradation problem.</p>
 <p>Innovative Finance</p>	<p>This semester, PRISMA's partner, Bank Mandiri showed increased ownership of the business model to target agricultural kiosks with loan products by expanding to 3 new provinces. Two new financial institutes, Bank Sinar Mas and Bank Negara Indonesia, have partnered with PRISMA to target small and medium enterprise (SME) financing. PRISMA also engaged with the Institute for Development of Economics and Finance to develop an evidence-based case for SME financing.</p>
 <p>ICT</p>	<p>This semester, PRISMA supported an agricultural start-up, PT Semaai, and an input company, PT Bayer, to better engage with agri-kiosks. PT Semaai will integrate an inventory management feature in its kiosk application. PT Bayer and PT Semaai developed a module on good agricultural practices (GAP) for kiosk owners. In addition, PRISMA signed a partnership with the Indonesian Veterinary Association to analyse the demand for digital livestock health services.</p>

 Maize - Central Java	<p>No further work is being done in Central Java for maize except where it supports the broader maize strategy. This semester PRISMA supported 4 local governments in developing the technical capacity of their public extension service workers. PRISMA also supported the provincial government in developing an operational guideline for a more effective subsidy system.</p>
 Maize - Madura	<p>Most seed companies continued promoting hybrid seeds in Madura. Most large seed companies (e.g., Syngenta, PT BISI International) achieved their sales target before the year ended. Smaller companies also experienced increased sales. With one more company, PT Jafran, crowded-in, 7 seed companies are now promoting high yielding hybrid seeds and educating farmers in Madura. To ensure continuity of good practices in Madura, PRISMA is encouraging the district agriculture offices to develop an operational guideline on the smart subsidy.</p>
 Maize - NTT	<p>Ten seed producers partnered with PRISMA to expand their seed business to the commercial market. PRISMA supported them with business coaching and optimising seed producers' networks. PRISMA is supporting the relevant government agencies to collaborate with seed associations to ensure continuous access to parent seed and improved certification. A technical module on GAP and the profitability of commercial maize farming was produced by the government this semester to be used by public extension workers.</p>
 Mechanisation	<p>Partner companies have strengthened their commercial strategies and expanded their operations in East Java, Central Java, and East Nusa Tenggara (NTT). Four new companies developed new distribution networks. At least 2 companies crowded-in, and a financial institution, Bank Mandiri, responded to support the agricultural machinery business. Machinery renting companies grew their fleet and are offering services. Likewise, drone services saw increased demand. Machinery companies have continued to increase after-sales service by adding more outlets and offering attractive schemes to increase the availability of spare parts.</p>
 Mungbean	<p>PRISMA partners have shown increased ownership, adaptation, and resilience this semester in the mungbean seed business. Most companies used alternative locations for seed production due to a prolonged wet season. CV Bunga Tani Sejahtera received accreditation to self-certify its mungbean seeds. All partner companies have increased their investment in the seed business, and a new seed producer has crowded-in. While attempts are ongoing to link upstream and downstream actors, PRISMA is conducting research to further understand the off-taking function.</p>
 Rice	<p>Partner companies continued investing in seed production and marketing. At least 5 seed producers produced and marketed high-yielding rice seeds. Companies have adjusted their marketing strategies, increased seed production capacity, and expanded their businesses in new locations. A seed producer crowded into the market and started selling hybrid seeds. The policy advocacy at the MoA is ongoing. A research firm and a think tank assessed the effectiveness of the government's free seed program and shared the findings with the MoA and other stakeholders.</p>
 Soil Treatment	<p>This semester, fertiliser companies further expanded their operations in non-subsidised markets. Some have invested in building staff capacity, developing the national strategy, and exploring new marketing channels. The state-owned company, PT Petrokimia Gresik, continued implementing the multistakeholder partnerships in new locations. All partner companies used diverse communication channels and organised events to train farmers on good fertiliser use. Companies have also developed new distribution points and hired additional sales staff to reach many farmers. However, increasing fertiliser prices have slowed down the adoption of commercial fertilisers.</p>

Progress against systemic change

There has been good progress towards systemic change this semester, as highlighted in Figure 2.

This PRIP highlights the progress towards systemic change in 3 sectors: dairy, pigs, and vegetables. These sectors are on the lower end of the spectrum regarding progress towards systemic change as previous PRIPs highlighted the sectors with more significant progress toward systemic change. As

agreed with DFAT, PRISMA would report progress toward systemic change for all sectors, even those that have not made much headway. Of the 3 sectors, only pigs has shown adequate progress towards systemic change.

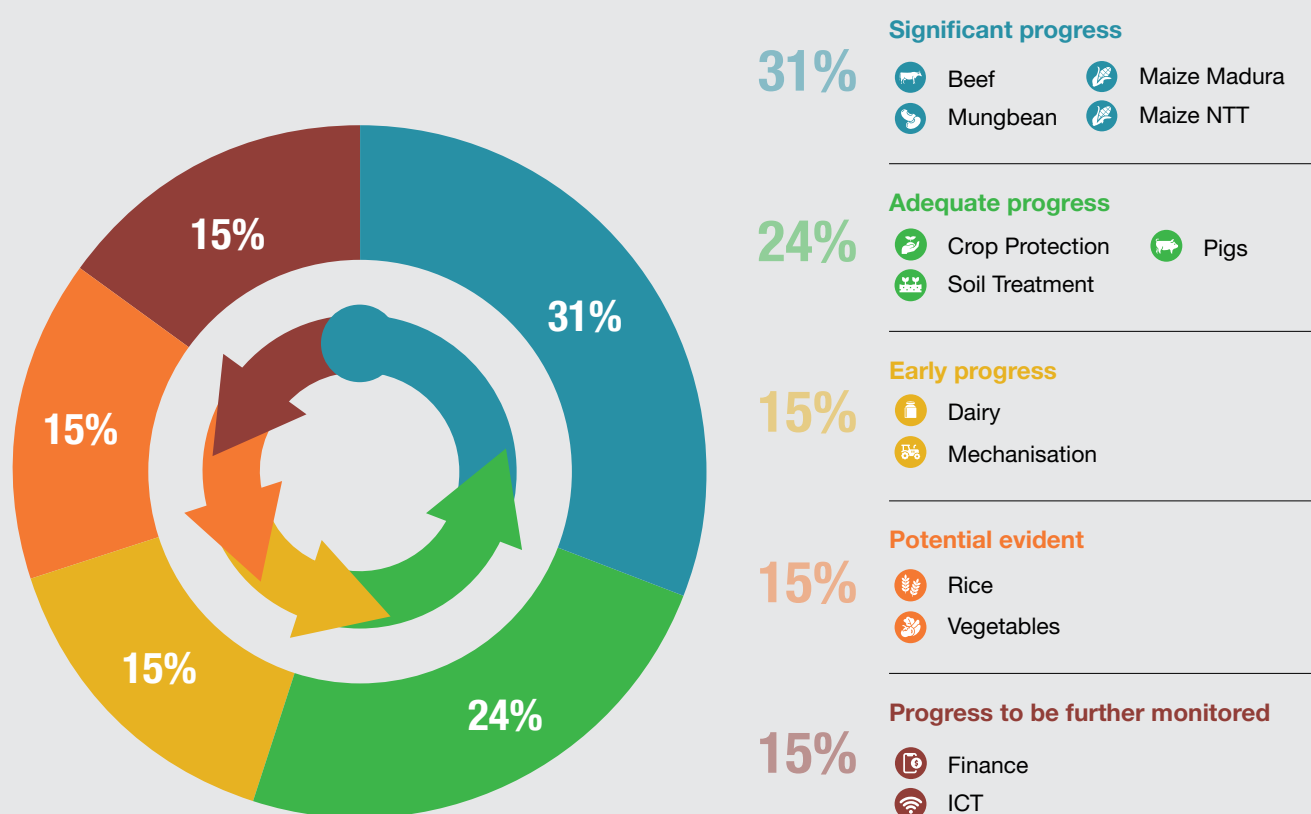


Figure 2. Portfolio progress towards systemic change



Dairy

Dairy is a new sector in East and Central Java with its first partnership in 2020. Progress in the interventions were impacted by COVID-19 and, more recently, by FMD. PRISMA identified opportunities to increase productivity in the dairy sector by focusing initially on feed and animal health functions. Good progress has been made in the feed function, with 18 companies in East and Central Java are providing good quality concentrate feed. The concentrate feed intervention has already contributed to the increase of milk production of 3,947 dairy HHs. The outbreak of FMD also encouraged dairy farmers to increase their

purchase of pharmaceutical products, but it is unclear if this is a permanent behaviour change.

PRISMA has also been working with the MoA to improve dairy breeds, with the import of Jersey cows. PRISMA is supporting the GOI to do this with the development of a Jersey roadmap and associated guidelines for Jersey cow smallholder farmers.

There is early progress toward systemic change, but FMD has slowed progress.



Pigs

Significant progress has been made this semester in the pig sector despite being heavily impacted by the 2-year outbreak of ASF compounded by COVID-19. This progress has been possible because the program built sufficient resilience in the feed sector. In addition, the program adjusted the strategy following the ASF outbreak to focus on re-stocking.

The sector has made adequate progress towards systemic change, which is no small feat given the decimation of the pig population in NTT by more than 50 percent. The private

sector has increased sales of piglets, feed and animal health products, and farmers are beginning to restock and invest in commercial feed. There are more than 15 breeding farms commercialising piglets and beginning commercial artificial insemination (AI).

Feed companies are expanding their distribution networks, and crowding-in has restarted. Collaborations between feed and breed companies and the government are actively preparing NTT for future outbreaks with adequate training for animal health workers and ASF campaigns for farmers.



Vegetables

Like the pig and dairy sectors, the vegetable sector was also impacted by external factors. This included a 3-year travel ban on Lion Air, a 2-year ban on travel to West Papua for security reasons, and then COVID-19. Papua and West Papua provinces were already challenging regions to work in due to their isolation and the difficulty in attracting private sector investments. These challenges are overlaid with political and cultural complexities between the highland and lowland areas.

Vegetables had a good start with East-West Indonesia (EWINDO) seed company in Phase 1, but much of this work ceased when EWINDO withdrew field staff following COVID-19. Following the strategy refresh in 2021, the vegetable team made progress in establishing partnerships with new seed companies that are using ethnographically sensitive approaches in their marketing and promotions. The interventions in Papua and West Papua are at the demonstration plot stage, and more time is needed to determine if the partners will continue the business models.



PRISMA

Achievements



1,224,574

Total smallholder farming HHs
with increased incomes
(up to December 2022)

July - December 2022



Realisation (HHs)

461,519

Target (HHs)

58,910

Progress to 1 million HHs by 2023



Target

Actual

122.4 percent
(exceeded the target)



Jan-Jun
2021

IDR54.9 b
AUD5.49 m

Jul-Dec
2021

IDR461.2 b
AUD46.12 m

Jan-Jun
2022

IDR1.57 t
AUD157 m

Jul-Dec
2022

IDR3.47 t
AUD347 m

IDR7.86 trillion
AUD786 million

Total additional incomes for
smallholder farming HHs up to
December 2022



Jan-Jun
2021

IDR4.48 m
AUD448

Jul-Dec
2021

IDR4.78 m
AUD478

Jan-Jun
2022

IDR5.75 m
AUD575

Jul-Dec
2022

IDR5.25 m
AUD525

IDR5.25 million
AUD525

Additional income per
smallholder farming HH in
July to December 2022



264

Total number of partners
(up to December 2022)

July to December 2022

26 New partners



10 Public sector

16 Private sector

4 Crowding-in businesses/ institutions

6 Responding businesses/ institutions



IDR1.84 trillion

AUD184 Million

Total value of additional
turnover for SME up to
December 2022
(for 13,162 SMEs)



Investment per HH from total
intervention cost (VFMINT)

66.80 Actual
Jul-Dec 2022

101.13 Actual
Jan - June 2022



Decrease 34 percent



PRISMA scored the lowest
Investment per household
to date



This is the average total investment cost per
farming household for every intervention.



In line with MSD, this number should continue
to decrease as the program becomes more
mature. As the private sector and farmers
invest more on their own, PRISMA's
investment decreases. This is an indication of
systemic change.



Social return on investment
(SROI) per HH (VFMSRT)

9.61 Actual
Jul-Dec 2022

5.69 Actual
Jan - June 2022



Increasing 3.92 per HH



This is the value of farming household net
income increase compared to the total
intervention cost per household.



Figure 9.61 means that for every dollar
PRISMA has invested to the farm household,
the beneficiary HH increases their income by
AUD 9.61.



This figure increased by 69 percent
compared to the last semester.



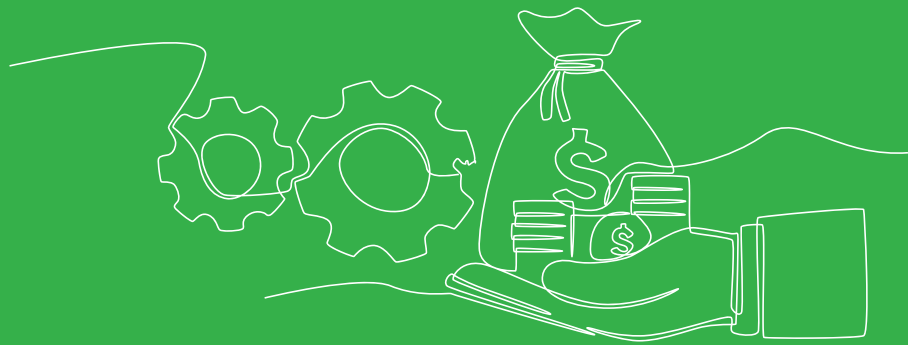
As our investment per household decreases,
our social return on investment increases
because more farmers are experiencing
income increase from market system change.

Operations and finance

Operations and finance continued to provide support for the implementation of the program. A record 29 collaboration agreements were signed with partners during this reporting period. Without mobility restrictions, fieldwork has reached pre-pandemic levels.

PRISMA updated the staff retention plan this semester as retaining staff will become more challenging in the final year of the program.

In 2023, operations will commence handover activities and prepare for program closure in accordance with the updated handover plan expected in July 2023.



Challenges, risks and management response

The high-level challenges and risks facing the program include:

- **Inflation and rising food prices.** This may negatively impact the adoption of innovations promoted by PRISMA's partners. PRISMA will monitor farmer behaviour and adjust strategies accordingly.
- **Uncertain subsidy allocation** continues to challenge the private sector in forecasting demand for inputs, especially for seeds. PRISMA will continue to link private and public entities to share information.
- **Animal disease outbreaks** continue to impact the program's progress in the livestock sectors. PRISMA will continue to support the private sector and assist the GOI in minimising the impact of the outbreaks.
- **Businesses remain risk-averse** and reluctant to invest in Papua and West Papua. The program will address this by finding shared opportunities with the government.
- **Finding suitable experts to conduct research and studies** has been challenging. PRISMA will use proven subcontractors and consider in-house analysis and writing, where needed.
- **Staff retention** remains challenging as the program moves into its final year and personnel start looking for new jobs to secure their future. PRISMA has developed a staff retention policy, which has been submitted to DFAT.
- **A timely decision regarding any program extension** will be necessary for the program to take advantage of any leverage opportunities.

Annual plan







The annual plan for 2023 was prepared in consultation with relevant provincial governments. This will be the program's last year; therefore, time for active implementation will be limited. PRISMA's most important goal is ensuring the sustainability of innovations. This will be done by:

- Ensuring a sharper analysis of the supporting functions and dropping functions where significant progress is unlikely.
- Strengthening strategies to induce crowding-in and copying.
- Not taking the foot off the pedal in terms of innovation and ambition in feasible functions.
- Each team will detail a sector exit strategy outlining the key activities or actions needed to trigger crowding-in and a response from non-competing partners. These exit strategies will be developed in the first quarter of 2023.

A summary of the sector work plans is outlined in Table 2.

Table 2. Summary of the sector work plans

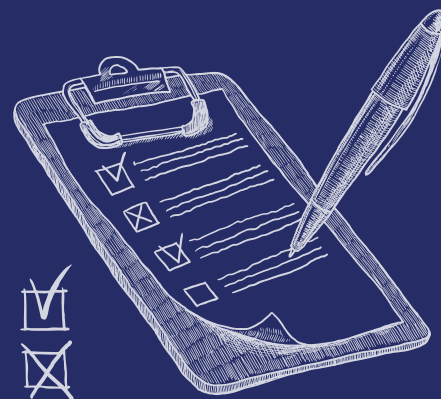
Sectors	Vision	Function	Workplan per function
 Beef	Small-scale women and men beef producers increase cattle productivity through improved livestock management practices in Central and East Java and NTB.	Policy	The beef feed team will progress a multi-stakeholder partnership approach to improve embedded services with feed, including animal health. The team will start exploring cattle trading system in NTT to impact smallholder men and women farmers. Work will support the MoA to launch the new national standards (SNI).
		Animal Health	
		Supply Chain	
 Crop Protection	Smallholder women and men rice and maize farmers in East and Central Java use safer crop protection products in an appropriate way.	Knowledge and information	Continue the work with partners to improve distribution channels and marketing to expand the market.
		Marketing and communication	
 Dairy	Small-scale women and men dairy farmers will be improved milk quality and productivity by adopting good practices in rearing, feeding and health management in East Java and Central Java.	Feed	Enhance distribution channels for feed and animal health; establish a multi-stakeholder partnership approach to improve milk productivity and secure off-taking while supporting recovery from FMD; and continue to support Bitpro in breeding roadmap and guidelines.
		Animal health	
		Policy Advocacy	
		Milk off-taking	
 Innovative Finance	Women and men farmers have access to credit through agri-kiosks and policy makers improve the SME lending environment.	SME financing	Continue with the expansion of agricultural financing through market linkages between input companies and off-takers. Support product design and customer acquisition through research studies.
		SME finance consulting services	
		SME financial services	
		SME policy engagement	
 ICT	Kiosks are better managed and stocked appropriately and able to offer farmers agricultural services through ICT solutions.	Input supply chain	Strengthen kiosk management strategies and develop GAP information for dissemination through agri-kiosks; conduct research to assess demand for digital livestock services; and undertake action research studies.
		Information and marketing	
		Digital Agriculture ecosystem	
 Maize - Central Java	Women and men maize farmers in target districts use quality seed and GAP to improve productivity.	Policy engagement	Light touch activities with existing partners to build additional evidence to convince the government to provide subsidies to areas not serviced by the commercial market. This will be done by developing technical guidelines with the government.
		Hybrid seed promotion	
 Maize - Madura	Women and men maize farmers in Madura use quality seed and GAP to improve productivity.	Hybrid seed promotion	Monitor the market and explore development of technical guidelines for improved subsidy delivery.
		Policy engagement	

Sectors	Vision	Function	Workplan per function
 Maize - NTT	Smallholder women and men farmers in NTT properly use certified maize seeds and have improved access to offtaking services.	Quality certified seed	Strengthen the association of seed producers and support market supporting policy. Support overall market expansion.
		Market supporting policy	
		Information on GAP and GHP	
 Mechanisation Rice and Maize	Women and men rice and maize farmers have increased access to and use agriculture machinery services to reduce labour costs.	Product marketing	Focus on machinery after-sales service and facilitating business-to-business partnerships; promotions and marketing for advanced machinery in rice; and explore opportunities for youth inclusion in drone services.
		Machinery renting services	
		After-sales service	
 Mungbean	Improved quality, competitiveness and continuity of local mungbean supply.	Quality seed	Support partners to understand farmer behaviour; focus on improving subsidy implementation; facilitate linkages between off-takers and processors to upstream actors; and conduct off-taking study.
		Off-taking	
 Pig	Women and men farmers and market players in the pig industry gain benefit from increased availability and appropriate use of quality inputs, use improved husbandry practices and have access to the downstream market supported by a conducive regulatory environment.	Feed	Strengthen feed partner distribution channels; focus on restocking with the introduction of AI services and improving biosecurity of breed farms; continue with a strong ASF campaign and implementation of solid surveillance and improved testing facilities; and improve regulations to allow for the import of pig semen to improve restocking.
		Breed	
		Animal health	
		Policy and regulations	
 Rice	Women and men rice farmers in East and Central Java adopt high yield rice seeds and have increased productivity.	Rice seed	Increase farmer adoption of high yielding varieties and advocate the government to adopt high yielding varieties as part of its procurement policies.
		Policy advocacy	
 Soil Treatment	Staple, horticulture, and estate crop farmers in Central Java, East Java, and NTB have access to and use quality fertiliser in a safe way.	Marketing and promotion	Promote the multi-stakeholder partnership approach; focus on extension information through capacity development and facilitate market expansion.
		Extension information	
		Distribution	
 Vegetables	Women and men farmers' income increases from producing and selling more vegetables.	Seed distribution, & marketing	Focus on seed distribution channels; embed GAP in promotional activities for seed sales; and assess prospects for localised trading.
		GAP information and extension service	
		Off-taker/trader	

Lessons learned

This semester, PRISMA prepared lessons learned documentation for the ISR. This included lessons in most sectors, including closed sectors and cross-cutting areas. These documents will be part of a learning series to be released next semester. The main lessons were:

- Working with the private sector to help deliver development outcomes that benefit the poor in Indonesia works.
- Market system change is complex, and navigating complex markets takes time and experimentation. This complexity needs to be considered by donors when setting indicators of success.
- Working in thin markets like NTT, NTB, Papua, and West Papua requires a different approach, and the regular scale-up strategies do not always apply. A hybrid approach is required in these challenging contexts but can adversely affect value for money, which needs to be recognised.
- Sector strategies need to be built around a vision for systemic change because it is only by knowing the endpoint that the pathway to reach systemic change can be mapped.
- MSD programs should not shy away from policy reform as changes in the business enabling environment can be an effective lever for systemic change. Still, reform agendas must be targeted, realistic, and adequately resourced.
- High-performing management teams can help drive large-scale MSD programs with limited local capacity. Still, the core team needs a range of complementary competencies over and above MSD technical skills.



Progress in cross-cutting areas

Excellent progress was made in the cross-cutting areas during this reporting period.



Policy Engagement gained significant traction over the reporting period with PRISMA's advocacy efforts bearing fruit at the national level. The BSN released a new beef and dairy cattle feed standard in December, which enables feed companies to produce certified, quality feed at an affordable price for smallholder beef and dairy farmers (See infographic on pg 80-81). This opens up the feed market to all smallholder cattle farmers throughout Indonesia and in neighbouring South-East Asian countries and the ability to export certified feed. This semester also marked a fundamental step toward developing a policy for smallholders using Jersey cows. A set of guidelines has been developed and PRISMA will support the government in developing a roadmap.



This semester, PRISMA put the 'D' back into **gender equality, disability and social inclusion**. After limited progress in disability inclusion, PRISMA held a workshop with 11 organisations of people with disabilities to seek feedback on PRISMA's strategy to incorporate universal design principles into private sector business models. While the business case is not always strong for disability inclusion, some of PRISMA's partners have responded positively and are incorporating principles of universal design. PRISMA continues to positively impact **WEE** dimensions, with 46 percent of women surveyed gaining better access to products and services and 58 percent improving

their economic position. In terms of agency, more women are finding opportunities to network and assume leadership positions (27 percent). They also have a greater say in household decisions (35 percent). The private sector is also doing better at mainstreaming gender in their business models, with 78 out of 136 interventions including gender considerations. This semester, PRISMA looked at opportunities to further strengthen the **indigenous inclusion** strategy in the vegetable sector.



Strategic Communications went from strength to strength this semester with a reorientation and refresh of the strategy to better reach and influence audiences, proven with the launch of the PRISMA story in collaboration with the Economist Impact. This publication alone reached 2.7 million people. PRISMA has become a trusted source of credible information on the impact of external shocks on the Indonesian agricultural market. This was due to PRISMA's distribution of numerous Indonesian Market Watch bulletins on FMD, price food inflation, and the impact of the war in Ukraine on fertiliser prices.



This semester, PRISMA developed a comprehensive and insightful series of papers reflecting on lessons learned. The learning series will be published externally in 2023. PRISMA also surveyed its partners this semester (see the box 'tell us what you really think'), which is an essential source of evidence to build PRISMA's strategic communications approach.

Environment and climate change

Results from a review focused on climate change-related risks and opportunities with support from Dr Andrew Ash – a renowned climate change and agriculture expert. The review highlights the existing climate change situation, future outlook, impact on agriculture and rural livelihoods, and how PRISMA may contribute to climate change adaptation and mitigation.

Impact of climate change in Indonesia



Increased flooding, drought, sea level rise and heat stress will have negative impacts, especially on the staple crop, rice, which contributes about half of calories consumed nationally.



Increases in carbon dioxide may have the benefit of increasing plant growth but these are usually offset by increases in temperature and/or declines in rainfall.



Rising temperatures will interact with rainfall to increase vulnerability to pests and diseases.



Climate change can also affect the socio-sphere beyond the geosphere and biosphere. For example reduced agribusiness performance from increased likelihood and intensity of devastating extreme events may trigger GEDSI issues such as domestic violence.



Emissions from agriculture



Indonesia is the world's fourth-largest emitter of greenhouse gases.



Agriculture in Indonesia produces around 200 Million tonnes of CO₂-e per year (Figure 5).



This represents around 11% of total emissions for Indonesia.

? How PRISMA is supporting farmers to adapt



Dairy

- Expanding the use of biogas digestors to reduce methane emissions from manure.



Soil Treatment

- Developing an App for correct fertiliser application and innovations in precision agriculture.



Crop Protection

- GAP recommendations for the use of pesticides and crop and soil health as a preventative measure against increased pest and disease risk from climate change.



Rice

- Improve water management in paddy fields.



Soil Treatment, Maize, Rice



- Demonstrating the financial and environmental benefits from using lower rates of nitrogen fertiliser.
- Promoting slow release, coated urea products.
- Expanding the use of organic fertilisers as a complement to inorganic fertilisers through working with existing partner companies and by seeking new partnering opportunities with organic fertiliser companies.



Beef and Dairy



- Improving forage quality of tethered and stall-fed cattle which improves the efficacy of rumen fermentation per unit of live weight gain or milk production. In areas where forage supply is limited, increased use of concentrates not only improve the rumen fermentation efficacy but also address climate challenge on the availability of natural forage.



Opportunities for PRISMA in adaptation and mitigation

PRISMA is working through private and public sector partners to promote products and services, good agricultural practices and innovations that can assist with adaptation and mitigation. PRISMA has plans to continue this work in 2023, drawing from the opportunities outlined in the climate change review and influenced by the sector exit strategy. The close-out strategy will focus on where PRISMA is best placed to support its partners, given the time left in the program. PRISMA will monitor and report on adaptation and mitigation efforts more closely in 2023 and is setting up the systems to do so through its RML team.

Strategic communications

PRISMA has been steadily re-orienting its communications strategy to be more effective at reaching and influencing its audience. This semester saw the results of this process.

Steps to build our brand and reach



An engaging brand

to be a credible and authoritative source of information



Developing content

that speaks to our diverse group of stakeholders



Increasing visibility

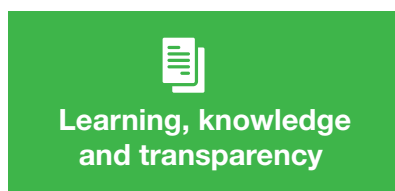
through social media, partnerships and media

Focus areas



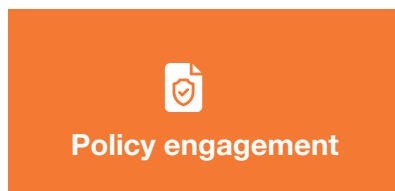
Program impact

- At household level
- With partners



Learning, knowledge and transparency

- With development community
- For Bappenas



Policy engagement

- To support outcomes
- To share the journey



Climate goals

- To support outcomes
- To share the journey

The approach



Informed by evidence

PRISMA's partner survey revealed that partners ranked market knowledge and intelligence above financial support. This is a helpful and encouraging insight. It provides the justification for PRISMA to continue to produce and disseminate market insights and intelligence.

Visually beautiful and engaging communications products

Photography



Film



Social media content



Our impact: Semester 2 2022

Results from the Economist Impact and PRISMA partnership



2.7 million

impressions on social media.
As reported by Economist Impact.



2.41 minutes

the average reading time



45,000 people

received an Economist Impact Perspectives email

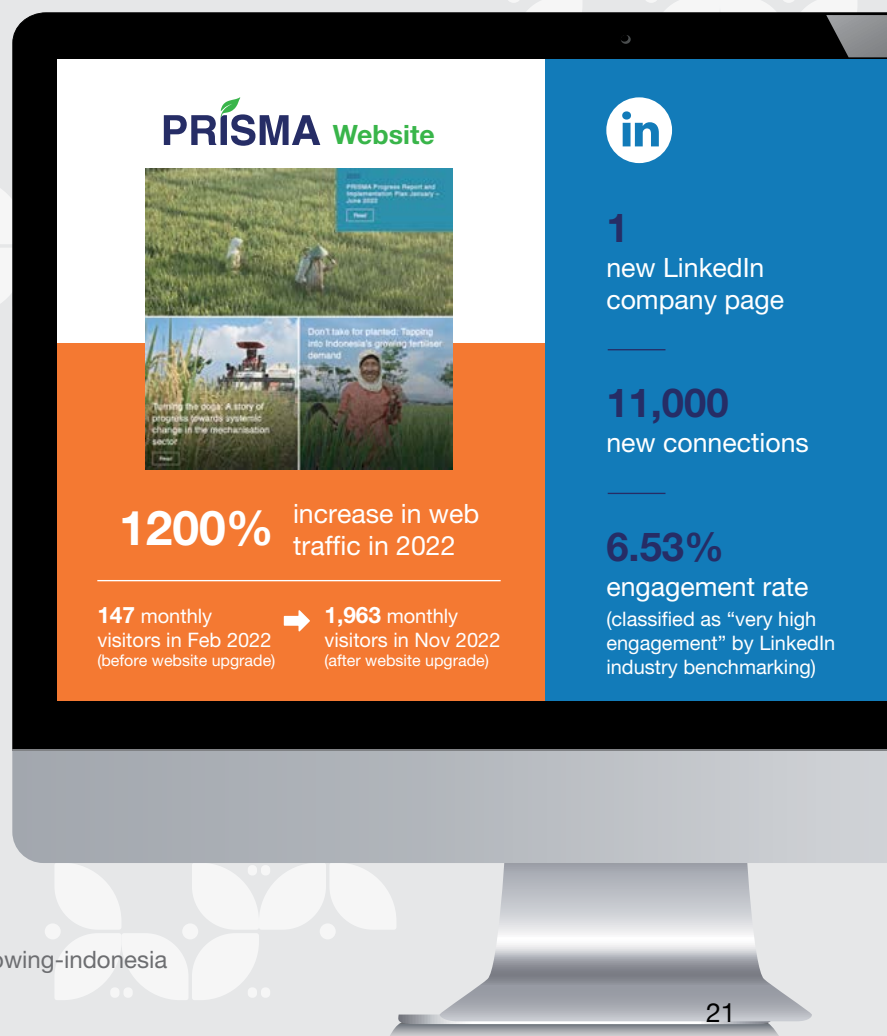


31,000 people

saw the advertisement on
The Economist app



www.impact.economist.com/projects/growing-indonesia





Tell us what you really think

Results of a PRISMA partner survey

September 2022

As part of the ISR commissioned by DFAT, PRISMA sent a simple 10 question survey to partners to understand what they value about the partnership and where PRISMA can improve. In addition, the survey asked partners if they would continue activities beyond the partnership period, which informed an assessment of the commercial viability of the business models.

PRISMA's partners vary in size but have in common that they offer products and services that enable smallholder farmers to improve their productivity and incomes. As of September 2022, when PRISMA sent out the survey, there were 63 active partners in 6 provinces in Indonesia.

The survey was not anonymous or compulsory, although PRISMA had an 81 percent response rate. The majority of questions were multiple choice, but the program gave partners the option to explain their selection in a free-form answer, providing some qualitative data too.

Key findings



Sustainability of innovation is high

100 percent of the partners said if the partnership with PRISMA ends, they will continue the business model. Partners said there are opportunities in an underdeveloped market. Partners value PRISMA's role in identifying business opportunities and see the potential for further growth.



Knowledge and understanding of the market, rather than money, is what the private sector values most. The two most popular responses to the question "what area of support do you most value?" were advice and guidance in business activity and market information, both ranked above financial support.



The PRISMA experience is overwhelmingly positive.

78 percent of the respondents said their experience of the partnership has been "excellent." A follow-up question probed the reasons why and the top three responses were: supportive, well-connected with different stakeholders, and responsive to the needs of the partners.



PRISMA is fulfilling its mission of reaching new and untapped markets.

When asked how the partnership has changed their business, 47 percent said they were now selling into new markets or had changed their product and services to better serve these markets (42 percent).

See Annex 3 for more



CEBAH ASF

BABI SEHAT

SADAR ASF

PETERNAK SEJAHTERA



INFO ASF

#StopVirusA...

1

Program Relevance



1 Program Relevance



PRISMA is a market systems development (MSD) program working in agriculture in 6 provinces in Eastern Indonesia: East Java, Central Java, East Nusa Tenggara (NTT), West Nusa Tenggara (NTB), Papua and West Papua. The program is funded by the Australian Government's (GOA) aid program through the Department of Foreign Affairs and Trade (DFAT) and implemented in cooperation with the Government of Indonesia (GOI) through the National Development Planning Agency (Bappenas). PRISMA is an AUD 88 million investment that began in 2013.

Achieving rural growth through the private sector will alleviate poverty for smallholder farmers and put Indonesia in a better position to improve its food security. The program's investments seek to change how the private sector does business in rural Indonesia so that smallholder farmers can increase their farm productivity.

PRISMA does this by:



Identifying business opportunities to improve agricultural sector performance.



Leveraging the private sector to produce and sell innovative products and services to rural men and women farmers.



Influencing the public sector to spur economic growth by improving the business-enabling environment.

Key semester achievements



PRISMA has already exceeded the EOPO, reaching 1,224,574 smallholder farming households and increasing incomes by 184 percent.



PRISMA has supported the Government of Indonesia in changing the National Feed Standards for cattle and dairy feed. As a result, small and medium companies can enter the feed sector to provide affordable quality feed to smallholder farmers throughout Indonesia.



PRISMA has achieved systemic change in the cattle sector, particularly for commercial feed. The private sector is now independently serving the market with quality feed for smallholder farmers.



PRISMA has succeeded in triggering market rebound in the pig sector after 2 years of African Swine Fever (ASF). The private sector has increased sales of piglets, feed and animal health products, and farmers are beginning to restock and invest in commercial feed.



Private sector partners have invested AUD 220 million in more inclusive business models, and they intend to continue delivering these goods and services once co-financing has been withdrawn.



PRISMA has become a trusted source of field-level information for GOI and GOA on livestock disease in Eastern Indonesia for market impacts of external shocks. These include african swine fever in NTT and foot and mouth disease in East and Central Java.



Fifty-seven percent of private sector partner interventions are mainstreaming Women's Economic Empowerment (WEE) in their business models by including services and products directed at women farmers.



PRISMA is influencing farmers to reduce greenhouse gas emissions through smart agricultural practices and will now begin to measure these impacts formally.



PRISMA's strategic communications adjustments resulted in a reach of 2.7 million people via the Economist Impact campaign, a 1,200 percent increase in monthly visitors to the PRISMA website and more engagement with PRISMA stakeholders via a new LinkedIn page.



Relevance to GoI strategy

PRISMA is aligned with the GOI's National Medium Term Development Plan 2020-2024. Bappenas openly supports the program's efforts to ensure smallholder farmers have access to critical inputs in line with the Ministry of Agriculture's strategic plan 2020-2024. PRISMA is also aligned with the GOI's plans for post-COVID-19 economic recovery.

Indonesia's Long-Term National Development Plan 2005–2025 prioritises rural development and agricultural reform to achieve food security, enhance equity, and drive economic growth – all of these strategic goals align with the program. President Widodo's administration continues to prioritise economic growth in the rural sector by transforming the agriculture sector, nutrition, reducing regional disparities, and ensuring climate resilience. As part of the G20 held this semester, the President reaffirmed Indonesia's commitment to achieving a sustainable improvement in the agricultural sector to build sustainable and resilient food systems.



**Economic
growth**



Nutrition



**Reducing regional
disparity**



**Climate
resilience**



Relevance to GoA strategy

The Partnerships for Recovery: Australia's COVID-19 Development Response Plan 2020-2022 guides Australian development programs' approach to supporting Indonesia's COVID-19 response and recovery. PRISMA contributes to the stability and economic recovery pillars by strengthening agricultural markets and food security while improving poor farmers' livelihoods. PRISMA remains well-placed to help reduce economic hardship and ensure that women and vulnerable groups play a critical role in Indonesia's recovery.

PRISMA's focus on systemic change aligns well with DFAT's COVID-19 Development Response Plan by building more resilient agricultural markets in Eastern Indonesia. The impacts of COVID-19 and the ongoing conflict between Russia and Ukraine have resulted in global economic upheaval, leading more rural poor into poverty. PRISMA's work with the private sector helps markets recover and build resilience against future shocks. It does this by tackling the underlying causes of market failures such as limited access to agricultural products and information and addressing inclusion and resilience simultaneously. PRISMA is, therefore, well placed as part of DFAT's recovery portfolio.



Relevance to SDGs

PRISMA is designed to support economic recovery, address inclusion, and build partnerships with the private sector to support agricultural growth in Eastern Indonesia.

PRISMA's key performance indicators (KPI) are aligned with SDGs 1 and 2: ending poverty and ending hunger. PRISMA also captures data on WEE, which goes some way to contributing to SDG 5 - gender equality.







2

Portfolio Overview and Progress

2 Portfolio Overview and Progress

Program context

PRISMA uses a MSD approach. The program aims to improve poor farmers' competitiveness and access to agricultural markets. PRISMA works with the private and public sectors to introduce innovation into the market to address the underlying underperformance of that market. In other words, PRISMA attempts to permanently change how the private sector does business in agriculture to make it more inclusive.

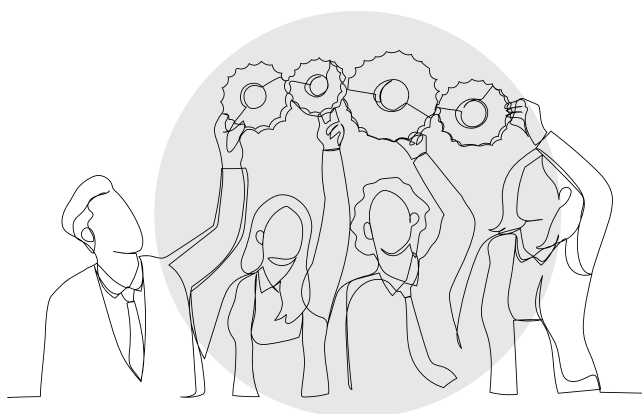
PRISMA has been operating for 9 years and has proven that a market systems approach is effective in delivering development aid effectively and efficiently. PRISMA has a high rate of social return, and represents excellent value for money. Donors would be hard-pressed to find another MSD program that has leveraged the private sector as well as PRISMA has. PRISMA partners have invested AUD219 million in more inclusive business practices. In active sectors that commenced in Phase 1 of the program, these business practices have become core business practices and will continue once funding from PRISMA is withdrawn.

For newer sectors affected by the 2-year COVID-19 shutdown, more time would be needed to ensure pilot interventions and new ways of doing business are cemented as part of the core business, and farmers have time to benefit from these more inclusive

practices. PRISMA is hopeful that DFAT will consider an extension to ensure greater levels of sustainability in these sectors.

PRISMA has been getting the word out about its work this semester. This included a partnership with Economist Impact that was well received (refer to cross-cutting progress section), the establishment of social networks, and a presentation at the Australasian Aid Conference in Canberra. PRISMA is a reference program for MSD forums, such as BEAM Exchange and Springfield, and the PRISMA CEO has been asked to contribute to a further 2 BEAM Exchange clinics for publications on aspects of the MSD approach.

In the program's final year, PRISMA will continue to influence the behaviour of the private sector and the interaction between market players so that the market will continue to function in this changed state when DFAT withdraws support. This permanent behaviour change of multiple market players is what MSD programs call systemic change. PRISMA aims to progress systemic change within key market systems. In PRISMA, these market systems are represented in individual MSS (also refer to the Annual Plan section and Annex 1).



Independent strategic review

This semester an independent strategic review (ISR) was commissioned by DFAT to assess the program effectiveness and relevance, and appropriateness of the modality to inform DFAT's future investment in rural development and agriculture in Indonesia.

The draft ISR report was submitted to DFAT in November 2022 and acknowledged PRISMA's good work. The ISR highlighted the breadth and depth of the program and the contribution beyond improving farmer incomes to rural development in the 6 target provinces. The ISR stated the program was well managed and effectively demonstrated how market-led development can improve the income of

smallholder farmers. However, the report also stated that the program offered much more beyond poverty alleviation that could be leveraged by the donor.

The ISR provided key recommendations for continued investment in rural development, including the consideration of an extension to the program. The ISR note that the stop-start approach to discussing the transition from phase 1 to phase 2 has hampered the program's ability to focus on more expansive objectives. These challenges still exist, particularly in the areas of policy dialogue, the strategy for Papua and West Papua, and progressing longer-term initiatives to improve market resilience.

