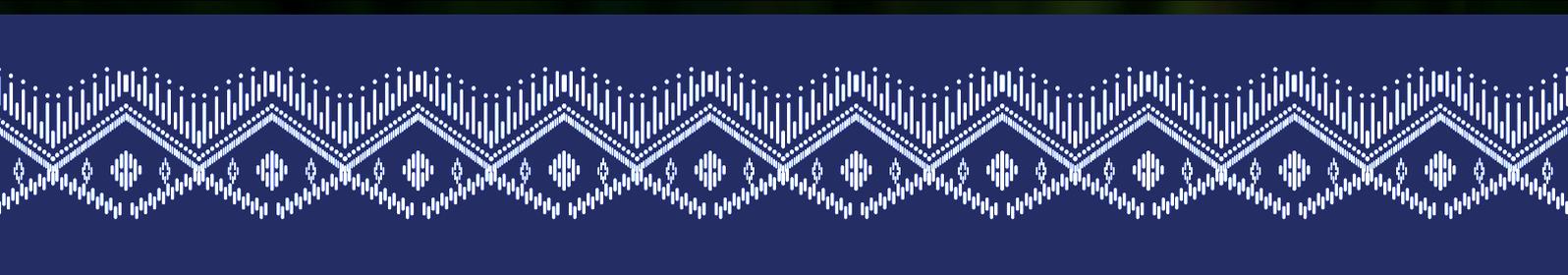




PRISMA
Progress Report and
Implementation Plan

January - June 2022



PRISMA

Progress and Implementation Report January - June 2022



Australian Government





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LIST OF ABBREVIATIONS

AI	Artificial Insemination
AIHSP	Australia Indonesia Health Security Partnership
ASF	African Swine Fever
AUD	Australian Dollar
BAI	PT Bio Agromitra Indonesia
Bappenas	National Development Planning Agency (<i>Badan Perencanaan Pembangunan Nasional</i>)
BBPADI	Indonesian Centre for Rice Research
BNI	Bank Negara Indonesia
BPTP	Agricultural Technology Research Centre (<i>Balai Pengkajian Teknologi Pertanian</i>)
BRI	Bank Rakyat Indonesia
B2B	Business-to-Business
B2C	Business-to-Consumer
CEO	Chief Executive Officer
CJ	Central Java Province
CV	Limited Partnership (<i>Commanditaire Vennootschap</i>)
DFAT	Department of Foreign Affairs and Trade, Australia
DISTAN-KP	Provincial Agriculture Office (<i>Dinas Pertanian dan Ketahanan Pangan</i>)
DPI	Dairy Processing Industries
EDA	Environmental Desk Assessment
EJ	East Java Province
EOPO	End of Program Outcomes
FI	Financial Institutions
FMD	Foot and Mouth Disease
GAP	Good Agricultural Practices
GESI	Gender Equality and Social Inclusion
GFP	Good Fertilising Practice
GHP	Good Handling Practices or Good Husbandry Practices or Good Harvesting Practices
GOA	Government of Australia
GOI	Government of Indonesia
Ha	Hectare
HH	Household
HYV	High-yielding seed varieties
ICT	Information and Communication Technology
IDR	Indonesian Rupiah
ISP	Intermediary Service Provider
ITN	PT Inbio Tani Nusantara
KPI	Key Performance Indicator
LSD	Lumpy Skin Disease
MIS	Management Information System
MOA	Indonesian Ministry of Agriculture

MoU	Memorandum of Understanding
MSD	Market System Development
MSS	Market System Strategy
MT	Metric tonnes
NAIC	Net Attributable Income Change
NTB	West Nusa Tenggara Province (<i>Nusa Tenggara Barat</i>)
NTT	East Nusa Tenggara Province (<i>Nusa Tenggara Timur</i>)
OJK	Financial Services Authority (<i>Otoritas Jasa Keuangan</i>)
OPV	Open-Pollinated Variety (a hybrid seed)
PA	Portfolio Adviser
PCC	Program Coordinating Committee
PKG	PT Petrokrimia Gresik
PKT	PT Pupuk Kalimantan Timur
PNM	Permodalan Nasional Madani
PPP	Purchasing Power Parity
PRISMA	Promoting Rural Income through Support for Markets in Agriculture
PRIP	Progress Report and Implementation Plan
PSP	Private Sector Partner
PT	Limited Liability Company (<i>Perseroan Terbatas</i>)
PT UPL	PT United Phosphorus Limited
PWP	Papua West Papua Province
Renstra	Strategic Plan (<i>Rencana Strategis</i>)
RKP	Government Work Plan (<i>Rencana Kerja Pemerintah</i>)
RML	Result Management and Learning
RPJMN	National Mid-Term Development Planning (<i>Rencana Pembangunan Jangka Menengah Nasional</i>)
R&D	Research and Development
SDG	Sustainable Development Goals
SME	Small and Medium Enterprises
SMT	Senior Management Team
SNI	National Standards (<i>Standar Nasional Indonesia</i>)
SOE	State-Owned Enterprises
TBS	Trap Barrier System
TJPS	Plant Maize - Raise Cattle (<i>Tanam Jagung Panen Sapi</i>)
TMI	PT Tani Murni Indonesia
TOR	Terms of Reference
UD	Universal Design
USD	United States Dollar
WEE	Women's Economic Empowerment
WSA	Women Sales Agents

INDICATOR DEFINITIONS

Direct Intervention Cost	PRISMA's contributions to the intervention-related budget, as described in the partnership agreement or memorandum of understanding (MoU)
Existing intervention	Intervention that is currently running and/or was started in 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 (RML) 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, intermediary service providers (ISPs), and farmers to the actual intervention costs
Investment Per Farm Household	The average actual intervention costs per farm household
IP	An Intervention Plan (IP) 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); ISPs 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 USD 2.50 purchasing power parity (PPP) poverty line with increased net income
KPI 1a (old)	Number of smallholder farming households under USD 2.00 PPP poverty line with increased net income
KPI 1b (new)	Number of smallholder farming households under USD 5.50 PPP poverty line with increased net income
KPI 1b (old)	Number of smallholder farming households under USD 2.50 PPP poverty line with increased net income
KPI 2	Net attributable additional income for benefited farming households in Indonesian rupiah (IDR)
KPI 2a	Net attributable additional income for benefited farming households under USD1.90 PPP poverty line (extreme poverty) in IDR
KPI 2b	Net attributable additional income for benefited farming households under USD 2.50 PPP poverty line in IDR
KPI 3	Number of ISPs providing additional/improved access to innovation to farmers
KPI 4	Women's economic empowerment (WEE) effectiveness within PRISMA innovations

KPI 5	Value of additional turnover of ISPs 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 (NAIC) is an additional income generated from a specific technology or input promoted by PRISMA during one production cycle. For livestock, the measurement period is six months
New intervention	Intervention that started in 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 in the idea/ICN/IP stage
Projection	Projection value from existing and new intervention
QMT	Quality Management Tool (QMT) is 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 farm 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 (MSD) and like all approaches, it has developed its own specific language and terms. This section provides the meaning of those words to help the reader navigate this report.

<p>Copying</p>	<p>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.</p>
<p>Crowding-in</p>	<p>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 greater depth within the core market functions and is a key indicator of systemic change.</p>
<p>Market Systems Development (MSD)</p>	<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. 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>
<p>Market System Strategy (MSS)</p>	<p>An MSS is the framework used by PRISMA for each sector to link what PRISMA is doing in terms of activities with partners to what it hopes to achieve in the ‘market system’ and towards achieving the program objectives. PRISMA does this using a three-tiered system as a basis for the MSS – intervention area, market function, and market system change, which contributes to the sector vision.</p>
<p>Results chain</p>	<p>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 an MSS.</p>
<p>Systemic change</p>	<p>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.</p>
<p>Theory of change</p>	<p>This is a narrative of PRISMA’s MSS that explains the series of cause-and-effect changes following intervention activity. This represents PRISMA (and the sector’s) vision of how market systems will be functioning in the future, the pro-poor outcomes it results in, and the anticipated poverty reduction impact.</p>
<p>Wider Market Outreach or Households</p>	<p>This is 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.</p>

PURPOSE OF THIS REPORT

This report outlines the semester progress of the Australian-Indonesia Partnership for Rural Incomes Through the Supports for Markets in Agriculture (PRISMA) against the Annual Plan. The document outlines progress against the annual plan and any deviations or updates to the plan from 1 January to 30 June 2022. The report follows the Australian Department of Foreign Affairs and Trade (DFAT) Guidelines on progress reporting.

AUDIENCE

This report has been written for employees of DFAT Jakarta and in Canberra, for Bappenas, as well as PRISMA staff, partners and stakeholders.

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

REPORTING PERIOD

This report covers PRISMA's performance between 1 January and 30 June 2022. In the report, this period is referred to as "semester 1", "S1" or the "reporting period".





1

Executive Summary

EXECUTIVE SUMMARY

THE PROGRAM

PRISMA is a market systems development (MSD) program working in 12 agricultural sectors across six 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 Bappenas.

The program's investments try to change how the private sector does business in rural Indonesia so that smallholder farmers can increase their farm productivity. 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.

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 outcome (EPO) is to increase the income of one million smallholder farming households by 30 percent.

PROGRAM RELEVANCE

PRISMA is designed to alleviate poverty, build market resilience, improve market inclusion, and build partnerships with the private sector to support economic growth in Eastern Indonesia. The program aligns well with the GOI National Mid-Term Development Planning document (RPJMN) 2020-2024 and associated Government Work Plan (RKP) 2022 and DFAT's stability and economic recovery pillars of the COVID-19 policy framework, "Partnerships for Recovery: Australia's COVID-19 Development Response".

The program investments also support the Sustainable Development Goals (SDG) supported by both governments.

DELIVERY CONTEXT

To build inclusive and resilient economic growth, PRISMA must significantly change the behaviour of multiple market players to make the market more inclusive and bring about systemic change. This semester was about ensuring that portfolio teams pitch sufficient business models to enough market players and partnerships reach expected milestones before the partnership signing cut-off date of August 2022. The program chose this date because it allows one more planting season to trial any new innovations before the program ends.

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

Some of PRISMA's key sectors were impacted this semester by unexpected external shocks. These shocks included:

	The ongoing outbreak of African Swine Fever (ASF) in the pig sector
	Foot and Mouth Disease (FMD) and Lumpy Skin Disease (LSD) in the cattle sector
	The Russia-Ukraine conflict on the fertiliser and mechanisation sector with the stop of imports
	Climate change impacted the mung-bean sector, which resulted in unseasonal rat plagues

MARKET SYSTEM STRATEGY EXPLAINED

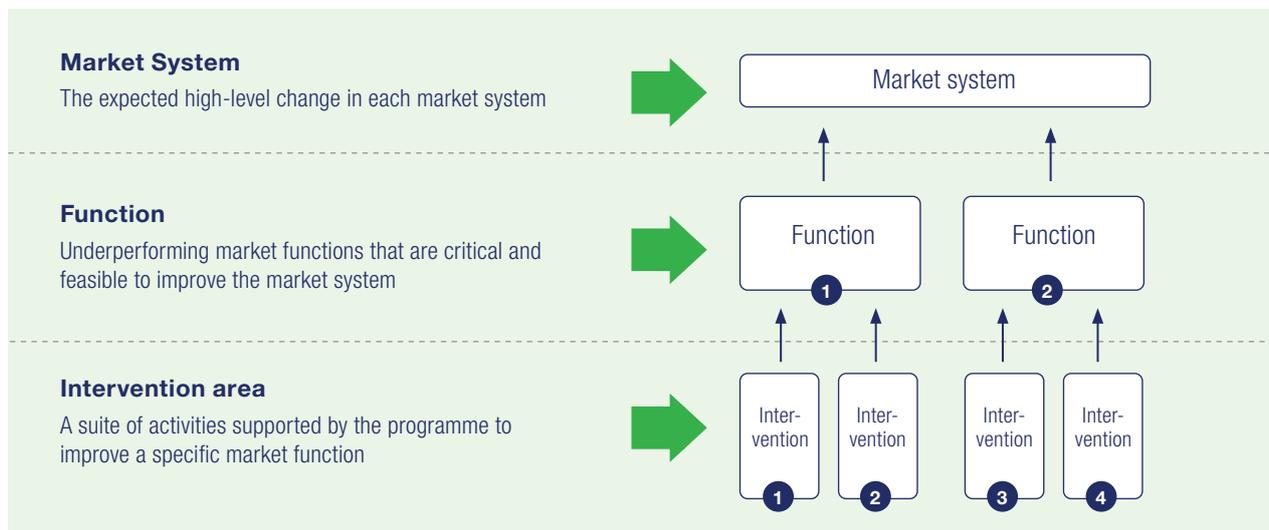


Figure 1. Market System Strategy diagram



PORTFOLIO PROGRESS

Global macro-pressures will impact program performance, but the program is on track to hit the EOPO. However, this will not be able to be verified due to the fact the end of the program coincides with the primary agricultural season. All sectors show signs of resilience against micro-shocks, and many against macro-shocks.

Good progress was made against the Market System Strategies (MSS), with some changes to the pig and mechanisation MSS based on further feasibility assessments. There are new MSS for the finance and information and communication technology (ICT) sectors. A summary of progress can be found in Table 1.

PROGRESS AGAINST SYSTEMIC CHANGE

There has been good progress towards systemic change this semester with mechanisation now showing early progress towards systemic change, whereas last semester it was showing potential only. The pig sector, with its move towards sector recovery after ASF, is now showing systemic change potential. All other sectors remain the same (refer to Figure 1).

This PRIP highlights the cross-cutting sectors of crop protection, mechanisation and the rice seed commodity sector. Crop protection is showing adequate progress towards systemic change. Mechanisation has come a long way in the last semester and is showing early progress of systemic change. The rice sector is showing potential to achieve systemic change.