Progress toward systemic change

In 2021, PRISMA did a strategy refresh, which focused the program on progressing systemic change in the MSS. At that time, sectors were comprehensively assessed against systemic change indicators and ranked according to progress. Commencing Semester 1, 2021, each PRIIP has highlighted 3-4 sectors starting with the sectors with the greatest progress towards systemic change.

This report is the fourth PRIIP since that time, so the MSS highlighted in this report are sectors with less progress towards systemic change (refer to Figure 3). This means that for the sectors highlighted in this PRIIP, the systemic change stories are less rich than those in previous PRIIPs. However, it is still important to highlight sectors that are not 'star' sectors, as they provide rich learning material.

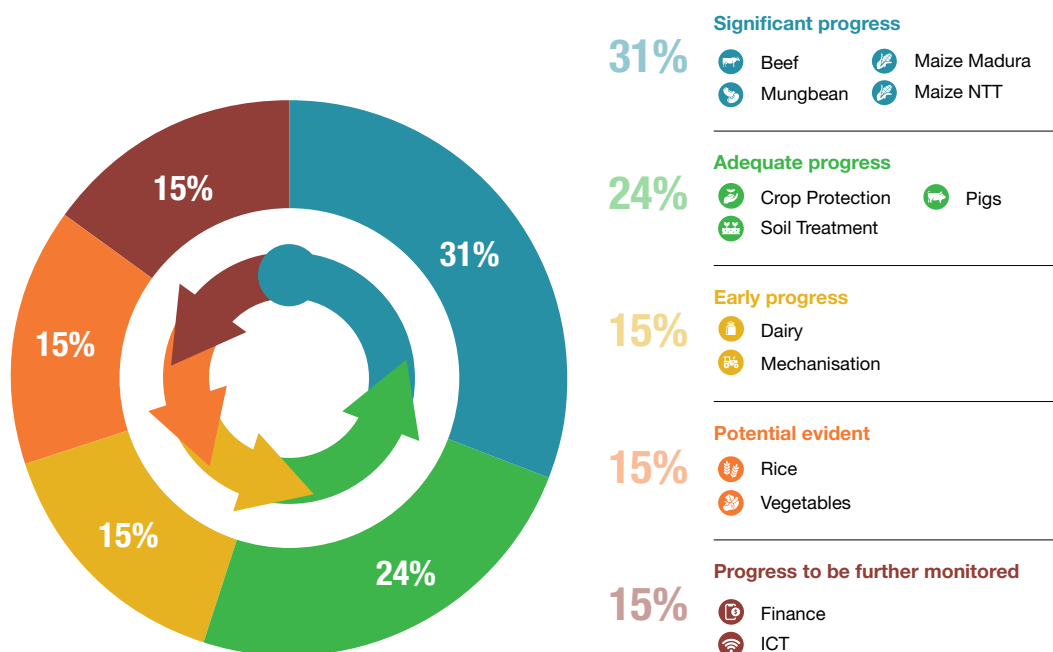





Figure 3. Progress towards systemic change

Following the semester review undertaken in November, the pig sector has moved from 'potential evident' to 'adequate progress'. The reasons for this are:

	During the reporting period, the private sector increased sales of piglets, feed and animal health products, indicating that previous innovations have shown evidence of resilience.
	Farmers have gradually started restocking piglets indicating farmers have increased confidence in tackling ASF.
	Farmers on Timor Island are reinvesting in feed.
	More than 15 breeding farmers in NTT have commercialised piglets, and artificial insemination (AI) has started.
	Feed companies are expanding their distribution networks, and crowding-in has restarted.
	There is evidence of collaboration between feed and breed companies.
	The Department of Livestock is aware of the risk of ASF and is providing information and educating farmers through various channels.

The dairy sector is still showing 'early progress' towards systemic change, and the vegetable sector shows 'potential evidence'. The sections below will provide evidence of the classifications of progress toward systemic change.

Sector highlights

Dairy (progress against MSS)

Indonesia has experienced a large milk deficit for many years. Domestic milk production only meets about 20 percent of demand, with significant supply coming from imports. East and Central Java account for almost 67 percent of the local supply, with 115,000 small dairy producers. Nevertheless, milk productivity and quality are suboptimal.



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

6,518

Cumulative outreach projected to Dec 2023 (HHs)

14,591

Total NAIC to Dec 2022 (%)

74%

Total NAIC up to Dec 2022 (IDR)

122.8 billion

Total projected NAIC to Dec 2023 (IDR)

191.7 billion



Value for money (VFM)



Investment leverage

10.01



Investment per HH

173.86



Social return

7.50



Pak Purwadi, a dairy farmer from Ampel Village in Central Java. PRISMA is helping dairy farmers like Pak Purwadi, by promoting better feed and pharmaceuticals for cattle and improved milk handling at collection points.



Constraints

The suboptimal performance in the dairy sector in East and Central Java is due to a lack of access to good-quality feed, pharmaceuticals, and veterinary services, as well as suitable dairy breeds for the tropical climate. In addition, farmers have poor knowledge of good dairy farming practices.



Sector vision

PRISMA will address the market constraints by improving management and business practices at the farm level for feed, animal health, and enabling access to good dairy breeds through policy engagement. In addition, PRISMA will work with dairy processing Industries (DPI) to improve milk handling at collection points and expand distribution networks, so farmers have better access to the DPI.



Market function 1: Feed

Good progress was made this semester in the feed function. PRISMA signed another partnership with CV Sinar Mentari Group, East Java's largest dairy feed producer. High-quality nutrition is critical to the recovery of dairy cows following the FMD outbreak, and this partnership will improve access to commercial-quality feed by smallholder farmers. While the partnership focuses on East Java, there is potential to expand into Central Java.

This semester, PRISMA conducted an impact assessment of the Nufeed intervention. The assessment found that 3,947 dairy farming HHs benefited from the partnership, with a 72 percent increase in their income. The incremental income increase is from IDR 3.3m per month to IDR 5.7m. The beneficiaries were not only from Central Java (the focus of the intervention) but also from West Java, Yogyakarta, and East Java. This demonstrates that PRISMA's co-investment with Nufeed is expanding to other areas, which is promising in terms of sustaining the innovations.

FMD impacted partner feed sales this semester but only early in the outbreak. In contrast to beef cattle sales, overall partner feed sales for dairy in the second half of 2022 were up 46 percent compared to the first half. This indicates that farmers continued to use high-quality commercial feed during the FMD outbreak. The main reason for this was that dairy cows fed commercial feed had higher survival rates preventing loss of productivity and forced slaughter. The PRISMA impact assessment revealed that even during peak FMD periods, about 93 percent of Nufeed farmers continued to use concentrate feed due to the health benefits.

This semester, the GOI provided 5,650 tonnes of subsidised concentrate feed to help dairy farmers recover more quickly from the FMD outbreak. Three of the 7 companies who won the tender were PRISMA partners (Nufeed, Sinar Mentari Group, and Nutrifeed). PRISMA believes this initiative is essential to accelerate the sector's recovery from FMD and will not distort the commercial feed market and smallholder farmers will have better access to commercial feed than otherwise would be the case.



Market function 2: Animal health

This semester considerable progress was made in the animal health function, spurred somewhat by the FMD outbreak. PT Medion focused on promoting pharmaceutical and biosecurity products that prevent and treat FMD in ruminants. In parallel, PT Medion did FMD awareness campaigns. This semester, 1,200 smallholder dairy farmers participated in educational and promotional activities carried out by PT Medion and other PRISMA partners. The promotional activities led to a 300 percent increase in sales for PT Medion.

The program helped facilitate collaboration among non-competing businesses this semester. For example, PT Medion collaborated with KJUB Puspetasari (a feed company) to host a national webinar attended by 350 farmers on the prevention and

treatment of FMD. PT Medion and PT Nufeed (a feed company) organised FMD socialisation activities in Getasan, Semarang, which reached 50 farmers. The demand for Mastigrin, a product that prevents mastitis in dairy cattle, increased following the event, which led Medion to acquire Nufeed's agent as a new agent for Medion's pharmaceutical products in Getasan. This type of collaboration helps to reinforce innovations across market functions.

Medion asked PRISMA to help them carry out an independent consumer survey of their products to improve product performance and develop marketing and promotional strategies to reach more smallholder farmers. This shows that Medion considers smallholder farmers a viable market segment.



Market function 3: Policy advocacy (new function)

Substantial progress was made in this market function during the semester. In August, the PRISMA team held a discussion with the Australian Centre for International Agricultural Research (ACIAR) on the feasibility of the Jersey cattle breed for Indonesia. Some concerns were raised by the subtropical dairy manager at Dairy Australia, including the higher calf mortality rate of the Jersey breed and the time the breed takes to acclimatise. The Livestock Breeding and Production Directorate (Bitpro) are aware of these issues and are addressing them in technical guidelines for raising Jersey cows. PRISMA is facilitating further discussions between Bitpro consultants and ACIAR because the head of the Superior Livestock Breeding and Forage Animal Feed Centre wants to import Jersey cows from Australia.

In November, PRISMA signed a partnership agreement to assist Bitpro with technical assistance in developing materials and seed stock for dairy breeding. The contract signing was followed by a kick-off meeting on the same day. The Bitpro team is leading the studies with technical support from PRISMA. Data collection and analysis were undertaken in November and December, with the final report and guidelines expected by January. Bitpro will use the reports to inform government policies, programs, and budgets for the beef and dairy sectors for 2023 and beyond.



Market function 4: Milk off-taking (new function)

A new partnership was signed in late November with dairy processing company and off-takers, SGM-Danone for a pilot project for selected lead farmers of dairy cooperatives to farm Jersey cattle. SGM-Danone will procure Jersey cattle for the pilot project, and PRISMA will provide experts to

assist SGM-Danone in managing the pilot. The activities include measuring the technical and commercial feasibility of using the Jersey breed for smallholders in lowland areas. If the pilot is successful, the program will develop a scale-up strategy with more DPI and dairy cooperatives.



Challenges and learning

The FMD outbreak, which impacted 90 percent of all dairy cattle, and the recent presence of lumpy skin disease (LSD) in Central Java continue to challenge the dairy sector. Despite the sharp decline in FMD cases, recovered cows are still not at peak milk production. A US Department of Agriculture study reported a 35 percent reduction in milk production due to FMD, and PRISMA field data supports this. These conditions could create disincentives for

farmers and businesses to invest in the dairy sector.

The private sector networks established by PRISMA have been instrumental in providing up-to-date and timely information on FMD, including biosecurity measures, treatment, appropriate products, and how to access vaccines and other government services.



Systemic change story
Dairy

Milking it

Finding ways to increase milk productivity in Indonesia



Dairy low production

Everything related to the dairy industry in Indonesia is trending upwards. Everything, that is, except milk production. The dairy industry is relatively new and relatively small in Indonesia, with production concentrated in the highland areas of East and Central Java. There are 136,000 dairy farming HHs in Indonesia, with 90 percent being smallholder farmers.

With increased urbanisation and rising incomes, demand for dairy products in all South-East Asian countries is growing. According to Rabobank, the combined markets of South-East Asian countries are having the largest growth in dairy demand in the world, with combined annual demand reaching close to 19 billion litres (liquid milk equivalent) by 2030².

However, Indonesia has a significant supply-demand gap, with 80 percent of dairy demand serviced through imports. Smallholder dairy farmers are only achieving an average of 9 litres of milk per head of cattle per day compared to the average in Australia of 22 to 30 litres per cow. This low production is due to a combination of poor practices (refer to Figure 4), which results in poor-quality milk and a long calving interval of close to 17 months.

² <https://www.foodanddrinkbusiness.com.au/news/south-east-asia-a-booming-market-for-dairy>

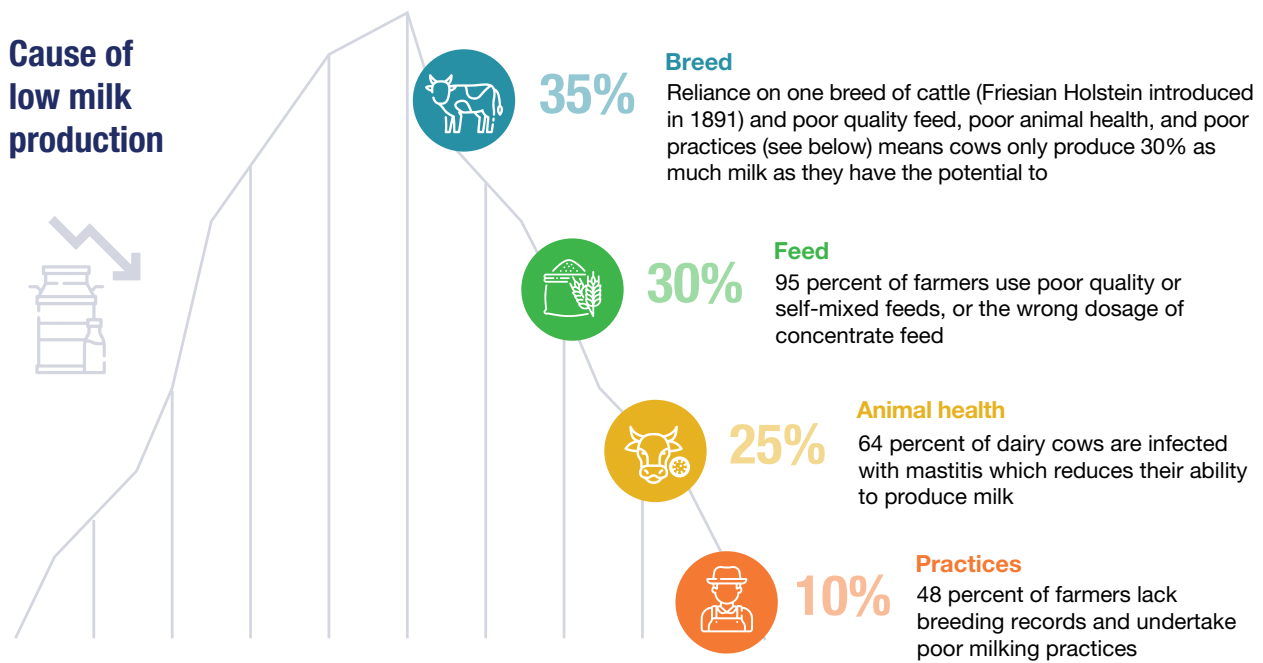


Figure 4. Low milk production factors



A long whey to go

In 2019 PRISMA identified opportunities to increase productivity in the dairy sector by focusing initially on feed and animal health functions. At the time, there were only 3 small companies servicing the dairy market but with only a single product for lactating cows. Specified feed formula should be available for the complete life cycle of a potential milking cow to increase milk production. The market share of these companies could have been higher, with less than 10 percent of smallholder dairy farmers buying and using the correct dosage.

There is a strong correlation between animal health and milk production. In 2019, only 5 pharmaceutical companies provided animal health products for dairy cows, but only 5 percent of sales were for large ruminants. The reason for low sales was that farmers did not consider animal health and biosecurity measures necessary, and pharmaceutical companies focused on poultry and the aqua sector.

In 2020, PRISMA established a partnership with a medium-sized company, Nufeed, to develop and market a range of diversified feed products. Just as the products were ready and being marketed, disaster struck – the COVID-19 pandemic.





Progress at a 'low', but the feed market gains traction

The pandemic slowed progress in the dairy sector. PRISMA helped Nufeed pivot to online marketing and promotions; sales went from zero to 16 tonnes per month in Central Java. Nufeed took PRISMA's advice and used the results of farmer behaviour research to help establish distribution channels through intermediary service provider (ISP) agents. Nufeed soon expanded from the pilot area of 4 districts in Central Java to 50 districts in Central, East, and West Java. Total sales for Nufeed went from 7,154 tonnes/year pre-partnership to 15,589 tonnes per year by 2022. In 2021 and 2022, PRISMA partnered with 3 other feed companies (Agroveta Husada Dharma, Sinta Prima, and Sinar Mentari Group), although progress has been slow.

There is good evidence that 18 feed companies are now selling 29 feed products to dairy farmers. Farmers are adopting higher-quality commercial feed; consequently, average milk production has increased from 9 to 13 litres per cow per day (a 30% increase).

In April 2021, PRISMA secured a partnership with the pharmaceutical company Medion to trial, promote, and market a herbal supplement to prevent mastitis with the Nestle network, one of the largest DPI in Indonesia. PRISMA assisted Medion to promote embedded information on good feeding and animal health practices through the agent network and dairy cooperatives. Within 12 months, farmers reported modest income increases due to using the supplement³.



Eking a little more from the churn

Following the program strategy refresh in 2021, the dairy team added 2 new functions to the dairy strategy: policy engagement and milk off-taking. Indonesia relies on the Friesian Holstein breed, which is not suited to tropical climates. PRISMA has been supporting the GOI in undertaking studies to develop a roadmap and technical guidelines for smallholder farmers to farm Jersey cattle. The GOI's change in policy to allow the import of the Jersey breed made this work possible. PRISMA made significant progress in this area due to the program's previous work with the MoA in beef cattle.

PRISMA has partnered with SGM Danone to pilot Jersey cattle farming with selected lead farmers of Danone's dairy cooperatives. While there will be sufficient time to determine the feasibility of the pilot, there is insufficient time for scale-up.

PRISMA has improved distribution networks for milk off-taking, with an increase of 16 percent of milk sales to DPI in Central Java and 2.2 percent in East Java⁴. These fresh milk sales to the DPI have increased the income of smallholder farmers by 61 percent.

³ Average income increase of IDR106,348 (AUD10.63)

⁴ The low sales in East Java are because most farmers already have off-taking access through dairy cooperatives



An 'udder' disaster

In April 2022, FMD hit the dairy sector, significantly decimating herd sizes and impacting milk production. Feed sales reduced at the beginning of the outbreak but are regaining. For example, Nufeed went from producing 90 tonnes of pellets and 120 tonnes of powder feed prior to FMD to 60 tonnes of pellets and 80 tonnes of powder at the onset of the outbreak. However, farmers using concentrate feed had fewer cow deaths and quicker recovery times, which encouraged farmers to continue using concentrate feed. Feed sales have subsequently rebounded.

Another positive impact of the outbreak was the 300 percent increase in animal health product sales, including supplements, vitamins, medicines, and biosecurity products. It will take time to assess the degree to which the market recedes after the outbreak and if farmers return to previous poor practices in animal health.



Mooves in a positive direction but with limited scale

The dairy sector has benefitted from PRISMA's interventions, particularly in Central Java, where productivity is lower than in East Java. Milk production of 3,947 dairy HHs has increased to 13 litres per day, with a 60 percent increase in milk quality. This change has led to a 72 percent increase in income (IDR28.7 million per year or AUD2,870). The calving interval has also been reduced from 17 to 13 months, and cows with improved nutrition have better health outcomes.

COVID-19 and FMD slowed partners' work and limited progress in many functions. The potential for systemic change is evident, particularly in the feed and policy functions. The business models of PRISMA partners in all functions will likely continue when funding withdraws. However, most innovation rests with one feed company (Nufeed) and one pharmaceutical company (Medion). The recent outbreaks of FMD and LSD have discouraged other companies from investing in the dairy sector. In the remaining 8 months of the partnership, the team will try to trigger behaviour change in other market actors to improve the scale, sustainability, and resilience of the progress to date.

Partner story
Dairy

Partner perspectives

A beneficial cowoperation

Totok Setyarto established Nufeed, a livestock feed company, in 2019 on the site of a closed Cargill feed factory in Central Java. Totok aimed to develop high-quality feed for ruminants, including dairy cattle. Totok noted that the non-commercial concentrate feed produced by East and Central Java dairy cooperatives did not lift milk production from the national average of 8-9 litres per day. Totok says he knew he could not compete with dairy cooperatives on price. So, with the help of PRISMA in 2020, Nufeed developed a range of high-quality feed products. These feed products follow a cow's nutritional needs from calf to post-lactation.

"What we didn't know how to do was to get farmers to ignore the price and focus on the feed quality," says Totok. PRISMA convinced Nufeed to co-invest in market research and build a marketing and promotion strategy based on the results. "We discovered that only 31 percent of dairy farmers want to learn from written or online material, and 69 percent of farmers follow what other farmers do," explains Totok. Nufeed gathered information on whom the dairy farmers trusted in which areas and used this to develop an appropriate agent network.

Nufeed achieved good sales traction in Central Java and soon expanded to East Java and Yogyakarta, and increased sales in West Java. "We find that farmers using our feed for the first 100 days can increase production by 5 litres a day during peak lactating periods. This equates to an increase of 1,000 litres over the cow's life cycle," says Totok. This significantly increases smallholders' income.

COVID-19 and the outbreak of FMD impacted Nufeed's business, but Totok is not concerned. "For me, it is not about selling today," says Totok,



"It is about building the feed industry and changing the behaviour of farmers to improve long-term productivity." In fact, Nufeed's sales recovered quickly. While other feed producers' feed sales reduced by up to 40 percent, Nufeed's sales increased by 46 percent. "Most of our agents said that farmers were requesting more of our feed because cows fed with Nufeed had high recovery rates from FMD," says Totok.

Totok estimates it will take 3 years for the dairy population to recover following FMD. "The important thing now is to ensure that farmers trying to rebuild get nutritional information from people they trust," he states.

One such person is Nufeed agent, Suwarno, a dairy farmer, kiosk owner, and milk off-taker for a local dairy cooperative in Getasan, Sengon village, Central Java. Suwarno is what is known as a 'first mover'.

He invested in the dairy industry during COVID-19, switching from beef cattle because the price of beef dropped, but the milk price did not. Suwarno understood the importance of nutrition for milk production and so contacted Nufeed. He started his newly bought 7-month cows on Nufeed concentrate. By the time they produced calves, Suwarno was achieving 28 litres of milk per day, compared to his neighbours' 8 litres.

Suwarno expanded his business to include off-taking. He contracted some dairy farmers and started them on Nufeed concentrate. His milk achieved an 'A' grade from the milk cooperative, which increased the price for all his farmers. Soon Suwarno started to stock Nufeed products for other farmers and became an official Nufeed agent. "I now sell 16 tonnes of Nufeed products a month in the village," says Totok.

Suwarno's feed sales reduced to 3 tonnes a month during the FMD outbreak. He says farmers are struggling to invest in concentrate feed. "All my cows got FMD," says Suwarno, "but they all recovered within 24 hours." Suwarno puts this down to their excellent condition due to using good quality feed. "While my cow's milk productivity has reduced, it is still 100 percent more than farmers who do not use concentrate feed," says Suwarno.

While the FMD outbreak has tempered Totok and Suwarno's individual plans for business expansion, both are confident about the ability of the industry to bounce back. Totok is looking at a training facility for lead farmers, while Suwarno is looking into breeding to help re-stock dairy herds in his district.



Most of our agents said that farmers were requesting more of our feed because cows fed with Nufeed had high recovery rates from FMD.

Totok Setyanto, Nufeed CEO, Central Java





Farmer story
Dairy

Being milked dry by foot-and-mouth disease

Concentrate feed helping the dairy sector recover

Surani's life took a turn during infancy when her father passed away. The 75-year-old grandmother of 7 recalls being in 2nd grade at primary school when she was sent to Salatiga to work as a housemaid for a merchant family. Surani's only surviving sister went to Semarang to work as a restaurant hand. Her 4 other siblings died when they were young and before she was born.

Surani's mother was a farmer from Sengon village, where she raised dairy cows before her death last year. Surani married and had twin girls, but when her husband died early in their marriage, she returned to Sengon village to farm with her mother. Surani lives in a modest single-room house with a galley kitchen and a cow stable connected to the back of the house. Surani apologises for her simple surroundings but is proud of the house her childhood employer built for her and her mother.

Surani is equally proud of her dairy cows. She says they are like part of the family. Before the FMD outbreak in Sengon village in May of 2022, Surani had 5 cows and one bull. She fed her cows concentrate feed and forage, but the commercial concentrate was designed for beef, not dairy cattle. On that feed regime, Surani's cows only achieved, on average, 10

litres of milk a day, and at the peak lactation period, 18 litres of milk per day.

Surani got her feed from the local agri-kiosk run by Suwarno. Surani received information from Suwarno about a specifically formulated concentrate for dairy cows made by Nufeed. Suwarno was selling trial packs of the feed, so Surani decided to try the sample pack. Within one month, Surani noticed a difference in milk production. After using Nufeed dairy concentrate, Surani's cows produced 15 litres of milk per day and 26 litres during peak lactation. "The milk was much better quality," says Surani, "you could tell by just tasting it."

Even though the improved quality did not translate to an increased price from her milk collector, Surani received more income because she produced much more milk. "Even though I pay more for Nufeed, at the end of the day, I still have more money in my pocket," says Surani.

Surani uses her increased income from improved milk production to rebuild her dairy herd. "All my cows were affected by FMD," says Surani. "Two milk-giving cows had to be sold for meat to the local market because they were too sick to stand. I got almost

nothing for the meat", says Surani. "I got IDR8 million (AUD800) for the big one and IDR4 million (AUD400) for the other small one. Before FMD, I wouldn't have sold them for less than IDR50 million (AUD5,000)." The third beast, her bull, Surani, luckily sold during the religious festival of Idul Adha before FMD hit her village.

Surani's 3 remaining cattle survived the FMD outbreak, and her one milk-giving cow has just given birth, giving her 3 cows and one bull. While FMD has affected milk production significantly, Surani continues to give NuFeed to her milk-giving cow. "Even though it costs me IDR1 million a month, I still give my cow 4 kilograms of feed daily along with rice bran, cassava, and forage. The NuFeed keeps my cows fat," says Surani.

Even though most cows in Surani's village have recovered from the FMD outbreak, milk production is still low. "After 3 months since recovering from FMD, cows using NuFeed are still only producing 6 to 7 litres of milk a day," explains Surani, "But other farmers in the village who don't use NuFeed are only getting 2 litres a day," states Surani. "I will keep using the concentrate because my cows are slowly recovering," she says.

Surani says she is happy that her increased milk production allows her to feed her cows. "I also want to put money away for my children," says Surani. Now Surani is advising her neighbours to try NuFeed. "My neighbour Rukimin is now using NuFeed," says Surani with a smile. "I don't want people to think I am big-headed," says Surani, "but when they ask me why my cows look so good, I tell them to get NuFeed from the kiosk."



Even though it costs me IDR1 million a month, I still give my cow 4 kilograms of feed daily along with rice bran, cassava, and forage. The NuFeed keeps my cows fat.

Surani, dairy cow farmer, Sengon village

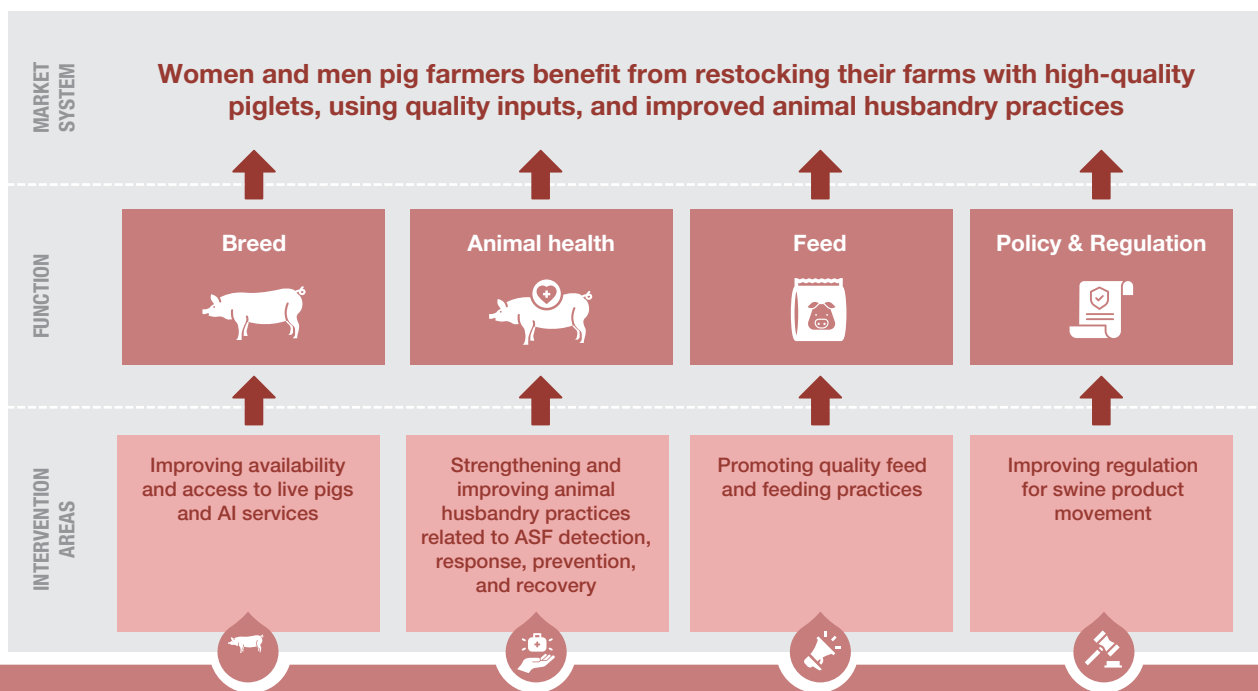




Sector highlights

Pigs (progress against MSS)

In late 2019, ASF hit NTT and decimated the pig population. The loss of pig stocks caused a significant decline in feed and pharmaceutical demand – 2 of PRISMA's main functional areas. PRISMA has refocused the pig strategy towards sector recovery by building and strengthening the breed and animal health management systems by partnering with the private and public sectors. This semester, the ASF cases in NTT declined, and the farmers and breeding farms are starting to restock; hence the demand for piglets, feed, and pharma products is increasing.



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

126,665

Cumulative outreach projected to Dec 2023 (HHs)

152,864

Total NAIC to Dec 2022 (%)

411% ↓

Total NAIC up to Dec 2022 (IDR)

714.0 billion

Total projected NAIC to Dec 2023 (IDR)

744.8 billion

Value for money (VFM)



Investment leverage

11.46



Investment per HH

45.22



Social return

12.47



Ibu Yufensia from Waikabubak City in West Sumba, Nusa Tenggara Timur. She lost 17 pigs to ASF in 2020, she has since restocked her farm and now has 7 sows and 16 piglets.



Constraints

Pig farmers in NTT have limited access to quality breeds and information on good husbandry practices, including farm and breeding management. Pig health products are not readily available. If farmers do not adopt good animal health practices, the risk of ASF outbreaks will continue. Trade transactions for pigs and pork products are restricted due to government regulations, restricting options to re-stock. The main constraint for farmers and the private sector is the lack of pig stock.



Sector vision

PRISMA will support the NTT government's plan to enable recovery in the pig sector. PRISMA has set itself a target of 10 percent recovery of the sector. The focus will be on detection, response, prevention, and recovery from ASF by improving restocking, awareness, and information about animal husbandry practices. Sector resilience will focus on breed improvement by building the capacity of key market actors and by strengthening the regulatory environment.



Market function 1: Breed

Breeding farms in NTT have been investing more in pig farming this semester. This is a good sign of recovery. PRISMA signed partnership agreements with 4 private and 5 government-owned breeding farms in NTT during this reporting period. The interventions focus on piglet production and commercialising AI. Although AI is still new in NTT, PRISMA's partners have invested around AUD63,000 in building AI laboratories and equipment during the reporting period. The public partners have also allocated an additional budget for AI services this year.

Another breeding partner, Aroma, introduced chilled semen straws for AI. The chilled semen straws increase the product life from 1 to 2

hours from collection to 3 to 5 days. The longer shelf life enables inter-island semen trading in NTT. These chilled semen straws also are free from diseases, safer, cheaper, and easier to transport.

Proper waste management has become a crucial activity for breeders. Mismanagement of waste causes water contamination, soil erosion, air contamination, and the potential spread of disease. If collected and managed efficiently, the waste can be recycled. PRISMA is supporting 3 private breeders and one public breeding farm with technical support to build water treatment facilities. All partners have committed to fully fund the facilities.



Market function 2: Animal health

This semester, PRISMA continued to support provincial and district animal husbandry offices and public and private partner companies to develop and disseminate materials to farmers. PRISMA is encouraging dissemination through animal health extension workers, church leaders, university students, and other market actors.

By the end of the reporting period, 70 percent of animal health extension workers in NTT had been trained on ASF and FMD-related information, biosecurity measures, and the GOI animal health information system.

This semester, PRISMA facilitated meetings between the Australia-Indonesia Health Security Partnership (AIHSP) and the GOI so that AIHSP could enter NTT and start their activities.

PRISMA continued discussions with the NTT Provincial Animal Husbandry Office and AIHSP to develop a standard operation procedure for ASF and other swine infectious disease tests using the Loop Mediated Isothermal Amplification (LAMP) tool. The LAMP tool is expected to be operational early next semester.



Market function 3: Feed

The pig feed market is recovering gradually following ASF. Since March this year, PT Sreeya Sewu Indonesia (Sreeya) has been selling an average of 300 metric tonnes (MT) per month of pig feed. These sales figures are similar to Sreeya's pre-ASF sales figures from 2019. Sreeya also expects to expand its market to Timor Leste in January 2023.

Feed demand for lactating and pregnant sows has increased this semester as farmers start to re-stock. In response, one of PRISMA's partners, Sinta Prima Feedmill, started to produce and sell pig feed for pregnant sows. The first shipment of 200 sacks of pregnant-sow feed arrived in Timor Island in November.

As a good sign of recovery and progress towards systemic change, the feed market is once again experiencing crowding-in. One competing brand, Gold Coin Indonesia, launched new products in smaller packages in the same area during this period. The smaller packages will allow Gold Coin to reach farmers with lower purchasing power. Another feed company De Heus, which was previously only working in Sumba, is now collaborating with Flobamora, one of PRISMA's partners, to sell feed on Timor Island. These are all signs of a recovering market.



Market function 4: Policy and regulation

No activities progressed in this function during this period as the provincial government continues to restrict the movement of pig products, including pig semen.



Challenges and learning

While the sector is gradually recovering, more work is needed to convince farmers to re-stock using good-quality pigs. Despite this, waiting lists for pig breeding farms are still long.

Based on the results of the sector review this period, the pig team has revised their target from 20 percent to 10 percent recovery of the pig sector. This is based on several

factors, including admissions from some local governments that they may not be able to fully fund breeding programs in the next budget year, the inability of the program to find a workable market solution for the accreditation of private AI technicians, and the continued restriction by the provincial government of pig semen from outside of NTT due to concerns regarding FMD.

PRISMA Promoting Rural Income through Support for Markets in Agriculture

ANGKET

KAMPANYE KESADARAN AFRICAN SWINE FEVER (ASF)

Pertanyaan yang terdapat dalam Angket ini bertujuan untuk mendapatkan gambaran mengenai peternak babi di daerah tersebut. Angket ini ditujukan kepada bapak/ibu atau saudara/saudari peternak babi terkait dengan isu ASF dan biosekuriti **SEBELUM** atau saudara/saudari peternak babi memperoleh penjelasan ASF dan biosekuriti dari tim PRISMA di daerah tersebut.

Petunjuk

- Isilah data diri saudara/i dengan benar dan lengkap. Semua data diri saudara/i dijamin dirahasiakan.
- Bacalah setiap pertanyaan dengan teliti dan jawablah sesuai dengan pengetahuan saudara/i.

Data Responden

Nama Lengkap : Johanes - Wigan
 Jenis Kelamin : Laki-laki/Perempuan (Pilih yang sesuai)
 Umur : <30 tahun b. 31 – 40 tahun c. 41 – 50 tahun d. >50 tahun
 Alamat Rumah : Bulu Taha
 Telp/Email :

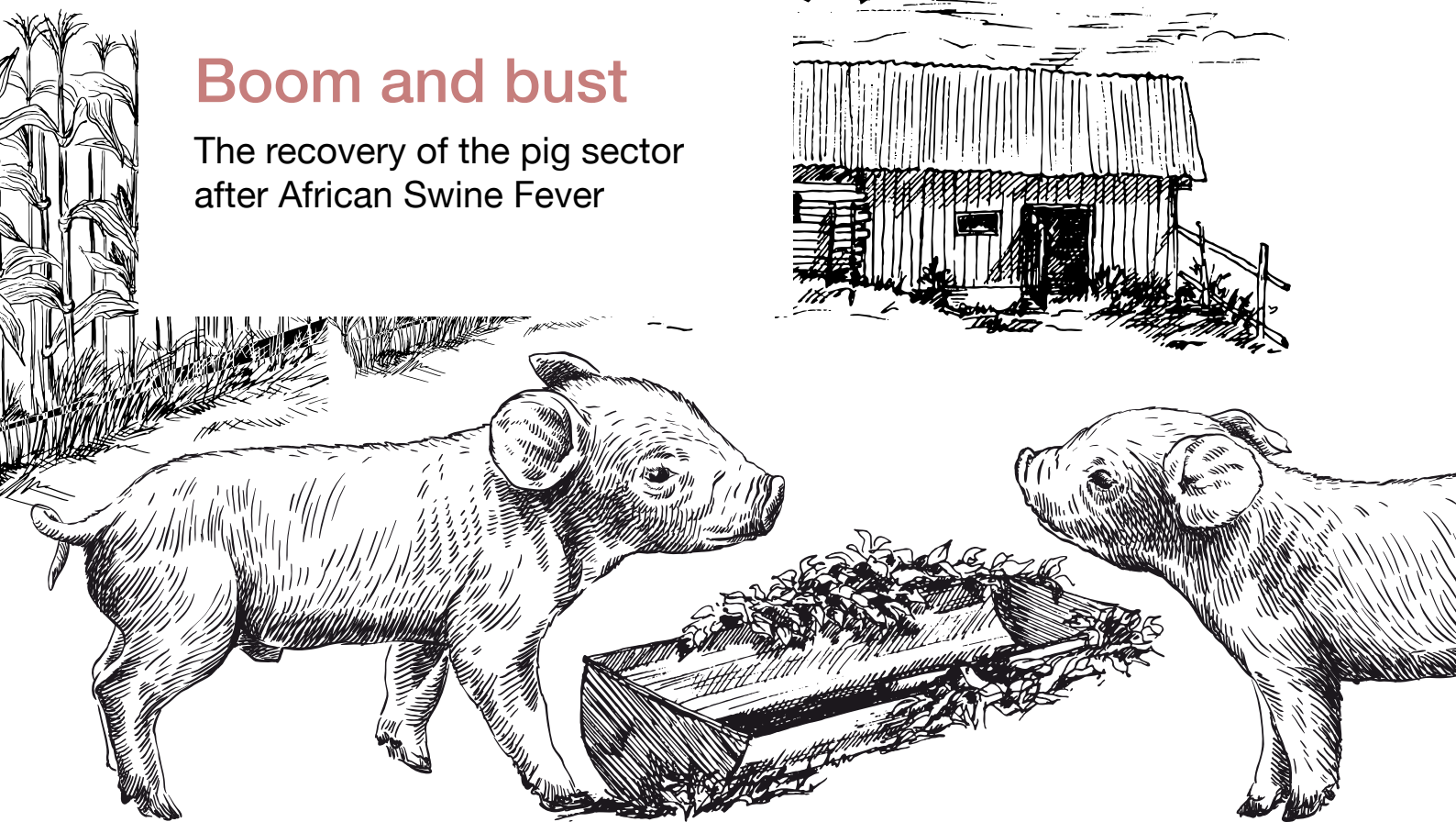
Mengenai isu ASF

- Apakah ASF itu?
 - ☒ Virus yang sangat mematikan bagi temak babi/babi liar
 - ☐ Virus yang tidak mematikan bagi temak babi/babi liar
- Bagaimana cara temak babi bisa tertular ASF?
 - ☒ Melalui angin
 - ☐ Melalui Orang, Barang dan Hewan (OBH)
- Apakah vaksin ASF sudah tersedia saat ini?
 - ☐ Sudah tersedia
 - ☒ Belum Tersedia
- Salah satu gejala temak babi yang terinfeksi ASF adalah?
 - ☐ Susah bernapas dan berkurangnya nafsu makan
 - ☐ Tidak ada demam sementara atau berulang
- Apa yang harus dilakukan agar penyebaran ASF dapat diatasi?
 - ☐ Mengawasi lalu lintas Orang, Barang & Hewan (OBH)
 - ☐ Membatasi peredaran pakan babi yang berkualitas
- Berikut ini merupakan cara yang dapat diterapkan untuk mencegah penularan ASF!
 - ☐ Penggunaan vitamin
 - ☐ Menggunakan alat rendam kaki, Alat Pelindung Diri (APD), & disinfeksi ruang
- Bagaimana cara menjaga kesehatan babi agar selalu steril?
 - ☐ Ada air yang cukup untuk diminum
 - ☐ Tidak perlu tempat khusus untuk istirahat
 - ☐ Tidak perlu alat pelindung diri (APD) digunakan
- Bagaimana cara membersihkan kandang?
 - ☐ Tidak perlu membersihkan
 - ☐ Bersihkan dengan desinfektan
 - ☐ Bersihkan dengan pembersih
- Bagaimana cara menjaga kesehatan babi?
 - ☐ Tidak perlu menjaga kesehatan
 - ☐ Menjaga kesehatan dengan vaksin
 - ☐ Menjaga kesehatan dengan obat-obatan

Systemic change story
Pigs

Boom and bust

The recovery of the pig sector after African Swine Fever



Pig business is big business

NTT has the largest pig population in Indonesia, contributing 30 percent of the national pig population. An estimated 900,000 smallholders in NTT are rearing, on average, 2 pigs for extra income and as a social safety net. Pigs are integral to the culture of NTT and are the most important livestock for smallholder farmers in NTT.