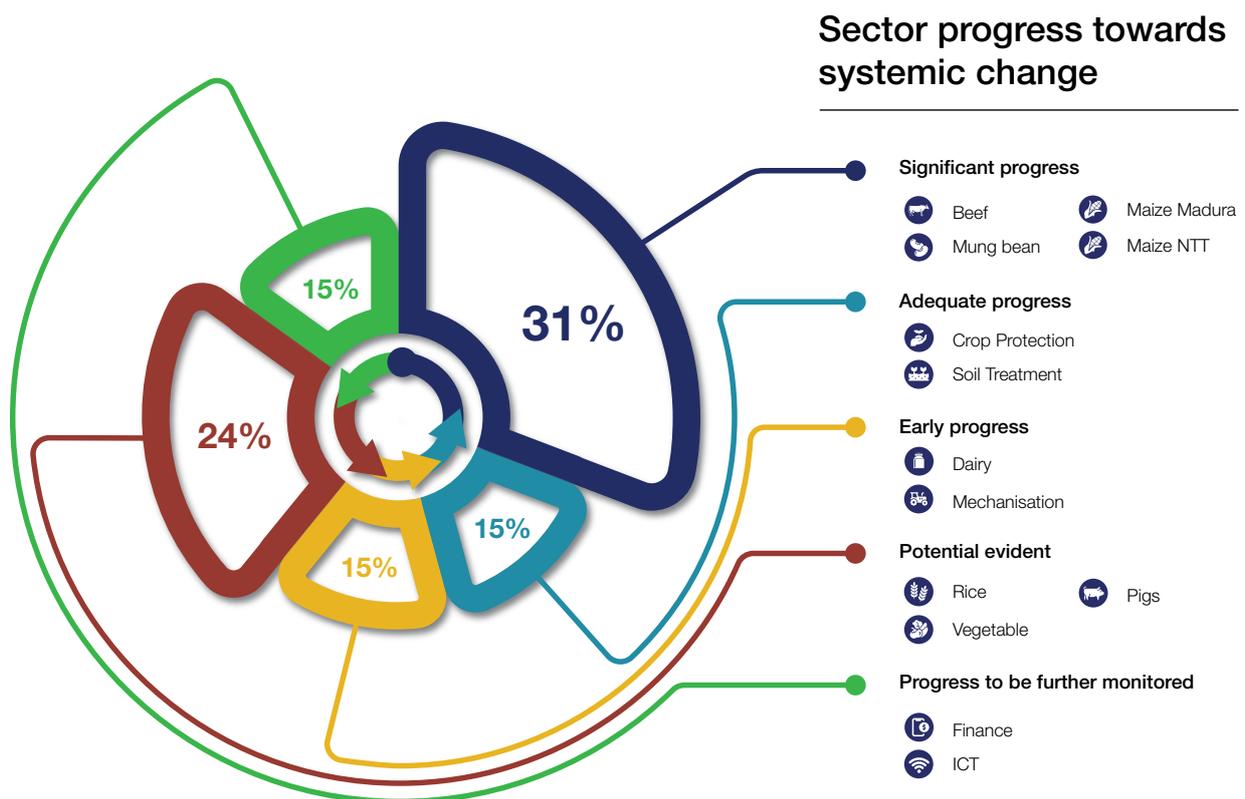


Figure 2. Portfolio progress towards systemic change

Crop protection

Crop protection is a cross-cutting sector, and PRISMA measures impact specifically for rice and maize farmers. In the three years since the intervention began, rice and maize farmers are experiencing a 35 percent reduction in harvest loss due to correctly applying safer crop protection products. During the reporting period, there has been autonomous crowding in from competitors to adopt the business model using an educational approach to marketing safer crop protection products. Next semester PRISMA needs to implement strategies to ensure the scaling up of the approach.

Mechanisation

Mechanisation is a cross-cutting sector, and in two years since its inception, rice farmers have experienced an 80 percent reduction in harvest loss using combine harvester services. Rice and maize farmers have reduced production costs by 46 percent by using combine harvester and maize planter services. Machinery companies have been growing, broadening their sales to include after-sales services for machine owners, and renting services for smallholder farmers. PRISMA has also triggered precision crop spraying using drone technology, with a burgeoning service market to smallholder farmers. The progress in this sector has been exciting, but PRISMA needs to target more parent companies to reach scale in the remaining 18 months.

Rice

The rice sector has seen exciting developments, although the scale remains relatively modest. PRISMA has been pushing the commercialisation of high-yielding seed varieties in the rice sector. The progress has been extremely promising, with seed partners increasing production by 70 percent. Both partners have increased their production area, and new seed varieties are being developed. One seed variety needs significantly less water during the growing season giving increased production and exceptional positive environmental impacts. However, both partners have limited capacity to grow, and PRISMA will need to find scale agents. Scale is possible through a change to the rice procurement process for the government free seed program, but the pace of change in policy takes time.

The progress of the other sectors is highlighted in Table 1.



Table 1. Summary of sector progress against MSS

Sectors	Key progress
Beef	This semester, partners experienced a 32 percent increase in feed sales despite LSD and FMD outbreaks. 139 new feed agents recruited this semester. Feed companies invested Rp. 4.5 billion this semester in feed plants and warehouses, expanding their coverage across Indonesia. PRISMA did a detailed market analysis of all available feed brands this semester to support a policy brief to change national feed standards. PRISMA supported the Provincial governments to address FMD outbreak.
Dairy	The feed and medicine markets for dairy cattle continued to grow this semester. PT Nufeed invested in sales agents and marketing activities, selling more than 2,700 tonnes of feed, 85 percent of which was in the commercial market. PT Medion experienced a 50 percent increase in sales for mastitis treatment. PRISMA's support to MOA in developing a roadmap for the dairy sector is underway.
Finance	Several banks showed strong interest in introducing revolving loans for SMEs (i.e., kiosks and retailers). BRI, BNI, and Bank Sinar Mas agreed to join PRISMA's current partner, Bank Mandiri, to target kiosks for SME lending. Another partner, PNM, shifted its focus toward financing kiosks and retailers.
ICT	PRISMA's strategy to make agriculture kiosks an information hub got traction from several input companies and distributors. PT Agri Pintar Asia and PT Bayar have agreed to support kiosks with management training and technical information. PRISMA is in discussion with Halodoc to introduce veterinary services to farmers.
Maize Madura	The commercial hybrid seed market in Madura continues to grow with six maize seed companies actively promoting hybrid seeds in Madura – three of them crowding-in. The district governments continue to promote hybrid seed by increasing farmers' access to irrigation.
Maize NTT	This semester, PRISMA focused on improving the capacity of local nurseries in seed production by supporting training for 32 nurseries with the seed control and certification centre and the agriculture technology research centre (BPTP). Eleven nurseries have now developed plans for business expansion. PRISMA supported the government's TJPS program in promoting GAP to maize farmers.
Mung beans	The demand for certified mung bean seeds continued to grow, with new seed nurseries entering the market autonomously.
Pig	PRISMA is supporting the pig farmers in NTT to recover from the ASF outbreak by supporting breed farms and feed companies. PRISMA's feed partners expanded their coverage and investment. At least 12 breeding farms emerged as potential partners in promoting piglets and Artificial Insemination (AI). The awareness campaign on ASF continued this semester and collaboration with provincial and district animal husbandry offices is also ongoing.
Soil Treatment	A greater level of ownership and adaptation by the partner companies was observed this semester. Fertiliser companies invested in expanding and developing the skills of their sales and marketing force. The SOE continued implementing multistakeholder partnerships and achieved 50 percent of its target. Other partners recruited new sales agents and expanded their commercial markets further by strengthening their distribution networks.
Vegetables	PRISMA partners continue reaching farmers with high-quality inputs, investing in farmers' education, and establishing distribution networks in Papua and West Papua. Agrosid implemented indigenous-targeted activities and acquired a new distributor. Tani Murni Indonesia invested in new sales agents, adapted its marketing strategy, and established a distribution network within six months of operation.



PRISMA achievements

Total smallholder farming HHs with increased incomes

UP TO JUNE 2022

763,055

JANUARY - JUNE 2022

REALISATION

173,679 HHs

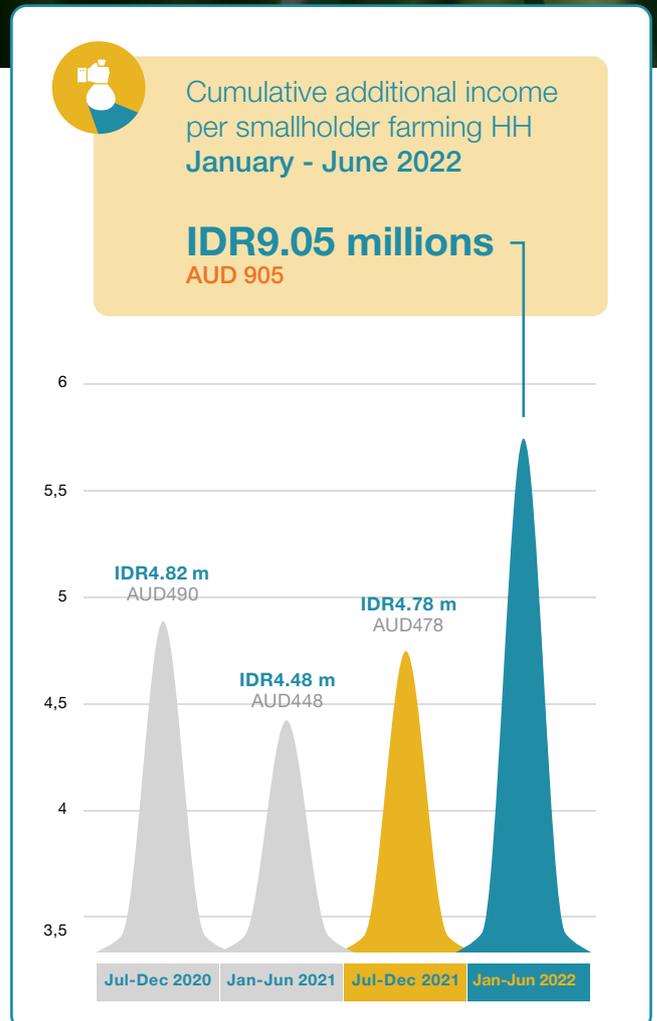
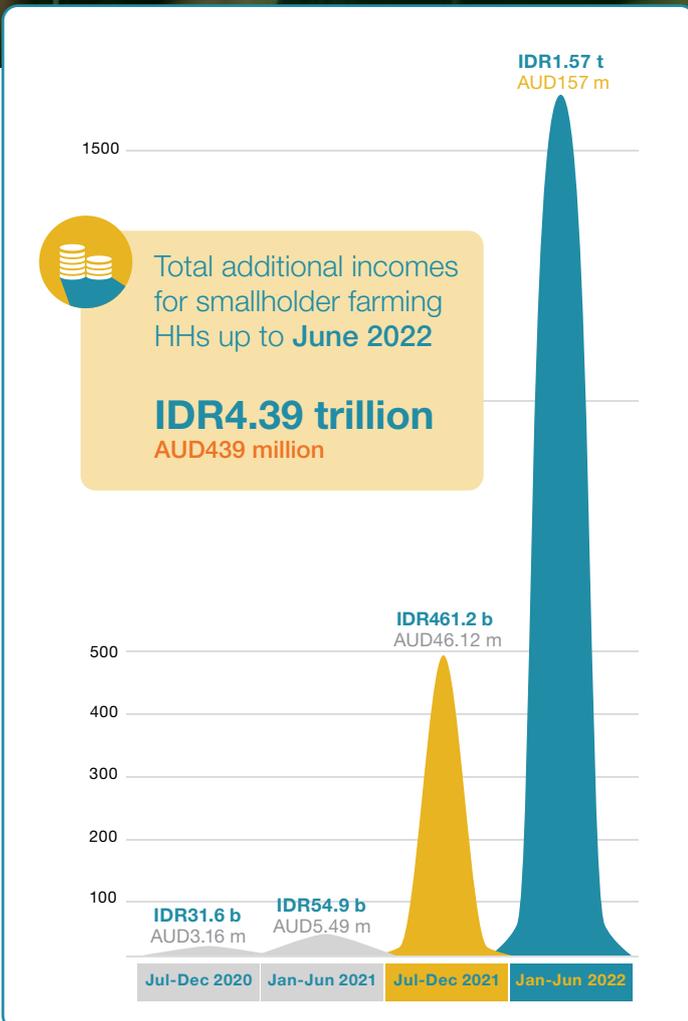


TARGET

78,847

PRISMA is 76,3%

towards the target of 1 million HHs by 2023



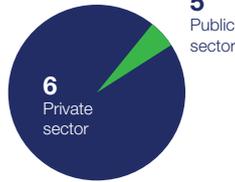


Total number of partners up to June 2022

238

Number of new partners in January - June 2022

11



Number of crowding-in businesses/institutions in January - June 2022

4

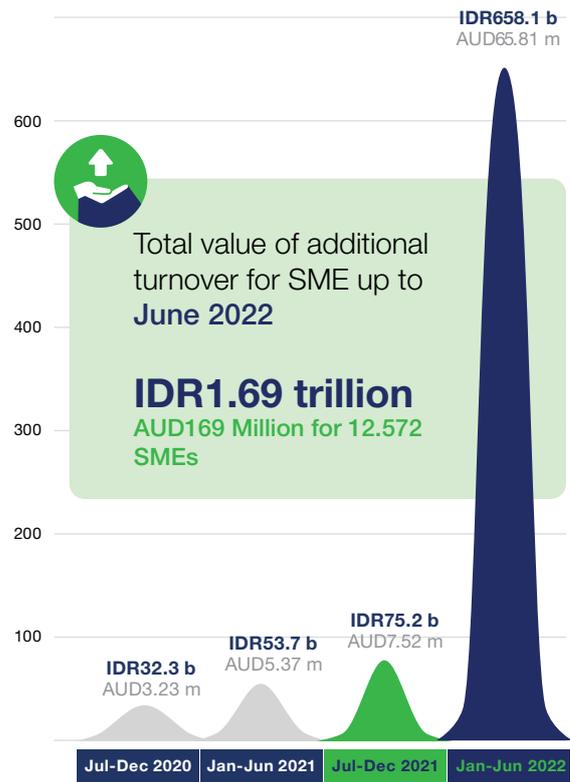
Number of responding businesses/institutions in January - June 2022

6



Total value of additional turnover for SME up to June 2022

IDR1.69 trillion
AUD169 Million for 12,572 SMEs



Investment per HH from Total Intervention Cost

101.13 (actual Jan - June 2022)

122.98 (actual July - Dec 2021)

↓ Decreasing 17.77%

The most efficient throughout PRISMA's implementation

- The average actual total investment costs per farm household for every intervention
- Compared to early stage of 2nd phase, Y19S1 figure (\$156.56), PRISMA has reduced the investment per HH by \$101.13 by Y22S1 or reducing 35.4% since early stage of 2nd phase. This means **PRISMA becomes more efficient in implementation.**



Social Return on Investment (SROI) per HH (VFMSRT)

5.69 (actual Jan - June 2022)

↑ Increasing 1.8 per HH from last semester (3.89)

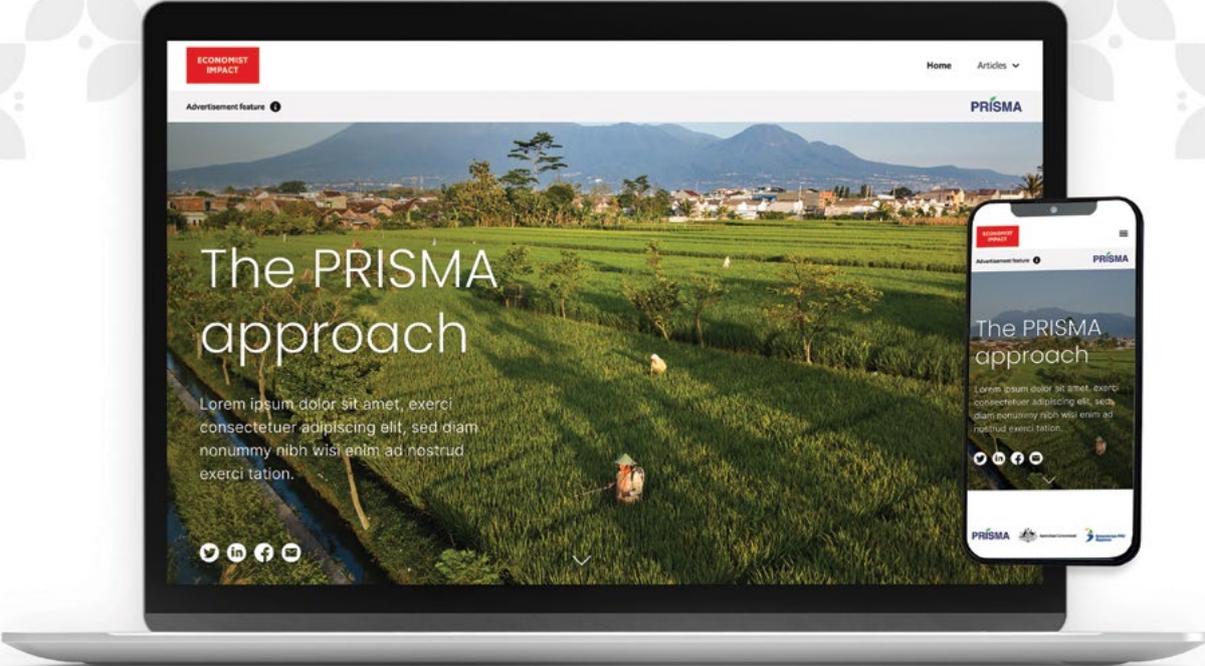
- Since 2018, PRISMA has consistently achieved higher Social Return on Investment.
- The actual value of farm household's net income increase compared to the actual total intervention costs per HH.
- The Figure 5.69 means for every dollar PRISMA has invested to the farm household, the beneficiary HH increased their income by AUD5.69.
- This figure is the highest compared with previous semesters or increasing 46.27% from previous semester AUD3.89.

PRISMA AND ECONOMIST IMPACT

PRISMA partnered with EI studios, a custom division of Economist Impact, to leverage their journalism, brand and data visualisation expertise to tell the PRISMA story. The partnership documents PRISMA's concrete outcomes and raises visibility of the program.

The partnership has produced a standalone website with data visualisations and 2 long-form articles housed at: <https://impact.economist.com/projects/growing-indonesia/>.

Home page



Aiding systemic change: Growing inclusive markets in rural Indonesia through public-private partnerships

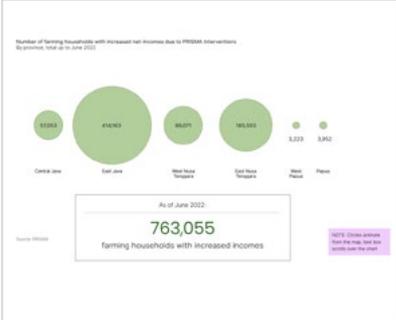
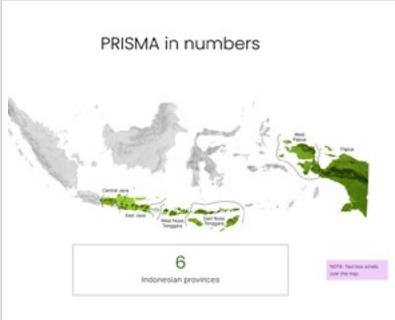
As global leaders focus on food security and climate change amidst the 19th UN Climate Change Conference in Glasgow in November 2022, one public-private partnership is working to address food supply and poverty in Indonesia by making it...

[Read the article](#)

Growing opportunities: How seed and feed are transforming Indonesian lives

Access to better quality living seed and cattle feed facilitated through PRISMA is being introduced across out of the growing cycle, while creating opportunities for growth across the agricultural supply chain and wider community.

[Read the article](#)



Read more: <https://impact.economist.com/projects/growing-indonesia/>

Article 1



Aiding systemic change: Growing inclusive markets in rural Indonesia through public-private partnerships

PRISMA operates in six Indonesian provinces



Sustainable market change

Funded by the Australian Government's aid program and implemented in cooperation with the Government of Indonesia, PRISMA's core mission is to accelerate poverty reduction through inclusive economic growth. Unleashed in Indonesia before it launched in 2019, the MSD approach which PRISMA uses is key to its mission.



Growth in action

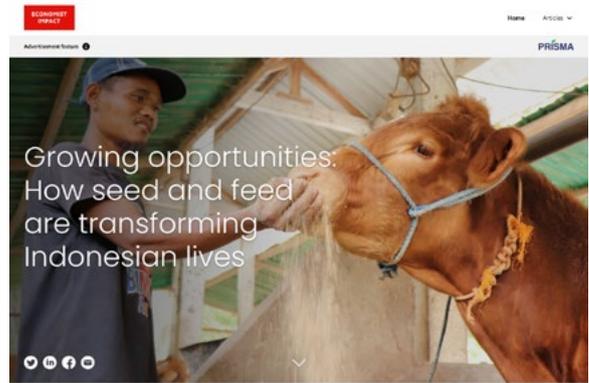
To date, PRISMA has focused on twelve major agricultural and cross-sector commodities whose markets are supplied by large numbers of poor farmers. The programme started by targeting many different sectors, including beef cattle, pork, dairy, rice, vegetables, maize and mung bean, and established early traction. As it matured, the programme has built on these successes to target key sectors like beef



Putting Market Systems Development to the test

Dr Bob Warner, an economist and Visiting Fellow at the Development Policy Centre in the Crawford School of Public Policy at the Australian National University, is not involved with PRISMA but is well acquainted with MSD-informed development programs. He says he believes PRISMA has put the MSD model to the "ultimate road test", given the challenging environment Indonesia presents. Endowed with abundant rain, agreeable temperatures and fertile soils, Indonesia should be the food bowl of the world.

Article 2



Growing opportunities: How seed and feed are transforming Indonesian lives



Mung bean revelation

Key achievements

By identifying opportunities and forging partnerships with the private sector, PRISMA has been responsible for starting the commercial mung bean seed sector in Indonesia. From a baseline of zero, ten percent of the mung bean market is now commercial. PRISMA expects to reach 62,000 poor farming households with an expected income increase of 47 percent.



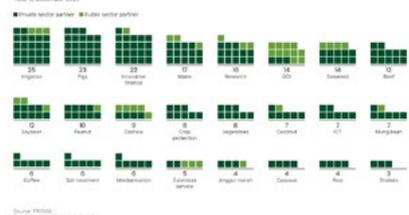
Beef feeds appetite for growth

Key achievements

By establishing distribution channels for concentrate feed, the number of companies selling good quality concentrate cattle feed has increased from 3 to 26. Through the efforts of PRISMA, national beef production has increased by 6 percent. PRISMA's support in the beef sector will increase hundreds of thousands of poor farming households with an income increase of 131 percent.

Cultivating partnerships

Number of private and public sector partners working with PRISMA, top 24 sectors
Total to December 2023



Source: PRISMA, 2023. Estimated report

Cultivating partnerships

Value of additional turnover of private sector partners
Total to December 2023

A\$29,622,788

These partnerships have grown to be invaluable not just for farmers such as Mug and Zain. The first value of additional turnover of private sector partners was close to A\$29 million by the end of 2023.

PROGRESS IN CROSS-CUTTING AREAS

Good progress has been made in the cross-cutting areas. **Policy Engagement** at the National level continues to progress nicely. Bappenas has endorsed the work towards changing the beef national feed standards by allocating AUD 11.4 million for a new feed testing facility at Bekasi. The MOA asked PRISMA to assist in developing a Roadmap for the use of Jersey cows imported from Australia. Good progress is evident at the sub-national level, particularly in supporting the government's fight against ASF and FMD.

The Gender Equality, Disability and Social Inclusion team is now measuring how far PRISMA's interventions are moving beyond access for women farmers to agency. To date, 62 percent of women are experiencing economic advancement due to PRISMA interventions, and 34 percent of women farmers actively engage in agricultural decision-making. PRISMA also started measuring the access of farmers living with disabilities. This semester, 29 farmers were identified as having benefited from PRISMA-supported activities.

PRISMA updated its image this semester, as part of the **Strategic Communications Strategy**, and work is well underway in collecting and sharing PRISMA's lessons learned, including a joint publication with The Economist Intelligence Unit.

PRISMA has commenced an **Environment** stock take to identify existing innovations in climate-smart agriculture (see infographic on climate smart agriculture).

The **Results Management** team undertook nine impact assessments this reporting period. The achievement highlights overleaf summarise progress against the Key Performance Indicators (KPI).

OPERATIONS

Operations units continue to provide logistical and administrative support to implement the program. A cohort of implementation staff was onboarded and all vacant Long-Term Advisers positions were filled and mobilised in-country. All offices re-opened to allowable capacities. Eleven new Collaboration Agreements were signed to make up 59 active agreements.

CHALLENGES, RISKS, AND MANAGEMENT RESPONSE

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

- Rising food prices resulting in slower adoption of innovations promoted by PRISMA partners. This will be addressed by supporting partners to adapt their products and marketing strategies.
- The increased prices of chemical fertilisers will likely impact the program's progress in the soil treatment sector. To minimise the impact, PRISMA will continue observing the market and is supporting partners to promote a balanced mix of fertilisers.
- Animal disease outbreaks continue to impact the program's progress in the livestock sectors. PRISMA will continue to assist the GOI in its prevention and response efforts in containing the outbreaks.
- The short timeframe for implementing the new and revised MSS might be challenging in achieving significant progress towards systemic change. The Senior Management Team (SMT) will closely monitor the MSS and provide strategic direction to the sector teams.
- Difficulties in measuring wider market outreach continues due to a lack of access to sales data. The SMT will discuss with DFAT a way to estimate wider market outreach without compromising the rigour of the PRISMA KPI.
- Retaining key experienced staff as the program approaches its end phase will continue to be challenging. A revised incentive structure is being put in place commencing this semester to minimise turnover.
- Mainstreaming inclusive business models for people with disabilities has been challenging, mainly due to limited business case for private sector partners. PRISMA will adopt an opportunistic approach to promote Universal Design principles with its partners to reduce barriers to inclusion for people with disabilities.

LESSONS LEARNED

This semester, PRISMA began collecting and collating strategic-level lessons learned in preparation for the Mid-Term Independent Strategic Review team, expected next semester. The program identified good practice in terms of building market resilience following the response to COVID-19. These lessons learned are now being fed into the sector MSS, particularly for sectors experiencing medium to long-term shocks, such as beef and pig sectors.

The SMT identified the importance of supplementing the sector review with field visits to better assist the sector teams identify areas to improve the progress toward systemic change.



2

**Program
relevance**

PROGRAM RELEVANCE

PRISMA is an MSD program working in agriculture in six provinces in Eastern Indonesia: East Java, Central Java, NTT, NTB, Papua and West Papua. The program is funded by the Australian Government's aid program through DFAT and implemented in cooperation with the GOI through Bappenas.

The program's investments try to change how the private sector does business in rural Indonesia so that smallholder farmers can increase their farm productivity. 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.

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 EOPO is to increase the income of one million smallholder farming households by 30 percent.

RELEVANCE TO GOI STRATEGY

The priority for Bappenas is to ensure that PRISMA activities contribute to the poverty reduction and food security agenda and align with RPJMN 2020-2024 and the Government Work Plan (RKP) 2022. Bappenas supports the program's efforts to ensure smallholder farmers have access to critical inputs in line with the Strategic Plan of the MOA (Renstra 2020-2024). PRISMA is still closely aligned with GOI plans for post-COVID-19 economic recovery.



RELEVANCE TO GOA STRATEGY

PRISMA’s activities in the agricultural sector are closely aligned with DFAT’s stability and economic recovery pillars of the COVID-19 policy framework, “Partnerships for Recovery: Australia’s COVID-19 Development Response”. 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 is well aligned with DFAT’s COVID-19 Development Response Plan by building more resilient agricultural markets in Eastern Indonesia.

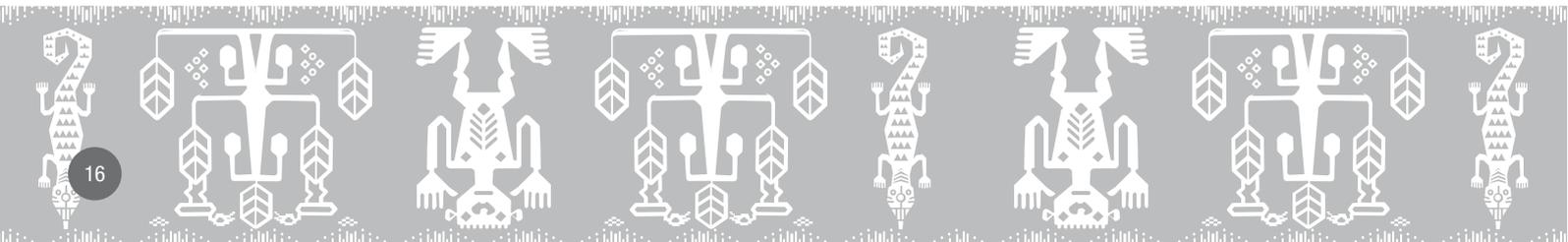
Impacts of COVID-19 and the ongoing conflict between Russia and Ukraine have resulted in global economic upheaval, leading more rural poor into poverty. The MSD approach helps markets recover and build resilience against future shocks. It does this by tackling the underlying causes of market failures and addressing inclusion and resilience at the same time. PRISMA is therefore well placed as part of the DFAT’s recovery portfolio.

RELEVANCE TO SDGS

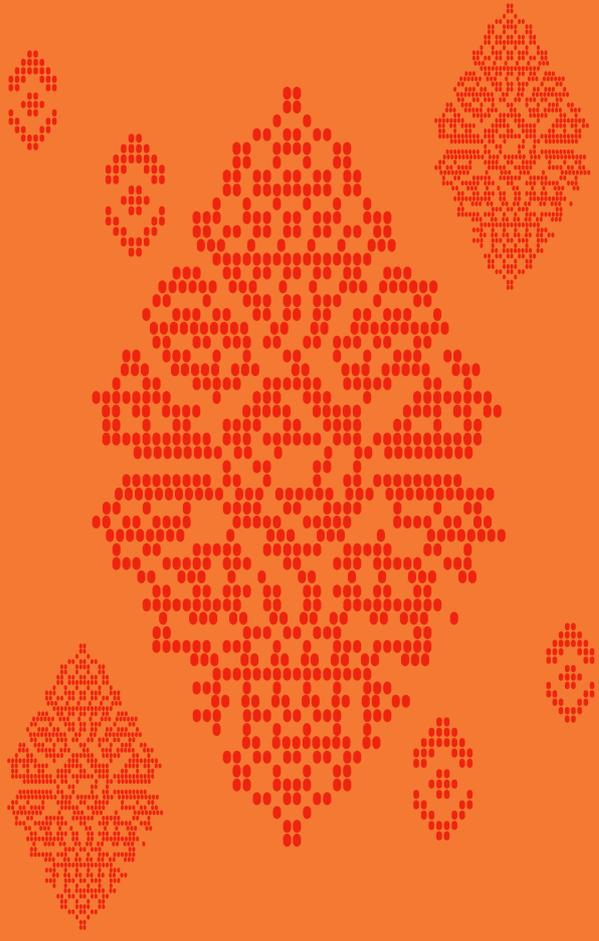
PRISMA is designed to support economic recovery, address inclusion, and build partnerships with the private sector to support agricultural growth in Eastern Indonesia.