The cultural and religious traditions involving pigs keep the demand for pigs high. Pigs are also a critical source of protein for domestic consumption, and 91 percent of NTT's population of 5.39 million are non-Muslim and considered pork eaters. There is also high female involvement in the sector, with women spending considerable time collecting fodder, feeding, cleaning the pens, and controlling the health of pigs.

Constraints to market growth

Despite the importance of pigs in NTT, the market is underdeveloped. Pig farmers in NTT have limited access to quality breeds and good husbandry practices, including farm and breeding management and AI. Farmers also have limited access to good quality feed and pig health products (vitamins, supplements, vaccines, drugs).



From breeding to feeding

PRISMA's work in the pig sector began in 2014 and was focused on breeding since farmers mainly used local breeds instead of pure or crossbreeds. PRISMA partnered with 8 church-owned and private breeding farms to introduce better-quality pig breeds and improved fodder and rearing practices. Many farmers struggled to purchase high-quality piglets because of cost, but there was strong interest in the feed component of the interventions.

In late 2016, PRISMA shifted focus to promoting quality feed, which was highly successful. In 2014, 2 companies in NTT were supplying commercial pig feed at 8 MT/month. PRISMA partnered with these companies and convinced one more to enter the market.

In 2014, approximately 9,280 HHs were using commercial pig feed and improved farm management practices. By late 2019, the feed business was booming, with 122,325 farming HHs using commercial feed and improved farming practices. Using commercial feed resulted in halving the fattening period for pigs, reducing feeding time and thereby allowing women free time, and increasing farmer incomes by 415 percent.

PRISMA's initial partners (Charoen Pokphand, JAPFA, and Malindo) are now market leaders in NTT, and an additional 9 companies entered the market, 5 doing so independently. This is an excellent sign that, at that time, good progress was being made toward systemic change in the feed sector.



And then the pendulum swung

In late 2019, ASF hit NTT and quickly spread through the islands. Waves of the disease over 2.5 years decimated the pig population by 50 percent. An estimated pig population of 1.7 million in 2014 rose to 2.2 million in 2019 due to improved feed and husbandry practices. By 2022, the number of pigs fell

to 1.1 million. Two feed companies that had entered the NTT pig market in 2019 exited in 2022, and feed sales fell. ASF outbreaks continued without good animal health practices. It was time for a complete strategy change.



Moving the pendulum back – from feed to breed

Recognising the need for longer-term strategies that would strengthen the sector's resilience, PRISMA developed a recovery strategy prioritising breeding, animal health, and feed. Initially, PRISMA wanted to advocate for regulatory change to allow for the import of pig semen. However, the outbreak of FMD and fears of its spread to NTT kept the borders firmly shut.

In 2020, PRISMA partnered with 3 private breeding farms and an additional 6 farms in 2022, as well as the NTT provincial and district-level (Timor Tengah Selatan, Manggarai, Manggarai Barat, Lembata, Sumba Barat, and Rote Ndao) animal husbandry

offices to improve biosecurity measures, implement breed recording systems, and start AI services.

PRISMA aims to help breed partners commercialise AI, which reduces the risk of disease transmission and introduces superior genes into sow herds. Among PRISMA's 9 private breeding partners, one partner, Happy Farms, is now a semen bank holder and will support the other farms in AI commercialisation.

Restocking after ASF has been hindered by the government banning the movement of pig products, including semen, due to FMD.



Spreading the word

In August 2021, PRISMA supported the provincial government in launching an online ASF awareness campaign to increase farmers' knowledge of ASF and biosecurity measures, which are critical for preventing further outbreaks and helping the sector rebound. When movement restrictions due to COVID were lifted, PRISMA helped the government launch a new campaign in 2022 to reach a broader range of stakeholders and farmers across all 22 districts in NTT. An assessment of farmers using a snowball sampling methodology of 70 farmers has indicated that all farmers are now applying at least one or 2 biosecurity measures.

At the same time, PRISMA partnered with the NTT provincial animal husbandry office to support a comprehensive ASF prevention, detection, and surveillance strategy. PRISMA has helped build the capacity of government animal health workers and lab personnel on ASF prevention and surveillance. To date, PRISMA has trained 70 percent of all animal health extension workers.

There is only one laboratory in NTT that can undertake diagnostic services. PRISMA, in collaboration with the NTT government and AIHSP, procured 4 mobile diagnostic tools, which arrived in Indonesia in December 2022 and will be operational in early 2023 on each of the main islands.



Preparing for further swings of the pendulum

PRISMA's experience in the pig sector highlights the need for market systems programs to think about medium and long-term strategies to achieve market resilience from the outset. PRISMA's initial focus on outreach narrowed the strategy to feed, and if breed and animal health had been addressed at an earlier stage, the sector would have been more ready to weather the ASF storm.

While ASF remains an ongoing challenge for the sustainability of the sector, if PRISMA had not worked in this sector, chances of recovery would have been much lower. PRISMA has contributed to the recovery by initiating large-scale ASF awareness campaigns and improving access to ASF-free live pig sources, which are necessary for restocking farms.

The pig sector has yet to achieve full systemic change, but there is certainly adequate progress. The sector is beginning to pick up as breed farms are restocking and farmers are reinvesting in piglets and feed. Because pigs are so integral to NTT, the government and the private sector have a high incentive to bring the sector back. The pig sector will undoubtedly bounce back. What that looks like will depend on the degree to which PRISMA's breed partners can establish commercial AI services and maintain effective biosecurity measures in their facilities.





ORANG, BA
akit dan cara
ang sehat.
angga da

kaki bagi s
peternak, do
an hewan lai
itas da
er

BIOSEKURITI

1



2



Progress towards systemic change



Boom and bust: the recovery of the pig sector after African Swine Fever



Pigs are the most important livestock for 900,000 smallholder farmers in NTT and an integral part of the local culture.



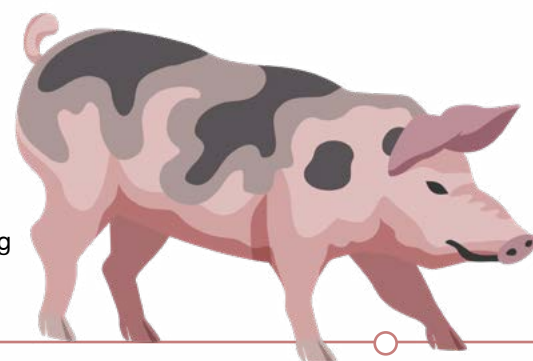
Pig farmers experience low productivity and income due to limited access to high-quality inputs (feed, breed, and animal health) and poor rearing practices.



Increasing the use of concentrate feed and good rearing practices can improve productivity and farmers have a strong interest in using commercial pig feed.



by 2016, PRISMA introduced good-quality concentrated pig feed and promoted good rearing practices by partnering with two companies initially; upon strong farmers' interests, nine more companies entered the market. Selling 8,252 tonnes of pig feed.



With PRISMA's support, government and pharma companies respond to disease outbreak

To combat the hog cholera outbreak in 2017, the provincial government developed a roadmap, and two pharma companies imported and rolled out vaccination for hog cholera.



By 2019, more than 122,325 smallholder farming households were

using commercial pig feed and improved farm management practices, increasing incomes by 415 percent.



In late 2019, African Swine Fever (ASF) hit NTT killing more than 50 percent of the pig population.

Restocking becomes the priority, and PRISMA focuses on animal health and breeding functions to improve the sector's resilience to future shocks.



By the end of 2022, breed farms have restocked and feed companies are re-entering the market.

PRISMA is supporting 15 breeding farms, including the commercialisation of AI. 11 Feed companies are active, including 3 crowding-in.



PRISMA supports with private and public sector partners to promote resilience in the sector by increasing biosecurity measures at the household level.

The ASF campaign messages reach 650,000 smallholder farmers in NTT and all farmers report adopting biosecurity measures to protect their pigs



By the end of 2022, pig farmers start restocking and adopt biosecurity measures to prevent disease outbreaks.

PRISMA supports 38 private sector actors to increase farmers' access to quality inputs (breed, feed, and animal health products).



To date, more than 126,665 smallholder households have increased incomes by 411 percent



Farmer story
Pigs

The hard fall

The road to recovery for smallholder pig farmers in NTT

Mikhaela Immaculata stands outside her door looking at the small patch of maize she is growing in her front garden. Two large lontar palms stand on either side of her small piece of land. Resting against the palms are long bamboo poles fashioned into ladders. "My husband climbs the palms to harvest the lontar fruit to make moke," explains Mikhaela. "That's how we survive day-to-day right now. Kasianus sells the moke on the roadside by the litre so we can eat."

Mikhaela is a pig farmer in Wakuliwu village in Sikka district on the island of Flores, NTT. Pigs are big business in Flores. Pigs are used in all ceremonies and are an integral part of the culture. In 2015, PRISMA started helping pig farmers like Mikhaela increase their income by working with feed and breed companies to improve farmers' access to better quality inputs.

As a result of this work, pig farmers like Mikhaela could access high-quality piglets, a better feed regime, and knowledge on better husbandry practices. Fattening time for pigs was reduced from 18 to 4 months. With the help of an initial loan in 2017 from a farming cooperative working with the feed company, Malindo, Mikhaela purchased 2 good-quality piglets. The loan included embedded services of concentrate feed, information, and support services, including that of a vet. With this loan package, over 4 years, Mikhaela was able to increase her pig numbers from 2 to 25. Rather than pig breeding being a side income for the family, Mikhaela's pig farming was the primary income. Mikhaela and Kasianus could afford to purchase additional land, planning to expand their farm to include cattle.

However, in early 2020 NTT was hit by 2 significant shocks. The first was ASF, a highly contagious virus that swept through NTT, virtually wiping out the pig population. The second was COVID-19, which resulted in supply chain disruptions and saw



restrictions in social movement. These restrictions meant that many farming groups and cooperatives disbanded, including the one Mikhaela was part of.

"I couldn't believe it," says Mikhaela. "We were thinking about the future one minute, and the next minute our dreams crumbled before our eyes." Everyone in Wakuliwu village was affected by ASF. Despite setting up a quarantine perimeter and implementing strict health protocols, none of Mikhaela's pigs survived. "The vet said flies could carry the virus, and flies do not respect health protocols," says Mikhaela wryly. "We used anti-malaria mosquito nets over our pens to stop the flies, but it was not enough."

Gradually all of Mikhaela's pigs succumbed to the disease. "I cried and screamed as I sterilised the house and pens," says Mikhaela in a soft voice. "There was nothing else I could do."

Since ASF hit, Mikhaela and Kasianus have struggled to make ends meet. "During the lontar season, we get income from selling moke on the roadside," says Mikhaela. "We have also sold the land we bought from the profits of my pigs," she explains.

Because everyone's pigs died and capital is short, the buyer pays off the land in instalments. The land sale enables Mikhaela to continue to support her son's university fees, and the family can eat. "Without the savings from the pigs, we would be living a tough life," admits Mikhaela.

With only 10 percent of the pig population left in Sikka, it may be some time before Mikhaela will take another loan to restart her pig business. While ASF infection numbers are reducing, the outbreak is still active, and community confidence is low. "I want to continue with the good quality piglets and concentrate feed, but I need to ensure that my piglets will not die first," says Mikhaela. While all the members of Mikhaela's pig rearing group, Wawi Dadi (Pigs Forever), recognise that using good breed and concentrate feed is best, most farmers are not yet ready to move beyond traditional methods. "No one has spare cash at the moment," explains Mikhaela. "And many have now accumulated debt."

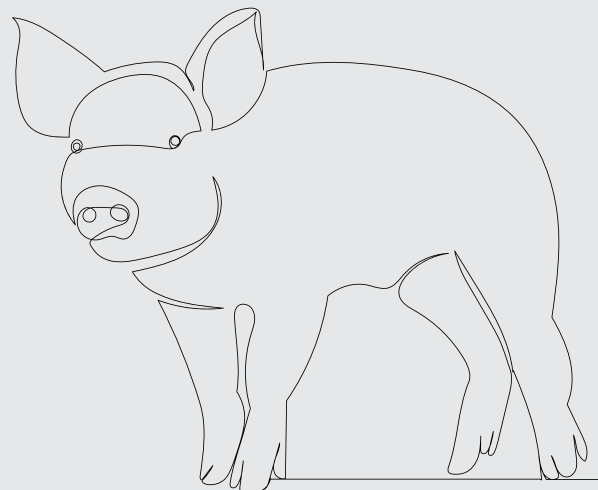


I want to continue with the good quality piglets and concentrate feed, but I need to ensure that my piglet will not die first.

Mikhaela Immaculata, pig farmer, Sikka - Flores - NTT

Mikhaela was recently given a local piglet from one of her family members a month ago to raise, and so far, so good. Mikhaela has been rigorous with safety protocols, and there have been no signs of ASF in the new pig. "I will try for one more month using locally foraged food. If this pig survives, I will consider going back to concentrate feed," says Mikhaela.

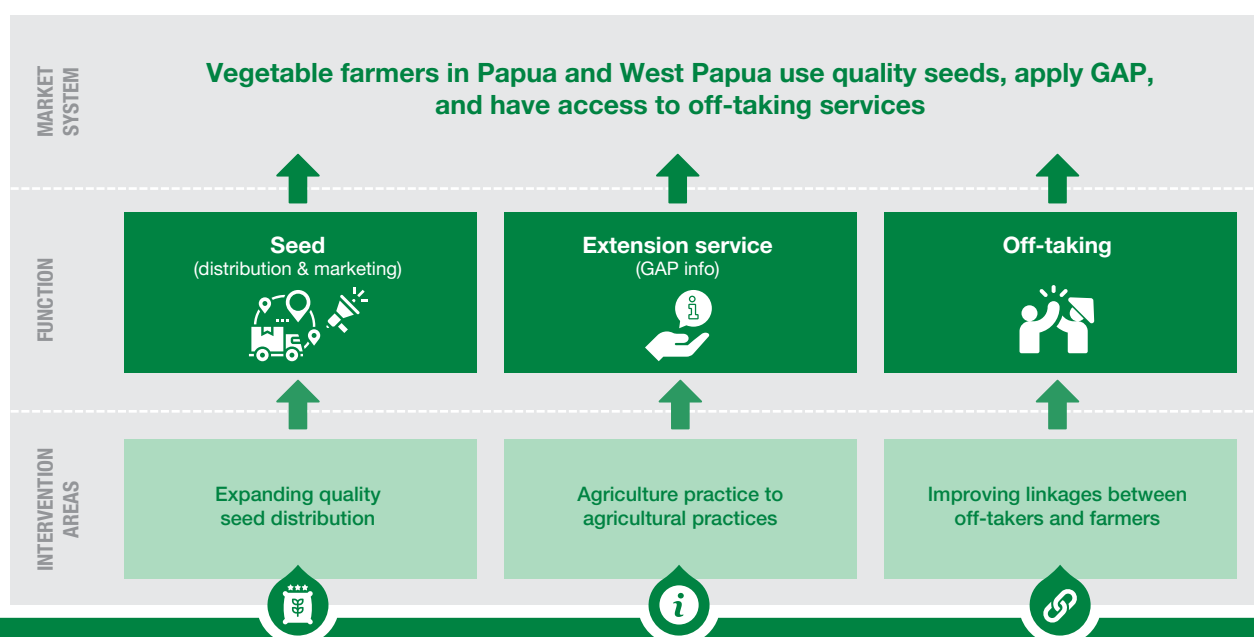
It is too early to say how long it will be before the pig sector in Sikka recovers. The good news is that institutional changes made by the breed and feed companies remain in place. Families like Mikhaela's have weathered the storm better than others because of investments made from savings. However, the length of the outbreak overlayed by COVID-19 does mean that farmers have a long way to go before reaching pre-ASF dreams.



Sector highlights

Vegetables (progress against MSS)

In Papua and West Papua, the vegetable sector involves approximately 173,180 HHs comprising indigenous farmers (85 percent) and transmigrant farmers (15 percent). Indigenous women play a critical role in agriculture production activities, ranging from land preparation and input purchase to harvest and agricultural income management.



Indicator*



Actual cumulative outreach to Dec 2022 (HHs)

7,131

Cumulative outreach projected to Dec 2023 (HHs)

12,861

Total NAIC to Dec 2022 (%)

15% ↑

Total NAIC up to Dec 2022 (IDR)

17.3 billion

Total projected NAIC to Dec 2023 (IDR)

40.5 billion

* The figures reported are for Tanah Papua

Value for money (VFM)



Investment leverage

0.54



Investment per HH

345.29



Social return

0.70





In Papua and West Papua, the vegetable sector is mostly comprised of indigenous farmers (85 percent) and transmigrant farmers (15 percent).



Constraints

The quantity of vegetables produced in Papua and West Papua fulfils less than 50 percent of the total demand (180 thousand tonnes). The supply-demand gap is because local farmers use low-quality inputs, apply traditional agriculture practices, and lack access to market information, particularly for women. The private sector has a limited understanding of the market potential and local context and is reluctant to invest in the region. Limited logistic options also impose challenges for the overall vegetable supply chain.



Sector vision

PRISMA is addressing the gap in the vegetable market by improving farmers' access to high-quality vegetable seeds, GAP knowledge, and downstream markets. This is done by working with seed producers, the government, and traders to develop strategies to address market constraints for lowland and highland farmers.



Market function 1: Seed, distribution, and marketing

During this semester, PRISMA continued to support Agrosid and PT. Tani Murni Indonesia to establish their vegetable seed network and user base. Agrosid appointed new distributors for the Mamta and Domberay 2 clusters. Agrosid continued to work with the Agriculture Department in Merauke (Anim Ha cluster) to increase shallot production through a government program funded through the 2022 state budget. The Agriculture Department in Keerom (Mamta cluster) decided to replicate the framework of Merauke.

PT. Tani Murni Indonesia's efforts to increase brand awareness in highland Papua are starting to show tangible results. Repeat purchases occurred through distributors in

Jayawijaya (La Pago cluster) and Dogiyai (Mee Pago cluster). This indicates that farmers are starting to recognise PT. Tani Murni Indonesia as a dependable seed supplier for the Papua highlands.

This semester, an impact assessment was carried out for the closed interventions with East-West Indonesia (EWINDO). Vegetable productivity increased by 20 percent for high-value vegetables (e.g., chilies and tomatoes), resulting in a 24.4 percent income increase. The assessment also noted an increased revenue-to-cost ratio indicating repeat users and the behaviour change continuing despite funding withdrawal.

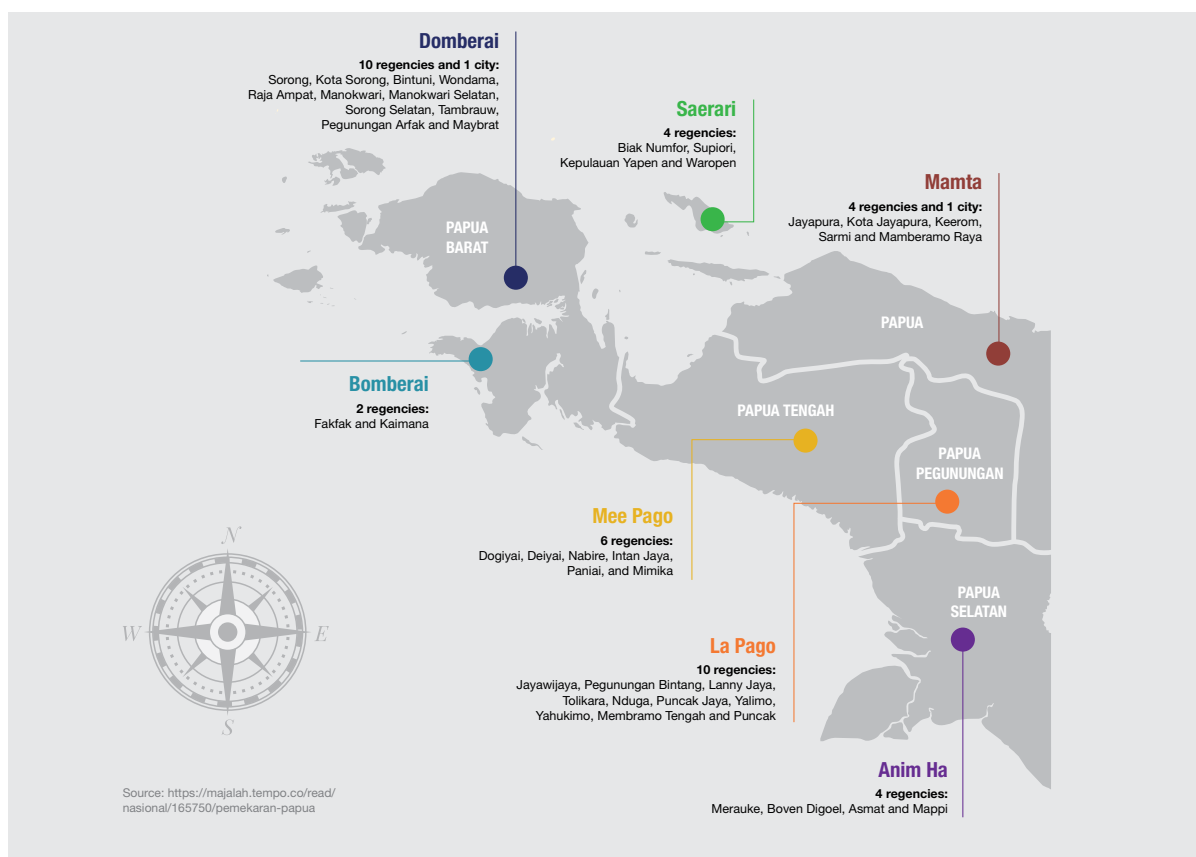


Figure 5. The 7 primary geographic and customary territories in Papua



Market function 2: GAP information and extension services

During this semester, Agrosid added 2 more field staff (one who is indigenous) in the lowland areas of Mamta and Domberay 2 clusters. Through demo plots, farmers meetings and exposure visits, more than 400 smallholder farmers in Papua and West Papua have had access to extension services through the field staff. In Domberay 2 cluster, the field staff also collaborated with an agri input distributor to conduct female farmer group meetings to introduce products and disseminate GAP information.

This semester, PT. Tani Murni Indonesia conducted promotional activities for 350 indigenous farmers in highland Papua through demo plots, farmer meetings and digital video discs. Local-based field staff hired by the company have proven pivotal in gaining acceptance from local farmers and better transfer of GAP information. The digital video disc GAP demonstrations were dubbed with the Melayu-Melanesian dialect spoken in Papua.



Market function 3: Off-taking

The Papua and West Papua vegetable off-taking study was completed this semester. The information has been beneficial for PRISMA to develop appropriate cluster-level strategies. An important finding was that locally produced vegetables could not compete with

vegetables from other islands due to price competitiveness. During the next semester, PRISMA plans to map out and develop more micro-scale inter and intra-cluster trading strategies for local vegetables.



Challenges and learning

In recent months, the GOI has formed 4 new provinces: Central Papua, Papua Highlands, South Papua, and Southwest Papua. The government will be focusing on setting up the new provincial administration. PRISMA will need to maintain and establish its engagement with the new administration to ensure continued support for the work the private sector is doing in vegetables.

PRISMA acknowledges that working in the lowland areas is easier because of the ability to use transmigrant farmers as early movers. Following the sector review this semester, PRISMA is looking at alternative strategies to further develop the vegetable sector in the highland regions.

PRISMA has looked closely at the vegetable sector for Papua and West Papua as part of a broader review of the Papua strategy as a whole. Part of this review was included in the learning documents prepared for the ISR team and shared with DFAT. The senior management team is looking at ways to improve the Papua strategy, but it is unlikely that much traction will be made in the remaining time. As a minimum, the team is exploring ways to leverage shared visions for local economic development in the vegetable sector with the provincial government.

Systemic change story
Vegetables

A story half told



This is not a systemic change story. This is a story about introspection, learning, and remediation. Writing about the vegetable sector without discussing PRISMA's engagement in Papua⁵ only tells half the story. Getting the other half of the story requires some background into PRISMA's engagement in Papua.



The tyranny of distance

Papua is a rich, diverse, and culturally dynamic region on the easternmost border of Indonesia. From a commercial perspective, Papua is considered a 'frontier' economy with geographic and cultural considerations that make logistics and costs prohibitive for investment.

From a donor perspective, it makes sense to be in Papua. The provinces have the lowest Human Development Indices rankings in Indonesia and the highest poverty levels. There is still a huge gap in rural and remote areas where up to 80 percent of the indigenous population lives.



Going in with one eye shut

Papua is a priority area for DFAT, but it is not easy to work in as it is a thin market. Thin markets take time to develop and usually lack the potential for scale of more robust markets, like Java. The pressure on PRISMA to prove scale during the program's first phase (2014-2018) meant that Papua was not

prioritised. To establish partnerships and reach scale, PRISMA tried to entice existing large partners to enter Papua. In most cases, this approach failed due to the tyranny of distance and the inability of companies to adjust business models to the Papua context.

⁵ The word Papua is used to refer to 'tanah' Papua, which includes all the provinces in Papua.



Last one standing

The vegetable sector was the one sector in Papua that gained some traction in Phase 1 through the EWINDO seed company. There are 173,180 smallholder vegetable HHs in Papua, 85 percent indigenous, and the majority in the highlands. Fifty-six percent of vegetables in Papua are imported from outside the region. The import is because intra-island transport is cost prohibitive. Farmers lack access to good quality seeds and GAP that can guarantee the supply and quality of vegetables from other islands.

In 2016, EWINDO partnered with PRISMA through its corporate social responsibility foundation (YBTS) to introduce seeds suitable for highland vegetables

and embedded GAP knowledge through sales staff in one cluster. In 2018, EWINDO adopted the business model as part of its core business and expanded to 5 clusters. However, the onset of COVID-19 in 2020 made working in Papua too difficult. With only 50 percent of promotional activities undertaken in 2020, EWINDO pulled its field staff. In 2021, EWINDO concentrated on its resources in its priority markets and left Papua. However, EWINDO continues its corporate social responsibility program in Biak, Sorong and Nabire. The EWINDO partnership benefitted 7,131 farming HHs and established 8 dealerships and 33 change agents trained in GAP are able to provide extension assistance to farmers.



One hand tied behind the back

COVID-19 was not the only operating challenge for Papua. Before the pandemic, a 3-year-long travel ban on the Lion Air group, one of the few airlines servicing Papua, prevented staff travelling in Papua. Papua province was also closed to program staff for almost 2 years from 2019 due to security concerns.

The vegetable team limped through COVID-19 but established a new partnership with PT. Tani Murni Indonesia in December 2021 for highland vegetables and with Agrosid in May 2021 in Merauke, Manokwari and Jayapura.



A step in the right direction

As part of the program strategy refresh in 2021, the vegetable team assessed the feasibility of other market functions that would ensure greater sustainability and resilience in the sector. This led to a study of off-taking possibilities, which was completed in 2022. In the intervening period, the vegetable team adopted a more inward-looking strategy focusing on the 7 primary geographic and customary territories in Papua (see figure 5). The off-taking study was used to determine entry points into each cluster and priority working area.

The PT. Tani Murni Indonesia's intervention is based on the ethnographic cluster approach. PT. Tani Murni Indonesia recruited 2 indigenous staff as field agents and established 2 distributors. The intervention is at an early stage with 49 demonstration plots established and promotional activities conducted with 620 indigenous farmers.

Agrosid established 13 vegetable plots in the lowland areas using transmigrant farmers as first movers. As of November 2022, Agrosid had 51 demonstration plots with 22 percent indigenous ownership and had increased seed sales by 192 percent in the target areas.

Both eyes on the prize

In 2022, the senior management team undertook a sector review in the field. The review found that the cluster approach was excellent in determining implementation approaches. Still, the market system must be defined based on similarities of supply, demand, off-taking, company, and ISP presence. It was determined that the vegetable system boundary is better defined by 'highland' and 'lowland'. The team needs to determine the constraints based on these 2 system boundaries, which will help focus the strategy.

The off-taking study was useful in determining which clusters were growing which vegetables and mapping production gaps. It is clear in the highland cluster of La Pago, for example, that farmers grow more varieties of vegetables but have a greater under-supply. Establishing local trading channels will help balance this problem. In the lowland areas, most farmers have access to good-quality seeds; all the program does is brand substitution. This narrow application could be broadened if the team focuses on areas where lowland farmers still use retained seeds, or where there are indigenous communities close to transmigrant farmer groups.

Where to from here?

Systemic change will not be achieved in the vegetable sector. But what will be achieved is a framework, an approach, and important learning that can influence the design of any future systems program in rural development funded by DFAT in Papua.





Farmer/partner story
Vegetables

Seeing is Believing

Locals empowering locals in the vegetable seed sector

Yuli Dabi and his wife, Holaloke Wantik, are trying to beat the midday sun by weeding their vegetable gardens early in the morning. Yulian Kogoya, a field agent for the seed company, TMI, accompanies them. Yulian is helping Yuli and Holaloke with a new demonstration plot. They have already established two plots with cabbage and large chillies using quality seeds provided by Yulian in sample sachets.

“This is the first-time farmers in this area are growing cabbages and large chillies,” explains Yulian. “It has not been easy for farmers in the La Pago cluster highlands to get access to good quality seeds because so few seed companies work here,” says Yulian, “And even less likely to get information on good agricultural practices because of a lack of extension workers.”

Yulian would be considered a ‘local’ in the highlands, even though his home is several days’ walk from the nearby highland capital of Wamena. Yulian is a member of the Lanny tribe, which is the largest tribe in the La Pago cluster. Yulian is a new graduate from the agricultural college in Jayapura despite being 34 and married with one child. “It took me many years as a temporary teacher to save enough money to go

to university in Jayapura,” explains Yulian. “I actually wanted to become a teacher, but it took me so long to get to Jayapura that I missed the submission date and ended up in agriculture,” laughs Yulian. “It turns out it was a good calling,” he says.

Yulian is one of 2 indigenous field agents hired by TMI. PRISMA encouraged TMI to retain local indigenous staff to gain acceptance with local farmers, better understand local norms, and deliver GAP information in the local language. This approach has proved a successful model as Yulian knew that to convince local farmers to try new things, you needed to convince the local village leaders. And this is where Yuli Dabi comes in.

Yuli is a local tribal leader of the Wantikalabi tribe which comprises 27 farming households. Yuli doesn’t describe his land in hectares but points to trees and landmarks in the distance to show the extent of the area he controls. Yuli’s wife does most of the planting, but he was the one who agreed to try the seeds and approaches suggested by Yulian.

“We mainly grow sweet potato and local chillies, which the women sell at the local market,” explains

Yuli. “When Yulian came to me and explained what he wanted to do, I agreed because the seeds were free, and I had spare land,” he says.

Yulian set up a demonstration plot, and Yuli invited members of the 27 households to come and see how Yulian was planting the seeds. “The process is very different,” says Holaloke, “with Yulian's help, we build the garden beds up in rows and have a specific distance between each plant,” she explains.

The plots are almost ready to harvest, and the farmers are very happy with the results. “The cabbages are bigger than local cabbage,” says Holaloke. Yuli is so impressed that he has allocated more land to open up for planting. “My village is on the border of two

districts,” says Yuli, “This will be the first time that we have had enough vegetables to consider selling to other districts.”

Yuli is hopeful for the future. “For us seeing is believing,” he says. “Based on these demonstration plots, I am ready to invest in seeds for future planting without being coerced.”

Yulian is also happy with the results but is not resting there. “I also plan to connect farming communities like this to local off-takers,” says Yulian. “Farmers must have somewhere to sell their vegetables at scale”, he explains. “It won’t happen tomorrow, but I have a good feeling about the future for TMI and my fellow farmers”, he says with a huge smile.






For us seeing is believing. Based on these demonstration plots, I am ready to invest in seeds for future planting without being coerced.

Yuli Dabi, tribal head and vegetable farmer, Wamena



Other sector progress

Progress against the MSS for all other sectors can be found in Annex 1 and summarised in the table below:

 <p>Beef</p>	<p>There is evidence to show that more than 641,316 households have experienced an income increase of 145% as a result of PRISMA's interventions in the beef sector up to December 2022.</p> <p>The foot-and-mouth disease (FMD) outbreak significantly impeded sector growth. PRISMA supported its partners in developing adaptive strategies to minimise the impact. PRISMA facilitated collaboration between private companies (feed and pharmaceutical companies) and local governments and supported the national and provincial governments with research and an ongoing study to tackle FMD.</p> <p>Significant progress was made in changing the national feed standard policy with PRISMA succeeding in prompting the National Standardisation Agency (BSN) to issue the new standard for cattle feed in December 2022. The new feed standard allows small and medium companies to enter the market with legal status. For more detail on the steps taken to influence the policy change and the result, see infographic on pages 80-81.</p>
 <p>Crop Protection</p>	<p>PRISMA partners with crop protection companies to promote safer, cost-effective crop protection methods and products. An existing partner launched a new environment-friendly product, and another company partnered with PRISMA to enter the market for safer crop protection products. PRISMA supported the local government in Bojonegoro, East Java, to collaborate with 2 PRISMA partners to address the soil degradation problem.</p>
 <p>Innovative Finance</p>	<p>This semester, PRISMA's partner, Bank Mandiri showed increased ownership of the business model to target agricultural kiosks with loan products by expanding to 3 new provinces. Two new financial institutes, Bank Sinar Mas and Bank Negara Indonesia, have partnered with PRISMA to target small and medium enterprise (SME) financing. PRISMA also engaged with the Institute for Development of Economics and Finance to develop an evidence-based case for SME financing.</p>
 <p>ICT</p>	<p>This semester, PRISMA supported an agricultural start-up, PT Semaai, and an input company, PT Bayer, to better engage with agri-kiosks. PT Semaai will integrate an inventory management feature in its kiosk application. PT Bayer and PT Semaai developed a module on good agricultural practices (GAP) for kiosk owners. In addition, PRISMA signed a partnership with the Indonesian Veterinary Association to analyse the demand for digital livestock health services.</p>
 <p>Maize - Central Java</p>	<p>No further work is being done in Central Java for maize except where it supports the broader maize strategy. This semester PRISMA supported 4 local governments in developing the technical capacity of their public extension service workers. PRISMA also supported the provincial government in developing an operational guideline for a more effective subsidy system.</p>
 <p>Maize - Madura</p>	<p>Most seed companies continued promoting hybrid seeds in Madura. Most large seed companies (e.g., Syngenta, PT BISI International) achieved their sales target before the year ended. Smaller companies also experienced increased sales. With one more company, PT Jafran, crowded-in, 7 seed companies are now promoting high yielding hybrid seeds and educating farmers in Madura. To ensure continuity of good practices in Madura, PRISMA is encouraging the district agriculture offices to develop an operational guideline on the smart subsidy.</p>

 <p>Maize - NTT</p>	<p>Ten seed producers partnered with PRISMA to expand their seed business to the commercial market. PRISMA supported them with business coaching and optimising seed producers' networks. PRISMA is supporting the relevant government agencies to collaborate with seed associations to ensure continuous access to parent seed and improved certification. A technical module on GAP and the profitability of commercial maize farming was produced by the government this semester to be used by public extension workers.</p>
 <p>Mechanisation</p>	<p>Partner companies have strengthened their commercial strategies and expanded their operations in East Java, Central Java, and East Nusa Tenggara (NTT). Four new companies developed new distribution networks. At least 2 companies crowded-in, and a financial institution, Bank Mandiri, responded to support the agricultural machinery business. Machinery renting companies grew their fleet and are offering services. Likewise, drone services saw increased demand. Machinery companies have continued to increase after-sales service by adding more outlets and offering attractive schemes to increase the availability of spare parts.</p>
 <p>Mungbean</p>	<p>PRISMA partners have shown increased ownership, adaptation, and resilience this semester in the mungbean seed business. Most companies used alternative locations for seed production due to a prolonged wet season. CV Bunga Tani Sejahtera received accreditation to self-certify its mungbean seeds. All partner companies have increased their investment in the seed business, and a new seed producer has crowded-in. While attempts are ongoing to link upstream and downstream actors, PRISMA is conducting research to further understand the off-taking function.</p>
 <p>Rice</p>	<p>Partner companies continued investing in seed production and marketing. At least 5 seed producers produced and marketed high-yielding rice seeds. Companies have adjusted their marketing strategies, increased seed production capacity, and expanded their businesses in new locations. A seed producer crowded into the market and started selling hybrid seeds. The policy advocacy at the MoA is ongoing. A research firm and a think tank assessed the effectiveness of the government's free seed program and shared the findings with the MoA and other stakeholders.</p>
 <p>Soil Treatment</p>	<p>This semester, fertiliser companies further expanded their operations in non-subsidised markets. Some have invested in building staff capacity, developing the national strategy, and exploring new marketing channels. The state-owned company, PT Petrokimia Gresik, continued implementing the multistakeholder partnerships in new locations. All partner companies used diverse communication channels and organised events to train farmers on good fertiliser use. Companies have also developed new distribution points and hired additional sales staff to reach many farmers. However, increasing fertiliser prices have slowed down the adoption of commercial fertilisers.</p>

Challenges, risks, and management response

The high-level challenges and risks facing the program include:



Inflation and rising food prices. On-going surveys by PRISMA confirm rising food prices and the lower purchasing power of smallholder farmers. This may negatively impact the adoption of innovations promoted by PRISMA's partners. This was seen in the increased fertiliser prices, which slowed farmers' ability to purchase fertiliser and other agricultural inputs. PRISMA will address this by continuing to monitor farmer behaviour and supporting the private sector to adjust their product and marketing strategies. Over the last 9 years, PRISMA has been encouraging the private sector to use behavioural studies as a core business requirement. Most of the larger companies are now doing this independently, and this is a promising sign of sustainability.



Uncertain subsidy allocation continues to challenge the private sector in forecasting demand for inputs, especially the demand for seeds. This year most large companies had empty inventory before the year ended and could not supply high-quality inputs to farmers. PRISMA will continue to address this by linking the private sector with the local government and encouraging them to share information.



Animal disease outbreaks continue to impact the program's progress in the livestock sectors. The recovery of the cattle, dairy, and pig sectors remains slow due to limited or slow containment efforts and slow implementation of response strategies. PRISMA will continue to support the private sector and assist the GOI in minimising the impact of the outbreaks. It is evident that relevant provincial governments in East Java, Central Java and NTT have recognised the advantage of leveraging the private sector, particularly for disseminating information on health protocols.



Businesses remain risk-averse and reluctant to invest in new and risky markets, such as Papua and West Papua. The agriculture sector in Papua and West Papua saw low investment and a limited presence of the private sector. The program will address this by supporting and encouraging relevant government departments to find ways to reduce the private sector's risk of investing in the area.



Finding suitable experts to conduct research and studies has been challenging for the program. PRISMA will consider only using tried and trusted experts from the panels. Alternatively, PRISMA will outsource the data collection and do the analysis and writing in-house.



Managing counterpart relationships will become increasingly important so the program has sufficient time to focus on implementation. Management will work with DFAT to find a happy medium where counterpart requests and expectations can be adequately managed.

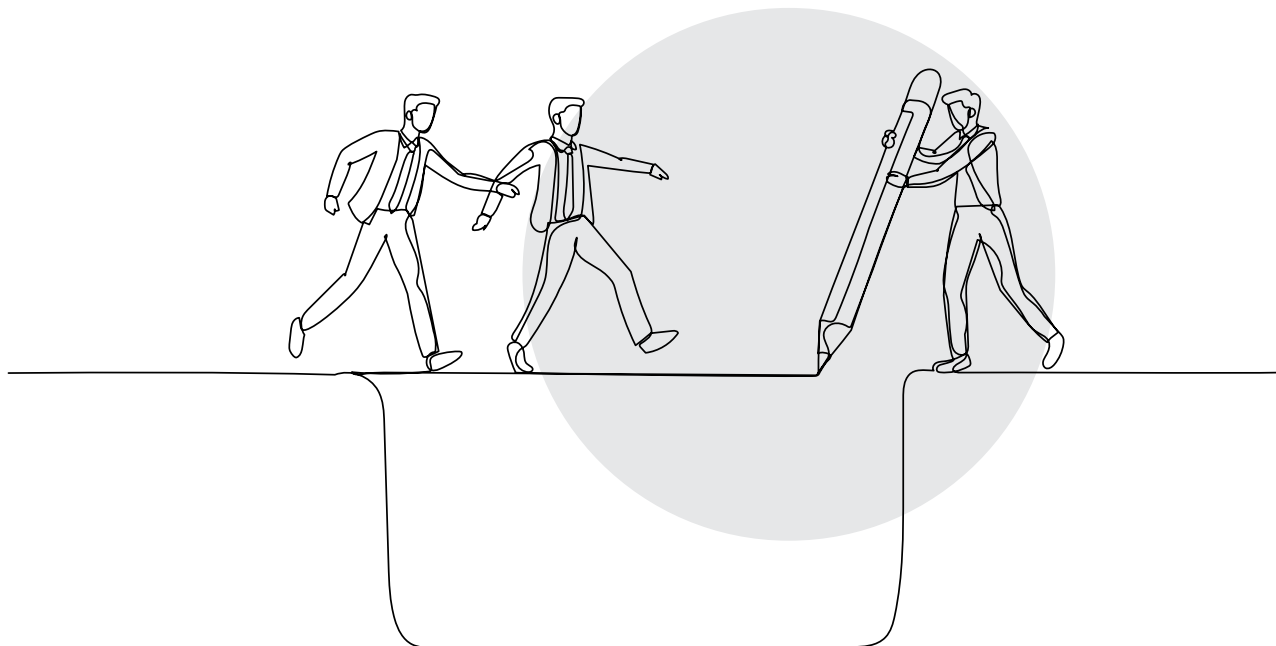


Staff retention remains a challenge as the program moves into its final year and personnel start looking for new jobs to secure their futures. PRISMA has developed a staff retention policy, which has been submitted to DFAT. However, realistically, the program does not have many carrots to dangle now that large severance payments are no longer part of the package. Strategic workforce planning will be a priority for management and forecasting potential leavers as early as possible.