PRISMA’s KPIs are aligned with the Sustainable Development Goals (SDGs) one and two: ending poverty and ending hunger.

PRISMA also captures data on WEE, which goes some way to contributing to SDG five - gender equality.







3

**Portfolio
progress**

PORTFOLIO PROGRESS

PROGRAM CONTEXT

PRISMA aims to improve poor farmers' competitiveness and access to agricultural markets. The program 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 change how the private sector does business in agriculture and permanently adjust the behaviour of the market players to benefit the poor. PRISMA also tries to change the nature of the interaction between the market players so that the market will continue to function in this changed state when PRISMA withdraws support. This permanent behaviour change of multiple market players is what MSD programs call systemic change.

In 2021, PRISMA refreshed the implementation strategy, focussing on mapping how each agricultural sector will achieve systemic change and the extent of that change by the program's end. The map to achieve this is the Market System Strategy (MSS). For PRISMA to ensure the sustainability of the targeted market change, the program must work on several market failures, and these are outlined in the functional areas each sector addresses.

In semester 2 of 2021, PRISMA assessed the feasibility of new market functions identified for each sector. This reporting period was about convincing the private sector and influencing the public sector to agree to working in the new functional areas. Any new partnerships that will contribute to addressing the market underperformance need to be signed by August 2022 to allow sufficient time for the innovation to trial at least one planting season. Because of this time pressure, PRISMA was all-systems-go this semester.

Market systems, by their nature, are dynamic and subject to shock. Micro shocks at the farm level occur continuously: someone gets a long-term illness; someone loses a crop; someone experiences a flood. MSD programs try to build resilience into the system and increase poor farmers' income to better cope with these micro shocks.

However, when macro-shocks threaten the entire market, it takes time for MSD programs to change the system sufficiently to be resilient to these shocks. COVID-19 significantly impacted the private sector, and the market effects were felt globally. Pest and disease outbreaks have also hit Indonesia, including ASF, which has decimated the pig sector for the last three years and, more recently, FMD and LSD in the beef and dairy sectors.

To add further pressure, the ongoing conflict between Russia and Ukraine has compounded the impacts of COVID-19, with implications on supply chains, the price of goods, and inflationary pressures.

Climate change is an ongoing macro shock that continues to impact the agriculture sector in Indonesia. This semester, the mung bean sector was impacted by climatic changes leading to rat infestations. Over the next semester the program is undertaking a stocktake of the climate smart innovations already being implemented by the program to develop a climate change roadmap to ensure progress to date is built on in the final 12 months of implementation.

The global macro-pressures will impact program performance, particularly in the livestock sectors, but MSD programs like PRISMA are here for precisely these reasons – to try and build resilience into the market systems, so they can better absorb these shocks over the long-term.

PORTFOLIO DEVELOPMENT AND ANALYSIS

Summary of progress

The program is making good progress against the MSS outlined in the Annual Plan for 2022. Thirteen new partnerships were signed from a semester target of ten. Twenty new Intervention Plans were presented and approved from a target of nineteen.²

This semester, the SMT reviewed the sectors identified in the previous PRIP as showing good progress towards systemic change – crop protection, mechanisation, and the rice sector. These sectors are new to the second phase of PRISMA, but all sectors are making notable progress after coming off the back of two years of slow implementation due to COVID-19. These three sectors are highlighted in this PRIP.

The four sectors highlighted during the last PRIP are still making significant progress towards systemic change – beef, maize Madura, mung bean, and soil treatment – and continue to go from strength to strength.

A new outbreak of ASF will impact progress in the pig sector, so this semester PRISMA focussed the MSS on detection, prevention, and response, which will lay a strong foundation for sector recovery. It is too early to tell the impact of FMD and LSD on cattle interventions, but a rapid assessment of the readiness of the market to contain the outbreak is not favourable. Recovery of the sector will depend on the effectiveness of the FMD vaccine roll-out, but the feed, animal health and policy functions supported by PRISMA are not seeing a downturn in progress at this point.

New and mutually supporting MSS were developed for the finance and ICT sectors this reporting period and progress is being made in both sectors.

Satisfactory progress has been made against the other MSS, which are outlined in Annex 1.

Progress against systemic change

PRISMA measures systemic change against key market changes. A sector has made systemic changes when it exhibits aspects of the following:

	The innovation/business model has been adapted by market actors and this has led to changes (new or changed services) that are benefitting poor farmers.
	Behaviour changes of market actors have resulted in the poor continuing to receive those benefits.
	Other market actors are providing the new service independently.
	A better enabling environment or changes in the regulatory functions that support the new changed state.
	The change is at scale, or is likely to reach scale, and is transformative (rather than transactional).

There has been good progress towards systemic change this semester with mechanisation now showing early progress towards systemic change, whereas last semester, it was showing potential only. The pig sector, with its move towards sector recovery after ASF, is now showing systemic change potential. All other sectors remain the same.

The section below highlights the cross-cutting sectors of crop protection and mechanisation and the rice seed commodity sector. Crop protection is showing adequate progress towards systemic change. Mechanisation has come a long way in the last semester and is showing early progress of systemic change. The rice sector is showing potential to achieve systemic change.

² Pig sector and finance sector presented 3 IPs each in one presentation

Sector highlights



1.1.1.1 Crop protection (progress against MSS)

In the previous semester’s PRIP, the program included an intervention area on improving the capacity of public extension services to disseminate information and improve farmers’ accessibility. However, during the sector review, the team decided there was insufficient time to make adequate progress in this functional area. The ICT team will cover some aspects of this functional area with online communication platforms such as Cybex and WhatsApp for Business. The current MSS has been adjusted to reflect this change.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to June 2022 (%)
<p>Cumulative outreach actual to June 2022 (HHs) 110,267</p>	<p>142,993</p>	<p>36% ↓</p>
	<p>Total NAIC up to June 2022 (IDR) 580.4 billion</p>	<p>Total projected NAIC to Dec 2023 (IDR) 665.1 billion</p>

Value for money (VFM)

Investment leverage
12.64

Investment per HH
AUD26.26

Social return
20.04

Crop protection is defending crops from damage and death by pests and disease. 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. Poor pest and disease management is magnified due to inadequate extension services to rural farmers.

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 good application practices.

Market function 1: Marketing and communication

This semester, there has been further partner buy-in by PT FMC and PT Agricon. Both companies continued to adapt their marketing strategy and invested more in embedding farmer education and promoting safer products.

FMC further invested in its online promotional variety show, which it branded “Saung TKP”. FMC is now airing this outside of PRISMA working areas, and FMC’s field staff use the program for ‘watch parties’ when holding field events. The field staff use support vehicles and generators to allow the material to be shown in any location.

FMC has fully adopted the move to safer pesticides. After divesting Furadan, a hazardous pesticide banned in most countries, FMC has replaced more than 50 percent of its products with green label products.

This semester, PRISMA supported Agricon to launch a new, safer product for maize and shallots. This product positively impacts the environment as it reduces the need for other hazardous materials.

Following their commitment to digital and online marketing, PT UPL continued utilising online marketing activities to promote PT UPL’s product line for rice farmers. PT UPL plans to launch its newest product, a soil conditioner that can retain water in the soil longer. This product will be launched in July 2022, targeting maize and vegetable farmers.

Market function 2: Knowledge and information

Agricon made an unprecedented step of inviting PRISMA to participate in their annual national meeting. This meeting is usually commercial-in-confidence. PRISMA supported Agricon structure their staff salaries to incentivise field staff to disseminate educational information to farmers. The salary restructure is a good sign that the new business model has become part of the Agricon’s core business.

As a continuation of the research training previously provided by PRISMA, Agricon is now making research a part of its overall strategy to inform corporate decision-making. An example from this semester is a recent demand creation survey Agricon did, which found suboptimal retention of information from previous training on this subject. Agricon’s top-level management promptly did a full-day re-training for all junior managers and currently conducts in-person visits to review the result.

Challenges and learning

Rising energy and fertiliser prices in big manufacturing countries, such as China and India, impacted the sector this semester. The cost of generic pesticides spiked at the beginning of the semester and then stabilised. However, the conflict between Russia and Ukraine created a new spike, with prices increasing by 160 percent.

The food price inflation has also impacted the crop protection sector. As food prices have increased, farmers are left with lower purchasing power to use better quality inputs, including safer crop protection products. It is still too early to determine the impact on the sector’s vision by 2023 due to inflationary pressures.

CROP PROTECTION SYSTEMIC CHANGE STORY

The right stuff

A story of progress towards systemic change in crop protection



Why crop protection?

Rice and maize are integral to the daily lives of all Indonesians. The farmers who grow maize and rice are usually smallholders, many of whom are subsistence farmers.

In the agricultural “hierarchy of needs”, crop protection falls behind seed, water, and fertiliser. Because of the low priority, crop protection is usually the first input that farmers compromise if they experience prolonged stress on their finances.

The problem is, of course, that rice and maize are prone to pests and disease, so applying crop protection products is essential. One of the significant factors impacting the efficacy of crop protection products is incorrect use – the wrong dosage, the wrong product, the wrong timing, the wrong application, for example, even though 86 percent of rice farmers in East and Central Java use crop protection products, 72 percent are still experiencing harvest loss because of pests and disease. Likewise, 54 percent of farmers in maize are utilising crop protection products, but half of these are still losing their crops to pests and disease. The primary factor contributing to this harvest loss is incorrect use.

In 2019, PRISMA decided to address crop protection as a cross-cutting function in the maize and rice sectors. PRISMA determined that encouraging the private sector to make available safer products and embedding information and extension services with the products as part of their marketing strategy could improve sales for the companies. This marketing strategy would also improve crop productivity for the farmers, resulting in return customers. PRISMA was particularly interested in convincing the private sector of the commercial benefit of promoting safer products and embedding information on how to apply the products correctly.

It's not rocket science – but changing mindsets takes time

Most agri-input companies in Indonesia and around the world use a sales only approach to their marketing. The companies set sales targets for distributors and agents with a focus on quantity, not quality. The downside of this approach is that sales agents focus on making the sale and are not concerned about whom they sell to and what problems the farmers may be facing. PRISMA research has found this approach tends to encourage inappropriate use of products. The sales approach has a short-term benefit of high initial sales but a long-term disadvantage to the company and farmers as pests become resistant to the product due to incorrect use.

In late 2019 and early 2020, PRISMA partnered with three crop protection companies, FMC and PT UPL, both multinational companies, and Agricon, a national company, after convincing them to try the new marketing approach. Getting companies to listen to the new business model was difficult because most think the educational marketing approach is not cost-effective. The farmer education approach takes more time and resources than the sales approach. The steps to ensure that Agricon, PT UPL, and FMC changed the way they did business was through evidence. PRISMA used the results of extensive market research on farmer behaviour and showed the companies the long-term commercial benefit of building trust with the farmer community and then leveraging that trust over time.

In 2021, PRISMA developed a further partnership with MKD focusing on green label crop protection specifically for the maize sector.

PRISMA supported the companies in various marketing approaches for smallholder farmers. The methods included farmer field days, farmer meetings, demonstration plots, leaflets, and specialised clinics held at input kiosks. PRISMA supported the companies in building their capacity by co-funding training modules for staff and agronomists on what to communicate with farmers and how.

Houston, we have a problem

However, just as the strategy gained traction, COVID-19 hit, and the GOI instigated widespread movement restrictions. The policies prevented crop protection companies from going to the field to hold events with farmers. PRISMA supported the partners to pivot to online marketing, which had not been successful before COVID-19. PRISMA worked with partners to develop and implement digital marketing strategies, firstly by researching the most effective channels and then by supporting partners to analyse the impact of digital marketing on sales. PRISMA's crop protection partners adopted the farmer education approach, providing information on dosage and application, as well as traditional sales content. The online approach helped the partners reach their customers during the restrictions on movement.

Following the success of the online approach, five other companies, Syngenta, Bayer, BASF, Advansia, and Nufarm, automatically crowded in and started providing educational material online to farmers on the correct use of crop protection products. All these companies have retained their online educational broadcasting post-COVID-19. This expansion by PRISMA partners and the crowding-in by competitors are encouraging signs that PRISMA's strategy to encourage an education approach has been successful, demonstrating progress towards systemic change.

Evidence of success

While COVID-19 slowed the strategy, there is already good evidence of success. Impact assessments have shown that correctly applying crop protection products has resulted in rice farmers reducing their harvest loss from pests and disease from 35.4 percent to 22.5 percent. This reduction has led to a 21.9 percent increase in crop productivity from 4.17 tonnes per hectare to 5 tonnes per hectare.

Ibu Umiyati, a women farmer from Bojonegoro, was happy to tell PRISMA staff that her rice production had increased from 0.9 tonnes to 1.1 tonnes for her quarter hectare plot of land. She said it was more than her neighbours, who were not using FMC products and had not been taught how to use them properly.

To date, 110,266 farmers have experienced an IDR 5,263,606 (approximately AUD 526) increase in income due to the correct application of crop protection products.

- Agricon is now funding and undertaking its market research as part of its core business, showing a firm adoption and adaptation of the approach. Agricon has also restructured the organisation and changed its staff KPIs to reflect the educational approach.
- PT UPL filled a long-time vacant position for a National Marketing Manager and is expanding the focus from a business-to-business (B2B) to a business-to-consumer (B2C) company, clearly showing that the approach is now part of its core business.
- FMC has expanded the practice beyond the PRISMA target areas and adopted it as their national marketing strategy.
- With PRISMA's support, FMC has shifted its position and determined that moving to safer products is commercially viable. As such, they divested one of their hazardous insecticides, and more than 50 percent of its sales are now coming from green labels and plant health products.

All these factors indicate firm buy-in by PRISMA partners and a likelihood that the farmer education marketing approach will likely be sustainable.

The hard stuff

CROP LOSS DUE TO PEST AND DISEASE

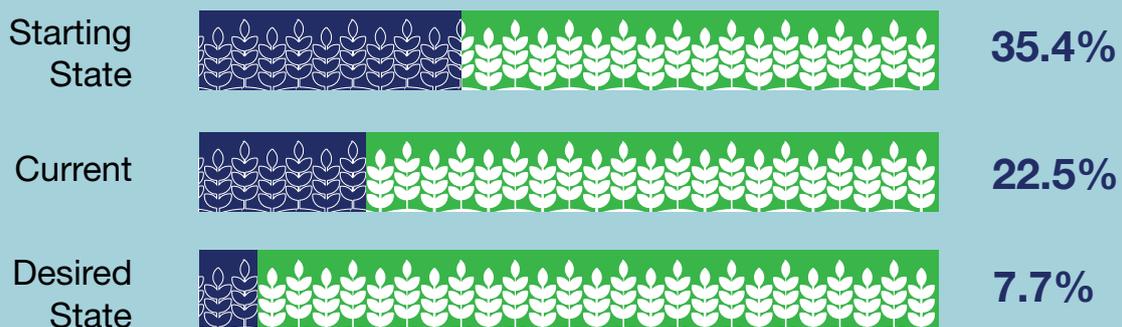
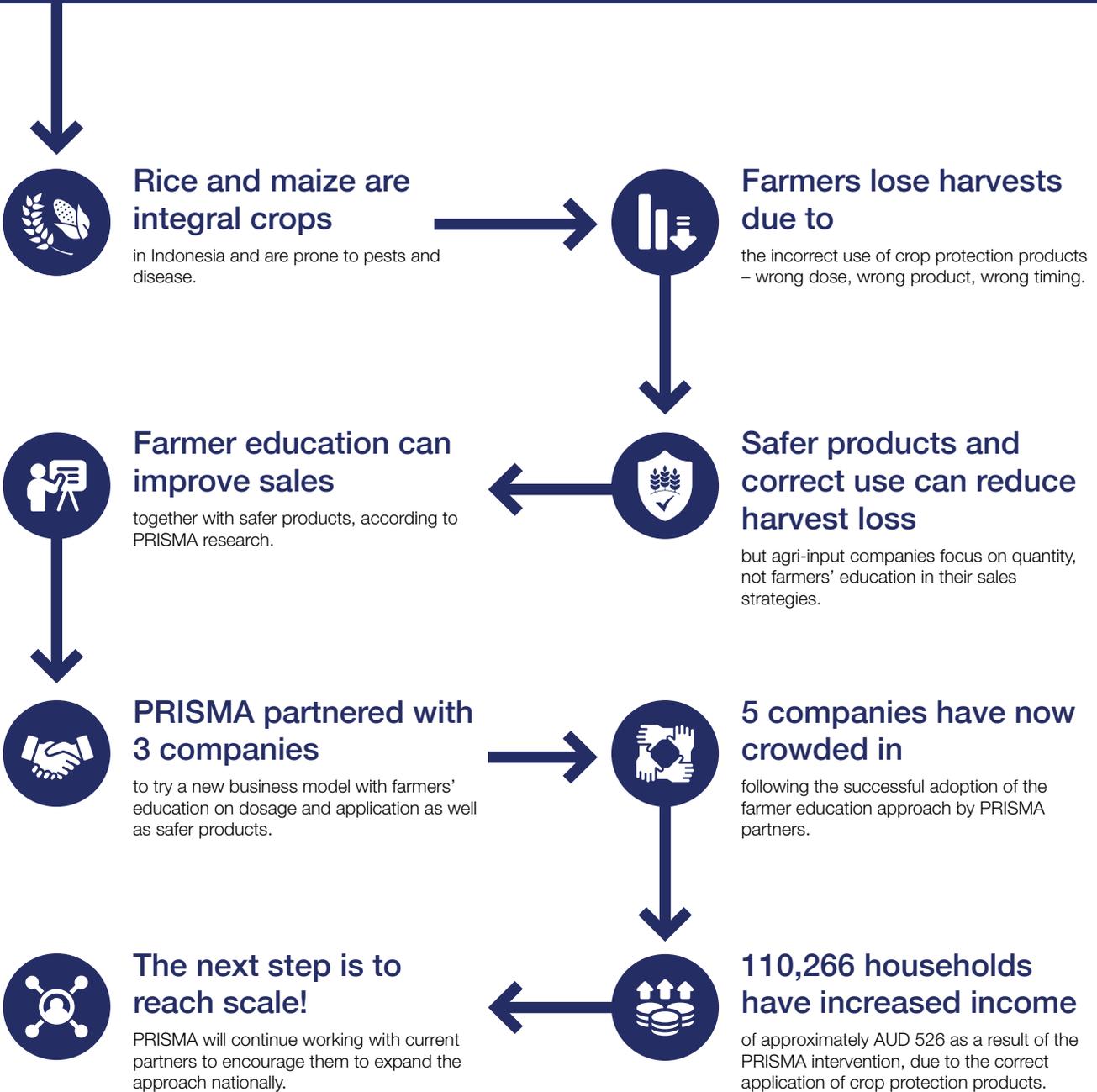


Figure 3. Progress against projected desired crop loss

The next step in the crop protection story is to reach scale. As crop protection is a new sector in PRISMA, there is limited time remaining to reach the tipping point that would guarantee wholesale market adoption of the farmer education approach (refer to Figure 2). PRISMA will continue working with current partners to encourage them to expand the approach nationally. As farmers' awareness of the benefit of safer crop protection products and good application practices grows, the trickle-down effect will impact more and more farmers, but this will require more time to take root. Meanwhile, PRISMA will focus on engaging more partners and implementing strategies to encourage autonomous crowding-in during the time remaining.

Systemic change of crop protection

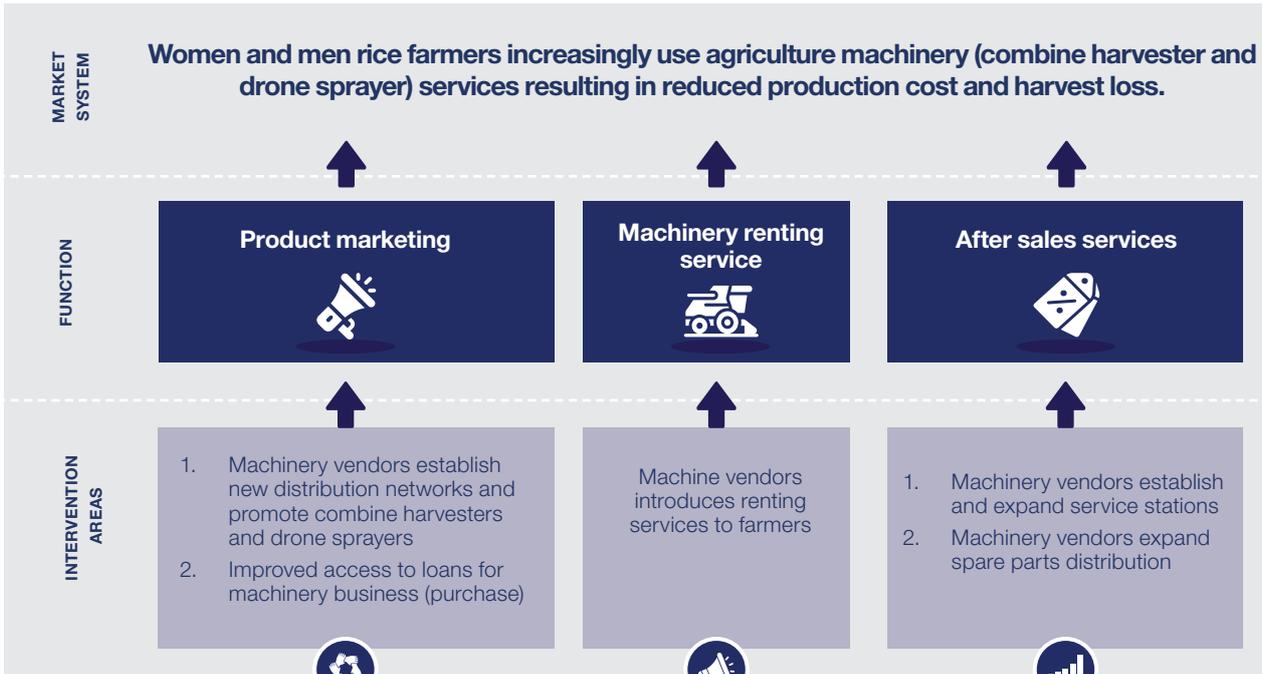
The right stuff



1.1.1.2 Mechanisation (progress against MSS)

Mechanisation - Rice

The MSS for mechanisation was revised this semester following the sector review in May. The boundaries of the sector have been revised because the functions for mechanisation in rice differ from those in maize. PRISMA now has two MSS for the mechanisation sector, and these will be reported separately, although the systemic change story is combined.



Indicator



Cumulative outreach actual to Jun 2022 (HHs)
20,433

Cumulative outreach projected to Dec 2023 (HHs)

57,192

Total NAIC to Jun 2022 (%)

16%

Total NAIC up to Jun 2022 (IDR)

28.40 billion

Total projected NAIC to Dec 2023 (IDR)

47.7 billion

Value for money (VFM)



Investment leverage
4.01



Investment per HH
35.46



Social return
3.75

Constraints

Smallholder farmers harvest and spray rice manually. Using manual labour increases production costs and crop loss of up to 14 percent. The main reason is labour scarcity during peak planting and harvesting times. Manual harvesting takes time and is costly. There is no significant adoption by smallholder farmers of mechanised solutions. The machinery businesses focus on sales to the government as they do not see a market in smallholder farming.

Sector vision

PRISMA's vision for smallholder farmers is to have access to and use agricultural machinery services (combine harvester and drone sprayer) to increase incomes by reducing production costs and harvest loss. PRISMA will achieve this by supporting machinery companies to promote machine access to smallholder farmers, introduce renting models, and improve after-sales services.

Market function 1: Product marketing

All PRISMA partners during this period continued their promotional activities. CV Argo Jaya, the Kubota dealer in Banyuwangi, expanded its coverage by opening a new branch in Jember and conducting a machinery demonstration in Situbondo. The company has diversified its portfolio by introducing 4WD tractors and rice transplanters.

PRISMA is exploring new partnerships with CV Putra, Zoomlion, and Pilar Agri to scale up the successful approach. CV Putra will cover the southwest part of East Java. Zoomlion will establish its commercial operation in the central and south parts of Central and East Java, and Pilar Agri will be expanding its operational areas in NTB and NTT.

On the drone spraying promotional strategy, Halo Robotics conducted its second drone spraying demonstration in collaboration with Syngenta in Malang. Halo Robotics introduced a smaller 10-litre capacity drone to cater to smallholder farmers. The company is developing a new offline distribution channel to increase its area coverage, and PRISMA supported it to utilise a digital promotions campaign.

This semester, PRISMA partnered with Full Drone Solutions (FDS) and supported it to develop a commercial and promotional strategy. FDS is the first local manufacturer of drone sprayers in Indonesia. They manufacture and promote the smallest available drone with a 5-litre capacity which can cater to smallholder farmers. FDS did its first drone promotional spraying demo in Magelang, Central Java. After PRISMA shared the results of the youth study with FDS, the company launched its Drone Ownership Program (DOPE) campaign targeting young farmers. The program offers business investment and service demand rather than a one-time drone purchase. The DOPE campaign helps buyers manage and sustain a drone spraying business.

Market function 2: Machinery renting service

Terra Agro Digital (TAD) expanded its renting service model for combine harvesters from NTB to Central and East Java and has expanded its business from 10 combine harvester units in 2020 to 18 this semester. The utilisation rate for the machines has increased from 39 hectares to approximately 200 hectares per machine, indicating increased farmer adoption of mechanised services. This semester, TAD expanded its services to include 4WD tractors and rice transplanters.

Sentragro expanded its drone service area coverage to include the neighbouring district this semester by partnering with two other spraying service providers, Aria and Frogs. With support from PRISMA, Sentragro launched an application to aggregate the demand for machinery services. Sentragro has diversified its service portfolio by partnering with three local machinery service providers to offer combined harvesting and spraying services to smallholder farmers.

PRISMA has convinced Halo Robotic and FDS that smallholder farmers are a profitable market segment, and both companies are adapting their business strategy to provide spraying services directly to farmers. Halo Robotics has recruited staff for a spraying service team and is collaborating with two other service provider companies, Hasana Agro and Nusa Indonesia. FDS is partnering with Hasana Agro as the primary service provider in its DOPE program.

Market function 3: After-sales services

PT Rutan began partnering with the local machinery stores to increase spare parts availability. This semester, CV Argo Jaya expanded their aftersales service by equipping their new branch in Jember and their old branch in Banyuwangi with the stock of spare parts and is now providing after-sales services to their customers.

The after-sales services of PT Rutan and Argo Jaya triggered competitors to open after-sales services. Galaxy and Trelleborg are now selling generic spare parts in Argo Jaya’s working area.

Challenges and learning

COVID-19 impacted machinery businesses’ ability to meet their quarterly financial instalments with borrowing institutions. The banks responded by closing some rural branches and increasing the requirements for agricultural and business loans. PRISMA is exploring potential financial institutions (FI) that could provide agriculture financing for current and potential partners.

During the sector review, the MSS was revisited and moved to a commodity-based approach to address challenges and opportunities in the supporting functional areas. The revised MSS provides more clarity to the team regarding strategy development and telling the story.



Constraints

The constraints in maize are similar to rice, with labour scarcity during planting and harvesting increasing the cost of production. If maize farmers in Central Java, East Java and NTB had access to suitable tools and machinery this would reduce the reliance on manual labour and reduce production costs. However, most machinery companies do not focus on maize. There are also opportunities to introduce smaller tools and machines suitable for women because women farmers do most of the maize planting.

Sector vision

PRISMA's vision is to increase the adoption of maize harvesters and planter tools to reduce production costs and improve yields. PRISMA will work with private and public stakeholders to introduce new business models to increase the promotion and adoption of maize machines and tools and improve after-sales services.

Market function 1: Product marketing

During this semester, PT Galaxy Partani Mas (Galaxy) continued its promotion and marketing through its online platforms. The company is further investing in the business model by employing new staff. The company is also expanding its serviced area by adding field staff in Jepara in Central Java and deploying a mobile promotions team to Central and West Java. The mobile promotions team transport the products and tools district to district demonstrating the effectiveness of small machinery for maize harvesting.

PT Rutan has also expanded their partnership with PRISMA to include promotion of maize planters and harvesters. The activities follow a similar promotion path using offline machinery demonstrations and online campaigns.

Market function 2: Aftersales services

This semester, Galaxy started providing spare parts and after-sales service to their customers and non-customers in each branch. This is a new adoption of the after-sales service model for Galaxy, which previously focussed only on sales.

Challenges and learning

PRISMA conducted an impact assessment earlier this semester and found that machinery customers have difficulty accessing spare parts and after-sales services for their newly purchased machinery/tools. This provided an opportunity for PRISMA partners to expand their business and offer a needed service to farmers and renting service providers. This has now been added as part of the MSS to ensure retention and attraction of new customers.

MECHANISATION SYSTEMIC CHANGE STORY

Turning the cogs

A story of progress towards systemic change in the mechanisation sector



Full Drone Solutions, a new partner for PRISMA

The tyranny of cost

In a country with over 270 million people, labour shortages may be a surprising fact. This is a significant problem faced by smallholder rice and maize farmers in Indonesia's crop sectors. The rapid increase of migrant labour leaving Indonesia to Malaysia and other Southeast Asian countries has contributed to the labour shortage and increased labour wages. While this benefits labourers, the labour shortage during peak planting and harvesting times significantly increases smallholder farmers' production costs.

PRISMA has found that labour costs in the rice sector in East and Central Java often triple during peak periods. It takes at least three days for smallholder rice farmers to harvest a hectare of land using manual labour. Likewise, planting takes more than 20 person-days to plant a hectare of rice, and maize farmers face the same labour scarcity issues. In the rice sector, labour costs account for 49 percent of the total production cost for smallholder farmers.

Manual harvesting also results in higher crop loss compared to mechanisation, with the loss being as low as 14 percent. Farmers encounter further loss when waiting for labour to become available. During the waiting period, the rice's moisture content can exceed the stalk's holding capacity, and the crops fall over, resulting in further loss.