A timely decision regarding the extension will improve the ability of the program to take advantage of the momentum additional time will provide. Planning of interventions can take up to four months and closing a contract can take up to three months. Therefore, any decisions regarding an extension need to be made as soon as possible, to provide enough time to undertake meaningful changes in the market systems.

To manage intervention risks, PRISMA has embedded fit-for-purpose systems and processes to manage or mitigate the risks. Program-wide risk is documented through DFAT's risk and issues register tool that encompasses a comprehensive risk matrix. The matrix is submitted quarterly to DFAT. The updated risk register can be found in Annex 8.







3

Cross- cutting Area Progress

3 Cross-cutting Area Progress

Policy engagement

PRISMA's policy engagement strategy has 4 pillars, 3 of which relate to program implementation. The fourth is the bilateral engagement with Bappenas, which DFAT manages. Policy engagement aims to improve the business-enabling environment so that the private sector can undertake more inclusive business at the national and sub-national levels. Semester progress against each of the 4 pillars is outlined below:



National level

During this semester, PRISMA consolidated its national-level policy activities in the beef, dairy, and rice sectors.

Beef

PRISMA's advocacy with the MoA bore fruit this semester, with the BSN releasing the new beef and dairy cattle feed standards on December 21, 2022. This was the end result of PRISMA's advocacy and technical support for the MoA since 2021, which is a significant contributor to systemic change in

the beef sector. The MoA has indicated that the regulatory change will also be implemented for other feed sectors. The steps taken to support this policy change can be found in an infographic on pages 78-79.

Rice

Work continued this semester with the Institute for Economic and Social Research (LPEM UI), a university think tank, and the Indonesian Center for Agricultural Socio Economic and Policy Studies (PSEKP), a policy research unit within the MoA to review the GOI free seed program and provide relevant policy change recommendations. This is to ensure that high-yielding rice seed varieties (HYV) are

included in government programs and are available in the free market. The analysis was completed this semester, and the report will be finalised and submitted to the relevant government agencies next semester. The steps taken to support this policy change can be found in an infographic on pages 80-81.

Dairy

This semester marked a fundamental step toward developing a Jersey policy for dairy smallholders. As noted in the dairy progress section of this report, PRISMA and the MoA have agreed to include a

Jersey cattle roadmap and guidelines as part of the government's strategic study to support dairy sector recovery following the FMD outbreak.



The MoA is pleased with the strategic study undertaken by PRISMA, the MoA, and the livestock experts on the Jersey breed and calf production. The work will be instrumental in the MoA's efforts to revitalise the dairy and beef cattle in Indonesia following the FMD outbreak.

Drh. Agung Suganda, M.Si, DirDirector for Breed and Animal Production, Ministry of Agriculture | 1 November 2022



Sub-national level

PRISMA continued coordination and communication with local governments in the pig and vegetable sectors. In NTT, PRISMA signed partnership agreements with 6 government-owned breeding farms and has supported the government in training all animal health workers in ASF biosecurity measures. After a long delay, good headway was made this semester in the import process for the ASF diagnostic LAMP tools.

In Papua, PRISMA supported the shallot seed program for 2022-2023 in Merauke district by linking Agrosid, the vegetable seed company, with the government. The Merauke government is now directly collaborating with the company to procure quality shallot seed for the program.



Influencing the influencer

This semester, PRISMA continued to inform and disseminate its learning with key stakeholders as follows:

- In September, Bappenas invited PRISMA to a workshop to share its experience in the beef sector with the officials of Sigi district, Central Sulawesi. Following the workshop, the Sigi local government visited PRISMA's feed partner in Tuban, East Java. The Sigi government is interested in procuring feed for cattle feed trials in Sigi.
- In September, the MoA invited PRISMA to share its learnings with the World Bank-funded Agriculture Value Chain Development (ICARE) program to support sustainable and inclusive agriculture value chains.
- At the request of Bappenas, PRISMA finalised and shared a draft guideline on how Bappenas could roll out and manage MSD programs in the future.
- Work continued developing case studies on key PRISMA sectors for Bappenas as part of a knowledge management agenda requested by Bappenas. Bappenas has agreed with the study outline, and the consultant is expected to develop 3 to 4 case studies focusing on Bappenas policy priorities by next semester.
- PRISMA continues to inform relevant government agencies of its work at the provincial and district levels in case there are potential synergies with government agendas or programs. The collaboration aims to identify potential areas of influence so the private sector can freely invest in innovations with a greater chance of success. For example, in Papua and West Papua, PRISMA is engaging with the provincial government to identify government programs that have a shared vision or agenda in improving the vegetable sector. This may provide opportunities to embed PRISMA work in future government programs aimed at improving smallholder vegetable productivity.



Engagement with Bappenas

PRISMA continued to assist DFAT in maintaining a good working relationship with Bappenas this semester:

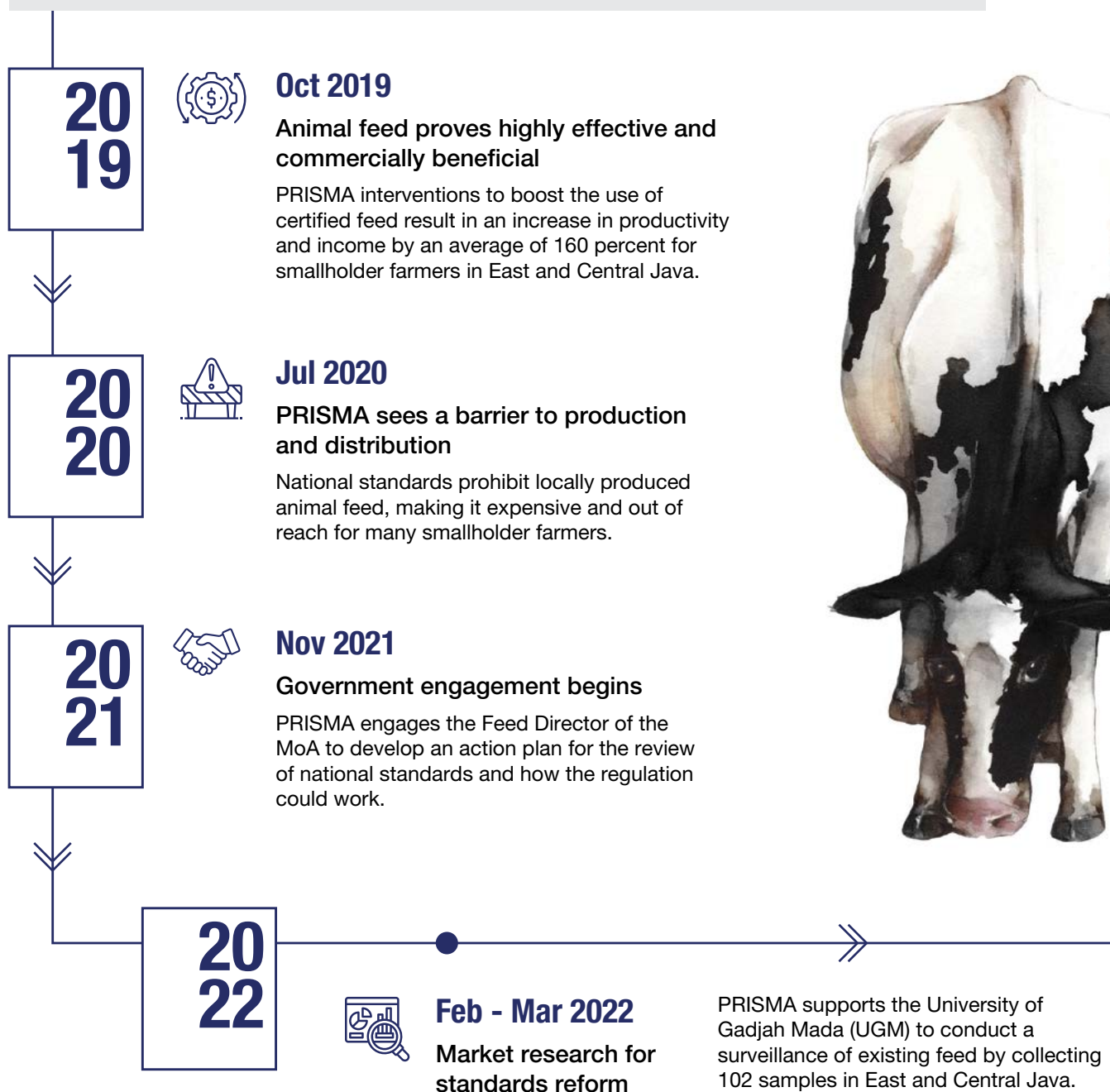
- PRISMA provided support to ensure that Bappenas and the State Treasury Office could verify the records of transfers (BAST) for fiscal years 2020 and 2021. Bappenas has already approved the BAST for 2022.
- PRISMA provided support in preparing documentation for value-added tax (VAT) restitution, and Bappenas approved 11 VAT restitution documents for August 2021 to April 2022.
- PRISMA organised a joint monitoring visit for Bappenas and DFAT for the mungbean sector in Central Java in September. The goal of this visit was to highlight the progress towards systemic change and key learning in the mungbean sector.

Policy Change



Concentrate feed for cattle

PRISMA has successfully advocated a change to the Government of Indonesia's National Standards for Concentrate Feed for Beef and Dairy Cattle making certified, high-quality, and more affordable to smallholder farmers.





Nov 2022

Academic paper to inform regulations

Stakeholders come together to draft paper to inform MoA regulation.



MoA calls for a review of all animal feed regulations

Following the review of the national standards, MoA seeks to harmonise all animal feed regulations.



Oct 2022

Government conducts the technical review

MoA and BSN together with the industry discusses the proposal for the new standards proposed by PRISMA. The BSN will issue new standards in 2023.



Aug-Sept 2022

Agreement reached by MoA and BSN

The cattle feed standards review is included in the 2022 National Plan.



Aug 2022

Policy brief delivered

Feed nutrition experts with the support of PRISMA, deliver a policy brief on the urgency of changing the standards to the Feed Director of MoA.



Apr-Jul 2022

First steps towards developing a sound policy brief

PRISMA engages 3 leading universities UGM, the University of Brawijaya and Bogor Agriculture Institute to develop a robust policy brief in support of national standards and policy reform in animal feed.



Aim

[Mid-2023] Policy change

Dec 2022 The National Standardisation Agency of Indonesia publishes the new standards for cattle feed, effective immediately. MoA commits to have the policy changed by mid 2023.

Result

The private sector can begin producing and selling government-certified feed, which will improve cattle production and productivity, and increase incomes for smallholder farmers, with added environmental benefit of reduced emissions compared to cattle fed 100 percent by fodder.

Policy Progress



High-yielding rice varieties

PRISMA advocates a change to the procurement criteria for the free seed program for rice. The changes support the production and distribution of HYV to increase food supply and smallholder farmer incomes.

20
21



Apr 2021

Understanding low productivity

PRISMA analyses the root causes of low rice productivity.



May 2021

Low yielding seeds dominate

The analysis shows that most farmers use low-yielding old varieties of inbred seeds; a number of the older varieties (released before 2013) come from the free seed program.



Jun 2021

A new strategy

PRISMA finalises its sector strategy to: a) support the private sector to produce and market high-yielding inbred varieties and b) advocate changes to the government's free seed procurement criteria.



Jul 2021

Consultations for policy advocacy begin

PRISMA engages key stakeholders and influencers in government to determine next steps.





Aim

[End-2023] A policy change that results in an increase in HYV seed production and distribution, followed by market readiness to supply the HYV demand.

Result

More smallholder farmers from all over Indonesia gain access to HYV seeds and experience increased productivity and incomes and an increasing national food supply.

2023



Tending the crops

PRISMA plans to continue advocacy through close engagement with MoA and BAPPENAS.

Oct-Dec 2022



Substantiated by facts

LPEM and PSEKP publish policy briefs.

Aug-Sep 2022



Planting the seed

LPEM and PSEKP present their findings in public events with critical stakeholders from MoA, BAPPENAS, the national research and innovation agency, BRIN, and seed producers.

Mar-Jul 2022



Evidence for policy change

LPEM and PSEKP prepare evidence-based policy recommendations to encourage the national production and distribution of HYV seeds.

Aug 2021-Feb 2022

Developing the rationale

A university think tank, LPEM UI and policy research unit within MoA, PSEKP are engaged by PRISMA to prepare the business case to review the Technical Instructions of the free seed program.

2023

2022

Results measurement and learning

Outreach

This semester, 461,519 farming HHs benefitted from PRISMA interventions, bringing the accumulative outreach to 1,224,574 HHs. This number is 897 percent more than the projected trajectory for this period. The most significant incremental outreach has come from the wider market in the beef sector. An independent consultant verified and validated the methodology and study findings for the wider market outreach claim in the beef sector. Other contributing sectors include the mungbean, innovative finance,

mechanisation, dairy, pig, and vegetable sectors.

PRISMA conducted 13 impact assessments this semester and 3 extrapolations (for the peanut, innovative finance, and mechanisation sectors). Delayed assessments from the previous semester also contributed to this semester's outreach numbers. The updated number from all completed and ongoing interventions are projected to reach 1,630,301 HHs by the end of the program.

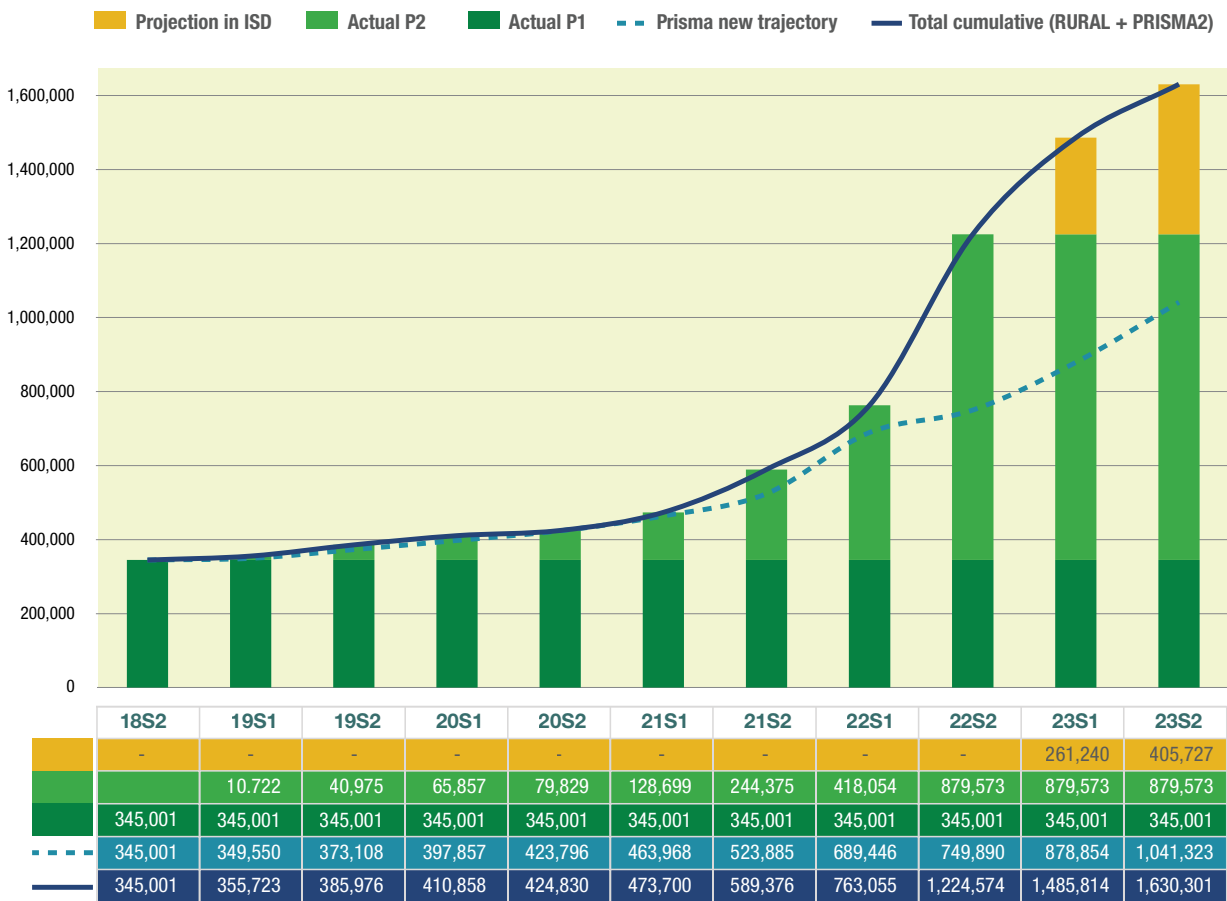


Figure 6. PRISMA outreach trajectory

Partnership and wider market outreach

During this semester, 94 percent of the total outreach came from the wider market in the beef sector, where cattle farmers in East and Central Java have extensively adopted concentrated beef feed. This high wider market outreach increased the cumulative percentage of the wider market from 28.4 percent to 53 percent. This positive trend is expected to continue next semester when PRISMA will measure wider market outreach for sectors with significant systemic change.

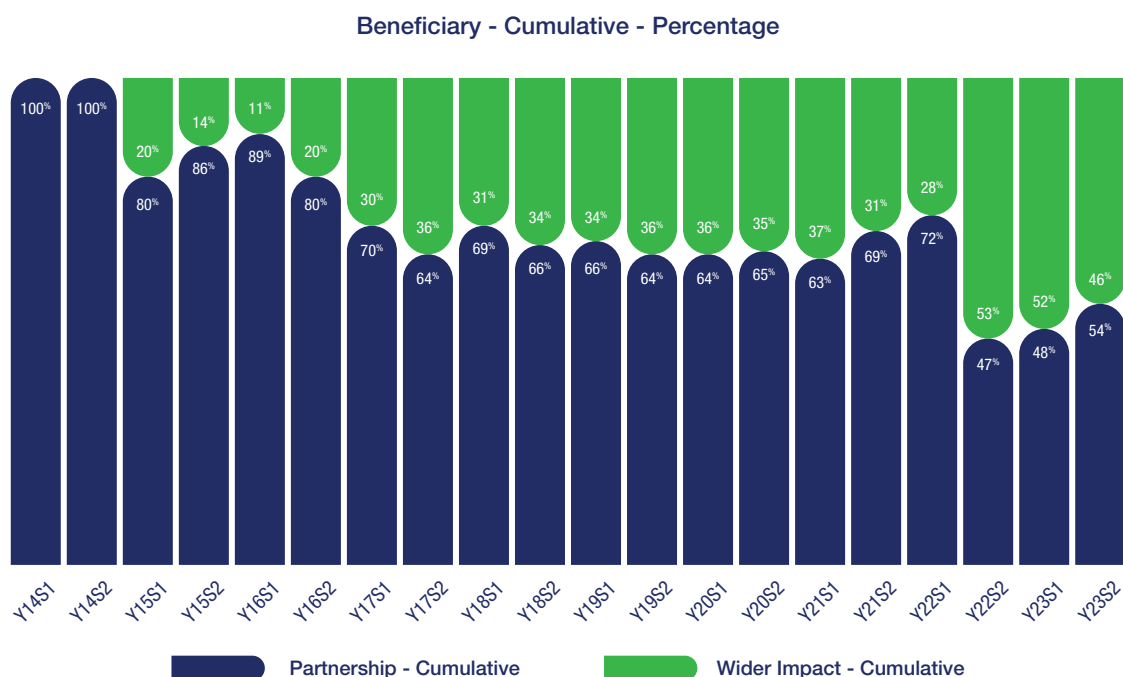


Figure 7. PRISMA cumulative outreach – partnership and wider market outreach

Net attributable income change

This semester, the average NAIC was 116 percent, bringing the cumulative NAIC down from 218 percent to 184 percent per HH. Positive and negative movement in cumulative NAIC is expected because it depends on what sectors are assessed in the semester. This semester, the total incremental NAIC from all PRISMA beneficiary farmers reached IDR3.47 trillion, bringing the cumulative NAIC up to IDR7.86 trillion (approximately AUD786.2 million).

Other key performance indicators (KPIs)

There was solid progress this semester in all key indicators. The increase in the number of ISPs has doubled from last semester, bringing the cumulative number of ISPs providing support and improved services to smallholder farmers to 13,162. This semester, PRISMA partnered with 26 organisations (10 public/government and 16 private) in multiple sectors, including pig, innovative finance, and crop protection, which is 10 percent of total partnerships.

The details of the progress against key performance indicators (KPIs) can be found in Annex 5 and are summarised in Table 3 below:

Table 3. Summary of PRISMA KPIs

Key performance Indicator		Actual Y22S2	Actual up to Dec 22
KPI1	Number of farming HHs that increase their income due to PRISMA Interventions	461,519	1,224,574
KPI1a	Number of farming HHs under the extreme poverty (USD2.50 purchasing parity power (PPP)) poverty line with increased net-incomes	158,626	459,672
KPI1b	Number of farming HHs under the USD5.50 PPP poverty line with increased net-incomes	289,831	775,868
KPI2	Net attributable additional income for all targeted farming HHs in IDR	3,468,034,521,152	7,858,897,814,838
KPI2a	Net attributable additional incomes of farming HHs under the extreme poverty (USD2.50 PPP) line in IDR	1,193,765,362,905	3,109,662,531,958
KPI2b	Net attributable additional incomes of farming HHs under the USD5.50 PPP poverty line in IDR	2,182,326,698,444	5,102,857,405,214
KPI3	Number of ISPs providing farmers additional/improved access to innovation	590	13,162
KPI4	WEE effectiveness within PRISMA innovations	0.29	0.69
KPI5	Value of additional turnover of ISPs in IDR	145,156,799,634	1,838,823,582,409
KPI6	Number of intervention partners (private sector and public sector)	26	264
KPI7	Value of additional turnover of private sector partners in IDR	142,020,668,777	1,018,262,790,555
KPI8	Value of attributable additional and/or more inclusive investment by public and private sector partners, ISPs, and farmers in IDR	224,985,668,388	2,195,828,939,255
KPI8x	Value of attributable additional and/or more inclusive investment by public and private sector partners in IDR	29,316,236,297	258,078,666,618
KPI8y	Value of attributable additional and/or more inclusive investment by ISPs in IDR	122,728,804,037	346,384,176,992
KPI9	Number of crowding-in businesses/institutions induced by PRISMA-2	4	31
KPI10	Number of responding businesses/institutions induced by PRISMA-2	6	95
KPI11	Number of Policy Engagement	14	93
Access	Number of farming HHs that gained access to or information on the innovation from PRISMA	1,275,293	3,264,202
User	Number of farming HHs that adopted/used information on the innovation from PRISMA	1,163,377	2,262,043

Value for money

This semester, the positive trend continued with all 3 VFM indicators that are used to determine value for money, including investment per household, social return on investment, and investment leverage (see Annex 6) showing that PRISMA is delivering better value for money against program investment. Against total intervention cost, investment per household dropped to AUD 66.80 from AUD 101.13 last semester. Social return on investment increased from 5.69 to 9.61, and investment leverage by sector increased from 2.55 to 2.68. Investment leverage by partners has increased from 0.30 to 0.32, with partners investing AUD 1.64 for every dollar PRISMA invests (an increase from AUD 1.50 last semester).



Gender equality, disability and social inclusion

PRISMA has continued to make progress in mainstreaming WEE in partner interventions. Over the last 2 years, cumulative findings from 1,400 women respondents demonstrate that PRISMA's interventions have positively impacted all 6 WEE dimensions. The cumulative percentage of the positive impact on WEE dimensions this semester is lower than the previous semester as most of the data points acquired this semester were from sectors with low women's involvement, such as mechanisation, beef, dairy, and crop protection sectors.

To date, 46 percent of the 1,400 women surveyed experienced better access to agricultural services and products, such as certified rice or maize seed, quality animal feed, and soil treatment products. Thirty-seven percent of the women felt they were more involved in extension activities and said the knowledge and skills they gained from extension services were beneficial and productive. Meanwhile, 58 percent of the women assessed experienced economic benefits at the HH level due to more inclusive business practices by PRISMA's partners. Women are also more involved in agricultural decision-making (35 percent) because they receive information on quality inputs and good farming practices. Meanwhile, 27 percent of the women experienced wider social networks within their communities.

PRISMA also assessed the potential risks of increased workload at the HH level. Thirty-one percent of the women experienced a more manageable workload allowing them to take better care of themselves and their families. Men, in general, have continued to acknowledge the positive impacts on women HH members and were supportive of women's role in farming.



Progress towards WEE mainstreaming

It was agreed in 2021 that PRISMA's KPI 4⁶ is not a very intuitive indicator. Hence, PRISMA agreed with DFAT to have sub-indicators that measured progress towards WEE mainstreaming in partners' business models. As of this semester, 78 out of 136 interventions have progressed towards mainstreaming WEE in business models. PRISMA has observed significant progress in many of these interventions. For example, in the finance sector, PT. Permodalan Nasional Madani continues to engage women farmers groups in their promotional activities following the successful piloting event supported by PRISMA. In

the vegetable sector, Agrosid has started socialising quality seeds to women farmers, including indigenous women farmers in Merauke, Jayapura, and Kerom in Papua province.

Out of the other 58 interventions yet to exhibit sufficient progress, 33 are newly developed interventions in the pilot phase, and 25 have little or no business case for the inclusion of women as they are in sectors with little involvement of women, such as beef and crop protection.

⁶ Women's economic empowerment effectiveness within PRISMA interventions

Women's Economic Empowerment

Cumulative impact on WEE

Since PRISMA began assessing the impact of WEE in 2020, there has been a positive impact in all WEE dimensions.



Leadership and social networks

27%

Women were able to develop a wider social network within their communities.



Manageable workload

31%

Women experienced a more manageable workload as a result of adopting innovations induced by PRISMA.



Decision making

35%

Women were more involved in agriculture decision-making as they received more information on better quality inputs and good agricultural practices.



Access to skills and knowledge

37%

Women found that knowledge from extension services have been helpful and women are enthusiastic about joining future activities.



Economic advancement

58%

Women experienced more opportunities to increase savings, investments, or fulfil family needs due to higher yields and better quality crops.



After using concentrate feed, milk productivity increases and income from the (milk) sales also increases. The income is mostly used to meet family needs.

A woman dairy cattle farmer in Semarang, Central Java.



Access to products and services

46%

Women adopted the innovation easier due to the increased availability and accessibility of products or services in the neighbourhood.



It used to be hard to find the pig feed, but now (the condition) is different. I can always find it in the nearby kiosk.

A woman pig farmer in Kupang Tengah, NTT.



WEE rice qualitative study

PRISMA has conducted a WEE qualitative study on the intervention with Agrosid. The qualitative data supplemented the quantitative data from the impact assessment of 124 respondents. The business model included involving women in promotion and GAP activities on rice seed. The objectives of the study were to:

- Assess the extent that access to information, products, and economic opportunities has translated into greater agency
- To capture qualitative benefits received by women farmers for each WEE dimension
- To assess any risks that might arise for women farmers from changes to gendered norms in new business practices



Background

PRISMA undertakes assessments in sectors with a high involvement of women to determine the positive (and negative) impacts on WEE dimensions. This allows PRISMA to determine if business models designed for gender inclusion are leading to greater levels of access and eventually agency.



64%

of women rice farmers are involved in rice seed variety selection.



How PRISMA supported the partner, PT Agrosid :

- Shared information on women's role in rice farming
- Developed business case for more inclusion of women farmers
- Skill development of partner's staff



Before intervention

Women farmers : <10% attendance in farmers' meetings

After intervention

Women farmers : 40-50% attendance



Impact on Access

Up to 93%

of women rice farmers get agriculture information more easily and comprehensively



Income increase

IDR 1 million per household

because women farmers get access to quality seeds and GAP



How access is
translated into
agency*

*Agency:
The ability to define and act
on goals, make informed
decisions, and contribute
to their communities.



52%

of the women surveyed are confident in influencing their husbands on adopting GAP for rice seed

64%

of the women surveyed made more informed decision-making on agriculture activities



83%

of the women surveyed have better capacity in using hybrid seed

65%

of the women surveyed, who adopted quality seed & GAP, experienced a reduction in work time

32%

of the women surveyed, who experienced a reduction in work time, used their additional time for income-generating and/or community activities



78%

of the women surveyed experienced higher motivation to share GAP knowledge with other farmers

~8

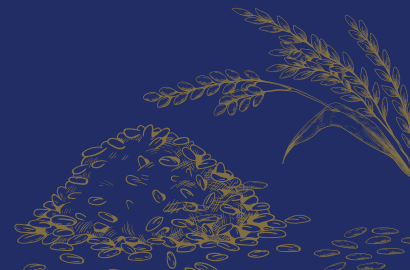
Average number of people with whom women surveyed reshared GAP knowledge



Quotes

I feel more confident, especially about rice cultivation, and my husband trusts my decisions.

Ibu Tumini, Hybrid rice user from Sragen





Disability inclusion

Aggregated analysis of the prevalence of disability

Starting this semester, PRISMA has reintegrated the disability prevalence questions in its impact assessments to identify the presence of farmers with various types of disabilities. In the reporting period, 41

people living with a disability from 35 HHs benefited from PRISMA activities. The disabilities ranged from visual, hearing, and mobility limitations.

Workshop on disability with Organisations of People with Disabilities (OPDs)

PRISMA, with support from MAHKOTA, conducted a workshop with OPDs this semester. Eleven OPDs participated in the workshop and shared their advice on better integrating farmers with disabilities in the private sector business model. The workshop also validated the findings of PRISMA's internal stocktake,

which identified market-based constraints and opportunities for disability-inclusive interventions using universal design (UD) principles. The OPDs provided their insights and examples of how farmers with disabilities work but acknowledged low or no business case for such a strategy.

Improving the implementation of UD principles

During the semester, PRISMA made good progress in disability inclusion. It has improved its methods of diagnosing disability-related challenges and opportunities and designing more inclusive models. PRISMA has also developed the capacity of its staff

through training in updated methods. PRISMA is now approaching its partners to make their business activities disability inclusive. So far, 3 private sector partners have responded and redesigned their product packaging in a more readable format.





Youth inclusion

GEDSI team conducted a stocktake to map past and potential activities of PRISMA's partners in youth inclusion. The assessment explored specific constraints of youth farmers, such as access to finance, and opportunities in agribusiness, such as product and service agents. Some of PRISMA's partners have already engaged youth as ISP, agronomists, and nursery owners. This is consistent with PRISMA's youth study findings in 2021, which suggested that youth may be more interested in agribusiness rather than traditional farming. Moving forward, PRISMA will support partners to engage youth as end-farmers but also look for opportunities further up the value chain.

An example of progress this semester is PT Bio Agromitra Indonesia, an organic fertiliser company that has recruited young field agents from agricultural vocational schools. This was based on the PRISMA youth study results that found that youth were reliable information providers for new and innovative products. In addition, Full Drone Solutions, a partner in the mechanisation sector, has further adjusted its youth strategy from last semester by changing its pricing model to respond to one of the most significant constraints for youth - limited capital and financing.



Indigenous inclusion

PRISMA covers indigenous inclusion through the vegetable seeds interventions, the only active sector in Papua and West Papua provinces. This semester, PT. Tani Murni Indonesia has started promotional events in the highland areas of Dogiyai and Jawawijaya districts, where most farmers are indigenous. It has hired local indigenous staff who understand the local context better. The company has also engaged key local influencers, such as tribal heads, to improve the effectiveness of its marketing and promotional activities.

Despite the progress, targeting the indigenous community, particularly in the remote upland areas, remains challenging due to cultural uniqueness. The partnership with PT. Tani Murni Indonesia will be an opportunity to develop critical learnings on approaching local indigenous communities. The impact assessments next semester will also adopt more disaggregated data collection and analysis methods to capture more insights into the indigenous context.

Environment and climate change

No environmental desk assessments (EDA) were conducted this semester.

The beef team commenced discussions with Four Season Company Pty Ltd, an Australian company, to see if molasses nutrient blocks can improve beef and dairy cattle productivity while reducing methane emissions. Four Seasons has an Indonesian company

already producing molasses blocks, but in large sizes. Four Seasons is interested in producing smaller-sized blocks for smallholder farmers and undertaking feed trials early next year.

PRISMA will start reporting on greenhouse gas emission reduction in the next PRIP.

Strategic communications

This year, PRISMA reoriented its strategic communications to more effectively reach and influence its audience. This was done in a stepwise manner with the steps listed below.

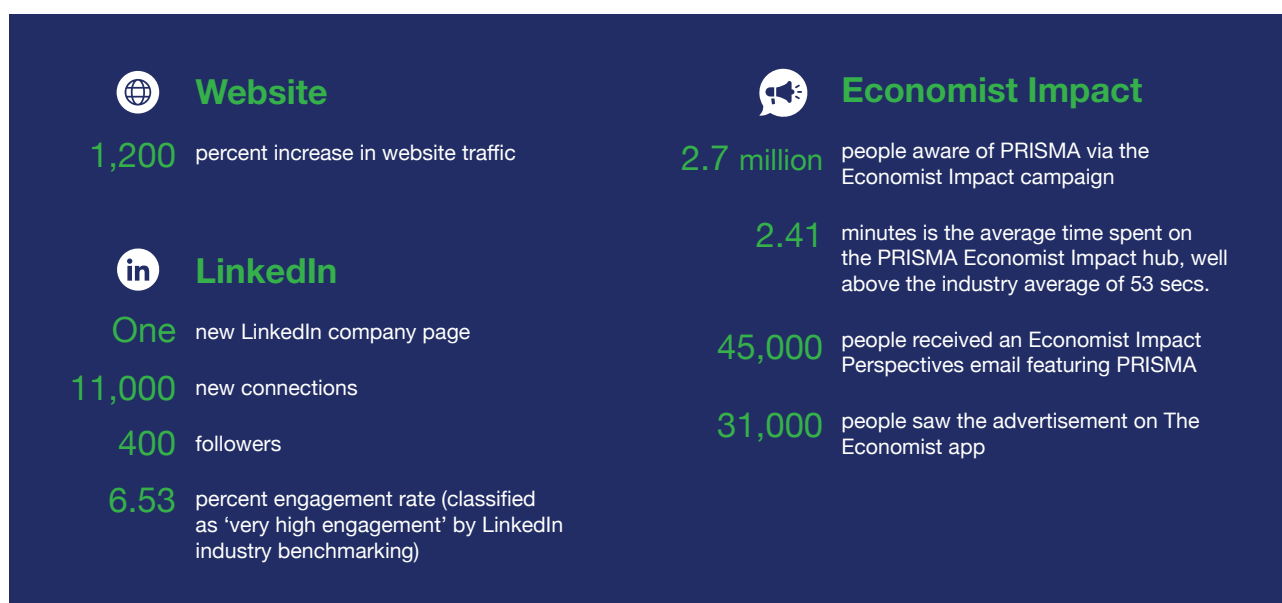


Step 1: Creating a credible and engaging brand

PRISMA refreshed its brand, overhauled its website, and launched a new LinkedIn page this semester. At the beginning of the reporting period, PRISMA launched a partnership with Economist Impact, a globally-renown and respected news outlet, to tell the PRISMA story through interviews with farmers,

partners, DFAT, and the GoI with almost ten years of data points.

Early results show a significant increase in the program's visibility and notably an increase in engagement.



Step 2: Speaking directly to the audience

The second step in reorienting PRISMA's strategic communications in 2022 was creating audience profiles and tailoring messaging and content. The

messages and delivery vary depending on the sector, market, and business. This semester most products supported the learning and review agenda.



Step 3: Passing on knowledge for sustainability

Learning Series

This semester, PRISMA developed a comprehensive and insightful series of papers reflecting lessons learned. The learning series was created ahead of the

ISR to inform the review. A selection will be published externally in 2023.

Bappenas knowledge management

PRISMA, led by the policy engagement team, has developed guidelines tailored for Bappenas to continue MSD practices and approaches beyond the program end date. The handover will occur next semester, with

possible media, led by Bappenas and supported by PRISMA. This is essential to PRISMA's knowledge management agenda to package information in a relevant and digestible format for GOI stakeholders.



Step 4: Building the evidence base for behaviour change

With private and public sector partners

PRISMA surveyed its partners this semester (see summary infographic in the Executive Summary and full results from the survey in the ANNEX) and found they value PRISMA's market information and intelligence above financial support. This is

an essential source of evidence to build PRISMA's strategic communications approach. PRISMA has already established a process for sharing market intelligence via the Indonesia Market Watch and will continue to build this area of work in 2023.

At the household level

PRISMA supports private sector partners to encourage smallholder farmers to adopt innovations (new products and services) that can improve yields and incomes. In some instances, PRISMA develops behaviour change communications through campaigns or product innovations, depending on the intervention and the need. This semester PRISMA began to communicate its behaviour change work more widely. PRISMA shared the stories from the most recent PRIP, the systemic change stories and field and farmer stories. The reports contain rich examples of how private sector partners have introduced business models (for example, the rental model for combine harvesters in mechanisation) and

the tactics they have used to encourage farmers to adopt the innovations. More will be done in 2023 to package and disseminate this information to relevant stakeholders.

During this period, the communications team assisted the pig sector in their ASF campaign. The campaign is informed by farmers' insights and builds on the learnings from PRISMA's previous pilots. PRISMA engaged the communications agency, IMPRO, to help develop behaviour change communications materials for the new campaign. The materials include simple instructions with actions that are easy to implement and relevant to the pig farmer audience.



Step 5: Supporting the policy engagement agenda

Strategic communications can influence the policy change process and tell the story of PRISMA's policy engagement. In this PRIP, PRISMA introduced a new way to communicate our policy work through

infographics outlining the steps taken in the policy process. This is designed for the DFAT and GOI audiences.



Step 6: Climate change communications

To develop inclusive agriculture markets, the impact of climate change on smallholder farmers must be understood. PRISMA conducted a stocktake of our climate-smart activities and gaps this semester and provided recommendations for each sector. Communicating this information with partners and

at the HH level is essential. Incorporating behaviour change principles into this process will be part of the approach. The stocktake and learning brief on climate offers insights relevant to an external audience and will be packaged in 2023.



Step 7: Telling the story with style

Today's world is crowded with information and news. PRISMA is forever finding new, creative, and engaging ways to communicate its work. This semester, PRISMA developed its visual communications to build the quality and diversity of its photography, video, and social media content. The result is a well-

stocked photo library with photos of our interventions to present the experiences of farmers, HHs and partners. PRISMA developed 2 short films of a high standard that have been well-received by DFAT but not yet promoted externally.



4

Annual Plan



Preparation of the annual plan 2023

The annual work plan (AWP) for 2023 was developed in consultation with the provincial governments in the 6 target provinces. The PRISMA provincial managers facilitated planning meetings with the relevant government offices to ensure coordination of the activity planning.

Once the AWP is endorsed by the Program Coordinating Committee (PCC), the AWP will be re-shared with the provincial governments.

Implementation strategy for 2023

While the program waits for a decision from DFAT on the program extension, the workplan for 2023 has assumed a December 2023 closure.

This will be the program's last year, with limited time for active implementation. In line with the strategy refresh of 2021, PRISMA's most important goal is to ensure the sustainability of innovations. The way that PRISMA achieves sustainability is outlined in the PRISMA sustainability strategy. PRISMA addresses sustainability at 2 levels: 1) at the intervention level, and 2) at the market system level. At the intervention level, PRISMA will scale up models tested in its pilot to stimulate change at the partner level (often referred to as adopt and adapt). At the market system level, PRISMA will try to trigger competing partners to copy the changes that PRISMA partners adopt and expand this beyond the intervention area (referred

to as crowding-in). In addition, PRISMA will try and trigger non-competing partners to take advantage of the opportunities created and thereby also offer services and products to smallholder farmers (referred to as respond).

PRISMA will look to increase the depth and breadth of its systemic change. For the MSS already demonstrating significant progress in systemic change, such as beef and mungbean, this will mean ensuring that systemic change is progressed in more than one function. In other MSS, where macro shocks have occurred, such as the pig sector, or where the sector is new, such as in mechanisation and dairy, or where the MSS had a complete overhaul, such as finance, ICT, and the vegetable sectors, PRISMA will ensure that the innovations are at least embedded in the private sector partners.