Increased labour costs and crop loss during harvesting significantly reduce household income for the poor and threaten agricultural viability and food security in the long term.

The barriers to adoption

In 2019, PRISMA saw an opportunity to work with the private sector to introduce harvesting and planting machines to smallholder rice and maize farmers to reduce the cost of production, increase productivity, and improve food security. Using appropriate machines has added environmental benefits, including minimum soil disturbance and permanent soil cover. However, introducing mechanised technology to smallholder farmers is no small feat due to land fragmentation, small landholdings of less than a hectare, and the lack of finance for farmers to invest directly in the technology.

Market research undertaken by PRISMA in 2019 noted that it had taken almost ten years for the market to adopt combine harvesters in the rice sector, and it was only in 2018 that the leading agricultural machinery companies saw an escalation of sales, but mainly to government grant programs. Up to 80 percent of all sales by the private sector in 2019 were servicing the government.

Re-setting the framework by identifying opportunities

PRISMA saw an opportunity for machinery companies to increase the market segment for harvesters by targeting rice millers, large traders, and aggregators. There was also an opportunity to increase demand if companies adopted a new business model incorporating a renting service. By renting out the machine with the operator, the private sector could increase their market share and directly service smallholder farmers who could not afford their own combine harvester. To reach the farmers using government grant machines, PRISMA promoted improved after-sales service by the machinery companies so that machines that were sitting in villages not working could be easily fixed and maintained³.

While off-takers see the benefit of using combine harvesters to decrease harvest loss, the machine companies and distributors have noted that uptake by farmers has been slower. Talking to any machinery company sales agent elicits the same answer; “the farmer’s mindset is hard to change”. So, while the machinery companies are there and off-takers are purchasing machines, farmers have not readily adopted the practice of using the machinery. PRISMA prioritised working with the machine companies’ on-demand activation marketing strategies to address this, including targeted demonstrations focussed on rice millers and off-takers.

A few small cogs can turn a much bigger wheel – the success of pilots

PRISMA piloted the approach in late 2019 and 2020 with PT Rutan, a local machinery company and subsidiary of PT Putra Natur Utama (Pranata). COVID-19 impacted the intervention’s progress because of increased spare parts and machine prices, supply chain disruption, and a more risk-averse lending environment. However, as a direct result of the revised marketing strategy, PT Rutan increased their commercial sale of combine harvesters and 4WD tractors by 30 percent during the pandemic. In 2021, PT Rutan expanded their marketing strategy nationally.

PT Rutan shared the same vision with PRISMA about the potential demand from machinery rental service, and support the partnership with PT Terra Agro Digital, also a subsidiary of PT Putra Natur Utama (Pranata), to provide combine harvester service to smallholder farmers. In addition to machinery marketing strategy, PRISMA sees the opportunity to expedite machinery adoption through a professionally-managed rental service. PT Terra Agro Digital, Rutan’s sister company under PT Putra Natur Utama (Pranata), was first established to explore this opportunity. With the support from PRISMA, the company developed a digital application to allow farmers to aggregate smaller plots of land into a single ‘service.’

³ According to PRISMA partners, of all government grant machinery provided to smallholder farmers, only ten percent of the machines purchased remain in working order and only one percent of the machines purchased undergo maintenance and purchasing of spare parts.



“The shift to a service delivery model has been eye-opening because we didn’t realise how big an opportunity this was. When smallholders cooperate and share resources, it becomes more efficient and creates a huge untapped market. This service business model has been so successful that we are considering expanding PT Terra Agro Digital to Lombok and Sumbawa.

For us, it is not just about service rental but changing smallholders’ mindset to innovate”

Andrew Iskandar, Director of PT Terra Agro Digital.

In 2021, the product marketing, after-sales, and rental approaches started to gain more traction from other machinery service providers. CV Argo Jaya, a distributor for the large machine company Kubota from Japan, partnered with PRISMA on the back of the success with PT Rutan. Based on their adoption of the new marketing strategy and after-sales service, CV Argo Jaya received an award for most sales and opened a new branch office in East Java in May 2022. PRISMA was able to partner with PT Galaxy Partani Mas for the provision of smaller tools in the maize sector.

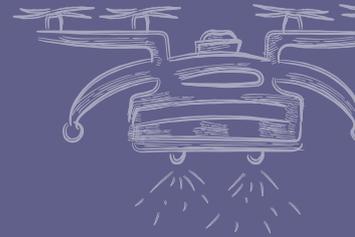
The road to scale

The partnership with PT Rutan induced crowding-in with a new player, Lovol, entering Indonesia and hiring PT Rutan’s former manager to head their operations in Indonesia. A competitor to PT Rutan, Maxxi, copied the service provision model and has set up their own servicing arm, Maxxi Tani, now providing machinery services to smallholder farmers. These are all excellent signs of progress towards systemic change.

Another three partnerships have come onboard in August 2022 for product provision and after-sales models in rice combine harvester and 4WD tractors and a further three partners for smaller tools, such as planters and transplanters in the maize sector. Partnering with more companies will move the access to machinery for smallholder farmers closer to scale.

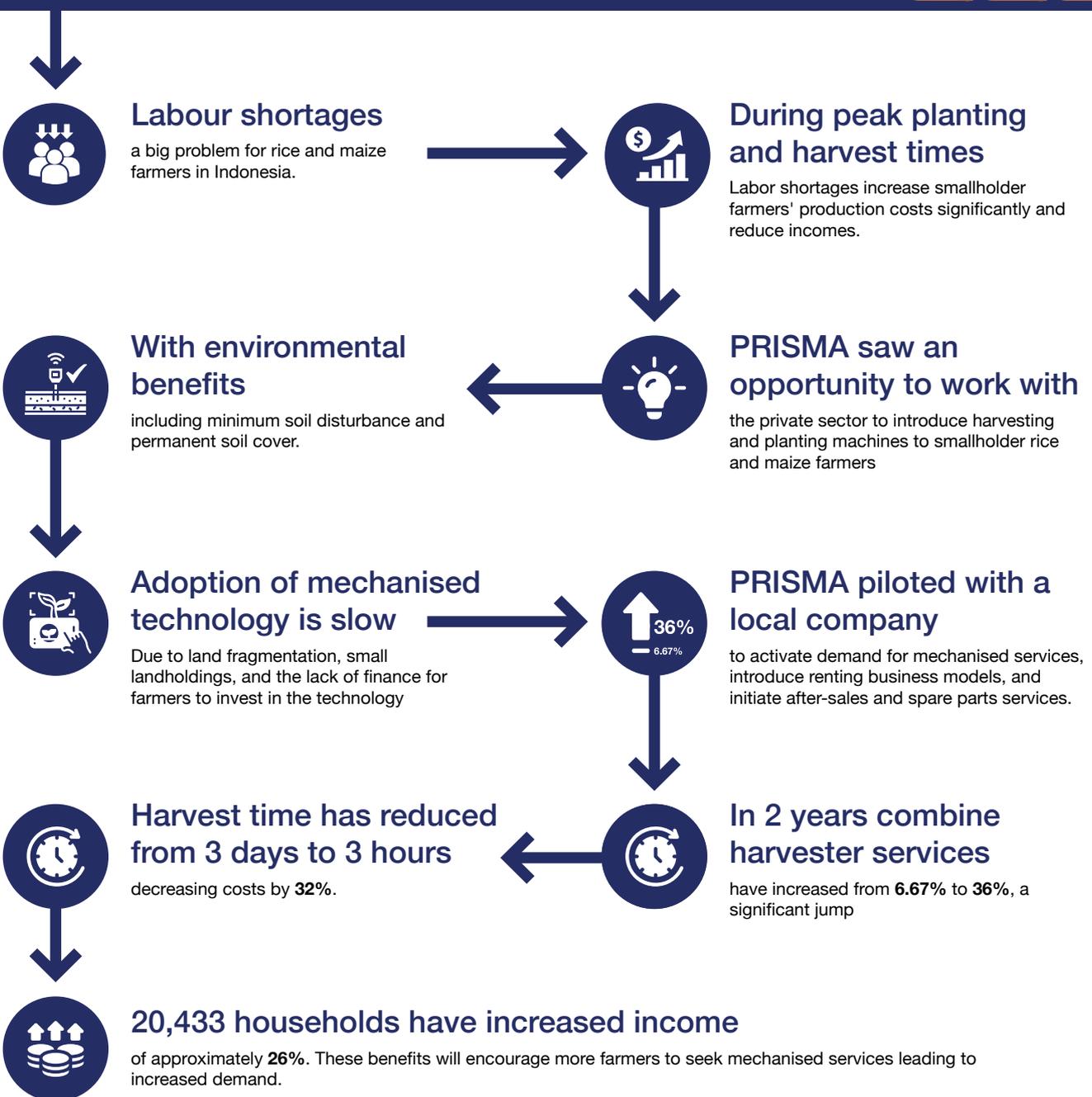
For mechanisation to reach scale at the farm level, a critical mass of smallholder farmers must adopt the new way of working. In the two years PRISMA has been actively working in the sector, the adoption of combine harvester services by smallholder farmers has increased from 6.67 percent to 36 percent, a significant jump. The benefit for smallholder farmers is that harvest time has been reduced from three days to three hours, decreasing costs by 32 percent. In addition to savings in labour, crop loss has also been reduced by 80 percent. The savings have meant a 46 percent reduction in the cost of production. The impact at the household level has been a 26 percent increase in income for 20,433 farmers. These benefits will encourage more farmers to seek mechanised services leading to increased demand.

Partnering with drone companies



An exciting new development for PRISMA at the end of 2021 has been partnering with drone companies to pilot the use of drone technology for crop spraying. While plantations in Indonesia use drone technology, there is potential to expand this market. Three companies have partnered with PRISMA; two of them, Halo Robotic and Full Drone Solutions are looking at selling drones to service providers using the marketing model, and the third, Sentragro, is looking at providing spraying services to farmers. After partnering with PRISMA, Sentragro has already serviced 500 hectares of smallholder farmer land in Lamongan and has just recently expanded to two neighbouring districts by subcontracting two service competitors, Aria and Frogs. Based on competitor success in services, Halo Robotics also recently expanded its business to include the servicing model and hired five new staff. While the program is not expecting this innovation to reach scale in the next 18 months, PRISMA is laying the foundation for this service to take off. Already Halo Robotics has seen an increase in just six months from two service inquiries to 25.

Turning the cogs of mechanisation



1.1.1.3 Mechanisation field story

Going the extra mile

When mechanisation hits its stride



When Harjo Anwar (Luki) started up his agricultural machinery dealership, Argo Jaya, in 2016, he did not know what he was getting into. “I had taken out a loan to start the business and had one Kubota DC35 Combine Harvester”, he explains. “I realised I was unlikely to sell a machine immediately, but I wasn’t prepared for the character of farmers in the area. I had no idea how resistant farmers are to accepting new technology”, he laughs wryly.

Luki tried to drum up business by promoting a free demonstration on a volunteer’s rice crop, but no one took him up on his offer. “I was worried because I had to pay staff salaries, and no one was interested in buying. I had to borrow money from my other hardware business to subsidise the machinery dealership”, confesses Luki. “In the end, I had to lease the combine harvester to a local rice collector, who did a better job convincing the farmers to use it,” he said. “But still, it took that rice collector three years before he bought the combine harvester.”

The first sale Luki made was in 2017, but that was to a rice farmer in Bali, Pak Gusti. His second sale was in Banyuwangi and also to a Balinese farmer. “They are easier to convince,” Luki says. Luki admits that he had not thought about how to market to farmers. “We only did a demonstration once a year because it is a requirement of the dealership,” says Luki.

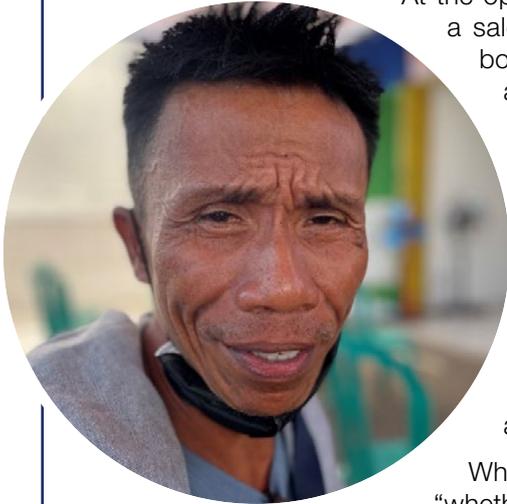
In 2019, PRISMA came knocking on Luki’s door proposing an alternative business model to increase sales. “At first, I thought it was a scam,” laughs Luki. “I mean, who offers free business advice for nothing?” After convincing Luki that PRISMA was looking for a win-win solution, Argo Jaya signed a partnership. “PRISMA wanted me to increase my sales and for smallholder farmers in the area to increase their productivity using harvesters, transplanter, and tractors,” explains Luki. “I was prepared to invest in that.”

PRISMA helped Luki develop a good marketing strategy, including demonstration and promotional activities. “Key was focussing on the right client base,” says Luki. “That means rice millers, off-takers, and lead farmers”, explains Luki.

The first time Argo Jaya held a demonstration, they were disappointed that there were no sales. Luki explains further, “Prisma helped us with sales training and working on ‘hot prospects’ and we ended up selling 15 combine harvesters in 2021. When we expanded to a new area in Situbundo in 2022, we did a demonstration using the new marketing model and immediately sold two combine harvesters”.

PRISMA also helped Argo Jaya establish a good after-sales division, which has built customer loyalty and ensures quick repairs of machines.

In May 2022, Luki opened a new branch in Jember. “Things are going so well in Banyuwangi, so I invested IDR 100 million to open a new branch”, says Luki. Argo Jaya has now gone from a staff of four to a team of eleven. Luki is achieving three times more sales than before partnering with PRISMA.



At the opening of the branch in Jember, Argo Jaya managed to close a sale for a combine harvester. Eko Suweko, a local farmer, had bought from Argo Jaya before and came to the opening to take advantage of a special deal to buy another combine harvester. “My son has set up a harvesting service for local farmers,” says Suweko. “He hires operators, and we promote the services to aggregators and rice millers who buy from farmers. Using these machines, we can harvest four hectares a day”, explains Suweko.

“The farmers come back for our service because they can get 100 to 200 kilograms more rice when they use the combine harvester”, says Suweko. “I chose Argo Jaya because it’s easy to get spare parts, and they have good after-sales service’, explains Suweko.

When asked if more farmers are using his services, Suweko says, “whether we want to or not, farmers in Indonesia need to look to the future.”