To do this, the team will ensure:

- A sharper analysis of the supporting functions and dropping functions where significant progress is unlikely
- Strengthening strategies to induce crowding-in and copying
- Not taking the foot off the pedal in terms of innovation and ambition in feasible functions

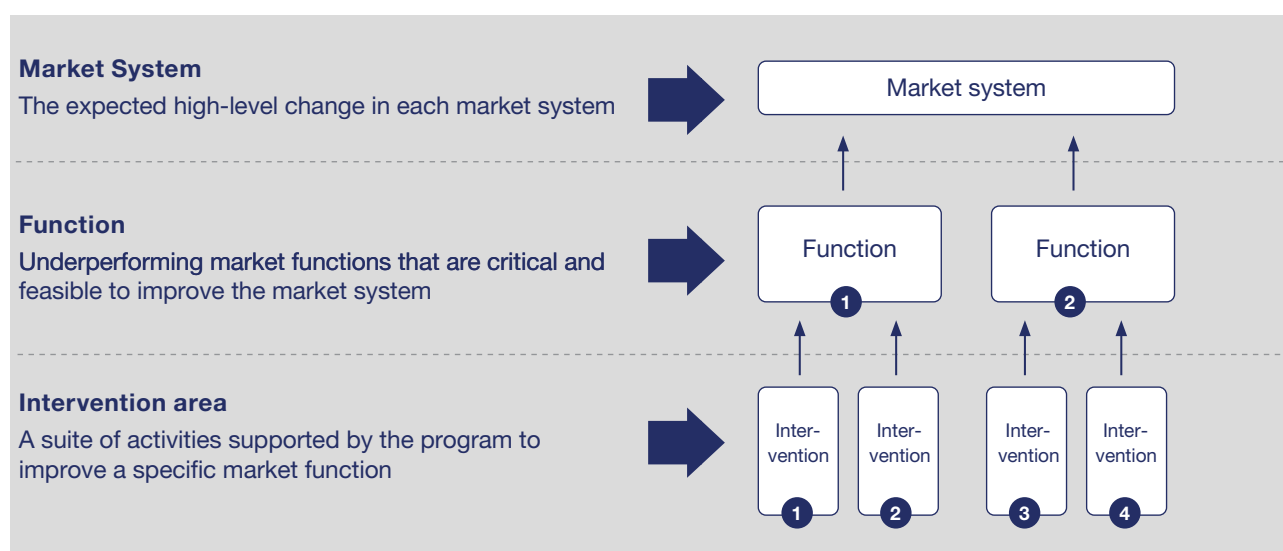
The policy engagement, communications, and result, management and learning (RML) team have worked well in the last 12 months implementing a more strategic communications strategy for influence. This work is increasingly important in the final year of the

program, which is the last opportunity for the program to share its considerable experience and learning with DFAT, Bappenas, other GOI agencies and the broader MSD community.



Sector work plans for 2023

Each sector work plan is based on an MSS. The purpose of the MSS is to provide a clear and easily comprehensible framework that links what PRISMA is doing with its partners to what it hopes to achieve in the market system. This three-tiered diagram outlines the intervention area (the broad activities), the market functions (the relevant supply-demand exchange of particular services or products at the heart of that market system), and the market system vision (a description of the endpoint that PRISMA hopes to achieve in that market system).
















Markets are by nature dynamic. Market systems are subject to micro shocks and macro shocks. A micro shock may be a farmer getting sick, a poor season, or a private sector partner changing their budget priorities. PRISMA can adapt easily to micro shocks and may experience only slight delays in implementation. Macro shocks and influences on a market system can have long-lasting consequences. Examples of recent macro shocks include FMD in the livestock markets, ASF in the pig sector, COVID-19, and the continued conflict between Russia and Ukraine. These shocks can significantly impact implementation, and reacting or rebalancing these shocks in an MSD context takes significant time. It is unlikely that PRISMA will be able to address any new shocks that occur in 2023 in any significant way. It is hoped that sufficient resilience has been built in the Phase 1 sectors to withstand new shocks to a great degree.

Because of possible micro shocks in interventions and/or sectors, the activities listed in the MSS are indicative and should be seen as a direction of flow, rather than a prescriptive list. If things change in an MSS these changes will be updated in the progress reports and monthly reports to DFAT and Bappenas.

A summary of the sector work plans can be found below. Detailed work plans for each sector can be found in Annex 2.

Table 4. Summary of the sector work plans

Sectors	Vision	Function	Workplan per function
 Beef	Small-scale women and men beef producers increase cattle productivity through improved livestock management practices in Central and East Java and NTB.	Policy	The beef feed team will progress a multi-stakeholder partnership approach to improve embedded services with feed, including animal health. The team will start exploring cattle trading system in NTT to impact smallholder men and women farmers. Work will support the MoA to launch the new national standards (SNI).
		Animal Health	
		Supply Chain	
 Crop Protection	Smallholder women and men rice and maize farmers in East and Central Java use safer crop protection products in an appropriate way.	Knowledge and information	Continue the work with partners to improve distribution channels and marketing to expand the market.
		Marketing and communication	
 Dairy	Small-scale women and men dairy farmers will be improved milk quality and productivity by adopting good practices in rearing, feeding and health management in East Java and Central Java.	Feed	Enhance distribution channels for feed and animal health; establish a multi-stakeholder partnership approach to improve milk productivity and secure off-taking while supporting recovery from FMD; and continue to support Bitpro in breeding roadmap and guidelines.
		Animal health	
		Policy Advocacy	
		Milk off-taking	
 Innovative Finance	Women and men farmers have access to credit through agri-kiosks and policy makers improve the SME lending environment.	SME financing	Continue with the expansion of agricultural financing through market linkages between input companies and off-takers. Support product design and customer acquisition through research studies.
		SME finance consulting services	
		SME financial services	
		SME policy engagement	
 ICT	Kiosks are better managed and stocked appropriately and able to offer farmers agricultural services through ICT solutions.	Input supply chain	Strengthen kiosk management strategies and develop GAP information for dissemination through agri-kiosks; conduct research to assess demand for digital livestock services; and undertake action research studies.
		Information and marketing	
		Digital Agriculture ecosystem	
 Maize - Central Java	Women and men maize farmers in target districts use quality seed and GAP to improve productivity.	Policy engagement	Light touch activities with existing partners to build additional evidence to convince the government to provide subsidies to areas not serviced by the commercial market. This will be done by developing technical guidelines with the government.
		Hybrid seed promotion	
 Maize - Madura	Women and men maize farmers in Madura use quality seed and GAP to improve productivity.	Hybrid seed promotion	Monitor the market and explore development of technical guidelines for improved subsidy delivery.
		Policy engagement	

Sectors	Vision	Function	Workplan per function
 Maize - NTT	Smallholder women and men farmers in NTT properly use certified maize seeds and have improved access to offtaking services.	Quality certified seed	Strengthen the association of seed producers and support market supporting policy. Support overall market expansion.
		Market supporting policy	
		Information on GAP and GHP	
 Mechanisation Rice and Maize	Women and men rice and maize farmers have increased access to and use agriculture machinery services to reduce labour costs.	Product marketing	Focus on machinery after-sales service and facilitating business-to-business partnerships; promotions and marketing for advanced machinery in rice; and explore opportunities for youth inclusion in drone services.
		Machinery renting services	
		After-sales service	
 Mungbean	Improved quality, competitiveness and continuity of local mungbean supply.	Quality seed	Support partners to understand farmer behaviour; focus on improving subsidy implementation; facilitate linkages between off-takers and processors to upstream actors; and conduct off-taking study.
		Off-taking	
 Pig	Women and men farmers and market players in the pig industry gain benefit from increased availability and appropriate use of quality inputs, use improved husbandry practices and have access to the downstream market supported by a conducive regulatory environment.	Feed	Strengthen feed partner distribution channels; focus on restocking with the introduction of AI services and improving biosecurity of breed farms; continue with a strong ASF campaign and implementation of solid surveillance and improved testing facilities; and improve regulations to allow for the import of pig semen to improve restocking.
		Breed	
		Animal health	
		Policy and regulations	
 Rice	Women and men rice farmers in East and Central Java adopt high yield rice seeds and have increased productivity.	Rice seed	Increase farmer adoption of high yielding varieties and advocate the government to adopt high yielding varieties as part of its procurement policies.
		Policy advocacy	
 Soil Treatment	Staple, horticulture, and estate crop farmers in Central Java, East Java, and NTB have access to and use quality fertiliser in a safe way.	Marketing and promotion	Promote the multi-stakeholder partnership approach; focus on extension information through capacity development and facilitate market expansion.
		Extension information	
		Distribution	
 Vegetables	Women and men farmers' income increases from producing and selling more vegetables.	Seed distribution, & marketing	Focus on seed distribution channels; embed GAP in promotional activities for seed sales; and assess prospects for localised trading.
		GAP information and extension service	
		Off-taker/trader	

Cross-cutting workplan

GEDSI

PRISMA will continue to engage with its partners to influence them to adopt more inclusive practices where a business case exists. PRISMA will also conduct in-house capacity building for newer cohorts on identifying GEDSI opportunities and assessing the quality of GEDSI inclusive interventions and GEDSI risks.

PRISMA will document and disseminate GEDSI experience, learning, and best practices with crucial stakeholders. A GEDSI study is planned as part of the learning series.

Some of the key planned activities for 2023 in GEDSI are as follows:

Gender and WEE

- Improve the questionnaire for measuring the 6 WEE dimensions to better capture and report the impact on women's agency.
- Conduct a qualitative study to capture the impact on the WEE agency dimension for 2 priority sectors.
- Develop and disseminate learning studies on WEE specific to the private sector, especially on its positive impact on business.
- Design, pilot and assess constraints targeted activities on the WEE agency dimension, subject to discussion with DFAT.

Disability Inclusion

- Undertake capacity building to internalise concepts around disability inclusion for PRISMA staff. This is important because disability inclusion is not well advanced in PRISMA.
- Engage with interested private partners, where there is a business case, to pilot disability-inclusive activities following UD principles.
- Undertake opportunity-driven engagement with OPDs and collaboration with the private sector on disability-inclusive activities.
- Improve impact assessment methods for capturing the prevalence of people with disabilities.
- Capture the learning on PRISMA's experience on disability inclusion and disseminate it to relevant stakeholders, including the private sector and the development community.

Youth Inclusion

- Help sector teams identify opportunities to engage youth, both as end-farmers and ISPs.
- Capture and disseminate learning on youth inclusion.

Indigenous inclusion

- Develop a learning paper on indigenous inclusion from PRISMA's interventions in Papua and West Papua.
- Provide support to the Papua team in their revised strategy for Papua (refer to the systemic change story for vegetables).

Strategic communications

In early 2023, PRISMA is holding a series of internal workshops to develop an exit strategy. The communications team will be part of the strategy development and will support the final objectives. In some instances, the communications team will take the lead; in others, it will be sector teams or cross-cutting areas. An example of a communications activity to support the close-out is supporting PRISMA partners that have adopted innovations to share testimonials and tips via events and media interviews. PRISMA may also lead with the development of tailored business briefs to share innovations and business insights.

The close-out will be the priority for the communications team in 2023 and will culminate in a series of events and communications products.

The external facing learning series documents planned for 2023 will be designed with the MSD community in mind and will highlight PRISMA's approach and recommendations for MSD implementers. PRISMA channels will promote the series, and PRISMA is exploring opportunities to collaborate with other MSD networks and organisations to help with the dissemination.

In 2023, PRISMA's communications team will seek opportunities to support the policy change process. The close-out workshops will determine the focus areas. There are opportunities to support the socialisation of the change of SNI regulations, the change in government guidelines to support the broader adoption of the high-yielding rice variety, and policy work in maize and other sectors.



Policy engagement

PRISMA activities fit seamlessly with the GOI National Mid-Term Development Planning (RPJMN) document for 2020-2024 and the associated GOI Work Plan (RKP) for 2023 that centres on productivity improvements to support sustainable and inclusive economic transformation. PRISMA's Eastern Indonesia focus is also closely aligned with the Indonesia Vision 2045, as elaborated in the RKP 2023, which aims to enhance the development of the area to contribute at least 25 percent of the national economic growth.

At the national level, PRISMA will continue to support the policy framework in the beef, dairy and rice sector. PRISMA will continue working with the MoA and the BSN in the beef sector to implement the new feed SNI for beef and dairy cattle feed. Close collaboration with the MoA to develop the Jersey cattle roadmap and

guidelines as part of the dairy sector recovery plan in response to the FMD outbreak will also be enhanced. In the rice sector, PRISMA will continue working with LPEM UI and PSEKP to finalise and share the rice policy brief with relevant government agencies.

At the sub-national level, PRISMA will continue to seek opportunities that arise from the overlap between MSS policy functions and provincial/local government priorities. This work will potentially be active in select sectors and provinces as indicated by the MSS, such as maize in Central Java, beef and dairy in Central Java and East Java, pig in NTT, and vegetable in Papua. Alignment with the provincial government planning and budget for 2023 will continue to ensure leverage and synergy with local economy initiatives.

On influencing the influencer, the policy team will finalise the knowledge management deliverables for Bappenas as part of the transfer process of sector knowledge and lesson learning to the government. In close collaboration with the communications team, the policy team will package learnings for a broader strategic audience at the national and sub-national levels. Similarly, the final wrap-up of national guidelines will continue this semester to ensure PRISMA's learning is mainstreamed into the Bappenas' system and body of knowledge. Upon the request of the Bappenas Directorate of Food and Agriculture, PRISMA will also support a few studies

relevant to Bappenas for formulating the food and agriculture components in the upcoming mid and long-term national development plans (RPJMN/ RPJPN).

A number of joint monitoring visits, sector presentations, program level and administrative reporting processes will also be continued in the final year of the program. The exact timing, themes and locations will be jointly discussed with Bappenas and DFAT to synchronise the schedule, focus and priorities.

Environment

Environmental Impact Assessment

PRISMA will continue undertaking EDA as required for active interventions with environmental risks. Environment experts will undertake the EDA.

In the first semester, PRISMA will do environmental life cycle impact studies for soil treatment and the dairy and beef sectors to assess the extent of impacts and determine mitigation plans, if necessary. The degree to which PRISMA can address the impacts will be limited to the program's remaining time. PRISMA will discuss the impacts with the relevant partners to ensure that impacts are known and discuss mitigation methods that can be incorporated into business practice.

PRISMA has a proven record of convincing partners to adopt greener practices. For example, the dairy feed partner, Nufeed, is interested in exploring a green-friendly feed option using the seaweed, *Asparagopsis*. Pig breeding farms in NTT have taken aboard PRISMA's suggestion of building wastewater facilities. PRISMA has successfully convinced crop protection companies to use greener products, which led one company to divest its interest in a certain dangerous product. PRISMA will continue these efforts in 2023.

Climate smart agriculture

Next semester, PRISMA will publish its article on how a market systems approach can help businesses adopt practices that reduce greenhouse gas emissions. The draft document has been reviewed by DFAT and will be finalised in January 2023.

PRISMA will develop a work plan in the first semester to initiate some of the recommendations outlined in the climate stocktake undertaken this semester (see Annex 4). The work will need to be prioritised based on the amount of time remaining in the program.

Results measurement and learning (RML)

PRISMA will continue to maintain a rigorous and robust results measurement process in 2023, especially in capturing systemic change. In addition to regular impact assessments, the RML team will capture wider market changes for all key sectors in the coming semester. Key sectors refer to those sectors where wider market change has already been identified or where sectors have made sufficient progress toward systemic change.

The RML team will assist the sector teams in preparing tools to assess the impact of interventions toward emission reduction in line with the work plan for climate-smart agriculture (see section above).

The RML team will also contribute to capturing learning and developing studies as part of the planned learning series. Particular focus will be given to preparing for the activity completion report, due in early semester 2, 2023.

Sector climate stocktakes

This semester PRISMA conducted a stocktake of climate activities in 7 of its sectors as part of a review of climate change related risks and opportunities in Eastern Indonesia. The review highlights the existing climate change situation and how PRISMA may contribute to climate change adaptation and mitigation. The following improvements were recommended for 2023.

Improvements for 2023



Beef

Explore how to overcome the barriers to greater uptake of biogas digestors at the scale relevant to beef producers.



Dairy and Beef



When undertaking Impact Assessments, collect information on how manure is disposed, including estimates of relative proportions stockpiled versus distributed as fertiliser. Begin to explore benefits and costs of using manure more immediately after it is produced as a crop/pasture fertiliser rather than allowing it to be stockpiled.



Maize, Mungbeans and Rice



Explore farming system opportunities that introduce a legume rotation to reduce greenhouse gas emissions, improve soil health and avoiding or minimise net household income loss from using a legume crop.



Explore adaptation opportunities for using seasonal climate forecasts in crop management (e.g. planting density, variety etc) and in crop rotations of maize, rice and mungbeans.

Include weather and seasonal climate forecasts as an additional tool in optimum timing and amount of fertiliser to be applied. Include the benefits of improved timing of fertiliser application in reporting of benefits.



Rice

Include in recommendations on GAP the benefits of only applying organic inputs (rice residue, manure) to soils when they have been drained and are aerobic.

Put together a story/narrative demonstrating in rice the holistic adaptation and mitigation benefits that can be accrued by bringing together in a system approach a range of innovative technologies.





5

Operations and Finance



Progress



Human resources

In this reporting period, PRISMA recruited and onboarded one new implementation staff (a business consultant) and 5 operational staff members who were formerly outsourced.

Ten staff resigned, and 11 staff were promoted this semester. Four staff were promoted from business consultants to senior business consultants, 5 from senior business consultants to principal business consultants, one from principal business consultant to head of portfolio, and one in operations. The head of portfolio position was previously an expatriate position and has now been nationalised.

The number of resignations is typical for a program of this size at this stage in its life-cycle. Most resignations were due to job security, with staff securing alternative permanent positions. A staff retention strategy has been developed with an accompanying staff retention action plan this semester. Initiatives within the plan include revising the salary increment guidelines to reward and retain high-performing staff.

Getting work permits for 2 expatriate staff with title changes proved problematic with a change in Manpower regulations, which required the sponsor to be the donor and not the managing contractor. This problem is not unique to PRISMA or Palladium and needs to be resolved with the cooperation of the DFAT protocol unit. Bappenas is also trying to find solutions. It means that 2 senior management team members must work remotely until the issue can be resolved.

A mandatory preventing sexual exploitation and harassment (PSEAH) safeguarding refresher training was delivered to all staff during the reporting period.

A 2-day all-staff team building event, themed 'Celebrating Victories', was held for the first time since the inception of Phase 2. The exercise allowed teams to workshop team dynamics on the first day and get to know team members better on the second day. For the last 2 years, PRISMA has recruited personnel while implementing work at home protocols. Mask wearing is still mandatory in the office; therefore, the team building was a good opportunity for staff to get to know each other better.



Operations

Within the reporting period, 29 new collaboration (intervention) agreements were signed, bringing the total number of active collaboration agreements to 86. Eight agreements were closed during the semester. Interventions take at least 12 months to implement, so no new agreements will be entered into in 2023 unless there is a compelling case to do so.

During this period, the operations team continued to support sector teams with logistics and office management. Staff travel has reached pre-pandemic levels and is expected to increase in 2023 as final assessments are carried out.

To protect critical systems and sensitive information from digital attacks, all PRISMA computers, software, website and social media accounts were assessed for any cybersecurity vulnerabilities and made compliant with Palladium's accreditation with ISO 27001 (Information Security Management).

Occupational health, safety, and security checks were undertaken by the chief operations officer and office manager at the Surabaya and provincial offices (Papua was done remotely).





Finance and budget management

Budget forecasting was challenging during this reporting period, as foreign exchange rates fluctuated significantly. These fluctuations affected the predicted final expenditure. There has been a notable increase in travel by staff domestically (including to Papua and West Papua) and by international consultants coming in-country. The cost of travel, both domestically and internationally, has increased following global trends.

Monthly budget forecasting is reported to DFAT. To strengthen the implementation teams' forecasting, the chief operations manager and the finance team, developed a quarterly financial health check to help implementation teams test assumptions and confidence levels on predicted expenditure. This has helped mitigate risks associated with under-or-overspending.

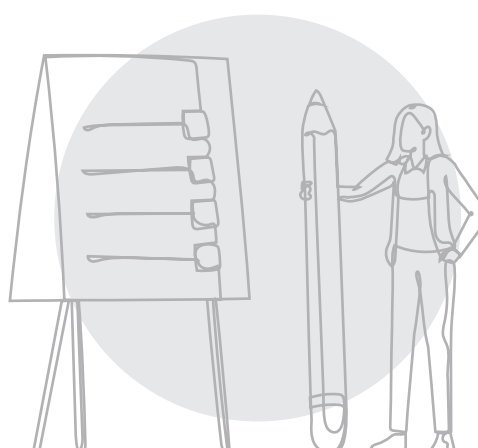
Annual work plan for operations and finance

The program is ending in December 2023, subject to any head contract amendments. This is the busiest time for the operations and finance team as contracts with all vendors need to be reconciled and closed, all assets need to be checked and handed over, all offices must be closed and returned to their original state, and all staff contracts need to be concluded.

The processes for program closure are outlined in the handover plan. The handover plan will be updated and submitted to DFAT as per the head contract. The plan will include transferring files, information systems, and physical assets. A detailed work plan will be established with a detailed timeline, as

sequencing will be an important component of the closure. In the meantime, staff retention remains a priority. It is expected that if a program extension is not granted that staff will begin to seek alternative employment before the program ends. Strategic workforce planning will continue as part of the staff retention strategy.

Staff (including international staff and consultants) will be offboarded and demobilised (if applicable) by 31 December 2023. The updated handover plan (due July 2023) will detail the final process for offboarding, including paying out staff entitlements and preparing for career exits from the program.





6

Lessons Learned



This semester, PRISMA prepared lessons learned documentation in preparation for the ISR. This included lessons in most sectors, including closed sectors and cross-cutting areas. These documents will be part of the learning series released next semester.

As PRISMA reaches its final year, the team has established what works in Indonesia and what does not in terms of MSD. The key to success is really knowing the market, something which PRISMA does well. A significant contributor to PRISMA's success has been building an in-depth understanding of the market dynamics in each sector and doing good market analysis.

A major lesson the program has learned is that outreach numbers are important, but how you get there is even more important. Focusing on systemic change and away from outreach allowed the program to mature and build resilience by working in market functions that did not necessarily deliver outreach.

The main lessons that PRISMA gained through introspection over the last 9 years are as follows:

- Working with the private sector to help deliver development outcomes that benefit the poor in Indonesia works. Sufficient interested private sector partners are willing to invest in more inclusive business designs, despite Indonesia's fragmented context. Success requires rigorous analysis and the need to collect primary data. Companies are willing to invest even in the more remote regions, but success requires a mix of intervention types and tactics.
- Market system change is complex, and navigating complex markets takes time and experimentation. This complexity needs to be considered by donors when setting indicators of success. The end goal for market systems programs is a permanent change in the market that leads to inclusive economic growth. Therefore, KPIs need to reflect elements of sustainability and resilience.
- Working in thin markets like NTT, NTB, Papua, and West Papua requires a different approach, and the regular scale-up strategies do not always apply. Giving a 'leg-up' is required in these challenging contexts but can adversely affect value for money, which needs to be recognised.
- Sector strategies need to be built around a vision for systemic change because it is only by knowing the endpoint that the pathway to reach systemic change can be mapped. PRISMA initially explained systemic change through the adopt, adapt, expand, respond lens but teams used this as a 'fill-a-box' exercise. It was only when the program defined what systemic change would look like in a specific sector/system that things started to fall into place. It sounds quite simple but defining the endpoint against a starting point helped teams plan more effective strategies to reach the endpoint and gave them a clearer pathway against which to track progress.
- MSD programs should not shy away from policy reform as changes in the business enabling environment can be an effective lever for systemic change. Working on policy in MSD programs does not need to equate to wholesale policy reform. Sometimes significant market change can be achieved by incremental changes at a regulatory or administrative level. Still, reform agendas must be targeted, realistic, and adequately resourced.
- High-performing management teams can help drive large-scale MSD programs with limited local capacity. PRISMA did not have program staff ready to roll, so it benefitted greatly from a dedicated capacity building budget. The team worked best when the management team comprised a range of competencies, including strategy and analysis, teamwork and people skills, and intervention delivery.





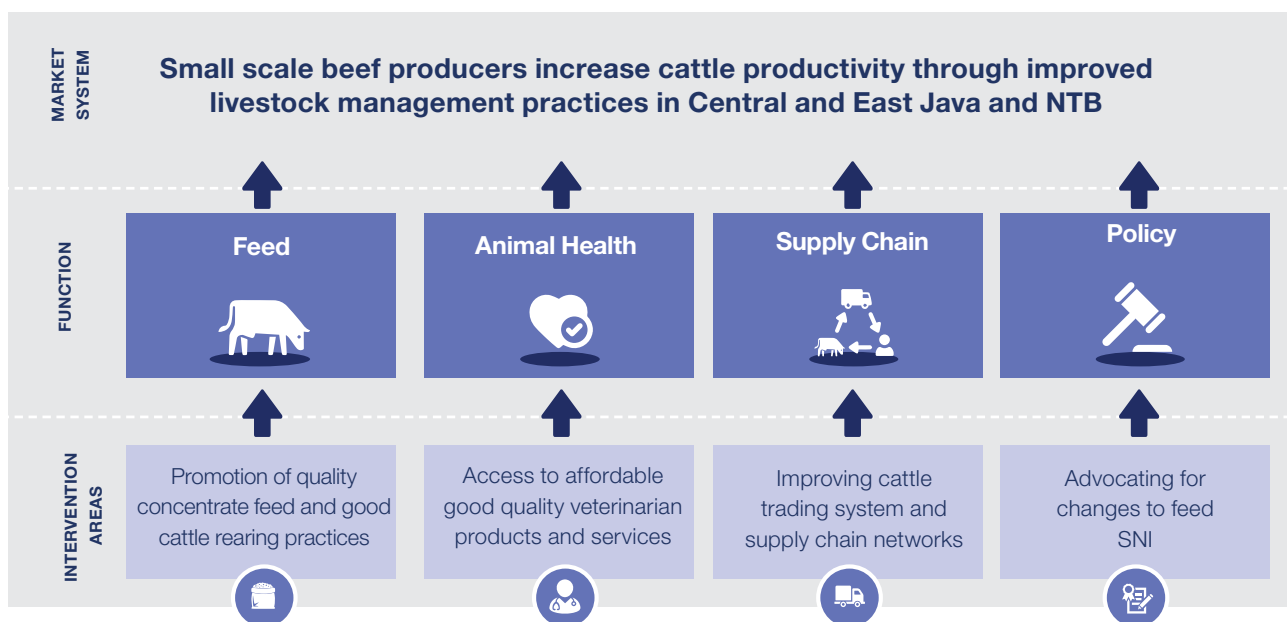


Annexures

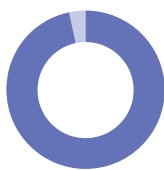
Annex 1: Progress against MSS

BEEF

Domestic beef consumption in Indonesia continues to exceed supply, so beef must be imported. East and Central Java are the largest cattle-producing provinces, representing 38 percent of the country's cattle population, comprising about 1.4 million small-scale beef producers. Yet, cattle production and productivity are low.



Indicator



Cumulative outreach actual to Dec 2022 (HHs)
641,316

Cumulative outreach projected to Dec 2023 (HHs)

663,451

Total NAIC to Dec 2022 (%)

145% ↑

Total NAIC up to Dec 2022 (IDR)

3.66 trillion

Total projected NAIC to Dec 2023 (IDR)

3.78 trillion

Value for money (VFM)



Investment leverage

3.26



Investment per HH

AUD9.63



Social return

58.98



Constraints

The cattle sector in East and Central Java operates under a low input-output production system resulting in suboptimal weight gain (less than 0.5 kg/day), long intervals between calving (18 to 20 months), and poor health conditions. This is because smallholder farmers 1) rely on native grass and fodder rather than commercial feed; 2) have limited access to affordable feed, pharmaceuticals, and veterinary services; and 3) have poor knowledge of livestock management practices. This is compounded by an ineffective cattle trading system.



Sector vision

PRISMA will address the market constraints and improve cattle production and productivity for smallholder farmers in East and Central Java. This will be achieved by introducing good quality and affordable cattle feed and pharmaceutical services. This will be supported by enhanced cattle concentrate feed SNI from the GOI and a better trading system for live cattle.



Market Function 1: Feed

This semester, PRISMA hired an independent expert to verify a cattle study undertaken by RAD, a national market research firm, regarding farmers' use of commercial feed. The review verified the methodology and findings of the study and concluded that PRISMA could use the results of both market studies to claim and attribute PRISMA's innovation to the beef sector. It concluded that a total of 1,088,928 farming HHs have used commercial concentrate feeds, of which 579,556 HHs experienced a 159 percent increase in income from wider market outreach.⁷

The FMD outbreak, which peaked between June and July, significantly reduced partner feed sales, which were down 37 percent at the beginning of the semester. This was due to farmers investing less in feed and more in animal health to purchase pharmaceutical and biosecurity products. Farmers were also delaying restocking after selling their cattle for the Eid al-Adha celebrations to mitigate the risk of reinfection. Cattle markets reopened in late September, so farmers struggled to restock prior to this.

PRISMA engaged private feed partners to develop adaptive mitigation strategies to minimise the impact of FMD on their businesses, and at the same time, inform farmers on preventative and treatment

measures. During this semester, there were 33 educational and promotional activities held by feed partners on the ground, with nearly 2,500 farmers participating. All these efforts resulted in sales rebounding after September with year-on-year sales only 3 percent lower than 2021. This shows good resilience of the feed innovations.

This semester, PRISMA supported PT Sreeya Sewu to expand its market into NTB. The company carried out a market assessment and found significant market potential as NTB is the fourth largest cattle-producing province in Indonesia. On 6 December, the company, in collaboration with the University of Mataram (Unram), launched its first product in Central Lombok, with over 60 participants, including representatives of the governor, the head of the NTB Provincial Livestock Agency, and Central Lombok local governments.

The District Livestock Agency of Sigi district, Central Sulawesi, organised a learning visit to PRISMA's intervention with Munir Jaya in Tuban in November. The visit included 12 participants, including 5 lead farmers. The local government and Munir Jaya have agreed to conduct a business feasibility assessment and organise demo plots in Sigi early next year.



Market Function 2: Animal health

Considerable progress has been made in this area this semester. PRISMA used its private partner network to develop and promote products for the prevention and treatment of FMD and disseminate educational materials to farmers. PRISMA partnered with 2 new pharma companies, PT USFA and PT Medion, that have developed new products for the control and prevention of FMD. PRISMA is supporting the partners with market information, training, promotion and marketing, and establishing distribution channels to get these products to farmers.

PRISMA is supporting feed companies to promote concentrate feed as an immune booster for cattle. Sreeya, KJUB Puspetasari, and Munir Jaya added vitamins and premix to their feed composition formula. Demand for enriched feed increased, contributing to the rebound in feed sales. Farmers in East and Central Java using concentrate feed found their cattle recovered more quickly from FMD, which was acknowledged by the MoA's Feed Directorate.

⁷ Total outreach in beef sector including both partnership and wider market outreach is 641,316 HH with 145% NAIC

PRISMA is initiating collaboration between non-competing companies and the public sector to improve the response to FMD. For example, PRISMA fostered collaboration between Munir Jaya (feed company), CTSI (pharmaceutical company) and the 3 districts (Probolinggo, Lumajang, and Banyuwangi) governments in East Java to deliver joint events to educate farmers about FMD treatment and biosecurity practices. Fermen (feed company), PT Agroveta Husada Dharma (pharmaceutical company), and Boyolali district in Central Java also organised joint events to inform farmers about FMD prevention and treatment. Nutrifeed (feed company) and Medion (pharmaceutical company) hosted a national online FMD webinar with speakers from the MoA and vet associations. This semester, almost 2,500 Central and East Java farmers

participated in the FMD events organised by partners and local governments.

PRISMA is currently conducting a study on the cost-benefit analysis of FMD and cattle supply chain analysis, as requested by the government last semester. The Center for Tropical Animal Studies at the IPB University is leading this study with Diponegoro University (UNDIP) in Central Java and Brawijaya University in East Java. Another study is also underway with Bitpro on breeding material and livestock seeds for beef and dairy cattle repopulation. These reports will be available by the end of February to inform evidence-based government policies, programs, and budgets for 2023 and beyond.



Market Function 3: Supply chain

No significant progress was made in this function this semester. The cattle supply chain assessment for NTT is postponed due

to the program's focus on FMD response interventions and national policy advocacy activities.



Market Function 4: Policy advocacy

Substantial progress was made during this semester. PRISMA advocated for improving the cattle feed SNI for high-quality, certified feed that is more affordable. In August, academic experts in feed nutrition from Gadjah Mada University (UGM), Brawijaya University and IPB University, supported by PRISMA, delivered a policy brief on the urgency of changing the standards to the MoA's Feed Director. The Director of Feed sent a formal letter to the BSN during August and September, requesting a review of the standards. The MoA and BSN included the standard review in the 2022 National Plan.

After September, the MoA and the BSN held several technical review meetings and consultations with industry experts on the proposed new standard grading system advocated by PRISMA. PRISMA supported the technical review process by providing

academic nutrition experts from UGM and Brawijaya Universities. The regulatory technical review processes were completed in October and the BSN is expected to publish the new standards in mid-2023.

The flexibility of the new standards for cattle feed through the introduction of the grading system will help the cattle feed business achieve scale. This means more businesses will enter the cattle feed business, producing and selling certified, good quality, and affordable commercial feed to small-scale farmers. More companies can now export commercial feed to other provinces or islands in Indonesia or other countries because their products are certified. This means that more farmers across Indonesia can buy commercial feed at acceptable prices, which enhances beef production and productivity, resulting in higher incomes

for smallholder farmers. There is also an added environmental benefit of reducing greenhouse gas emissions compared to cattle fed 100 percent fodder. The grading system also applies to other animal feed such as chicken, pig, duck, and quail, thus, enabling more than cattle farmers to benefit from the policy change.

Following the review of the national feed standards (beef, dairy, chicken, pig), the MoA called for a review of feed regulations. This is because changing standards requires changes in the higher regulatory framework. This regulatory review will seek to harmonise, synchronise, and streamline the regulations. To conduct this regulatory review, the MoA invited stakeholders, including BSN, academic experts, industries, associations, and PRISMA in November to draft an academic paper and new regulation as the basis for the MoA to undertake the policy reform. The academic paper and the MoA draft

regulation (Ranpermentan) were finalised in late November, bringing together 3 existing regulations.⁸ If there are no major political barriers, the new regulation will be published next year. This regulatory change will be transformational for the Indonesian feed industry and contribute significantly to building resilience in the livestock market and increasing food security.

This semester, the MoA's Feed Directorate produced a banner outlining the director's vision for transformational policy change in the feed industry. PRISMA's critical advocacy points were covered in the banner, including introducing the standards grading system and one feed product registration number for multiple plants within a company, which provides greater incentives for industries to expand. PRISMA has been instrumental in this policy reform by providing vital market information and a policy brief for revising the SNI and the related regulations.



Challenges and Learning

The FMD outbreak and the recent presence of LSD in Central Java continue to challenge the cattle interventions. Despite the considerable decline in FMD cases, the cattle industry has been recovering gradually, but potential risks remain until FMD and LSD cases are eradicated. This uncertainty could create disincentives for farmers and businesses to invest in the cattle industry. To mitigate the risks, PRISMA continues to support private partners to develop adaptive mitigation strategies to minimise the impact of FMD on their businesses, and at the same time, inform farmers on preventative and treatment measures. This includes fostering B2B and private-public collaborations.

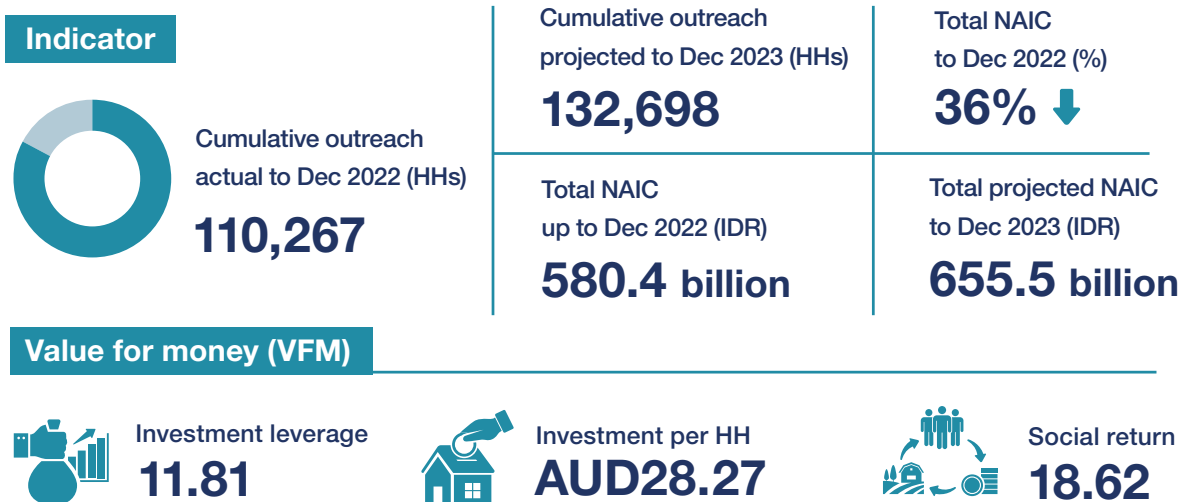
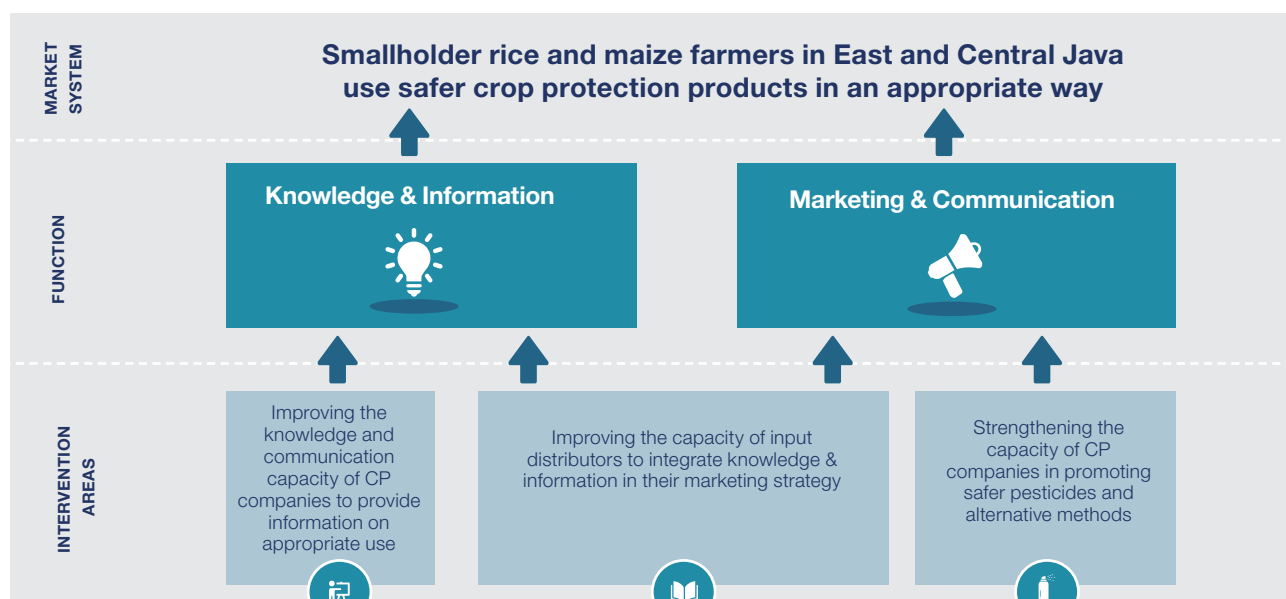
PRISMA continues to closely monitor the FMD and LSD outbreaks and support the national and subnational governments

with on-ground information and insights, and solid studies (cost-benefit analysis, cattle breeds) to inform evidence-based government policies, programs, and budgets for 2023 and beyond. PRISMA will also assist the government in implementing the vaccination program in collaboration with the relevant DFAT programs (i.e., AIHSP, IA-RMCP, DFAT-SIAP SIAGA).

8 MoA Regulation No 22/2017, concerning Registration and Distribution of Feed; (2) MoA Decree No 240/2003, concerning Guidelines for Good Feed Manufacturing Practices; and (3) MoA Regulation No 65/2007, concerning Guidelines for Supervision of Feed Quality.

CROP PROTECTION: Rice and Maize in East and Central Java

Crop protection is defending crops from damage and death by pests and diseases. Crop protection can use chemical, physical, mechanical, genetic, or biological methods.





Constraints

The majority of the 5.2 million women and men rice farmers in East and Central Java experience harvest loss due to pests and disease despite 86 percent of them using pesticides. Over half of the 700,000 women and men maize farmers in East and Central Java experience harvest loss despite 54 percent using pesticides. The main reason for the continued loss of crops is a lack of knowledge in identifying pests and diseases and then using the wrong dosage or application of crop protection products. Inadequate extension services for rural farmers exacerbate poor pest and disease management.



Sector vision

PRISMA addresses the market constraints by promoting safer, cost-effective crop protection methods and products. PRISMA supports the private sector in improving product marketing by embedding farmer education on GAP



Market Function 1: Marketing and communication

PRISMA's partners continue promoting safer pesticides and educating farmers on good crop protection practices. Two partner companies, PT FMC and PT UPL, actively promote green crop protection products (chlorantraniliprole) to farmers.

PRISMA supported UPL in launching 2 new products, i.e., Shenzi®, a green-label insecticide for rice and Zeba®, a degradable soil conditioner from corn starch. Zeba® increases soil moisture and fertility, reduces water usage, prevents fertilisers from leaking nutrients, and protects soil from the impacts of climate change. For example, this product is suitable for farmers with limited access to irrigation and low rainfall so they can increase yield and profitability.

PRISMA signed a new partnership with PT Etong Chemical, a crop protection newcomer that supplies safer pesticides. As a new company, Etong needs better market penetration and lacks a structured process for training its staff. This partnership supports Etong in both areas by conducting the first national training for its sales and marketing field team. This training aims to improve the capacity of the field team to (a) embed knowledge on the proper use of pesticides in its promotional activities to farmers and (b) better deliver solutions to distribution channels.



Market Function 2: Knowledge and information

PRISMA linked the agricultural agency and crop protection companies to overcome the soil degradation problem in Bojonegoro. The agency found that PRISMA partners' products could provide the solution and is willing to introduce the products to

Bojonegoro farmers. Two PRISMA partners, PT FMC and Agricon, joined the agricultural agency's field activities to demonstrate their products and share knowledge about soil improvement and pest and disease management.



Challenges and learning

The crop protection market has recovered from the global energy crisis and rising fuel prices, indicated by stable pesticide prices this semester. However, PRISMA's partners observed that an increase in fertiliser prices affected the crop protection market in 3 ways:

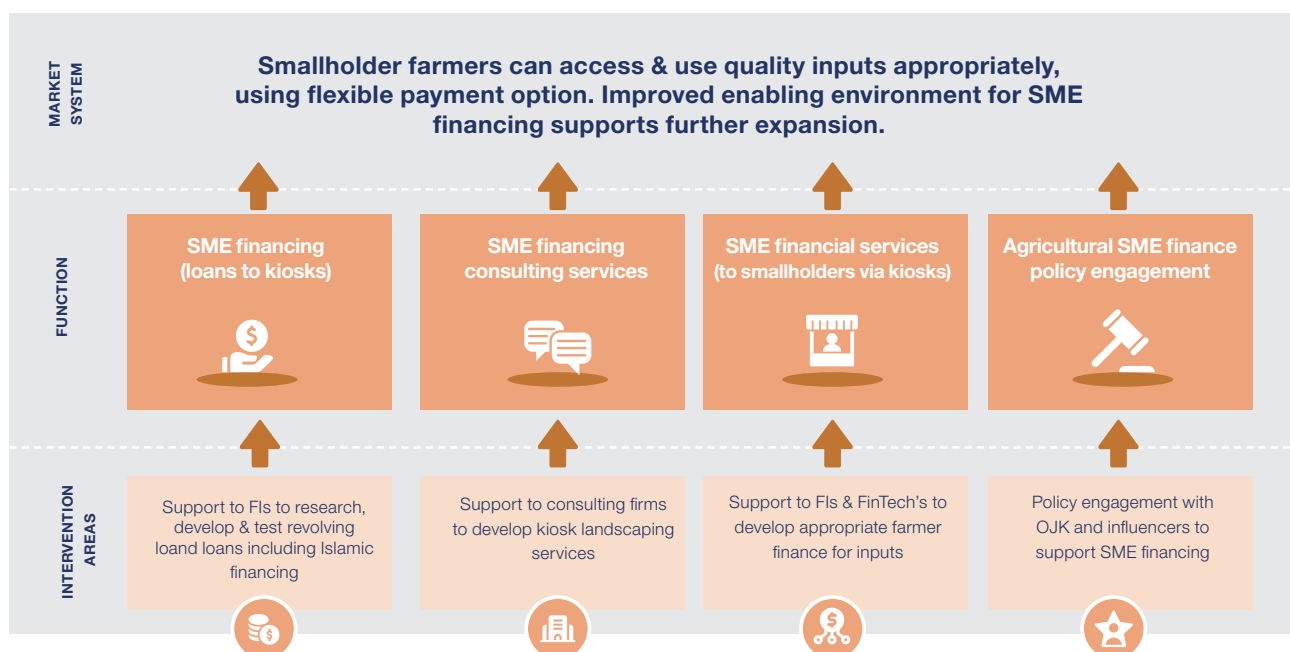
1. Rice farmers switched to manual weeding. As fertiliser comprises more than 20 percent of farming expenditure, the price increases have decreased farmers' purchasing power. Since pesticide is lower in the hierarchy of needs, rice farmers reduced their use of herbicides and switched to manual weeding. Producers now rely on maize farmers for sales as

they deal with more weeds in the rainy season.

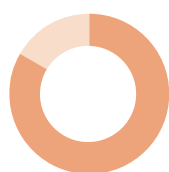
2. As insecticides make up 70 percent of pesticide spending, the increased fertiliser prices threaten the insecticide markets. Amid financial stress, rice farmers switched to cheaper generic products. This switch lowered the adoption of novel and safer insecticides as the market shrank by 22 percent.
3. Increased fertiliser prices mean more room for soil treatment products that can increase fertiliser effectiveness or reduce its use. PRISMA will continue to monitor and support this opportunity.

FINANCE

The finance sector strategy focuses primarily on strengthening kiosks' access (input retailers) to revolving loans (flexible credit lines/overdrafts) so that they can better manage their cash flow, stock sufficient products for the agricultural season, and offer flexible payment options to farmers. In tandem with the ICT sector and in support of other areas of PRISMA, the finance sector aims to ensure that kiosks are better managed, stocked and informed so that they can provide affordable, quality products and services on time.



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

29,753

Cumulative outreach projected to Dec 2023 (HHs)

35,648

Total NAIC up to Dec 2022 (IDR)

146.0 billion

Total NAIC to Dec 2022 (%)

48% ↓

Total projected NAIC to Dec 2023 (IDR)

157.5 billion

Value for money (VFM)



Investment leverage

2.13



Investment per HH

115.62



Social return

4.24



Constraints

On the demand side, kiosks often lack enough capital to stock high-quality products at peak periods to diversify into other areas, such as mechanisation services and commodity trading. Kiosks are constrained by inappropriate loan products, uncertain business conditions, and a lack of technical knowledge and information.

On the supply side, financial institutions (FI) have low incentives to lend to agriculture SMEs and kiosks due to perceived risks associated with agriculture and a lack of knowledge regarding the potential SME market.



Sector vision

By 2023, at least 3 banks will have increased their commercial interest in disbursing agriculture financial products to agri-kiosks in Central and East Java. PRISMA will do this by engaging with FIs, consulting firms, and policy influencers to offer novel conventional and Islamic finance products and improve the enabling environment for SME finance.



Market Function 1: **SME financing**

Early signs of systemic change were observed with Bank Mandiri. Initially, the partnership was limited to Central Java, but Mandiri showed interest in expanding the coverage into East Java, Lampung, and South Sulawesi. Consequently, PRISMA signed a new contract with the headquarters of Bank Mandiri.

Two new FIs joined Bank Mandiri this semester to promote suitable loan products for agri-SMEs: Bank Sinar Mas Sharia (developing an Islamic revolving loan product for kiosks) and BNI. Bank Mandiri has already completed surveying 520 kiosks in Central Java and selected around 100 kiosks to offer a revolving loan.



Market Function 2: **SME finance consulting services**

PRISMA subcontracted Spire, a consulting firm in the agricultural finance sector, to do research and customer acquisition work for Bank Mandiri. However, PRISMA plans to go beyond this and support Spire to become a service provider beyond PRISMA's engagement. PRISMA has provided

supportive feedback, highlighted market opportunities, and provided exposure to FIs. PRISMA is currently in discussion with Spire and Hara to discuss ways of developing survey and customer acquisition products for FI's in agri-SME finance.



Market Function 3: **SME financial services**

This function partly relates to legacy interventions (pre-refresh) and partly recognises that kiosks offer informal credit (terms of payment) to their customers that may be improved as kiosks access revolving loans. In addition, the program may identify opportunities to support kiosks to become agents for loans to smallholders (e.g., buy-now-pay-later (BNPL)) and provide advisory support for value chain financing, although this is not a priority.

PT Crowde Membangun Bangsa (ongoing legacy) are offering in-kind input loans to

smallholders through kiosks. An impact assessment reported 2,554 beneficiaries under this partnership from June 2021 to May 2022. PT Crowde Membangun Bangsa has started piloting BNPL services to 5 kiosks from the 20 targeted this year. PRISMA is seeing an emergence of BNPL services for agri-kiosks through partners, Semaai and Agriaku. These may complement or compete with terms of payment from their suppliers and offered to farmers. This will be explored further through the kiosk landscaping surveys.



Market Function 3: Agricultural SME finance policy engagement

PRISMA aims to advocate for inclusive SME financing policies by engaging the Financial Service Authority (OJK) directly, presenting evidence from the portfolio, and engaging other influencers. To support this initiative, the Institute for Development of Economics

and Finance has been engaged to develop an evidence-based case on how SME financing could work in the agriculture sector. PRISMA coordinated with PROSPERA to ensure the complementarity of evidence in SME financing.

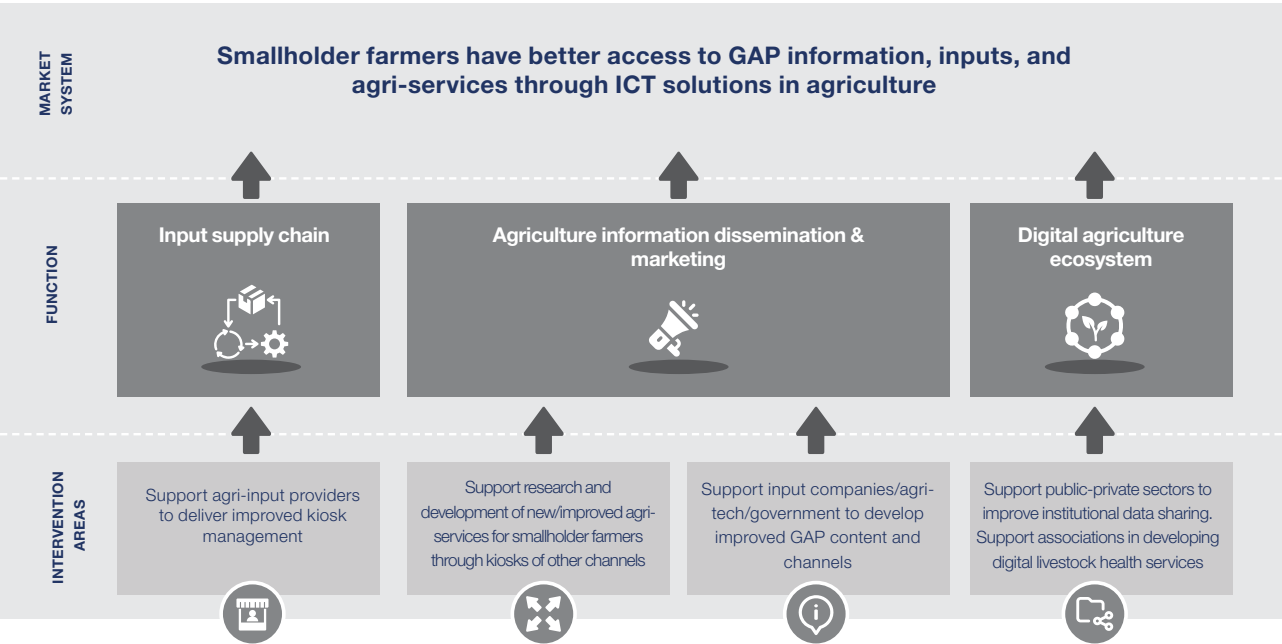



Challenges and learning

- The GoI will increase its smallholder loan schemes (KUR) allocation to IDR460 trillion in 2023 from IDR373 trillion this year, of which IDR100 trillion will be allocated to agriculture (10 percent more than in 2022). The move is expected to provide more significant support to MSME growth. However, it may stymie innovation in the sector. In addition, a new KUR has been launched called Alsintan (mechanisation) to help businesses provide agricultural machinery. PRISMA is coordinating with PROSPERA on KUR policy advocacy with OJK.
- Increased Central Bank BI-7 Day Repo interest rate (BI) from 4.75 percent to 5.25 percent in efforts to maintain stability and economic recovery. This is likely to depress the uptake of loans in the agriculture sector.
- Prior to the strategy refresh, PRISMA experimented with interventions beyond agriculture financing into rural finance through an agent development partnership with PT Reyhan Putra Mandiri (RemitPro), a remittance service provider. While this resulted in the establishment of 400 new agents, the pre-impact assessment showed only a small conversion to agriculture, with intangible benefits.
- Related to the point above, PRISMA realised that the benefits accruing to smallholders from improved kiosks might be challenging to measure and attribute because numerous factors and counterfactual scenarios need to be considered. Moreover, NAIC is not the sole benefit. PRISMA is therefore developing a monitoring, evaluation and learning (MEL) framework that includes other benefits and more qualitative indicators, such as farmers' perceptions of improved service and product availability from kiosks.
- Collaboration with philanthropic organisations, such as Good Return can drive inclusive financing and increase women's access to financing. Loan guarantees provided by non-profit organisations can help to reduce the risk of FIs lending in new ways and to new groups.
- Multistakeholder partnerships can make the private sector work more effectively and efficiently. This will potentially lead to systemic change and resilience in the market. It was a proven case in the finance sector intervention when the program facilitated a partnership between FIs and agri-input companies to share their resources in providing services to farmers. Agri-input companies can get new potential customers from the FIs customer database and vice versa, while FIs customers can increase their GAP knowledge from trusted sources. This is an approach used by other sectors in PRISMA that includes fertiliser, dairy, cattle, and pigs and has proved highly effective.

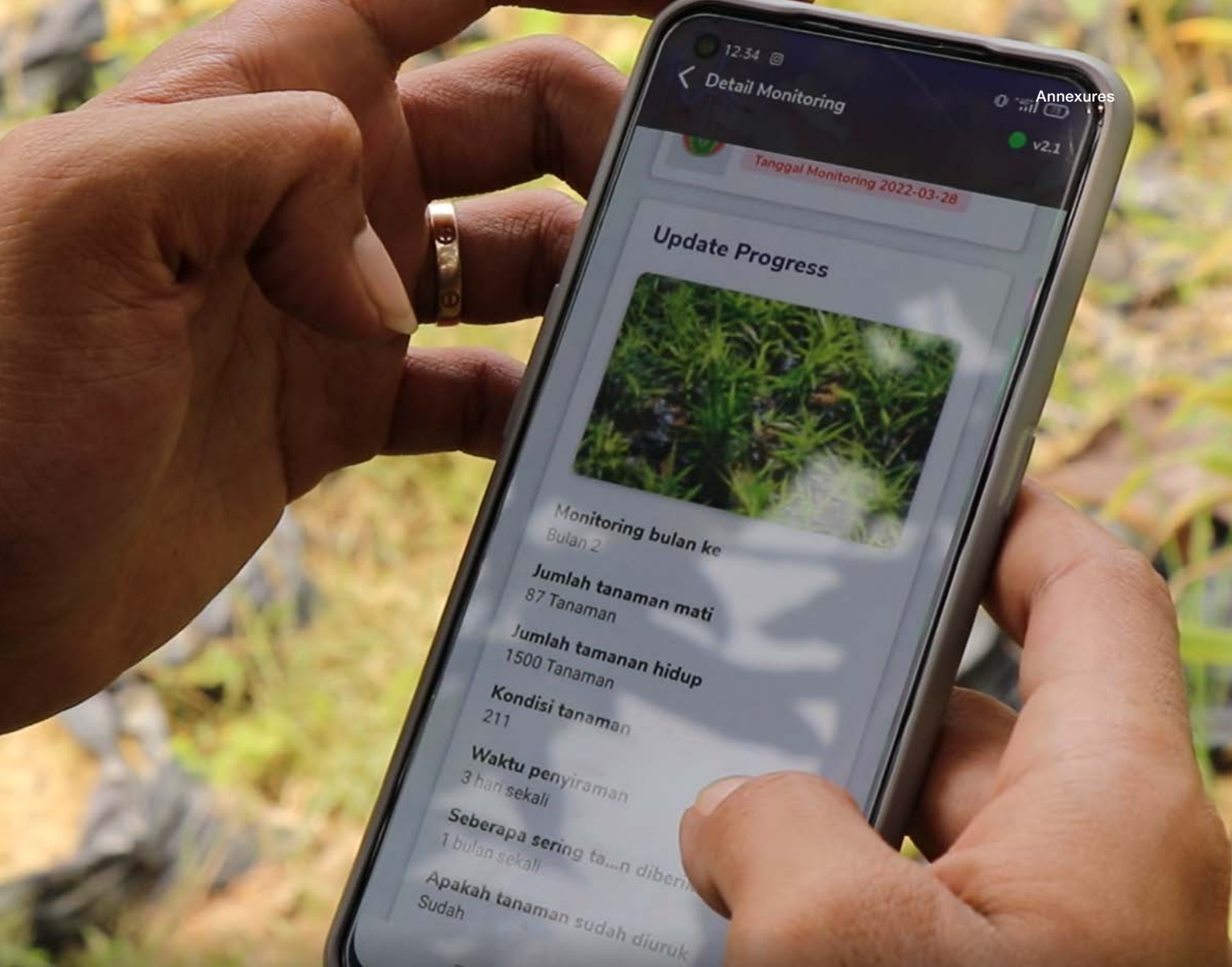
ICT

PRISMA's ICT and finance sectors aim to improve the ecosystem around agri-kiosks so that they become better managed, stocked, and informed. This will enable agri-kiosks to provide affordable, quality products and services on time. PRISMA will achieve this by engaging input companies and distributors to improve their kiosk platforms, distribute product-related information, and embed improved management information systems for inventory. In addition, PRISMA supports innovation in online veterinary services and smart irrigation, as well as the wider enabling environment through improved data sharing.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2022 (%)
 Actual cumulative outreach to Dec 2022 (HHs) 1,809	1,809	-
	Total NAIC up to Dec 2022 (IDR) 9.8 billion	Total projected NAIC to Dec 2023 (IDR) 9.8 billion

Value for money (VFM)		
 Investment leverage 0.05	 Investment per HH 588.52	 Social return 0.71



Constraints

Smallholder farmers lack access to information on GAP and other agricultural services, and the public sector extension services cannot provide universal coverage. Input and service suppliers are constrained in supplying GAP information and services via kiosks because they are unaware the opportunity exists, and economies of scale are perceived to be low. Although kiosks are perceived as credible information sources by smallholders, they lack a complete product line and enough stock on time due to the inefficiency of the supply chain.

Other innovations, such as online veterinary services and smart irrigation, are in their infancy and require development support.



Sector vision

Agri-kiosks become better managed, stocked, and informed to provide affordable, quality products and services on time. Smallholder farmers have better access to GAP information, inputs, and agri-services through ICT solutions in agriculture.



Market Function 1: **Input supply chain**

This semester, PRISMA supported Semaai, an agricultural startup that provides e-commerce platforms for kiosks to integrate an inventory management feature in their kiosk application. The feature helps kiosks to assess their current stock (e.g., inventory

status, fast-moving products, and idle stock) and estimate inventory requirements in the coming season. Semaai has already recruited app developers and is currently conducting user research to develop bookkeeping features for kiosks.



Market Function 2: **Agriculture information dissemination & marketing**

PRISMA supports input companies and distributors to provide agri-information to kiosks. This semester, PRISMA supported 2 partner companies (Semaai and Bayer) to develop GAP modules and social marketing media for kiosk owners. Semaai has utilised UD principles to reach women and people with disabilities. Bayer is producing a GAP

video to be embedded in its kiosk platform.

In addition, PRISMA is conducting a study to understand the behaviour of agri-kiosks, the role of men and women in kiosk operations, and their interactions with farmers. For smart irrigation, PRISMA is currently exploring locations for action research.



Market Function 3: **Digital agriculture ecosystem**

PRISMA signed a partnership with the Indonesian Veterinary Association to conduct market research on the demand for digital livestock health services. Based on the study findings, PRISMA will assist the Association in developing guidelines and a code of conduct for digital health service providers. PRISMA is also exploring a partnership with the Indonesian Center for Agricultural Land

Resources Research and Development to improve the accessibility of soil nutrient data to private and public sector actors. With PRISMA's support, the Center is analysing the demand for soil nutrient data from the private sector with a view to improving apps that support farmers, kiosks and extension workers to calculate their fertiliser requirements more accurately.



Challenges and Learning

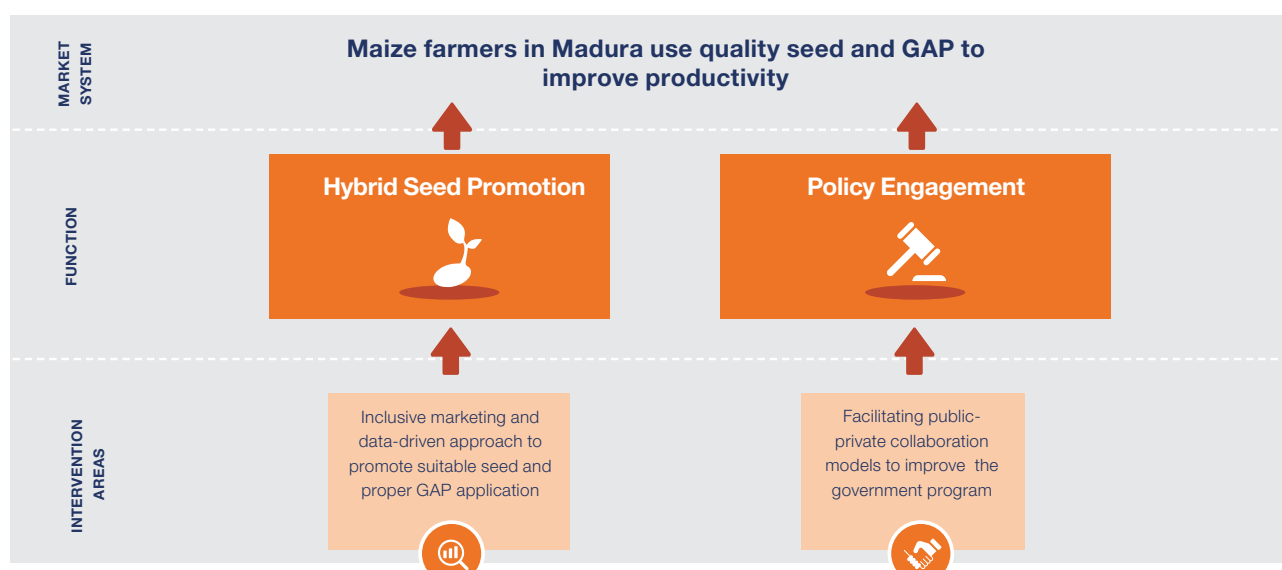
Differences in incentive structures across market actors and the restructuring of the Research Agency in MoA caused uncertainty and delayed progress in the ICT sector. The revised ICT strategy also poses challenges in measuring results at the farmer level. The perceived direct economic benefit might not be readily quantified; hence, a revised measurement framework is being developed focusing more on smallholder perceptions of quality improvements of kiosk products and services.


A commercial incentive is critical for kiosks to adopt an innovation. Any future initiatives must ensure tangible incentives before approaching kiosks. Working with startups proved challenging due to their vulnerability to shocks and externalities. There may not be sufficient time left on the program to develop contingency plans to adjust and adapt the strategy when it comes to start-ups.

MAIZE

MAIZE MADURA

There are more than 370,000 maize farmers in Madura Island, covering approximately 22 percent (292,000 hectares (Ha)) of the cultivation area in East Java. The government recently declared Madura, especially the Sumenep district, as one of the maize-producing hubs of Indonesia. This has been on the back of a lot of the work PRISMA partners have been doing in the area. However, the main challenge facing smallholder farmers is the low productivity at around 2.1 MT per Ha.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2022 (%)
 Actual cumulative outreach to Dec 2022 (HHs) 126,472*	126,472	401% ↑
	Total NAIC up to Dec 2022 (IDR) 398.8 billion	Total projected NAIC to Dec 2023 (IDR) 398.8 billion

*Following an internal attribution review for subsidy-related interventions, an adjustment was made to outreach to only claim subsidy recipients who were new users.

Value for money (VFM)



Investment leverage
2.68



Investment per HH
26.63



Social return
11.62



Constraints

Farmers in Madura lack access to commercial hybrid seed and knowledge about the benefits and GAP associated with using hybrid seed. While local governments have consistently promoted hybrid seed through subsidy programs, the adoption rate has been slow as the availability of hybrid seed in the commercial market is limited. The reasons are the inferior quality of the seeds, the absence of extension services, and delays in distribution. The subsidy planning has been inefficient and has often resulted in high overlaps between the subsidy recipients and existing commercial seed users. As a result, seed companies lack the incentive to expand to Madura.



Sector vision

The underperforming maize farmers in Madura will increase production and productivity by adopting hybrid seeds and applying GAP through improved collaboration between private players and government programs.



Market Function 1: Hybrid seed promotion

The hybrid seed market in Madura continues to grow. The private sector's continuous promotion, prolonged wet season and higher prices of maize contributed to the increasing demand for hybrid seeds. Most large seed companies (e.g., Syngenta, PT BISI International) have already achieved their sales target in Madura. Smaller maize companies are gaining momentum, although their production capacity is lower. Provided that the low level of subsidy and competitive price for maize grain continues, Madura's

commercial hybrid seed market will grow further in 2023.

One more company, PT Jafran, has independently entered the Madura market. With a new company crowded-in, there are now 7 seed companies promoting hybrid seeds and educating farmers in Madura. This is a significant change achieved in Madura since no established seed companies were operating in Madura before PRISMA's interventions.



Market Function 2: Policy engagement

The amount of subsidised seed in 2022 was comparatively lower, so the overlap with the commercial market was also low. Therefore, no significant policy influencing was required. To ensure continuity of good practices in

Madura, PRISMA is encouraging the district agriculture offices to develop an operational guideline on smart subsidy. The guideline is essential to increase hybrid seed adoption and grow the free market further.



Challenges and Learning

Hybrid maize takes more than 20 days to mature compared to the local variety of maize. The longer planting period impedes many farmers from adopting hybrid seeds. In the next semester, PRISMA plans to promote hybrid seed cultivation (e.g., relay cropping or maize for silage) to ensure a short planting period.

Government policy and planning on maize subsidies are not predictable. Maize companies plan their maize production one year ahead. The unpredictability of the government subsidy program makes it difficult for the private sector to respond to decreases in subsidies.

MAIZE CENTRAL JAVA

Following the sector review exercise in 2021, it was decided that Maize Central Java would be dropped as a separate sub-sector. However, some ongoing interventions continue as they serve a broader strategic fit for the maize sector.



Market Function 1: Policy engagement

This semester, PRISMA supported 4 local governments in developing the technical capacity of their public extension service workers. The training focused on the worker's communication skills in promoting innovations and GAP. PRISMA will collaborate with local governments to monitor the implementation of the post-training action plan in the following semester.

PRISMA also supported the provincial government in developing an operational guideline for a more effective subsidy system. The provincial government organised several workshops and sought relevant stakeholders' opinions on the current subsidy system.

The Sumenep local government, which had implemented a public-private collaboration for improved subsidies, opined for a better targeting and delivery mechanism for an improved subsidy system. The government research institutions also reiterated the importance of correct area targeting and suitable delivery mechanisms. The provincial government agrees that an operational guideline is needed as a regulatory framework for implementing seed subsidies. In December, the provincial agriculture office conducted a multistakeholder meeting to discuss the draft operational guideline. The document is expected to be finalised and signed in February.



Market Function 2: Hybrid seed promotion

PRISMA's partner, PT BISI International, halted updating its marketing strategy and massive promotional campaign to promote hybrid seed. This is because the

national demand for maize seed increased significantly due to high maize prices, and companies could achieve their sales target without doing marketing activities



Challenges and Learning

The inconsistent seed subsidy policy, commodity price inflation, and increasing fertiliser prices will affect farmers' ability and willingness to adopt hybrid seeds. However, the absence of a huge seed subsidy and the

continuing high prices of maize will push the demand for hybrid seed in the commercial markets. Many medium-sized companies will enter the market with their exclusive varieties and brands.

MAIZE EAST NUSA TENGGARA TIMUR

Maize NTT is a separate market system from Madura and Central Java because it presents a different set of market characteristics and constraints. Geographically dispersed farmers, poor infrastructure, fragmented supply chain, low private sector presence, and a high level of government interventions are common characteristics of NTT's maize market system. Most of the grain in NTT is used for human consumption and feeding HHs' livestock. Maize in Java and NTB mainly supplies livestock feed mills

Smallholder farmers in NTT have increased availability and properly use certified maize seeds and application of Good Agriculture Practice



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2022 (%)
Actual cumulative outreach to Dec 2022 (HHs)	40,836	115% ↑
40,006*	Total NAIC up to Dec 2022 (IDR)	Total projected NAIC to Dec 2023 (IDR)
	69.4 billion	69.4 billion

*Following an internal attribution review for subsidy-related interventions, an adjustment was made to outreach only to claim beneficiaries that had newly adopted GAP.

Value for money (VFM)



Investment leverage
3.21



Investment per HH
85.09



Social return
2.03



Constraints

Around 71 percent of the farmers (473,000 farming HH) in NTT are involved in maize production. However, maize productivity in the province is very low, with an average of 2.5 MT per Ha, far below the national average of 5.23 MT per Ha. Farmers have limited access to information and knowledge on GAP and limited access to certified seeds (open pollinated varieties - OPV or hybrid varieties). Local seed-producing nurseries mainly serve seeds for government subsidy programs rather than invest to reach commercial farmers. Meanwhile, the downstream maize market in NTT is limited to local off-takers supplying the traditional market and independent livestock farmers. Bigger off-takers struggle to procure local maize because of limited availability and poor quality.



Sector vision

PRISMA aims to increase the production and productivity of maize in NTT by improving the capacity of OPV seed producers (nurseries) for quality seed production and developing the commercial seed market, facilitating local governments in the development and implementation of their maize sector strategy, and promoting the provision of GAP information for farmers. Following the feasibility analysis of off-taking business opportunities, PRISMA will drop this function and focus on 3 market function areas to improve (1) quality, certified seed, (2) market supporting policy, and (3) information on GAP.



Market Function 1: Quality certified seed

This semester, 10 seed producers partnered with PRISMA to expand their seed business to the commercial market. PRISMA's support focused on business coaching by optimising seed producers' networks for seed promotion and distribution. This support will ensure business continuity after the partnership ends. The partnership is conducted through

the seed association to allow information sharing with other members on the benefits of serving the commercial market. Marketing commenced this semester. The partnerships allow more expansive areas to be served (including the western part of Flores and Sumba Islands).



Market Function 2: Market supporting policy

PRISMA collaborated with the Provincial Agriculture Office (DISTAN-KP) in NTT to ensure continuous access to parent seed and quality certification. In September 2022, PRISMA facilitated a discussion between DISTAN-KP, the Agricultural Technology Study Center (BPTP), and a representative of the association of seed producers to discuss

the challenges they face in expanding their business to the commercial market. The provision of parent seed and certification is also expected to benefit DISTAN-KP as a steady source of contribution to regional income. PRISMA is currently working closely to improve the production planning and procurement mechanism for parent seeds.



Market Function 3: Information on GAP

Public extension service workers remain essential to deliver GAP information to NTT farmers. This semester, PRISMA has supported DISTAN-KP and BPTP NTT to produce a technical module on good agricultural practices and the profitability of commercial maize farming. Yet the government's budget for training has been

repeatedly cut and reallocated as a response to more significant economic constraints. PRISMA decides to support DISTAN-KP in producing a learning video for public extension workers to ensure continuous access to GAP learning materials. The video is in the development process and will be disseminated in the following semester.



Challenges and Learning

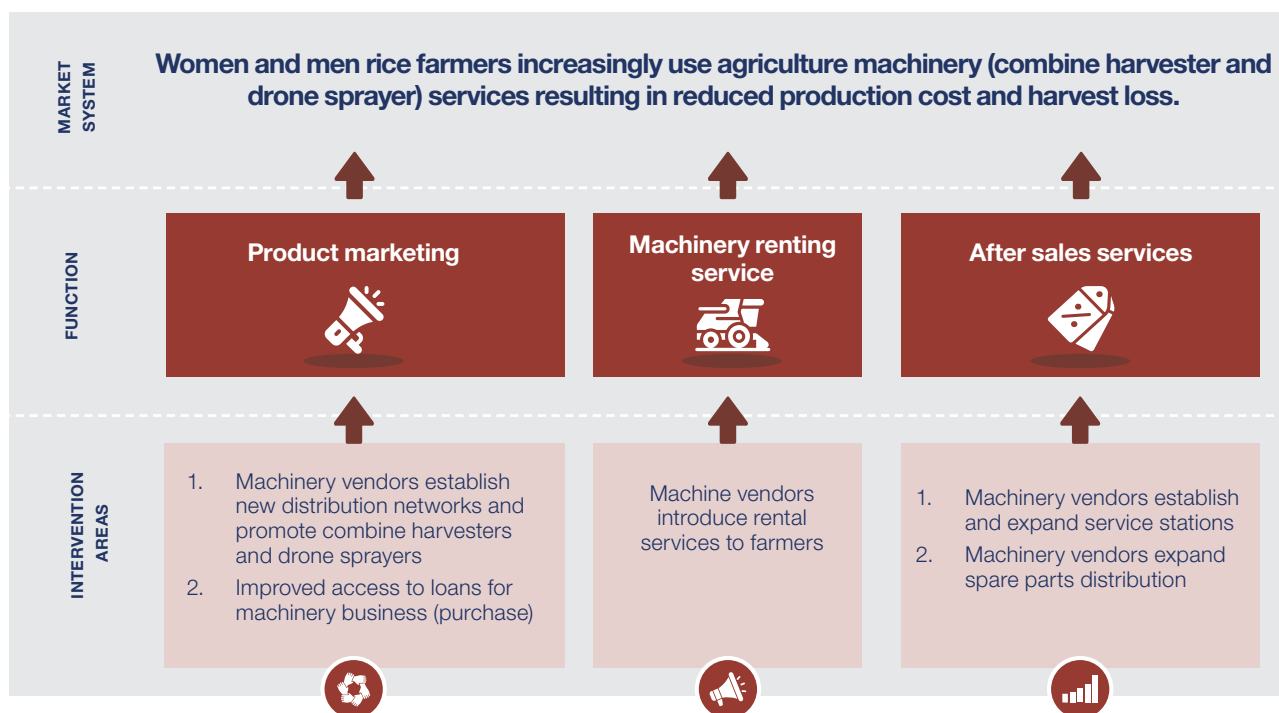
The partnership activities with seed producers have been delayed due to a lack of parent seeds in the dry season. PRISMA collaborated with one seed producer, CV TPM, to pilot the privatisation of parent seeds for the commercial market to provide an alternative supply for seed producers.

Through the presence of PT Seger Agro Nusantara (SAN), the commercial maize market in NTT continues to grow. Early

monitoring results showed that the connection to the Java feed market increased local maize prices in Timor during the primary harvest season. However, the benefit to local farmers varies depending on the value chain's length. SAN has decided to continue its business in NTT next year and has independently started to explore sourcing from other islands. PRISMA and SAN have agreed to extend the partnership period until Sep 2023.

MECHANISATION

MECHANISATION RICE



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

25,951

Cumulative outreach projected to Dec 2023 (HHs)

47,002

Total NAIC to Dec 2022 (%)

19% ↑

Total NAIC up to Dec 2022 (IDR)

33.93 billion

Total projected NAIC to Dec 2023 (IDR)

61.5 billion

Value for money (VFM)



Investment leverage

3.86



Investment per HH

36.53



Social return

3.65



Constraints

Smallholder farmers experience at least 14 percent harvest loss due to manual harvesting. Using manual labour also increases production costs and often deteriorates the quality of rice and maize grains. There is no significant adoption by smallholder farmers of mechanised solutions. This is due to the machinery companies focusing on the government market and providing limited or no after-sales support. The machinery businesses focus on sales to the government as they do not see a market in smallholder farming.



Sector vision

Smallholder farmers will have access to and use agricultural machinery services (combine harvesters and drone sprayers) to increase income by reducing production costs and harvest loss. PRISMA will achieve this by supporting machinery companies to promote machinery access to smallholder farmers, introduce renting models, and improve after-sales services.



Market Function 1: Product marketing

The agriculture machinery market is increasing. PRISMA's partners have strengthened their commercial strategy and reached many smallholder farmers with mechanised solutions. Due to the increasing demand, 4 partner companies have expanded their operations in East Java, Central Java, and NTT. PT Rutan Machinery (Rutan) continues expanding its promotional activities to more areas. Four new partners started developing new distribution networks and promoting combine harvesters. PT Zoomlion Indonesia entered the retail market in Central and East Java after years of selling generic machinery through government subsidy programs. The 2 Kubota® dealer partners, PT Pilar Putra Teknik and CV Putra, have expanded their market coverage in NTT and East Java.

Machinery companies have further adapted their commercial strategies and are diversifying their offers. PT Rutan strengthened its commercial strategy through a machine trade-in program targeting its existing combine harvester owners. The program offers a trade-in scheme for old machinery in exchange for the new Crown™ machinery.

Companies observed demand for new types of machinery, such as paddy reapers. PT Galaxy has introduced a paddy reaper that works better in areas where farmers prefer harvesting whole paddy straw for cattle feed. CV Argo Jaya, one of the Kubota® machinery dealers, has received the best sales activity award from Kubota Machinery Indonesia for the second year running. In addition, it also received the award for 'Best Digital Marketing Activity.'

PRISMA observed at least 2 companies crowding-in this semester and competing with partner companies. PRISMA's partnership with PT Rutan and CV Argo Jaya in East Java has successfully induced this crowding-in. Argo Jaya encountered at least 2 competing brands, Maxxi and Yanmar, operating in the same territory.

Non-competing market players have responded to support the agricultural machinery business. With PRISMA's facilitation, PT Rutan and PT Terra Agro Digital partnered with Bank Mandiri in Central Java. This collaboration will open new capital financing opportunities for machinery companies.



Market Function 2: Machinery renting service

With the increased demand for mechanisation, rental companies began growing their fleet and offering services before and beyond the harvesting season. The increasing demand for rental services also encouraged drone spraying services to emerge. The rental business of Terra Agro Digital (TAD) has increased by more than 300 percent since 2022. TAD now serves more than 25 districts in East Java, Central Java, and NTB. TAD introduced pre-harvest services and a full-mechanisation package.

TAD also partnered with PT Karya Solusi Angkasa (FDS) to build TAD's capacity to utilise drones for spraying.

Drone spraying companies offer more attractive schemes for potential resellers or service providers to increase service adoption. FDS upgraded its drone ownership program (DOPE) to a more customised business plan for newcomers in the drone service business. Another drone Partner, Halo Robotics, continues promoting its drone spraying service in Central Java.



Market Function 3: **After-sales services**

Machinery companies continue increasing after-sales service by adding more outlets and offering attractive schemes to increase the availability of spare parts. PT Rutan partnered with a local spare part shop, Samudra Combine, in Central Java. They plan to broaden their coverage of smaller machinery and tools. In addition, to improve the stock level, Rutan offers a new consignment scheme to its partners.

Argo Jaya currently implements on-farm and off-farm after-sales programs. The on-farm program is offered during the peak

season when machinery is fully utilised for harvesting. The workshop team deploys a service car to move around the area to address repair calls. The off-farm program is designed to advise dealers and machinery owners about maintenance during the break period.

CV Bintang Kayla Makmur opened its store in Nganjuk, selling genuine and generic spare parts for combine harvesters.

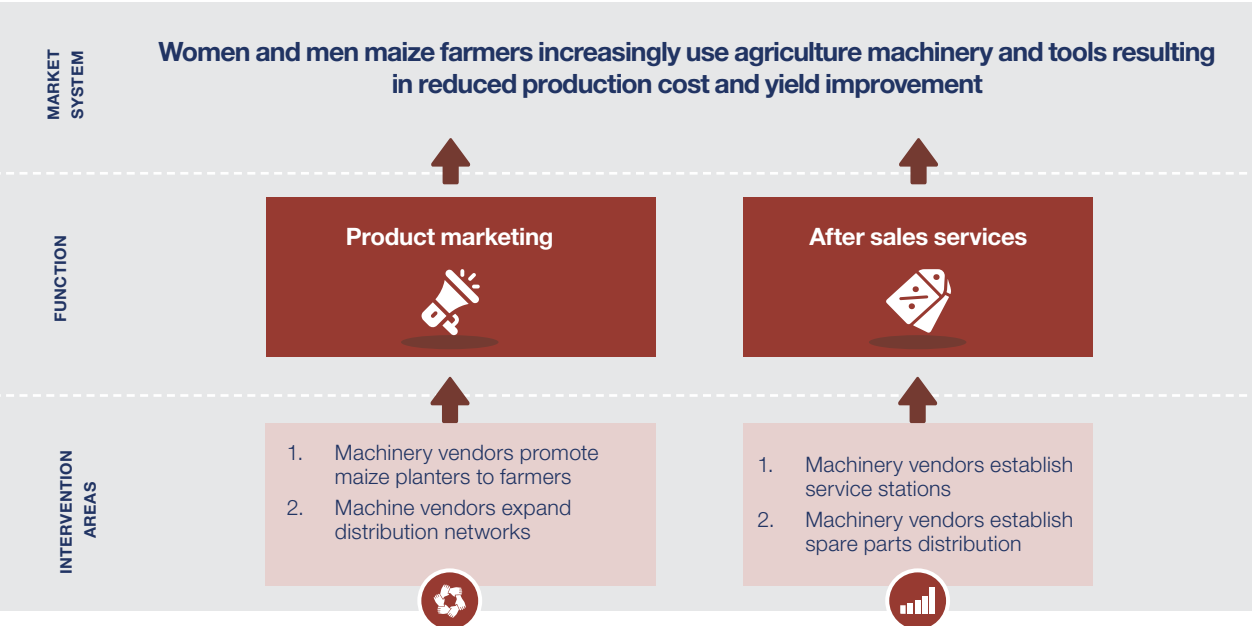



Challenges and Learning

A 30 percent fuel price hike by the government has posed a threat to the increased adoption of mechanised solutions. On average, the rice harvester consumes 14 litres of fuel per hectare, and the fuel increase adds at least IDR23,000 additional cost per hectare. While some machinery service providers plan to adjust renting prices gradually, smallholder farmers may delay adopting mechanised solutions due to the increased price.