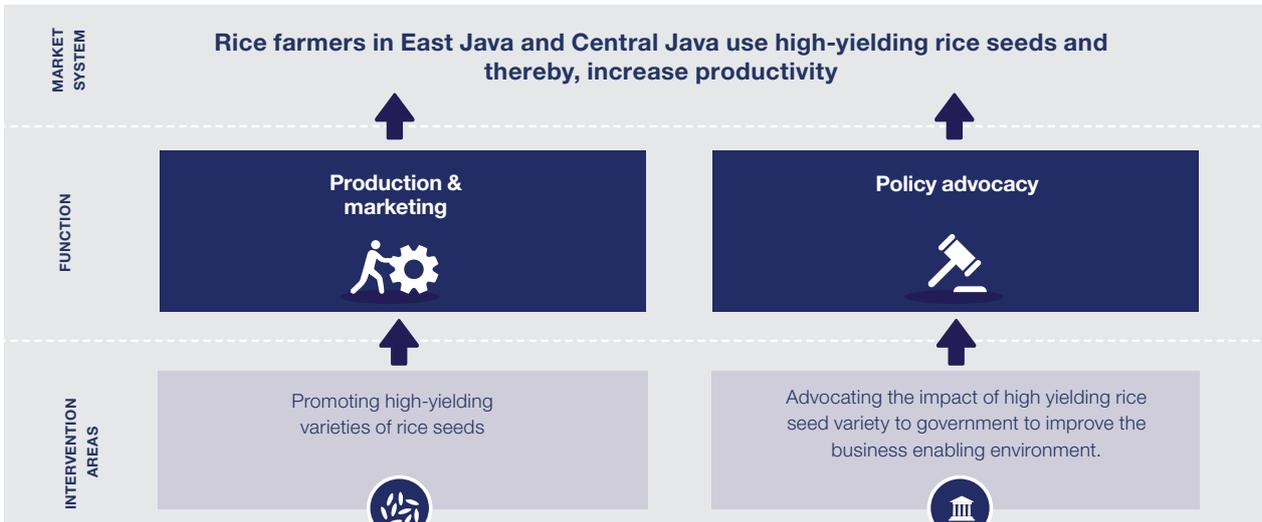
Luki is also looking to the future. “I will continue to invest even after the partnership with PRISMA ends,” says Luki. If things continue to go well, Argo Jaya plans to open three more branches in Java and a branch in Bali in the next five years.





Rice (progress against MSS)

East and Central Java are the two largest rice producers in Indonesia regarding yield, harvested area, and the number of farming households. Across these provinces, there are more than 5 million paddy-cultivating households, contributing more than 35 percent of the total national rice production.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Jun 2022 (%)
 <p>Cumulative outreach actual to Jun 2022 (HHs) 16,346</p>	<p>40,674</p>	<p>15% ↑</p>
	<p>Total NAIC up to Jun 2022 (IDR) 18.0 billion</p>	<p>Total projected NAIC to Dec 2023 (IDR) 84.2 billion</p>

Value for money (VFM)



Investment leverage
2.31



Investment per HH
41.98



Social return
2.63

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 toward higher rice production.

Smallholder farmers have limited access to high-yielding seed varieties (HYV) due to the limited number of seed companies producing HYV seeds and the lack of inclusion of good quality seeds in the government free-seed 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 HYVs. PRISMA works with key seed producers to produce, promote, and educate farmers on the benefits of using HYV seeds. In parallel, PRISMA is engaging the government to

boost the procurement of HYV seeds 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 and marketing

During this semester, PRISMA supported PT Botani Seeds Indonesia (Botani) and PT Agrosid Manunggal Sentosa (Agrosid) to increase the availability of HYV by escalating production capacity and continuing to promote HYV rice seeds.

Based on the previous semester's marketing success, Botani expanded its production by 100 tonnes this semester by engaging a new nursery partner.

This semester, PRISMA expanded its partnership with Agrosid by adding additional training for Agrosid's agronomists to engage female farmers better. Based on findings by PRISMA on the business advantages of seeing women as a potential market segment, Agrosid is adapting its marketing and promotions strategy to target women and women community influencers. Agrosid conducted the training in May 2022. Agrosid agronomists were equipped with knowledge and skills to identify behaviours and incentivise women farmers to adapt their promotions activities to be more inclusive.

Promotional activities conducted last semester resulted in increased sales of 190 percent for Agrosid's hybrid seed, Suppadi 56. This increase will benefit more than 6000 smallholder farming households.

Based on research and development in hybrid seed production, supported by PRISMA last reporting period, Agrosid started implementing a new production method using mini customised transplanters. Agrosid estimates this will increase seed production by 25 percent. PRISMA continues to support Agrosid in building the capacity of nursery partners in Central Java to adapt and apply the new technology.

Market function 2: Policy advocacy

This semester, the studies conducted by the University of Indonesia Research Institute (LPEM FEB UI) and the Research Institute of Gadjah Mada University (PSEKP) commenced. The results of these studies will help PRISMA develop evidence-based policy briefs and advocate change in the free-seed procurement process. LPEM FEB UI surveyed 385 farmers across Central Java, East Java, Lampung, and South Sulawesi. The survey will assess the productivity difference between farmers receiving HYV from the free seed program and farmers who have not. LPEM FEB UI also conducted in-depth interviews with the MOA, several Provincial Agriculture Office, and farmers' groups to gain a deeper understanding of the bottlenecks within the seed assistance system.

PSEKP conducted several focus group discussions with the Indonesian Centre for Rice Research (BBPADI) and several directorates of the MOA and started a survey similar to that undertaken by LPEM FEB UI in West and East Java. The results of the studies will be available next semester.

An influential technical adviser provides a bridge between PRISMA and the relevant policy stakeholders. This semester, the adviser held initial discussions with major seed producers who are influential in policy decision-making. PRISMA will look to leverage this influence in the policy discussions.

PRISMA is keeping up with the latest market trends, rice seed technology, and industry updates by regularly communicating with BBPADI.

Challenges and learning

Working with SOE and government institutions at the national level requires following strict protocols and takes time. It takes the right influencers to open the doors and longer to reach an agreement compared to working with the private sector. The longer time frame has caused delays in establishing new partnerships and contracting with SOEs. The delay may impact the ability of the program to succeed in changing the policy environment within the time remaining. However, the program is still optimistic about achieving its policy goals.

RICE SYSTEMIC CHANGE STORY

The seeds of change: how to avoid empty rice bowls

**A story of progress towards systemic
change in rice sector**



Rice is critical to Indonesia's agricultural landscape as the country fulfills the majority share of its demand domestically. The government highly regulates the rice market because of the pivotal role rice plays in the economy. The government's active role in the rice sector makes it politically sensitive for a bilateral donor program. As a result, PRISMA focussed on rice in the early years through interconnected markets such as irrigation and, more recently, soil treatment, crop protection, and mechanisation.

One of the main issues facing the Indonesian rice sector is that rice demand is increasing, but rice production has been falling. To give some historical context, during Indonesia's green revolution from the 1970s to the 1990s, the government introduced HYV seeds, increasing productivity by more than 100 percent. The success of the self-sufficiency movement led to brand loyalty and moulded the Indonesian taste to a few selected brands of rice seed.

Since the 90s, the quality of rice seed has decreased, and many farmers are using retained seed. Up to 30 percent of farmers use seed from the government free-seed program, where the quality of rice stocks held by the state-owned warehouses is poor.⁴ Despite government research institutes developing improved rice seed varieties in 2012 (and marketed in 2013), farmers are cautious about changing seed brands. The reliance on pre-2013 branding is unwittingly being supported by the government, with 71 percent of the free-seed program still using the old seed varieties.⁵

4 Octania, G. "The Government's Role in the Indonesian Rice Supply Chain." Centre for Indonesian Policy Studies, 2021, doi:10.35497/338075.

5 PRISMA 2019 Rice Baseline Assessment

The road to hybrid is a long haul

In 2018, PRISMA got a mandate to undertake a preparatory study into rice seed and got the green light to work in the rice seed market system. Initially, PRISMA explored hybrid seeds because the seed productivity was around 7 tonnes per hectare compared to 4.1 tonnes for the pre-2013 varieties. PRISMA partnered with seed producer Agrosid in 2019 and supported it in production trials and marketing its hybrid seed product, Mapan 05.

Agrosid expanded its seed production area from 10 hectares in 2020 to 30 hectares in early 2022. The company significantly improved its production trials from the first to the second cycle with an increase of 0.3 tonnes per hectare. However, Agrosid is still the only company producing hybrid seeds in Indonesia, and limitations to reaching economic scale have discouraged other players from entering the market.⁶ For example, the hybrid penetration rate in Indonesia after two years is 0.67 percent compared to a penetration rate in Vietnam of around 10 percent and India of approximately five percent.

Production success opens a new market

Based on the higher-than-expected horizon for hybrid seed adoption, in 2020, PRISMA expanded its approach to include high-yielding inbred rice seeds. While hybrid seeds should have a higher production capability on paper, some high-yielding inbred varieties have similar production success and with added environmental bonuses. In 2020, PRISMA partnered with PT Botani, a private sector company owned by the Bogor Agricultural Institute. PT Botani managed to produce a HYV seed that conservatively requires around 20 percent less water during the growing period. The rice only needs intermittent irrigation and must be completely dry in the weeks before harvest. Less water means the seed would benefit poor farmers in more arid areas. Having dry land during harvesting also allows for the easy adoption of combined harvesting, leading to land conservation and reduced production costs (see section 1.5.2). Of more significance is the production trials for PT. Botani seed that resulted in 8.4 tonnes per hectare⁷ with 100 percent productivity per sheaf - this is double the current production rate of 4.3 tonnes/hectare of pre-2013 inbred rice seeds.

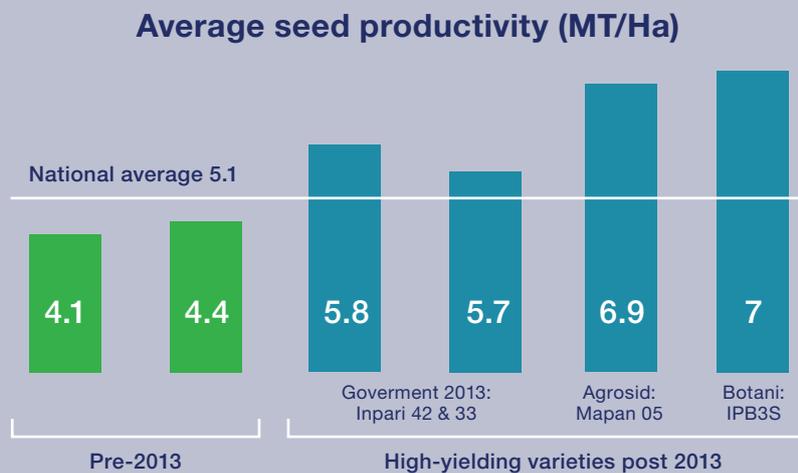


Figure 4. Average seed productivity

Prior to partnering with PRISMA, PT Botani was supplying its seed to the government program, but the company felt this was not profitable. PRISMA supported PT Botani in moving from a research mindset to a business mindset with capacity development and marketing support. In 2021, PT Botani increased its staff from two to nine and hired a corporate adviser. With support from PRISMA to develop and implement a promotion strategy, PT Botani increased its production from 2 tonnes in 2020 to 80 tonnes in 2021. PT Botani is receiving more orders than it can fill and has expanded its nursery partners to meet demand. Its production goal for the next two years is to get to 500 tonnes of seed.

⁶ For example, hybrid seeds need the importation of specific planters and transplanters. In addition, the seeds have a lower shelf-life, and it takes time in research and development (R&D) to develop a parent seed.

⁷ Trial productivity is usually higher than in the field. So, PT Botani uses 7 tonnes/Ha as the advertised productivity

”

“I believe that the seed subsidy program does not support the development of good quality seed. The price per kilo to supply the government is a standard cost. For seed producers to make a profit, the suppliers will play with the quality of the seed to get a greater profit margin. President Jokowi saw our demonstration plot and said PT Botani must supply to the government program. But I think it is more sustainable if our product can be sold on the open market,” Ir Dadang Syamsul Munir, Director of PT Botani.

Influence holds the key

The market for HYV rice seeds in Indonesia is still very limited. PRISMA is conscious that increasing domestic rice productivity requires the penetration of HYV seeds at scale. One way to achieve this would be to influence the government to prioritise high-yielding seed varieties as part of the MoA's free seed program.

If the MOA included the names of any HYV seed post 2012 in the free seed procurement catalogue, it would ensure higher rice production through the free-seed program. If PRISMA can influence the government to offer a reasonable price for HYV under the government program, this would encourage companies and nurseries to produce higher-yield varieties.

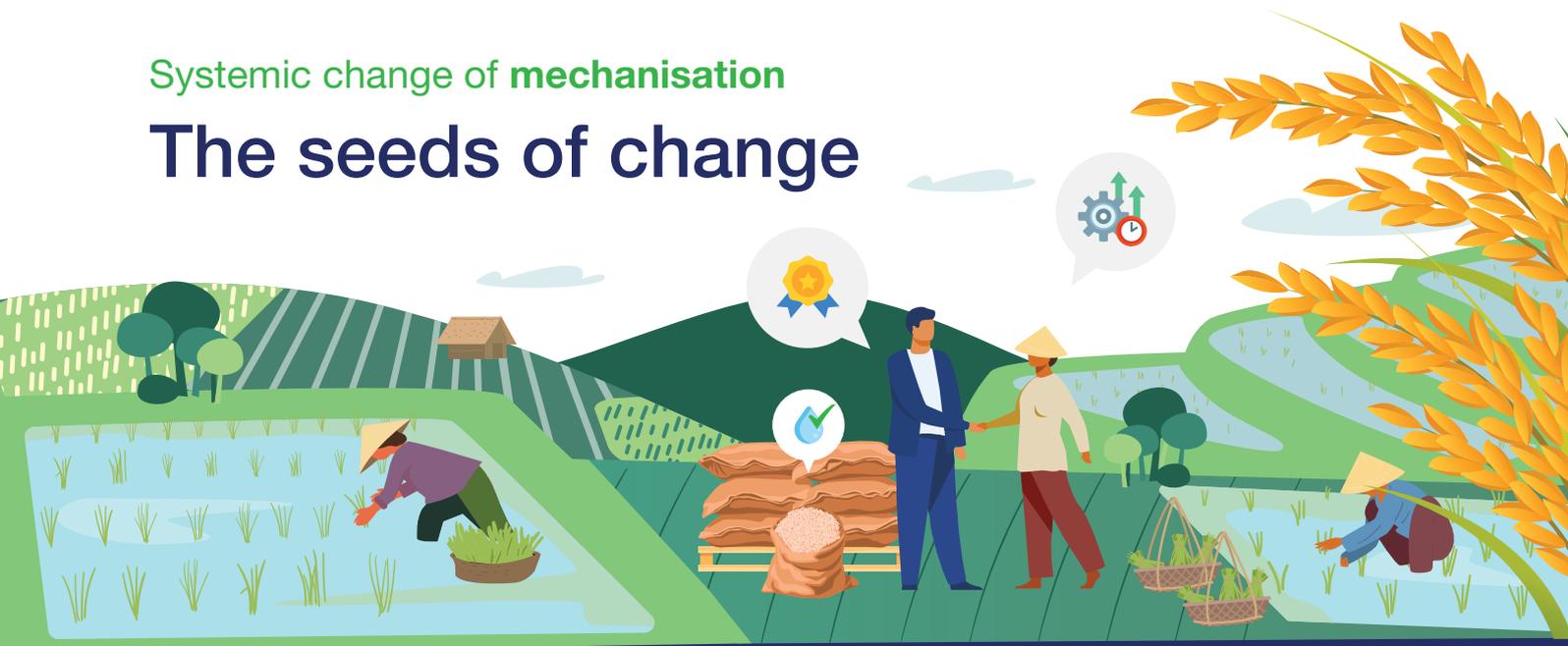
To achieve the modest policy change goal, PRISMA is working with rice experts, policy think tanks, and the relevant ministries to undertake studies into the effectiveness of the free-seed program and collect baseline data on adoption rates of rice varieties. Next semester, PRISMA will be holding direct hearings and a symposium with the government to try and move the dial on high seed variety adoption.