Difficulty in aggregating demand, lack of trust in the new technology, and lack of skilled drone pilots resulted in the slow adoption of drone spraying services. Moreover, sprayer drones have yet to be categorised as agricultural machinery and tools, which excludes them from the government KUR financial scheme.

MECHANISATION MAIZE



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2022 (%)
 Actual cumulative outreach to Dec 2022 (HHs) 1,063	10,000	28%
	Total NAIC up to Dec 2022 (IDR) 2.1 billion	Total projected NAIC to Dec 2023 (IDR) 20.1 billion

Value for money (VFM)



Investment leverage
3.86



Investment per HH
36.53



Social return
3.65

* VFM for rice and maize mechanisation is not reported separately





Constraints

Maize farmers in Central Java, East Java, and NTB depend heavily on labour during the planting and harvesting seasons. With scarce rural labour, farmers experience increased production costs and harvest loss. However, the adoption and use of machinery are not widespread due to machinery companies not focusing on this commodity segment. Also, private companies lack strategic insights into how to tap into this market segment.



Sector vision

PRISMA's vision for smallholder maize farmers is to have access to and use machinery and tools (maize planters) to increase incomes by reducing production costs and improving yield. PRISMA will achieve this by supporting machinery companies to promote machine access to smallholder farmers and improve after-sales services



Market Function 1: Product marketing

PRISMA's partner companies have launched massive promotional campaigns and introduced combine harvesters for maize farmers. All partners introduced a new combine harvester, which is faster and more effective in reducing grain loss. Companies are also adopting new marketing channels

to reach more farmers. PT Galaxy Partani Mas launched a maize combine harvester and promoted it through online platforms. PT Rutan targeted women farmers for its planter products. Rutan produced videos with product features and operating and maintenance instructions for women farmers.



Market Function 2: Machinery renting service

At least one company introduced after-sales services for maize machinery and tools this

semester. PT Galaxy provided spare parts and after-sales services in all branches.



Challenges and learning

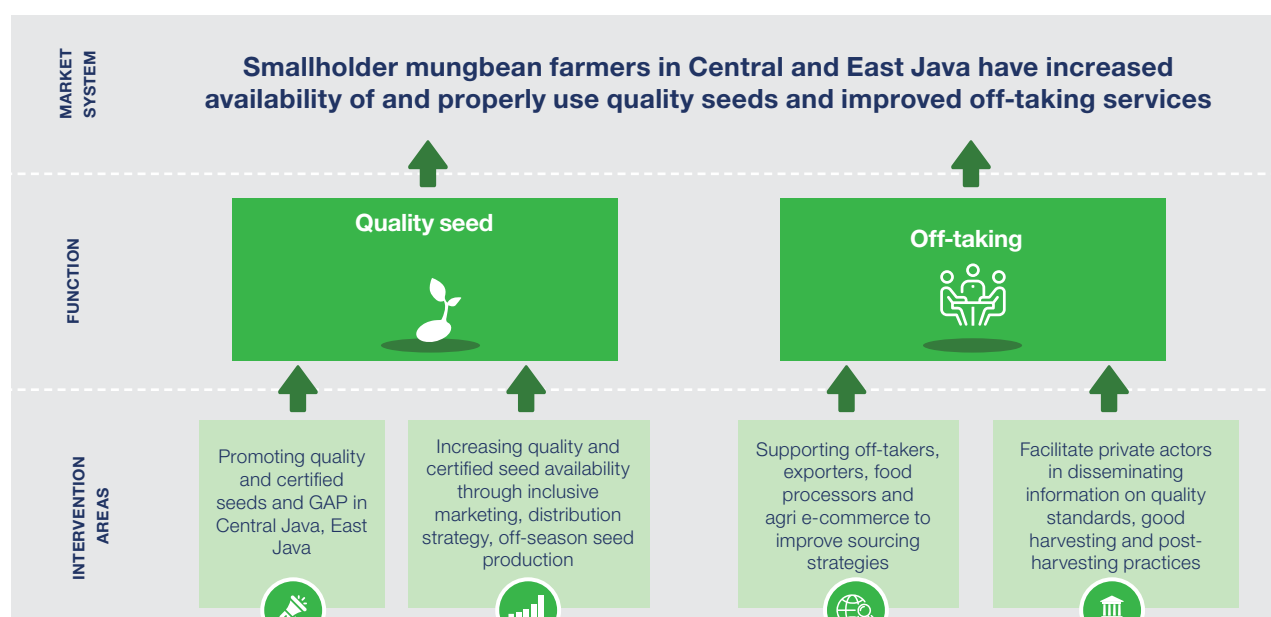
The higher cost of producing an advanced maize harvester causes slow adoption by maize farmers. The current process of

converting a rice harvester into a maize harvester incurs high grain loss.

MUNGBEAN

MUNGBEAN IN EAST JAVA AND CENTRAL JAVA

Mungbean is an essential crop in Indonesia and is key for food security having high nutrients and the ability to endure drought. The national production has yet to fulfil the demand for mungbean consumption, especially for the food processing industry.



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

44,052

Cumulative outreach projected to Dec 2023 (HHs)

93,302

Total NAIC to Dec 2022 (%)

46% ↓

Total NAIC up to Dec 2022 (IDR)

82.6 billion

Total projected NAIC to Dec 2023 (IDR)

199.6 billion

Value for money (VFM)



Investment leverage

1.15



Investment per HH

51.07



Social return

3.67



Constraints

Indonesia imports over 102,000 MT of mungbeans because domestic productivity is low. The reason for this is the lack of high-yielding seed, poor GAP application, and reliance on retained seed resulting in an average yield of 1.078 MT/Ha compared to the optimum productivity of 2 MT/Ha with certified seed. There is a low rate of commercialisation by foundation seed producers leading to insufficient availability in the market. This situation does not allow seed nurseries and producers to effectively multiply the production time for certified seeds.



Sector vision

PRISMA will address the market constraints by adopting certified quality seed and GAP through improved marketing and encouraging additional mungbean seed players to enter the market. PRISMA aims to improve the downstream mungbean market development by connecting relevant market players.



Market Function 1: Quality seed with GAP

This semester, PRISMA partners have shown increased ownership, adaptation and resilience in the mungbean seed business. Although the prolonged wet season hampered seed production, partner companies identified alternative areas to continue producing seeds. For example, CV Bunga Tani Sejahtera started producing in Kupang, NTT, while CV Semi has started sourcing from Kendal, Central Java. Despite the challenges in mungbean production and farming, market players continue to increase seed production.

CV Bunga Tani Sejahtera received accreditation from the national certification institution to self-certify mungbean seeds. This move shortened the certification process

from 3 weeks to less than one. CV Bunga Tani Sejahtera has also hired and trained a woman as field staff to improve farmers' acceptance in Madura.

CV Semi invested an additional AUD85,924 for a new warehouse and drying machines to process and store quality seeds. This will support CV Semi to achieve a 300 percent growth over the next 3 years. Another new partner, CV Luwes Tani, invested in expanding its seed business to underserved markets in Central Java.

A new seed producer has also crowded-in due to PRISMA's intervention. Mama Diez started producing Vima 3 seeds in 11 Ha and plans to expand every year.



Market Function 2: Off-taking (downstream market)

After presenting an intervention plan for off-taking, PRISMA is now conducting research to understand the off-taking function better.

Without formal partnerships, attempts to link upstream and downstream actors are ongoing.



Challenges and learning

After facing rat attacks in the main season of 2021, mungbean farmers and seed producers faced a prolonged wet season. The wet resulted in failed production in most places, and some who succeeded in producing only achieved low-quality seeds. These consecutive failures have led some producers to diversify production to NTT and the highland areas of Central Java.

Another challenge is the declining quality and quantity of parent seeds. The foundation seed produced by government research institutions has an inconsistent and deteriorating rate of purity and uniformity and is insufficient in amount. As a result, seed producers find it difficult to meet market

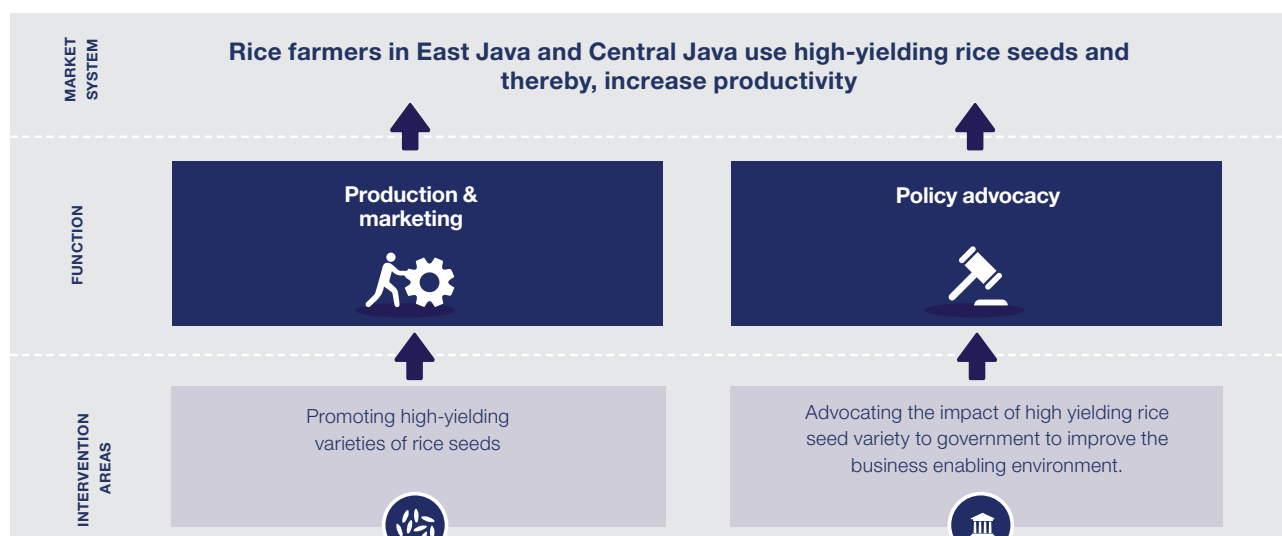
demand. PRISMA is working with seed producers to increase the mungbean supply and pilot the propagation of parent seeds in Indonesia.

Off-takers and importers have difficulty securing mungbean supplies on the downstream market. Myanmar, the largest mungbean exporter, faced domestic challenges that impacted its international trade. While this opened an opportunity for domestic mungbean to fill the gap, production challenges have made it difficult. PRISMA will continue monitoring the changes in the international and domestic context.

RICE

RICE IN EAST JAVA AND CENTRAL JAVA

East and Central Java are the 2 largest rice producers in Indonesia in terms of yield, harvest areas, and number of farming HHs. There are more than 5 million paddy-cultivating HHs across these provinces, contributing more than 35 percent of total national rice production.



Indicator		Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2022 (%)
<p>Actual cumulative outreach to Dec 2022 (HHs)</p> <p>16,346</p> <p>14,879 8,328*</p>		113,868	15%
		Total NAIC up to Dec 2022 (IDR)	Total projected NAIC to Dec 2023 (IDR)
		18.0 billion	165.5 billion

Value for money (VFM)



* Individual female farmers are calculated from Beneficiary x Average Household member who are farmers (HH Ratio) x Female Farmer percentage



Constraints

Despite being one of the biggest producers and consumers of rice in the world, Indonesia's rice productivity level has stagnated at around 5.1 - 5.2 tonnes per hectare in the past few years. Many variables contribute to productivity, but better-quality seeds play a significant role in Indonesia's journey towards higher rice production.

Smallholder farmers have limited access to HYV due to the limited number of seed companies producing HYV seeds and the lack of support from the government in increasing the adoption of good quality seeds in the government program.



Sector vision

PRISMA will increase the productivity of rice smallholder farmers in East and Central Java by progressively shifting old seed varieties to new HYV. PRISMA works with key seed producers to produce, promote, and educate farmers on the benefits of using HYV. In parallel, PRISMA is engaging the government to boost the procurement of HYV in their programs by providing enough evidence and recommending concrete actions for relevant policy stakeholders to improve farmers' access to HYV.



Market Function 1: **Production & marketing**

PRISMA supported 3 new seed producers this semester to produce and promote high-yielding rice varieties. PRISMA has also supported 2 existing partners, PT Botani Seeds Indonesia (Botani) and Agrosid, to increase seed production and disseminate GAP information.

Agrosid has adjusted its market expansion strategy and adapted its business model further. Agrosid has extended its distribution networks beyond the contractual agreement to NTB, NTT and West Java. PRISMA helped Agrosid implement a new seed production method. After the trial production with mini transplanters, Agrosid demonstrated increased ownership and replicated the technique in other production areas. The new

method has reduced production costs by 28 percent.

Agrosid is also developing a monitoring tool to assess its promotional activities, which will improve the effectiveness of its strategic marketing activities. The new technique also helps reduce labour costs and addresses the labour shortage during the peak season.

PT Botani continued to increase its production capacity. With PRISMA's support, the company will increase production by up to 300 tonnes and widen the company's distribution networks.

A hybrid seed producer crowded-in this semester after seeing the success of Agrosid.



Market Function 2: **Policy advocacy**

PRISMA continued engaging the government to boost the procurement of HYV in its programs. This semester, PRISMA worked with LPEM FEB UI and PSEKP to advocate for the MoA and other relevant government stakeholders to update the procurement criteria of the free seed program. After

completing a study to assess the effectiveness of the government's free seed program, LPEM disseminated the findings to all relevant stakeholders. PSEKP also held a symposium to discuss the urgency of endorsing strategies and policies that boost HYV adoption by farmers.



Challenges and learning

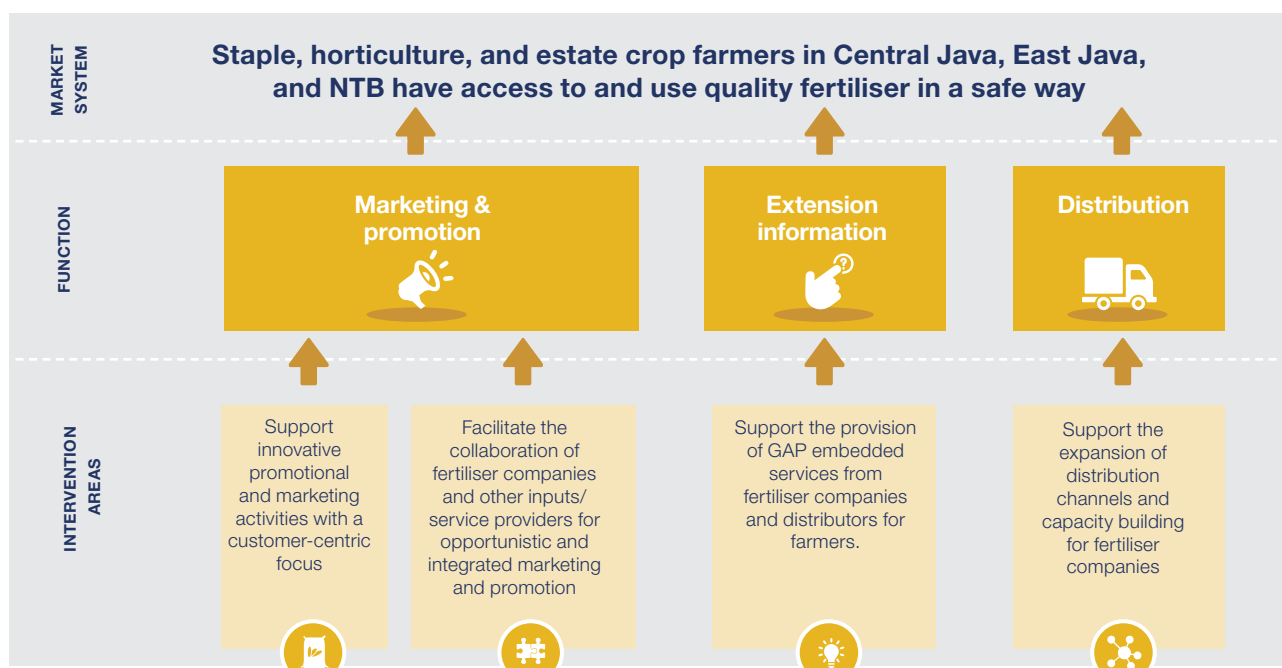
Farmers follow a test and trial approach in adopting GAP. Rice farmers take at least 2 planting seasons to implement the desired GAP, and seed characteristics vary across 2 seasons. This implies that the seed producers need at least a year to educate farmers and change their behaviour.

The charter of the MoA has changed and it is no longer responsible for promoting new rice seeds. This may impact the progress of PRISMA's policy advocacy work.

SOIL TREATMENT

SOIL TREATMENT (PROGRESS AGAINST MSS)

Indonesia's fertiliser market consists of both subsidised and non-subsidised (commercial) fertiliser, with the former accounting for around half of sales. Although demand rose at a cumulative rate of 7.41 percent from 2018-2021, supply still only covers 68 percent of national demand. In many areas, farmers over-apply fertilisers, especially urea, which adversely affects soil quality and does not increase yields.



Indicator



Actual cumulative outreach to Dec 2022 (HHs)

159,774



281,346



158,300*

Cumulative outreach projected to Dec 2023 (HHs)

315,375

Total NAIC up to Dec 2022 (IDR)

1.4 trillion

Total NAIC to Dec 2022 (%)

69%

Total projected NAIC to Dec 2023 (IDR)

2.74 trillion

Value for money (VFM)



Investment leverage

15.82



Investment per HH

11.48



Social return

78.23

* Individual female farmers are calculated from Beneficiary x Average Household member who are farmers (HH Ratio) x Female Farmer percentage



Constraints

Major constraints in the sector include 1) limited and untimely availability of subsidised fertiliser as the subsidy system lacks efficiency; 2) limited supply of quality commercial fertiliser as the private sector is reluctant to invest in commercial market expansion due to a lack of market intelligence and prevalence of subsidised fertiliser; and 3) farmers' lack of awareness on the benefits and correct application of quality fertiliser, including GAP.

This has been exacerbated by higher fertiliser prices due to global supply-chain disruptions from COVID-19 and the Russia-Ukraine war. This has made commercial fertiliser less affordable, driving down demand.



Sector vision

PRISMA's vision is to increase the availability and use of high-quality commercial fertilisers in all targeted provinces. This will be achieved through working with private and state-owned enterprise (SOE) fertiliser producers in East Java, Central Java, NTB, and other areas. Fertiliser producers and distributors/retailers will offer a variety of fertilisers (both organic and chemical) through innovative marketing and promotional strategies and provide information on good fertilising practices (GFP).



Market Function 1: Marketing and promotion

This semester, PRISMA's partner companies invested further in expanding their business models in the non-subsidised (commercial) market. PT Inbio integrated sales and marketing training into its national strategies and trained all core sales staff. Partner companies also used new marketing channels to reach more farmers with products and services. For example, PT Agrotama has redesigned its information, education and communication materials and produced videos on crop profiles to educate farmers quickly. PT Inbio used the local radio

in Central Java to share information on GAP and proper usage of liquid bio-fertiliser. PT Saprotan bundled its products with drone application services and offered them to the farmers who bought PT Saprotan fertilisers or crop protection products. PT Petrokimia continued to conduct joint promotional activities with other market actors through the Agro Solution/Makmur Program. PT Petrokimia collaborated with 20 off-takers in Central Java, East Java, NTB, and other locations to promote commercial fertilisers with GAP information.



Market Function 2: Extension information

PRISMA's partners continued educating farmers on GFP during marketing activities such as field days or farmers' meetings. Some companies are also exploring alternative channels and approaches to educate farmers. PT Petrokimia established a 'Taruna Makmur' unit to provide technical assistance to farmers involved in the Makmur Program. PT Bio Agromitra produced field booklets with crop profiles and

recommendations on the balanced nutrient application for staple and horticulture crops. The field booklets will be used by PT Bio Agromitra's agronomists and field agents and will also be available in kiosks. Similarly, PT Saprotan produced flipcharts containing information regarding GFP and new products, which will be used by PT Saprotan's agronomists and field assistants during field meetings in demo plot areas.



Market Function 3: Distribution

This semester, PRISMA partners continued expanding their sales and distribution networks. PT Agrotama has engaged 2 new distributors in East Java and Central Java, hired 2 additional staff, and expanded to 11 districts in East Java, Central Java, and Bali. PT Inbio has also expanded to 3 new districts in Central Java and hired an agronomist and

commercial fertiliser manager to expand its market for liquid bio-fertiliser. PT Bio Agromitra has reinstated its activities in East Java and expanded to 3 new districts. PT Petrokimia also continued building new distribution channels throughout East Java, Central Java, and NTB by working with 20 distributors this semester.



Challenges and learning

The increased fertiliser prices have driven down the demand for commercial fertilisers. The global supply chain will continue to be disrupted and contribute to the slow adoption at the farmer's level. PRISMA's regular survey found that 42 percent of farmers have reduced the usage of chemical fertiliser due to high fertiliser prices.

GOI has also reallocated the fertiliser subsidy strategy and dropped a few fertilisers from the list. This has incentivised fertiliser companies to increase their production capacities.



Annex 2: Annual workplan per sector

Beef (progress against MSS)



EXPECTED MARKET CHANGE:

- » Commercial cattle feed is more accessible and affordable with more animal feed producers selling certified, high-quality and affordable feed varieties.
- » Pharmaceuticals, biosecurity products and animal health services for ruminants are more accessible and affordable with embedded information on good cattle farming, biosecurity and business practices for farmers.
- » Small-scale farmers in NTT can access alternative markets in cattle trade.
- » Animal feed regulations are more flexible and inclusive, including standards, feed production and distribution, laboratory testing and supervision.

Province	Districts	Partners	
East Java	Blitar, Kediri, Jember, Bondowoso, Situbondo, Probolinggo, Bangkalan, Sumenep, Tulungagung, Nganjuk, Trenggalek, Malang	KJUB Puspetasari	PT USFA Vet Farm
		UD Munir Jaya	PT Cipta Ternak Sehat
		CV Fermen Hipro	PT Medion Ardhika Bhakti
		PT Sreeya Sewu	
	Tuban, Mojokerto, Jombang, Lumajang, Sampang, Pamekasan.	PT Sinta Prima	
Central Java	Wonosobo, Magelang, Boyolali, Karanganyar, Sragen, Grobogan, Rembang, Jepara, Semarang, Kendal, Tegal, Kebumen, Wonogiri, Blora, Rembang, Pati, Jepara, Brebes, Klaten.	KJUB Puspetasari	PT Sinta Prima
		UD Munir Jaya	PT USFA Vet Farm
		CV Fermen Hipro	PT Cipta Ternak Sehat
		PT Sreeya Sewu	PT Medion Ardhika Bhakti
NTB	Central Lombok	PT Sreeya Sewu	
		UD Munir Jaya	
		PT USFA Vet Farm	
		PT Cipta Ternak Sehat	
NTT (in the pipeline)	Kupang, North Central Timor (TTU), Belu	To be explored	
National (SNI)	National		



FUNCTIONAL AREA 1: Feed

Expected activities:

- Continue to support partners in building organisational capacity, including capacity building for marketing personnel and database management.
- Link partners with universities to improve feed formulation to comply with the SNI.
- Support and encourage partners to expand their distribution network in new areas, especially after the adoption of the new SNI.
- Assist partners to scale up hybrid marketing activities both offline and online.
- Support partners' product and business diversification based on cattle farmer needs.
- Link partners with other market actors such as pharmaceutical companies, off-takers, financial institutions, insurance companies, and farmer groups.
- Conduct a market assessment in other cattle provinces to support the expansion of the partners' businesses.
- Conduct animal feed studies and trials to produce environment-friendly feed.



FUNCTIONAL AREA 2: Animal Health

Expected activities:

- Continue to support partners in building the capacity of marketing and technical personnel, improving marketing and promotion strategies, and establishing distribution networks to get their products to farmers.
- Facilitate more inclusive collaboration among pharmaceutical and feed partners to develop and expand their animal health businesses.
- Support and encourage partners to expand their distribution networks in new areas by providing market insights and networks.
- Facilitate partners with government programs and their extension agents.
- Support the government (Bappenas, East Java and Central Java) launch and better use the FMD cost-benefit analysis report and guidelines.



FUNCTIONAL AREA 3: Supply Chain

Expected activities:

- Conduct a cattle supply chain assessment in NTT, including exploration of potential partners and local regulations.
- Business model testing (proof of concept).
- Share the business model with other market players.



FUNCTIONAL AREA 4: Policy (Feed SNI)

Expected activities:

- Support the MoA and BSN to launch and implement the new SNI.
- Facilitate linking feed companies, especially SMEs, with universities or experts to help their SNI compliance.
- Support and encourage feed companies, especially SMEs, to obtain a feed registration number.
- Support feed companies, especially SMEs, to comply with good feed manufacturing practices.

Crop Protection



EXPECTED MARKET CHANGE:

- » Farmers increasingly use safer pesticides and other products (chemicals and bio) appropriately (right target, right type, right timing, right dosage/concentration, right application) resulting in reduced harvest loss and increased productivity.
- » The business model of crop protection producers includes farmers' and retailers' education on good crop protection practices.
- » Crop protection producers promote safer and more effective formulations.
- » Input suppliers promote commercially viable bio-pesticides, water treatment, soil treatment, and pesticide reductants.

Province	Districts	Partners
East Java	Banyuwangi, Batu, Blitar, Bojonegoro, Bondowoso, Gresik, Jember, Kediri, Lamongan, Lumajang, Madiun, Magetan, Malang, Nganjuk, Ngawi, Pamekasan, Pasuruan, Ponorogo, Probolinggo, Sampang, Situbondo, Sumenep, Trenggalek, Tuban, Tulungagung	PT Agricon Indonesia PT Bina Guna Kimia (PT FMC) PT UPL Indonesia PT Etong Chemical Indonesia
Central Java	Banjarnegara, Banyumas, Blora, Boyolali, Brebes, Cilacap, Demak, Grobogan, Karanganyar, Kendal, Klaten, Kudus, Magelang, Pati, Pekalongan, Pemalang, Purworejo, Sragen, Sukoharjo, Surakarta, Tegal, Temanggung, Wonogiri, Wonosobo	PT Agricon Indonesia PT Bina Guna Kimia (PT FMC) PT UPL Indonesia PT Etong Chemical Indonesia



FUNCTIONAL AREA 1: Knowledge & Information

Expected activities:

- Support partners in raising staff capacity to better train and educate farmers and kiosks on good crop protection practices.
- Work with partners in utilising online channels to better disseminate knowledge and information and promote products to farmers and kiosks.
- Support partners to include farmers' education in staff KPIs.



FUNCTIONAL AREA 2: Marketing and Communication

Expected activities:

- Strengthen the capacity of crop protection companies to promote safer pesticides.
- Support partners in promoting safer pesticides, alternative crop protection methods, and good crop protection practices.
- Consult with partners on embedding farmers' training and education in online and offline marketing strategies, promotional activities, and materials.
- Work with partners in utilising online channels to better disseminate information and promote products to farmers and kiosks.
- Work with partners and non-partners in understanding and disseminating the benefits of using information-embedded marketing compared to the sales approach.



Dairy



EXPECTED MARKET CHANGE:

- » More feed producers are selling certified, high quality and affordable feed varieties (which meet the requirements of the life and production cycle of the cows) with embedded information on good husbandry and business practices for dairy farmers.
- » Pharmaceuticals, biosecurity products and animal health services for ruminants are more accessible and affordable.
- » Adaptive dairy breeds and breeding materials are accessible to dairy industries and cooperatives.
- » Dairy processing industries are providing embedded services on good dairy production and milking practices to dairy cooperatives and farmers in collaboration with input providers.

Province	Districts	Partners
Central Java	Banyumas, Boyolali, Klaten, Semarang, Salatiga	PT Nufeed International Indonesia PT Agroveta Husada Dharma PT Medion PT Sinta Prima PT Sarihusada Generasi Mahardhika
East Java	Pasuruan, Malang, Tulungagung, Probolinggo, Kediri, Lumajang, Mojokerto, Blitar, Ponorogo	PT Medion PT Sinta Prima CV Sinar Mentari Group
National	National	PISAgro Bitpro, the MoA (policy: breed; Bapokting policy (on staples and important commodities) for milk



FUNCTIONAL AREA 1: Feed

Expected activities:

- Continue to support partners in growing the market for their diversified products based on cow production and life cycle, and farmer segmentation.
- Enhance distribution channels to provide good-quality feed and information services for farmers.
- Support and encourage partners to expand their distribution network in new areas, especially after the adoption of the new SNI.
- Support on developing education tools (online and offline) regarding good dairy practices.
- Facilitate collaboration with other dairy market actors (pharmaceutical companies, off-takers, insurance, government).



FUNCTIONAL AREA 2: Animal Health

Expected activities:

- Support partners in enhancing their technical capacity and understanding of dairy cattle and the market.
- Improve distribution channels to increase farmers' access to pharmaceuticals, biosecurity products and vet services.
- Support for developing education tools (online and offline) regarding good dairy production and milking practices.
- Support and encourage partners to expand their distribution networks in new areas by providing market insights and networks.
- Facilitate partners to collaborate more effectively with government programs and their extension agents.
- Facilitate collaboration with other dairy market actors (feed, off-takers, insurance government).



FUNCTIONAL AREA 3: Off-taking

Expected activities:

- Support partners to enhance the capacity of staff and their milk suppliers (cooperatives and farmers).
- Support partners to develop information, education and communication materials for cooperatives and farmers on good dairy production and milking practices.
- Pilot Jersey cows and measure their performance.
- Support partners to set up a traceability, recording and payment system at the cooperative level.
- Facilitate inclusive collaborations with other market players (feed, pharmaceuticals, insurance, government).



FUNCTIONAL AREA 4: Policy (Breed)

Expected activities:

- Continue to support Bitpro and the MoA in implementing the Jersey roadmap and guidelines.
- Link DPLs, co-ops and farmers to Jersey cattle market networks, and provide information as needed.
- Conduct national workshops in collaboration with associations to promote policy change (milk for the Bapokting policy, access to Jersey cows, etc.).

Innovative Finance



EXPECTED MARKET CHANGE:

- » Financial institutions disburse financial products to agri-kiosks and other agri-SMEs.
- » More kiosks can maintain, widen and grow their stock availability (quality, quantity, range), and provide services to farmers.
- » More kiosks can provide formal and informal credit terms of payment to smallholders.
- » Policy makers and influencers are better equipped to improve the SME lending environment.

Province	Districts	Partners
East Java	Jombang, Malang, Probolinggo, Ponorogo, Blitar, Malang, Jember, Madiun, Trenggalek, Lamongan, Bojonegoro, Banyuwangi, Tuban	PT Crowde Membangun Bangsa PT Reyhan Putra Mandiri PT Permodalan Nasional Madani PT Bank Mandiri HQ
Central Java	Purworejo, Brebes, Semarang district, Grobogan, Demak, Banjarnegara, Wonosobo, Sragen, Cilacap, Purwokerto, Purbalingga, Temanggung, Solo, Semarang, Pekalongan, Blora	PT Reyhan Putra Mandiri PT BISI International PT Permodalan Nasional Madani PT Bank Mandiri, Tbk Sinarmas (Syariah) BNI
West Nusa Tenggara	Sumbawa, West Sumbawa, Bima, Dompu, Central Lombok, North Lombok, East Lombok, West Lombok	PT BISI International PT Reyhan Putra Mandiri
East Nusa Tenggara	East West Sumba, Manggarai	PT BISI International



FUNCTION 1: Kiosk Financing

Expected activities:

- Continue to support PT Permodalan Nasional Madani's expansion of agricultural financing: improving customer acquisition through linkages between ULaMM (SME segment) and Mekaar (ultra-micro segment); facilitating market linkages with agricultural input companies and off-takers to improve the business scale.
- Closure of the partnership with PT BISI International; facilitating linkages with financial institutions such as banks and insurance companies to optimise their agri-input financing strategies.
- Conduct an agri-kiosk landscaping study across West Java, Central Java, East Java, Lampung and South Sulawesi to support tailoring revolving loans and assist with marketing.
- Support product design and customer acquisition through kiosk landscaping research with Sinar Mas; support product marketing; and facilitate market linkages with agribusinesses.
- Support BNI in improving their customer acquisition and marketing strategies for agriculture kiosks in Central Java.



FUNCTION 2: Consulting Services

Expected activities:

- Lightly facilitate Spire to position itself in the financial sector to further expand into agricultural SME lending, e.g., through publishing insights and analysis based on the kiosk surveys.



FUNCTION 3: SME Financial Services

Expected activities:

- PRISMA's partnership with PT Crowde Membangun Bangsa will close in December 2022. Support will be provided to ensure that gains made are cemented in their business operations. PRISMA's partnership with PT Reyhan Putra Mandiri finished in October 2022, and monitoring will be ongoing.



FUNCTION 4: SME Lending Policy Engagement

Expected activities:

- PRISMA has contracted INDEF - an independent research institution that will develop a policy brief to engage the OJK to improve national SME financing policy; policy landscaping to analyse current relevant policy and provide the analysis; gather evidence from PRISMA finance interventions and partners; and develop a policy brief for improved SME financing.

ICT



EXPECTED MARKET CHANGE:

- » Kiosks are better managed, stocked appropriately with on-time products, and respond to demand.
- » Kiosks have access to and offer an increased range of agricultural services.
- » Kiosks and agri-input companies offer relevant and quality advice and promote products and services responsibly.

Province	Districts	Partners
Central Java	Pati, Sukoharjo, Klaten, Sragen, Pati, Solo, Klaten, Cilacap, Boyolali, Surakarta	PT Agri Pintar Asia (Semaai), the Indonesian Veterinary Association, the Centre for Research and Development of Agricultural Land Resources (BBSDLP)
East Java	Trenggalek, Tulungagung, Malang, Kediri, Tuban	PT Bayer Indonesia, the Indonesian Veterinary Association
West Nusa Tenggara	Sumbawa, Dompu	PT Bayer Indonesia



FUNCTION 1: Input Supply Chain

Expected activities:

- Semaai is a mature start-up e-commerce system for agri-kiosks expanding in Central Java. PRISMA will support Semaai to strengthen kiosk management capacity through training; develop an inventory management component to the platform; and facilitate linkages with other input companies.



FUNCTION 2: Agriculture Information Dissemination and Marketing

Expected activities:

- Develop GAP information with Semaai to be disseminated through kiosks and facilitate linkages with other input companies.
- Support Bayer to develop and disseminate information on GAP and kiosk business through ICT platforms and build the capacity of kiosks (men and women-owned) and women farmers.



FUNCTION 3: Digital Agriculture Ecosystem

Expected activities:

- Assist the Indonesian Veterinary Association in conducting market research to understand the demand for digital livestock health services; facilitate action research with the Association; conduct workshops to formulate guidelines and a code of conduct for digital livestock health services.
- Collaborate with the Indonesian Soil Research Institute to map business demand for soil nutrient data to improve fertiliser recommendations to farmers and develop improved data sharing to the private sector.



PRE-INTERVENTION ACTIVITIES (ACTION RESEARCH & STUDIES)

Expected activities:

- Collaborate with the irrigation contractor (Mesindo), precision irrigation technology providers and UGM to conduct action research on the usefulness and acceptability of precision irrigation technology.
- Conduct a study on gender dynamics between kiosks and farmers to support input firms with recommendations to develop and improve gender-segmented acquisition and marketing strategies.
- Collaborate with BBSDLP and agri-information platforms to develop and improve fertiliser calculation apps for farmers, kiosks, and extension workers.

Maize Madura



EXPECTED MARKET CHANGE:

- » Increased availability of hybrid seed as companies promote their products and GAP to farmers in Madura.
- » Higher market competitiveness as local governments improve seed subsidy programs in areas with low adoption of commercial hybrid seed.

Province	Districts	Partners
East Java	Sumenep, Pamekasan	Sumenep local government Pamekasan local government



FUNCTIONAL AREA 1: Hybrid Seed Promotion

Expected activities:

- Monitor the development of the hybrid maize seed market in Madura.
- Maintain engagement with hybrid seed producers who actively promote their products in Madura and provide linkages and advice to expand to new sub-districts.



FUNCTIONAL AREA 2: Policy Engagement

Expected activities:

- Maintain engagement with local governments on the continuation of improved subsidy targeting and embedded GAP assistance.
- Exploring the development of technical guidelines with local governments on the improved subsidy delivery to ensure improvements are embedded in the system.
- Follow up with local governments on the implementation of better groundwater detection and maintenance technology and its impact on irrigation access for maize farmers.

Maize Central Java



EXPECTED MARKET CHANGE:

- » Improved seed subsidy program delivery to increase targeting effectiveness and productivity

Province	Districts	Partners
Central Java	Temanggung, Banjarnegara, Demak, Rembang	Rembang local government Demak local government Temanggung local government Banjarnegara local government



FUNCTIONAL AREA 1: Policy Engagement

Expected activities:

- Monitor the application of the technical guideline with the provincial government on improved subsidy delivery to increase targeting effectiveness and productivity.
- Facilitate linkages between provincial and local governments with private sectors to increase alignment and effectiveness in government program delivery.
- Support the provincial government in writing a maize agribusiness development roadmap for Central Java.

Maize East Nusa Tenggara



EXPECTED MARKET CHANGE:

- » Improved capacity of OPV local seed producers for quality seed production and developing commercial seed market
- » Increased collaboration between the local government and private

sector stakeholders for market-friendly maize development strategy and policy

Province	Districts	Partners
East Nusa Tenggara	Kupang, North Central Timor, South Central Timor, Belu, Malaka, Manggarai, West Manggarai, East Manggarai, Sikka, East Flores, Southwest Sumba, East Sumba	Distan KP NTT BPTP NTT Association of Seed Producers of NTT PT Seger Agro Nusantara



FUNCTIONAL AREA 1: Quality Certified Seed

Expected activities:

- Provide business coaching for local seed producers to develop seed businesses and expand the distribution network to serve the commercial market.
- Support the Association of Seed Producers in NTT to strengthen its organisational capacity, build connections among seed producers, and advocate market-friendly procedures and policies.
- Support linkages between seed producers and PT Seger to align commercial seed promotion and off-taking access in maize production centres.



FUNCTIONAL AREA 2: Market Supporting Policy

Expected activities:

- Support Distan-KP and BPTP NTT in production planning of parent seed to ensure on-time supply.
- Support Distan-KP in developing the capacity of seed certification staff.
- Support Distan-KP and BPTP NTT in building the capacity of public extension field staff.



FUNCTIONAL AREA 3: Information on GAP

Expected activities:

- Support seed producers to disseminate GAP as part of commercial seed promotion through promotional activities and tools.
- Collaborate with Distan-KP on the dissemination of the GAP module for public extension field staff.
- Support Distan-KP and BPTP NTT in building the capacity of public extension field staff.

Mechanisation - Maize



EXPECTED MARKET CHANGE:

- » Agriculture machinery and tool companies focus on the commercial market and regularly conduct market research to serve their target market segment effectively.
- » Farmers have easy access to after-sales services (repair workshops and spare parts supplies).

Province	Districts	Partners
East Java	East part: Banyuwangi, Jember, Situbondo, Bondowoso, Probolinggo, Lumajang	PT Rutan PT Terra Agro Digital
	Southwest part: Ponorogo, Trenggalek, Pacitan, Tulungagung, Kediri, Blitar	PT Galaxy Partani Mas CV Argo Jaya
	Northwest part: Lamongan, Bojonegoro, Jombang, Nganjuk, Madiun, Ngawi	CV Putra PT Angkasa Mulya Trading PT Zoomlion Indonesia PT. Karya Solusi Angkasa (FDS)
Central Java	Northwest part: Brebes, Kendal, Semarang, Demak, Jepara, Kudus, Pati, Rembang, Blora	PT Rutan PT Terra Agro Digital
	Greater Solo: Solo, Sukoharjo, Boyolali, Sragen, Karanganyar, Wonogiri, Klaten	PT Galaxy Partani Mas PT. Karya Solusi Angkasa (FDS)
West Nusa Tenggara	Lombok, Mataram, Sumbawa	PT Rutan Machinery (on-farm) PT Terra Agro Digital PT Karya Solusi Angkasa (FDS)

East Nusa Tenggara	Manggarai, West Manggarai, East Manggarai, Nagekeo, Ngada, Ende, Sikka, East Flores, Lembata	PT Pilar Putra Teknik
	Southwest Sumba, West Sumba, Central Sumba, East Sumba	PT Karya Solusi Angkasa (FDS)
	Kupang, Ende, Ngada	



FUNCTION 1: Product Marketing

Expected activities:

- Inclusive online and offline marketing strategy through product demos and advertisements
- Build capacity for online and social media promotion.
- Facilitate linkages with financial institutions to support machinery acquisition at the ISP level.



FUNCTION 2: After-sales Service

Expected activities:

- Online and offline new marketing strategy for selling spare parts
- Focus on a customer-centric strategy and open branches closer to customers.
- Build staff capacity in forecasting and managing the after-sales operation.
- Increase customer satisfaction and trust through mobile advertisements and spare parts displays.

Mechanisation - Rice



EXPECTED MARKET CHANGE:

- » Agriculture machinery and tool companies focus on the commercial market and regularly conduct market research to serve their target market segment effectively.
- » Farmers have access to renting services.
- » Farmers are aware of and use drone technology.
- » Farmers have easy access to after-sales services (repair workshop and spare parts supplies).

Province	Districts	Partners
East Java	East part: Banyuwangi, Jember, Situbondo, Bondowoso, Probolinggo, Lumajang	CV Putra (Kubota) PT Galaxy Partani Mas
	Southwest part: Ponorogo, Trenggalek, Pacitan, Tulungagung, Kediri, Blitar	PT Angkasa Mulya Trading PT Zoomlion Indonesia,
	Northwest part: Lamongan, Bojonegoro, Jombang, Nganjuk, Madiun, Ngawi	PT Karya Solusi Angkasa (FDS)
Central Java	Northwest part – Brebes, Kendal, Semarang, Demak, Jepara, Kudus, Pati, Rembang, Blora	PT Rutan PT Terra Agro Digital
	Greater Solo: Solo, Sukoharjo, Boyolali, Sragen, Karanganyar, Wonogiri, Klaten	PT Galaxy Partani Mas PT Zoomlion Indonesia, PT Karya Solusi Angkasa (FDS)
West Nusa Tenggara	Lombok, Mataram, Sumbawa	PT Rutan PT Terra Agro Digital PT Karya Solusi Angkasa
East Nusa Tenggara	Manggarai, West Manggarai, East Manggarai, Nagekeo, Ngada, Ende, Sikka, East Flores, Lembata	PT Pilar Putra Teknik (Pilar Agri)
	Southwest Sumba, West Sumba, Central Sumba, East Sumba, Kupang, Ende, Ngada	PT Karya Solusi Angkasa (FDS)



FUNCTION 1: Product Marketing

Expected activities:

- Free-market strategy in promoting rice machinery, so farmers can access efficient and affordable harvesting services
 - Online and offline new marketing strategy targeting less penetrated areas: branch expansion, product demo, advertisements, product roadshow, and product trials
 - Inclusively communicate machinery features and dealer support to ISPs and farmers through promotional and educative videos.
 - Optimise machinery adoption through the demo for land preparation products.
 - Facilitate linkages with financial institutions to support machinery acquisition at the ISP level.
 - Promote rice machinery business through intensive canvassing in less-explored areas.
- Scale-up nationwide-level activities to build partners' capacity in promoting and managing products.
 - Build capacity in conducting market assessments in new areas.
 - Build dealer assessment and sales capacity.
 - Build online and social media promotion capacity.
 - Continue to facilitate the adoption of drone spraying technology.
 - Product promotion through demos and gatherings
 - Assist in sales channels extension by developing a reseller and distributor scheme.
 - Link partners to existing ISPs to provide drone spraying or rental services.
 - Continue to explore the youth market through an attractive ownership program.



FUNCTION 2: Machinery Renting Service

Expected activities:

- Testing and piloting business models: full mechanisation contracting service
- Online and offline marketing strategy through product rebranding



FUNCTION 3: After-sales Service

Expected activities:

- Online and offline spare parts marketing and sales
- Focus on a customer-centric strategy and open branches closer to customers.
- Build staff capacity in forecasting and managing after-sales operations.
- Increase customer satisfaction and trust through mobile advertisements and spare parts displays.
- Produce videos for product promotion, service guidelines, and spare parts information.

Mungbean



EXPECTED MARKET CHANGE:

- » Seed producers provide quality mungbean seed through an inclusive business strategy and GAP
- » Seed propagators produce sufficient amounts of mungbean parent seeds for quality seed production
- » Off-takers and food industries have better sourcing strategies for good quality mungbeans
- » Women and men farmers have better access to certified seeds, mungbean GAP and market information

Province	Districts	Partners
Central Java	Grobogan, Blora, Pati, Demak, Kendal, Kudus, Kebumen, Purworejo, Cilacap, Sragen	CV Semi CV Luwes Tani
East Java	Jember, Sumenep, Sampang, Bojonegoro, Lamongan, Banyuwangi, Tuban	CV Bunga Tani Sejahtera



FUNCTIONAL AREA 1: Quality Seed

Expected activities:

- Work with private seed propagators to increase the availability of certified quality seed through inclusive marketing and distribution strategy.
- Consult partners on improving the plan for off-season seed production to better meet demand during the main season.
- Build partners' capacity to conduct market research to influence strategy development.
- Work with partners to utilise online channels to better disseminate information and promote products to farmers and kiosks.
- Develop partners' capacity in the mungbean business, especially as many started from other crops.
- Support partners in understanding downstream issues relating to their production cycle, i.e., price volatility, seasonality, and comparison to other seasonal crops.
- Facilitate linkages from seed producers to downstream actors.
- Support partners in improving/widening market targeting by utilising women field agents and universal design principles.
- Conduct dissemination events to show market potential to seed producers.



FUNCTIONAL AREA 2: Off-taking

Expected activities:

- Conduct an off-taking study to better understand the variety of preferences, quality standards, and incentives of relevant actors.
- Facilitate public and private actors to disseminate information, i.e., webinars and networking events.
- Facilitate linkages from off-takers and processors to upstream actors.



Pigs



EXPECTED MARKET CHANGE:

- » Market actors in the NTT pig industry are aware of ASF and can apply the necessary measures to reduce the risk of spreading the ASF virus.
- » Pig feed producers sustain and expand their distribution channels and customer base in NTT by tailoring their product while embedding information on pig rearing, ASF, etc.
- » Farmers and breeding farms are able to import ASF-free live pigs and pork derivative products from outside NTT.
- » Breeding partners can produce good genetic, quality piglets and provide AI services as a result of better breed stock and farm management systems (including biosecurity measures).
- » Farmers have the required quality inputs to achieve ideal pig productivity levels.
- » NTT provincial government improves regulations on swine product movement and speeds up the recovery of the pig sector.

Province	Districts	Partners
East Nusa Tenggara	Kupang city, Kupang, South Central Timor, North Central Timor, Malaka, Belu, Lembata, East Flores, Sikka, Ende, Nagekeo, Ngada, Manggarai, West Manggarai, East Manggarai, Southwest Sumba, West Sumba, Central Sumba, East Sumba, Rote Ndao, Sabu Raijua, Alor	CV Aroma Duta Boga
		Dr. Ir. W. M. Messang Nalley MS
		PT Pakan Ternak Flobamora
		South Central Timor District Animal Husbandry and Animal Health Service
		Lolipop (a livestock source)
		CV Kame Adonara Farm
		Lembata District Agricultural and Food Security Service
		Santo Yohanes Berkhmans Todabelu Seminary –Mataloko
		Manggarai District Animal Husbandry Service
		West Manggarai District Animal Husbandry and Health Service
		UD Maju Jaya
		West Sumba District Animal Husbandry Service
		CV Mitra Usaha
		UD Mario Putra
		Rote Ndao District Animal Husbandry Service
		PT Sreeya Sewu Indonesia
		PT Panca Patriot Prima
		NTT Provincial Office
		Santa Ursula Ende Community Development College (STPM)
		Timor University



FUNCTION 1: Feed

Expected activities:

- Develop marketing strategies and promotional materials that include GFP, GHP and prevention (ASF prevention) through a hybrid approach (online and offline).
 - Relationship building and strengthening feed partner's distribution networks and expanding target areas
 - Partners promote different variants of feed to farmers, such as complete, concentrate, and mixed ingredients.
 - Partners design and conduct farmer's education and marketing activities,
- i.e., demo plots, socialisations, online promotions, and dissemination of feeding practice materials.
- Monitor the presence of private feed companies that have previously partnered with PRISMA, such as PT Charoen Pokphand Tbk, PT Japfa Comfeed Tbk, PT Malindo Feedmill Tbk, PT Cargill Indonesia Tbk, PT Sinar Indochem, and PT Sinta Prima, and monitor crowding-in of PT Gold Coin Indonesia, PT Cheil Jedang, and De Heus Indonesia feed companies.



FUNCTION 2: Breed

Expected activities:

- Establish partnerships with public and private pig breeding farms in all islands in NTT.
 - Improve breeding and farm management through strengthening biosecurity measures, better breed stock through
- semen importation, establish AI laboratory facilities, semen production and provision of AI services.
- Develop promotional materials and marketing strategies for breeding partners.



FUNCTION 3: Animal Health

Expected activities:

- ASF social awareness campaign (video campaign, printed materials, use of local influencers and disseminating ASF information on social media platforms)
- ASF training to improve the capacity of animal health extension workers, partners and smallholder farming HHs
- Partners distribute and promote ASF-related information and biosecurity measures.
- Animal (pig) health associations, church organisations, and universities promote and educate smallholder farmers about ASF information and biosecurity measures.
- Trial of ASF diagnostic tool – surveillance



FUNCTION 4: Policy & Regulations

Expected activities:

- Work with the NTT provincial government to improve regulations on swine product movement and speed up the recovery of the pig sector. Develop a new standard for swine product movement that allows
- quick and cost-effective ASF testing before importing or exporting swine products.

Rice



EXPECTED MARKET CHANGE:

- » Farmers shift from using old varieties to new HYVs.
- » The government endorses the use of HYVS in the market through its programs.

Province	Districts	Partners
East Java	Banyuwangi, Jember, Lumajang, Malang, Pasuruan, Kediri, Pemekasan, Sumenep, Bojonegoro, Tulungagung, Nganjuk, Malang, Blitar, Kediri, Madiun	PT Agrosid Manunggal Sentosa PT Botani Seed Indonesia
Central Java	Banjarnegara, Banyumas, Cilacap, Kebumen, Klaten, Pekalongan, Purbalingga, Pemalang, Purworejo, Wonogiri, Sragen, Karanganyar, Jombang, Ponorogo, Pati, Jepara, Batang, Pemalang, Solo, Pekalongan	PT Agrosid Manunggal Sentosa PT Botani Seed Indonesia CV Fiona Benih Mandiri CV Jembar Tani Mandiri CV Anisa Benih Prima
In the pipeline	Central Java (Boyolali, Blora, Slawi, Demak, Brebes, Tegal, Grobogan, Kudus, Demak) East Java (Pacitan)	Partners' area expansion: CV Fiona Benih Mandiri, CV Jembar Tani Mandiri, CV Anisa Benih Prima



FUNCTIONAL AREA 1: Rice Seed

Expected activities:

- Support partners in increasing the production capacity of HYV.
- Support partners in increasing the adoption of HYV in the market.
- Develop the apprenticeship program with partners to distribute business knowledge to other rice seed producers.



FUNCTIONAL AREA 2: Policy Advocacy

Expected activities:

- Conduct a direct hearing with the MoA and Bappenas.
- Monitor government response.
- Observe market response.



Soil Treatment



EXPECTED MARKET CHANGE:

- » Fertiliser companies become more competitive through:
 - Good quality non-subsidised fertiliser product offers
 - On-time availability
 - Expanded distribution networks
- Provision of embedded GAP information with innovative promotion activities
- Collaboration with other market players, including non-fertiliser input companies, finance institutions and off-takers

Province	Districts	Partners
East Java	21 Districts: Banyuwangi, Batu, Blitar, Bondowoso, Bojonegoro, Jember, Kediri, Lamongan, Lumajang, Madiun, Magetan, Malang, Mojokerto, Nganjuk, Ngawi, Pasuruan, Ponorogo, Probolinggo, Tuban, Tulungagung, Situbondo.	PT Saprotan Utama Nusantara (PT Saprotan) PT Agrotama Tunas Sarana PT Petrokimia Gresik PT Inbio Tani Nusantara PT Bio Agromitra Indonesia
Central Java	23 Districts: Blora, Boyolali, Brebes, Cilacap, Demak, Grobogan, Jepara, Karanganyar, Kebumen, Klaten, Kendal, Kudus, Magelang, Pati, Purbalingga, Tegal, Temanggung, Pemalang, Semarang, Sragen, Sukoharjo, Sumedang, Banyumas,	PT Saprotan Utama Nusantara PT Agrotama Tunas Sarana PT Petrokimia Gresik PT Inbio Tani Nusantara PT Bio Agromitra Indonesia
West Nusa Tenggara	Eight Districts: Bima, Dompu, West Lombok, Central Lombok, East Lombok, North Lombok, Sumbawa, West Sumbawa	PT Petrokimia Gresik PT Inbio Tani Nusantara PT Bio Agromitra Indonesia



FUNCTION 1: Marketing and Promotion

Expected activities:

- Strengthen marketing and sales skills of partner staff and retailers/kiosks through technical, services, marketing, and sales training.
- Support partners to improve their capacity in integrated digital marketing through the development of digital marketing, search engine optimisation and search engine marketing training, digital marketing workshops, formulating social media campaign programs, producing crop profiles, and product testimonial videos.
- Strengthen farmers' brand awareness of the partners and products through improving kiosk marketing channels, merchandising guidance and product layout in kiosks.
- Support increased direct sales activity, e.g., 1 to 3 days promotional programs, loyalty programs etc.
- Support partners to continue innovative promotion activities, key farmer meetings, harvest days, improved targeted promotion materials, tailored technology and mass media promotion.



FUNCTION 2: Extension Information

Expected activities:

- Support partners to disseminate information via agricultural cultivation technique training for field assistants, agronomists, and sales force.
- Support partners to develop educational activities in GAP and product knowledge for kiosks and farmers (through events such as farmers' meetings, retailer gatherings, farmer field days, expos, pilot cultivation, and demo plots).
- Support partners to be inclusive of youth and women farmers.
- Support partners to conduct market research for their products and share findings from PRISMA fertiliser surveys – e.g., the fertiliser market study and organic fertiliser market study.
- Conduct a cross-sectoral collaborative study to understand the business demand for soil nutrient data and foster the development of a fertiliser calculation app for farmers, kiosks, and extension services.



FUNCTION 3: Distribution

Expected activities:

- Support partners' market expansion through the retail network and mapping kiosks.
- Support partners to engage kiosks and distributors through gatherings.
- Support partners in strengthening the capacity of their distribution channels (agents and kiosks) through improved technical and product knowledge.
- Support partners to utilise digital channels, including marketplaces, as an alternate sales channel for specific fertiliser products.

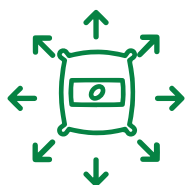
Vegetables



EXPECTED MARKET CHANGE:

- » Seed companies open their product distribution networks to Papua and West Papua, while doing inclusive marketing, and providing extension services, especially to indigenous farmers.
- » Improve linkages between farmers and traders for better absorption of locally produced vegetables.
- » Farmers invest in high-quality vegetable seeds and GAP to optimise their production in meeting local demand.
- » Local government improve business environments to promote growth in the local vegetable market.

Province	Districts	Partners
Papua	Lowlands: Merauke, Kota Jayapura, Jayapura, Keerom, Nabire. Highlands: Jayawijaya, Dogiyai.	Lowlands: PT Agrosid Manunggal Sentosa, PT Tani Murni Indonesia Highlands: PT Tani Murni Indonesia
West Papua	Lowlands: Manokwari, Manokwari Selatan, Sorong Highlands: Arfak Highlands	PT Agrosid Manunggal Sentosa



FUNCTION AREA 1: Seed, Distribution, & Marketing

Expected activities:

- Support seed companies to enter neighbouring districts of entry points as an expansion plan.
- Support seed companies with indigenous inclusion by conducting educational and promotional activities.
- Facilitate a stakeholder meeting to disseminate the results from ongoing partnerships and jointly develop follow-up plans, particularly with local stakeholders, such as local government and off-takers.



FUNCTION AREA 2: GAP Information and Extension Services

Expected activities:

- Support seed companies to provide GAP knowledge and extension services to more farmers by facilitating linkages with relevant stakeholders.
- Support seed companies to establish linkages with more local governments and support their collaborations in building the capacity of public extension services on GAP for farmers.



FUNCTION AREA 3: Off-Taker/Trader

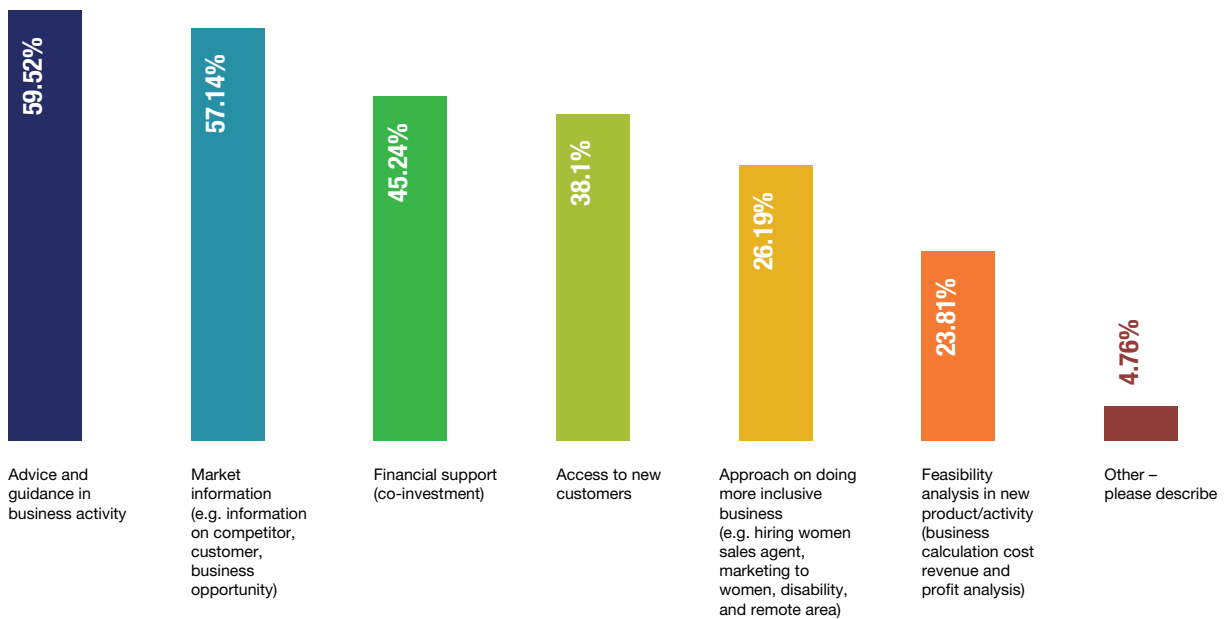
Expected activities:

- Map the vegetable trading flow at the cluster level.
- Improve market linkages between farmers, traders, and end-consumers.
- Assess the opportunity for local governments to strengthen the business environment.

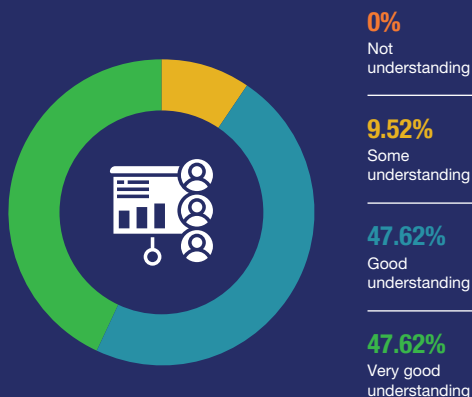
Annex 3: Partner survey

Survey of Views of Business Partners on PRISMA Assistance

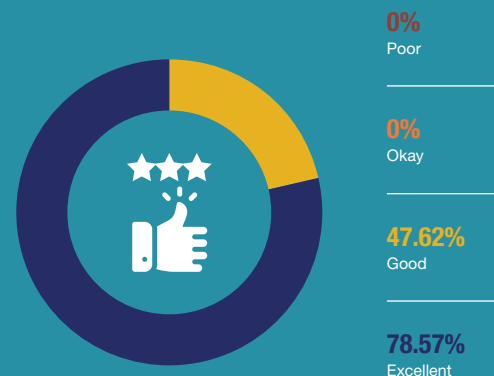
What areas of PRISMA support did you find most helpful?

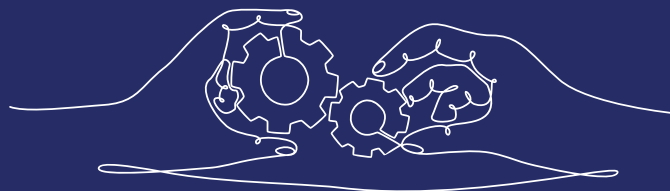


How well does PRISMA understand the markets (e.g. customer, competitor, sector) you are working in?



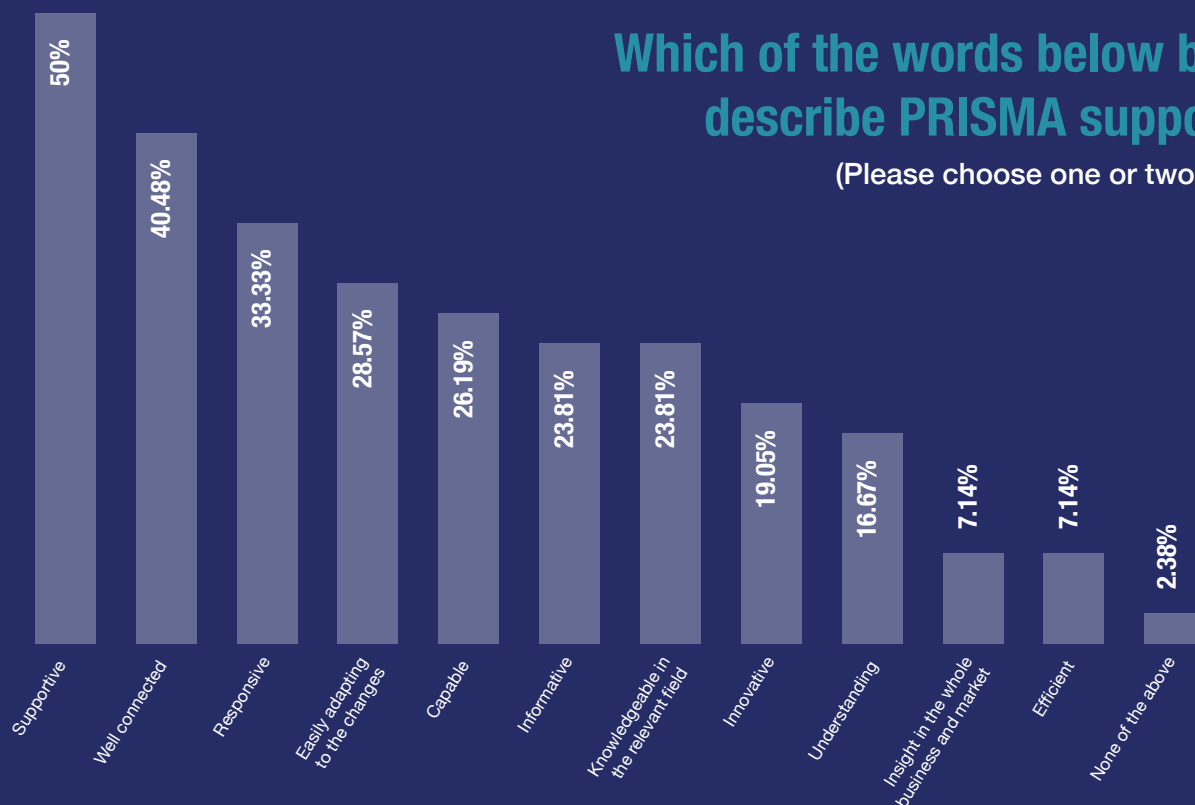
How would you describe your experience of working with PRISMA?





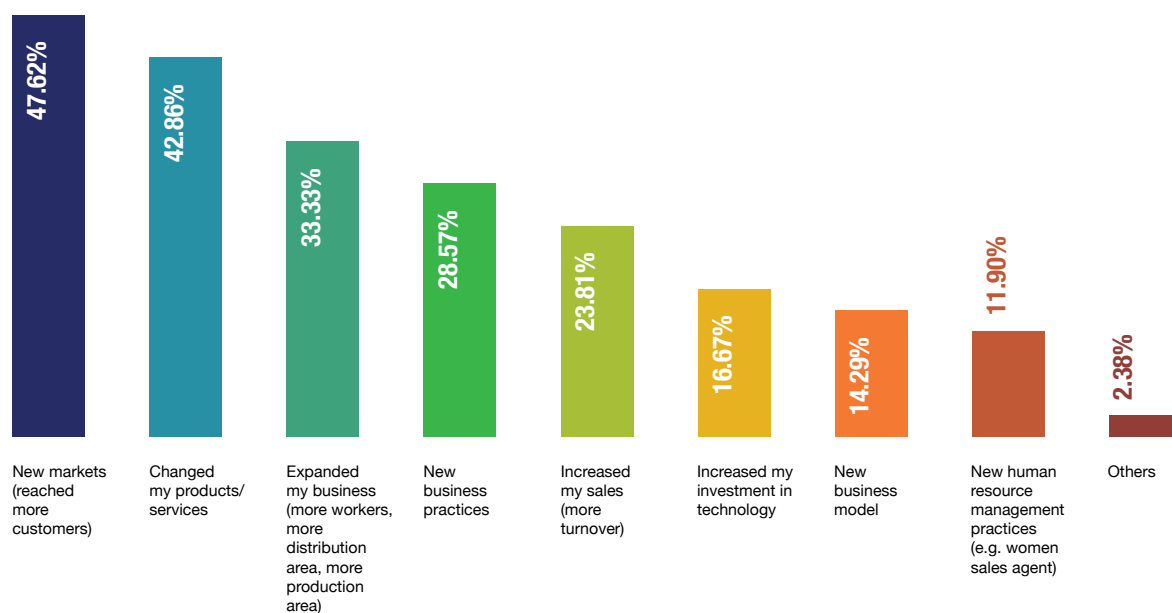
Which of the words below best describe PRISMA support?

(Please choose one or two only)



Survey of Views of Business Partners on
PRISMA Assistance

How has your partnership with PRISMA changed your business?



How could PRISMA improve the way it partners with businesses?

- Increase collaboration between interrelated partners, encourage the government to cooperate with related partners.
- Don't be too rigid with PRISMA's rules but must also be able to see the needs of partners.
- Be more proactive in carrying out the monitoring of the joint work program that is being carried out.
- PRISMA can continue to provide information from the business side and field data.
- Increasing access to distribution networks, especially remote and disadvantaged areas rarely reached by companies.

If the partnership with PRISMA ends, will you continue the business model?

100%
YES!

Why did you answer yes/no to the questions above?

PRISMA has helped us gain insight and see new points of view that we may not have noticed so far. We believe that with what is shown, we can develop further as a company and help our fellow farmers.

Because Indonesia's agricultural industry is still far behind from other countries, and it still requires a lot of effort to catch up

Because PRISMA has provided a new perspective for us.

With this new point of view, assisted by data validation from PRISMA, it gives us confidence to carry out new innovations to reach market segments that previously from our view were not yet possible to execute.

Any other comments?

Thank you for the cooperation. Let's continue to achieve the specified goal.
















PRISMA must continue to grow in providing data and as a bridge in agricultural development in Indonesia, especially for all parts of Indonesia.
























As a long-standing partner with Prisma, we have been supported by a lot of information and sharing of financing, related to women farmers, remote and hard-to-reach areas, and new development areas. There have been many new areas that the market has formed because of the support from Prisma.









Annex 4: Sector climate stocktakes

Sector Climate Stocktakes

Recommendation	Priority	Interaction with other Sectors
 Dairy and Beef		
 In impact assessments data should be collected not just on the amount of concentrates fed but also on the types and if possible the amount of fodder fed. This will allow calculations and reporting of total emissions from the intervention compared with baseline feeding.	H	
 When undertaking Impact Assessments, collect information on how manure is disposed including, if possible, estimates of relative proportions stockpiled versus distributed as fertiliser. Begin to explore benefits and costs of using manure more immediately after it is produced as a crop/pasture fertiliser rather than allowing it to be stockpiled.	H	
 Undertake exploratory analysis of the methane reducing feed additives available or potentially available in Indonesia and examine the risks and opportunities for their inclusion in existing interventions using feed concentrates.	H	
 Dairy		
 Continue working with dairy processing companies and co-ops to expand the use of biogas digestors to reduce methane emissions from manure.	H	 Beef
 Capture information on the percentage of farmers who are managing to keep mastitis infections at sub-clinical levels as well as use of internal parasite controls and vitamins to qualitatively demonstrate benefits in greenhouse gas emissions intensity.	M	 Beef
 Continue to support industry and government efforts in the introduction of new breeds of cattle, specifically Jersey, which are better adapted to tropical environments than Friesian Holstein.	H	
 Beef		
 Further exploration is needed of how to overcome the barriers to greater uptake of biogas digestors at the scale relevant to beef producers i.e. individual households or just a few households.	M	 Dairy
 Capture information on the percentage of farmers who are practicing internal parasite control to qualitatively demonstrate benefits in greenhouse gas emissions intensity.	M	 Dairy





Recommendation	Priority	Interaction with other Sectors
   Soil Treatment, Maize, Rice		
 PRISMA is clearly demonstrating the financial and environmental benefits from using lower rates of nitrogen fertiliser. How this very positive outcome can be scaled even further warrants consideration, including benefits of additional GAP fertiliser practices.	H	
 The Soil Treatment, Maize and Rice teams should work together to report results for total emissions and emissions per unit of crop yield from fertiliser usage in PRIP reports because the benefits are very clear.	H	
 PRISMA should continue supporting partners in the promotion of slow release, coated urea products and the benefits should be made more explicit in reporting climate smart activities. Explore new opportunities with other coated products that enhance nitrogen efficiency and/or contain nitrogen inhibitors.	H	
 PRISMA should continue to expand the use of organic fertilisers as a complement to inorganic fertilisers through working with existing partner companies and by seeking new partnering opportunities with organic fertiliser companies.	M	
   Maize, Mungbean and Rice		
 As a complement to existing recommendations on timing of fertiliser application, explore the opportunity to include weather and seasonal climate forecasts as an additional tool in optimum timing and amount of fertiliser to be applied. Include the benefits of improved timing of fertiliser application in reporting of benefits.	M	  Soil Treatment, ICT
 The maize, rice and mungbean teams should work together to explore farming system opportunities that introduce a legume rotation with the aim of reducing greenhouse gas emissions, improving soil health and avoiding or minimising net household income loss from using a legume crop.	H	
 Explore adaptation opportunities for using seasonal climate forecasts in crop management (e.g. planting density, variety etc) and in crop rotations of maize, rice and mungbeans.	M	 ICT
  Soil Treatment and Rice		
 Explore the opportunity for more planned alternate wetting and drying practices in paddy rice to reduce methane emissions.	H	
  Soil Treatment and Maize		
 PRISMA incorporates in its current GAP recommendations on timing of fertiliser application the benefits of avoiding application of fertiliser when soils are very wet or waterlogged.	M	 Soil treatment

Recommendation	Priority	Interaction with other Sectors
 Soil Treatment		
 Continue to develop the App for fertiliser application and explore the opportunities for increased use of new technological innovations in precision agriculture and monitoring of crops and soils.	M	 ICT,  mechanisation
 Rice		
 Include in recommendations on GAP the benefits of only applying organic inputs (rice residue, manure) to soils when they have been drained and are aerobic.	M	 Soil treatment
 Put together a story/narrative demonstrating in rice the holistic adaptation and mitigation benefits that can be accrued by bringing together in a systems approach a range of innovative technologies.	H	 Soil treatment
 Mungbean		
 Ensure that GAP recommendations for use of mungbean include use of seed inoculant and guidelines on its most effective application.	H	 Soil treatment
 The mungbean team works with the beef and dairy teams to explore ways in which mungbean stover/residue can be included in cattle diets.	H	 Dairy, Beef
 Crop Protection		
 Continue the current intervention practice of using GAP recommendations for use of pesticides and where appropriate complement the government's efforts in integrated pest management.	H	 Maize, rice
 As a no regrets action, continue to explore options that improve crop and soil health as a preventative measure against increased pest and disease risk from climate change.	H	 Soil treatment,  Maize, Rice
 Work with companies, government and farmers to increase training and build capacity in identifying and monitoring pest and disease problems with a focus on early detection and prevention.	M	
 Explore opportunities for remote monitoring of pests and diseases with new technologies such as drones.	M	 ICT

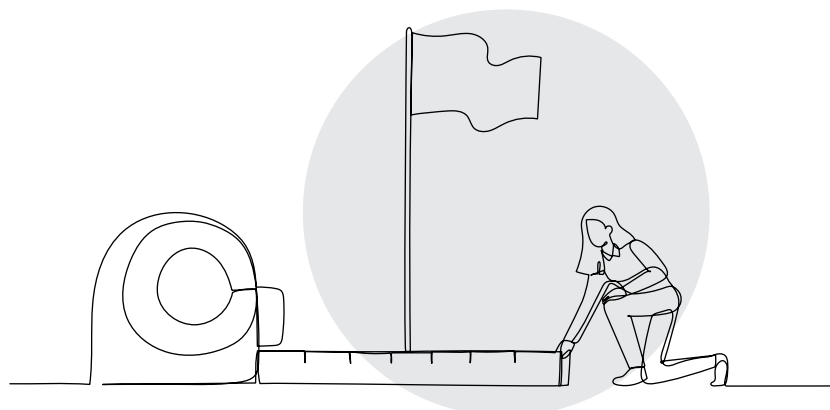


Annex 5: Detailed key performance indicators

KPI 1 - Outreach⁹

 <p>Beef Central and East Java</p>	462,012	Since PRISMA partnered with KJUB Puspetasari in 2014 to develop the beef feed market, 63 percent of cattle farmers in East Java and 22 percent in Central Java have used commercial cattle feed, compared to only 2 percent in 2014. Of these, 383,692 beef farm HHs in East Java and 78,320 in Central Java have benefitted.
 <p>Mungbean East Java and Central Java</p>	10,713	This number comes from wider market outreach. It captures beneficiaries from EWINDO's attributable national sales of mungbean seed in West Java, South Sulawesi, and NTT.
 <p>Innovative Finance East Java, Central Java, and West Nusa Tenggara</p>	5,271	This outreach comes from 3 partnerships. The partnership with PT Permodalan Nasional Madani resulted in 1,173 beneficiaries in East and Central Java. The partnership with PT Crowde Membangun Bangsa, a fintech company, has contributed to 2,221 beneficiaries. In NTB, PT BISI International's partnership in closed-loop financing for maize farmers has resulted in 1,877 beneficiaries.
 <p>Mechanisation East Java, Central Java, and West Nusa Tenggara</p>	2,012	PRISMA has supported 3 partners in their capacity development and marketing strategy for combine harvesters, tractors, and paddy reapers. In East Java, 1,568 farming HHs have benefitted through PT Rutan, PT Galaxy, and CV Argo Jaya. The partnership with Terra Agro Digital, which provides machinery services, has benefited 444 farming HHs.







⁹ Outreach for this semester



KPI 2 - NAIC

This semester incremental NAIC from all beneficiary farmers reached IDR3.47 trillion, which brought the cumulative NAIC up to IDR7.86 trillion or approximately AUD786.2 million. This number shows an accumulated average income increase of IDR5.25 million per HH.

The detailed cumulative NAIC per farmer for key sectors are as follows:

 Dairy	IDR 18,850,501
 Vegetables	IDR 8,347,794
 Beef	IDR 5,700,935
 Pig	IDR 5,637,604
 Innovative Finance	IDR 4,906,479
 Mungbean	IDR 1,874,520
 Mechanisation	IDR 1,334,096

KPI 3 - Number of ISPs providing farmers additional or improved access to innovation

This semester, 590 new ISPs have started providing improved services to smallholder farmers, bringing the cumulative number to 13,162. Of the total ISPs this semester, 406 or 70 percent have been recorded through the beef sector, while the remaining 184 have come from the innovative finance, peanut, pig, and mechanisation sectors.

KPI 4 - WEE effectiveness within PRISMA innovations

WEE effectiveness is at 0.29 this semester, with cumulative WEE effectiveness at 0.69. In purely numerical terms, WEE effectiveness is lower than the last semester. However, most of the data points acquired this semester were from sectors with low women's involvement, such as the mechanisation, beef, dairy, and crop protection sectors. A better representation of WEE mainstreaming is the sub-indicator KPI 4, explained in the main report.

KPI 5 - Value of additional turnover of ISPs

The ISPs have increased their turnover this semester to IDR145 billion, equivalent to AUD14.5 million. The cumulative ISP turnover due to PRISMA stands at IDR1.84 trillion (AUD184 million).

KPI 6 - Number of intervention partners (private and public sector)

PRISMA signed agreements with 26 new partners in 9 sectors during this semester. Of these partners, 16 are private businesses, and the rest are government or public enterprises. Cumulatively, the total number of PRISMA partners is change to 264, comprising 174 private sector partners and 90 government or public enterprises.

KPI 7 - Value of additional turnover of private sector partners (PSP)

PRISMA's private sector partners' turnover this semester reached IDR142 billion (AUD14.2 million), raising the cumulative sum to IDR1.02 trillion (AUD102 million). The major contributors this semester are the beef sector (IDR63.3 billion, equivalent to 45 percent of total additional PSP turnover) and the finance sector (IDR53 billion or 37 percent of total additional PSP turnover).

KPI 8 - Value of attributable additional and/or more inclusive investment by PSP, ISP, and farmers

The investment value committed by PRISMA's private and public partners, identifiable ISPs, and farmers this semester amounted to IDR225 billion (AUD22.05 million). Of this amount, IDR29.3 billion was invested by PRISMA's partners, IDR122.7 billion by the ISPs, and IDR72.9 billion by farmers. Cumulatively, the total investment from PSPs, ISPs, and farmers, attributable to PRISMA's interventions has reached IDR2.2 trillion (AUD220 million).

KPI 9 - Number of crowding-in businesses/institutions

PRISMA has identified and confirmed 4 businesses that have crowded-in during this reporting period. PT De Heus Indonesia, a feed distributor company, has collaborated with PRISMA's partner in the pig sector to expand its feed market in Timor Island. PT Gold Coin Indonesia is selling pig feed in smaller packages. Corin Mulia Gemilang, one of the large agriculture machinery companies in East Java, opened a branch in Jember, copying the marketing approach by PRISMA's partner. In the mungbean sector, Diez has entered the market of certified mungbean seed in NTT. There are indications of crowding-in of 2 more companies, one in maize Madura and one in rice, but these will be confirmed in the next semester.

KPI 10 - Number of responding businesses/institutions

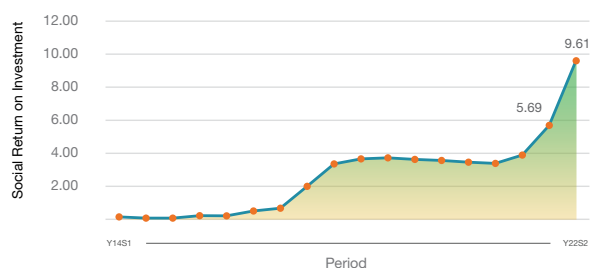
Six businesses have responded to PRISMA partners' activities and supported the market development in several sectors. Bank Mandiri has responded to the growth of the large machinery business of PRISMA's partner, Terra Agro, and supported the financing part of the business model. This linkage has also triggered a response from Bank Mandiri's headquarters, which has started to explore the feasibility of providing agriculture financing. Drone service and machinery spare parts providers (Trelleborg, Hasana Agro, and CV Bintang Kayla Makmur) have responded to the market growth of the mechanisation sector in East Java. In the soil treatment sector, EWINDO has collaborated with PT. Petrokimia Gresik for improving access to inputs and GAP information for farmers.

KPI 11 - Number of policy engagement

Out of 14 policy engagement initiatives this semester, 6 have been at the national level with Bappenas, the MoA, the Ministry of Village and Development of Disadvantaged Regions, and the Ministry of SOE. In these engagements, PRISMA advocated and advised for the introduction of the Jersey breed (dairy sector), new feed standards (beef and dairy sectors), and implementation of a national-level integrated agriculture program (Agrosolution/MAKMUR program in the soil treatment sector). PRISMA also supported the national and provincial governments in East and Central Java with a cost-benefit analysis study on the recovery from the FMD outbreak. In addition, PRISMA has continued to engage its private sector partners with district-level government agencies to support the application of innovation for farmers.

Annex 6: Value for money

Ex-Post - Social Return on Investment
(Total Intervention Cost)





Jl. Margorejo Indah I blok A-535,
Surabaya 60238, Indonesia



info@aip-prisma.or.id



+62 31 8420473



[www.linkedin.com/company/
prisma-indonesia/](https://www.linkedin.com/company/prisma-indonesia/)

PRISMA is supported by the Governments
of Australia and Indonesia and implemented
by Palladium, with Technical Assistance from
Swisscontact, Zurich.