The progress in the rice seed sector has been very encouraging. However, systemic change will only come with scale. PRISMA hopes that the modest policy change will happen, which will open the door to achieving scale within the remaining program time.



Systemic change of mechanisation

The seeds of change



Rice is critical

as Indonesia fulfills the majority share of its demand domestically.



Demand is increasing but

production is falling. Since the 90s, the quality of rice seed has decreased, and many farmers are using retained seed.



PRISMA started with hybrid seed producer

Agrosid in 2019 however, limitations to reaching economic scale have discouraged other players from entering the market.



Farmers are cautious

about changing seed brands. Up to **30%** of farmers use seed from the government free-seed program, which provides old varieties with sub-optimal productivity.



PRISMA expanded its approach

to include high-yielding inbred rice seeds. In 2020, PRISMA partnered with PT Botani, a private sector company owned by the Bogor Agricultural Institute.



A seed that uses less water

PT Botani have produced a seed that uses **20%** less water during the growing period. The production trial resulted **100%** increase in productivity.



A modest policy change is essential

PRISMA is working with stakeholders to undertake studies into the effectiveness of the free-seed program and support MoA to improve its procurement process for the free seed program.



Next step is HYV seeds at scale

by the private sector producing and selling the newly released HYVs; public sector procuring the newly released HYVs for its free seed program.

1.1.1.4 Rice field story

Young nursery owner marketing innovation in rice seed



Alfian Maulana, with his youthful face and ready smile, is an unlikely businessman. At 22, Alfian is a budding nursery entrepreneur from Ngepung village in Nganjuk district, East Java. A graduate of the famous Bogor Agricultural Institute, Alfian wanted more for himself and the smallholder farmers from his village. “Farmers in this area struggle daily due to dry lands and low productivity. I wanted to start a nursery to increase our income”.

Before graduating, Alfian used one hectare of his family’s land and a loan of IDR 20 million from his parents to start his nursery. The first year he went into production, Alfian grew his own seed, which he sold locally. As a student, Alfian did work experience with PT Botani, exposing him to IPB3S, a high-yielding rice variety. Alfian understood IPB3S did not require much water to grow and thought it presented a unique opportunity for the farmers in Nganjuk district. Most farmers in this area have two rice planting seasons, but the second planting season is arid, and crops often fail.

Two years ago, Alfian decided to trial IPB3S on half his land and succeeded in getting seven tonnes for half a hectare. While Alfian points out that he loses about 20 percent in processing, seven tonnes is almost triple what he achieved with other seed varieties.

Based on the success of his own trial, Alfian became a contract nursery for PT Botani. Alfian has increased his productive land to 20 hectares in the last two years and has a production target for this season of 100 tonnes. Alfian contracts 28 farmers to grow for him and admits that convincing farmers to produce for him was hard. The head of the farmer group who plants for Alfian, Singo, acknowledges that changing the farmer’s mindset is hard. “Farmers are used to seeing water in their paddy fields. They don’t believe you can grow without continuous irrigation”, says Singo. “I didn’t believe it until I saw the results with my own eyes.”

Alfian is hoping that IPB3S will encourage more younger farmers to start farming. “People see farming as traditional. However, if young people like me see a business opportunity, they will come. Innovation drives youth, and IPB3S for me is innovative”.

The journey - highlights from the previous systemic change stories

In the previous PRIP, we highlighted the progress towards systemic change in the beef, maize Madura, mung bean, and soil treatment sectors. These sectors continue to track well in progress toward systemic change.

Beef



The cattle **feed market continues to grow** and from a base of zero there are now **80 beef feed brands** in the market.

“I am proud of Mas Munir, and his work in establishing Bima Feed. I also appreciate PRISMA and Munir for using local raw materials to make cattle feed, not imported materials. I hope Mas Munir is going to be number one in the cattle feed business and the government is prepared to support Mas Munir and other feed companies. We also hope to see a lot of Mas Munir’s elsewhere in Indonesia.”

Ir. R. Anang Noegroho Setyo Moeljono,

Director of Food and Agriculture, Bappenas, April 2022

Emission reductions in the beef sector

As a result of using
concentrate feed

January – June 2022

PRISMA supports a mixed feed approach using both forage and concentrate feed. When livestock are reared with only concentrate, the emissions are higher. A mixed approach reduces the rearing period while reducing emissions.

Reduced
83,300 tons of CO₂



Equivalent to **143 flights** from Jakarta – Sydney

Maize Madura



Hybrid maize seed adoption in Madura has **increased from 4 to 30 percent** and six seed companies are now promoting their products in Madura. PRISMA is now **scaling up in four districts** in Central Java.

“At the start of our collaboration with PRISMA, our maize productivity was low due to the high usage of the local variety. We aim to shift farmers’ seed usage from local maize to hybrid seed. It is not as easy as ABC, but with the suggestions from PRISMA to optimise subsidy delivery, hybrid maize adoption in Sumenep district has increased over the years.”

Arif Firmanto, S.TP., M.Si,

Head of Agriculture Department (DKPP) Sumenep, 22nd June

Mung bean



PRISMA has identified much **wider market impact in the use of certified seed** than previously thought. The leader of a women's farmer group in Malaka, NTT has started her **own nursery business in VIMA certified seeds** and selling this locally in the market.

"Our ancestors were born from mung beans, but we can't keep using a traditional approach. If we want to feed our children, then we must use better quality mung bean seeds."

Yuliana,

nursery owner Loofoun village, Malaka district, Timor, May 2022

Soil treatment



Partners in the soil treatment sector are **investing in human resource development** to strengthen their field presence and tap into under-served fertiliser markets.

"Partnering with PRISMA has helped PT. ATS develop many innovative strategies on marketing and investing in staff capacity development. It has allowed PT. ATS to develop its market in new areas and serve farmers with quality and environmentally friendly soil treatment products. This is also in line with the national goal of food security".

Eddyko

Owner of PT ATS (PT ATS Inti Sampoerna), Yogyakarta 19 May, 2022

Other sector progress

Progress against the MSS for the other PRISMA sectors is summarised below. The details can be found in Annex 1.

Sectors	Market system vision	Key progress
Beef	Small-scale beef producers increase cattle productivity through improved livestock management practices in Central Java, East Java, and NTB.	This semester, partners experienced a 32 percent increase (year-on-year comparison) in feed sales despite LSD and FMD outbreaks. This semester, 139 new feed agents were recruited by the partners this semester resulting in a total of 889 agents promoting feed and educating farmers on good practices. Partners invested IDR 4.5 billion this semester in feed plants and warehouses, expanding their coverage across Indonesia. The growing feed market influenced the MOA to revise the feed SNI. PRISMA conducted a detailed market analysis of all available feed brands this semester to support a policy brief, which will be drafted next semester. PRISMA supported the provincial governments in their efforts to contain FMD.
Dairy	Small-scale dairy farmers in East and Central Java improve milk quality and increase productivity by adopting good rearing, feeding, and health management practices.	The feed and medicine markets for dairy cattle continued to grow this semester. PT Nufeed invested in sales agents and marketing activities, selling more than 2,700 tonnes of feed, 85 percent of which was in the commercial market. PT Medion experienced a 50 percent increase in sales for mastitis treatment. PRISMA's support to MOA in developing a roadmap for the dairy sector is underway.
Finance	Smallholder farmers can access and use quality inputs appropriately due to the improved SME financing.	Several banks showed strong interest in introducing revolving loans for SMEs (i.e., kiosks and retailers). BRI, BNI, and Bank Sinar Mas agreed to join PRISMA's current partner, Bank Mandiri, to target kiosks for SME lending. Another partner, PNM, shifted its focus toward financing kiosks and retailers.
ICT	Smallholder farmers access GAP information, inputs, and agriculture services through ICT solutions.	PRISMA's strategy to make agriculture kiosks an information hub got traction from several input companies and distributors. PT Agri Pintar Asia and PT Bayar have agreed to support kiosks with management training and technical information. Negotiation is ongoing with Pupuk Indonesia to improve its fertiliser recommendation services. PRISMA is in discussion with Halodoc to introduce veterinary services to farmers.
Maize Madura	Maize farmers in Madura use quality seeds and GAP to improve productivity	The commercial hybrid seed market in Madura continues to grow with six maize seed companies actively promoting hybrid seeds in Madura – three of them crowding-in. As part of the subsidy program, the government made it mandatory for all seed suppliers to organise demonstration plots to further promote hybrid seeds. The district governments continue to promote hybrid seed by increasing farmers' access to irrigation.

Maize NTT	Smallholder farmers in NTT benefit from increased availability and use of high-yielding seeds and the application of good agriculture practices.	This semester, PRISMA focussed on improving the capacity of local nurseries in seed production by supporting training for 32 nurseries with the seed control and certification centre and the BPTP. Eleven nurseries have now developed plans for business expansion. PRISMA supported the government's TJPS program in promoting GAP to maize farmers. A recent study revealed that around 50 percent of farmers under the TJPS program have already adopted GAP applications.
Mung beans	Mung bean farmers in Central and East Java use certified seeds, apply good practices, and can access improved off-taking services.	The demand for certified mung bean seeds continued to grow, with new seed nurseries entering the market autonomously. PB Tunas Mulia started the mung bean seed business after seeing the potential demand; a women's farmer group in NTT also crowded in. PRISMA's partners, CV Semi and CV Bunga Tani Sejahtera (BTS) continued the mung bean business and invested more in marketing activities.
Pig	Women and men pig farmers benefit from restocking their farms with high-quality piglets, using quality inputs, and improved animal husbandry practices.	PRISMA is supporting pig farmers in NTT to recover from the ASF outbreak. PRISMA's feed partners continued promoting good-quality feed and expanded their coverage and investment in a new distribution centre and depot. At least 12 breeding farms emerged as potential partners in promoting piglets and AI. The awareness campaign on ASF continued this semester and collaboration with provincial and district animal husbandry offices is also ongoing.
Soil Treatment	Smallholder farmers in Central Java, East Java, and NTB have access to high-quality, commercial fertilisers and use them appropriately.	A greater level of ownership and adaptation by the partner companies was observed this semester. Fertiliser companies invested in expanding and developing the skills of their sales and marketing force. The SOE partners continued implementing multistakeholder partnerships and achieved 50 percent of its target. Other partners recruited new sales agents and expanded their commercial markets further by strengthening their distribution networks.
Vegetables	Farmers' income increases from producing and selling more vegetables	PRISMA partners continue reaching farmers with high-quality inputs, investing in farmers' education, and establishing distribution networks in Papua and West Papua. Agrosid implemented indigenous-targeted activities and acquired a new distributor. Tani Murni Indonesia invested in new sales agents, adapted its marketing strategy, and established a distribution network within six months of operation.

CHALLENGES, RISKS, AND MANAGEMENT RESPONSE

The sector specific challenges and lessons have been identified in the previous sections. This is particularly true for the ICT, finance, and pig sectors, as the MSSs for these sectors were finalised at the beginning of 2022.

- **Rising food prices** in Indonesia may result in slower adoption of innovations promoted by PRISMA partners. While the COVID-19 post-lockdown hangover continues to impact food prices, Russia's invasion of Ukraine has put fresh pressure on food prices. Farmers are now spending more on daily necessities, leaving them with a lower purchasing power to invest in good-quality agricultural inputs. PRISMA will address this by sharing field insights with the private sector partners and supporting them to adapt their products and marketing strategies.
- **The increased prices of chemical fertilisers** will likely impact the program's progress in the soil treatment sector. The price of chemical fertilisers has already increased by 70 percent since 2021. The conflict between Russia and Ukraine has impacted global fertiliser processes as Russia is a major exporter of key fertiliser ingredients. The price increase has not impacted Indonesia as significantly as other countries because of stockpiles, but there may be new pressure on fertiliser prices before the next major agriculture season. A further price hike may lead to stagnation in the commercial fertiliser market. To minimise the impact, PRISMA will continue observing the market and supporting partners to promote a balanced mix of fertilisers.
- **Animal disease outbreaks** continue to impact the program's progress in the livestock sectors. While ASF remains a threat to the pig sector, the recent outbreak of FMD may impact the overall progress in the beef and dairy sectors. Due to the high morbidity of FMD, animals may die, lose weight, and require treatment and medicines. This discourages farmers from investing in feed, thereby losing income from their cattle due to lower fattening and milk production rates. PRISMA will assist the GOI in its prevention and response efforts in containing the outbreak. PRISMA's feed and pharmaceutical companies are also highly motivated to assist in disseminating information provided by the GOI.
- **The short timeframe remaining for implementing** the new and revised MSS might be a challenge in achieving significant progress towards systemic change. This is particularly true for the ICT, finance, and pig sectors. PRISMA will ensure sufficient progress by fostering the approval process and maintaining a timebound implementation plan. The SMT will ensure close monitoring of the MSS and provide strategic direction. This may require more travel to the field by the SMT and discussion with partners while accompanying the teams.
- **Technical difficulties in measuring wider market outreach** remains challenging for the program. Wider market outreach is measured against competitors in a sector crowding-in and reacting to the market change stimulated by the program. The core measurement to determine the outreach of these competing companies is the sales figure. In Indonesia, this figure is usually commercial-in-confidence and is very difficult to obtain. So, while on paper, our wider market outreach seems to be shrinking, it is only because we cannot obtain the sales figures we need. To get a better idea of true wider market outreach proxies can be used, but this does not follow PRISMA's robust measurement processes. The alternative would be accepting the figure is not the complete picture, or allowing a proxy measurement, but not include the proxy measurement in the overall outreach figures. This will be taken up with DFAT during the next reporting period.
- **Retaining key experienced staff** as the program approaches its end phase will continue to be challenging. Staff are already beginning to look for alternate opportunities. A revised incentive structure is being put in place commencing this semester to try to minimise staff turnover.



3SECOND

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4

Cross-cutting area progress

CROSS-CUTTING AREA PROGRESS

POLICY ENGAGEMENT

PRISMA has a four-pronged approach to its policy engagement strategy. The first three pillars are inwards looking from a program perspective and are aimed at changing the business enabling environment so that the private sector can improve growth at the national and sub-national levels. The fourth pillar supports DFAT engagement with Bappenas on the bilateral governance of the program. The progress against each of the pillars is outlined below:

NATIONAL LEVEL

PRISMA has limited its policy change agenda at the national level to the beef, dairy, and rice sector. PRISMA wants to change the SNI for beef feed to a multi-level standard feed. This would enable more feed companies to enter the feed market and certify their feed. It would also make certified, high-quality feed more affordable to smallholder farmers.

In the rice sector, PRISMA suggests the GOI include post 2012 HYV seeds in its procurement catalogue for the free-seed program and offer a more competitive price for HYV seeds under the government program.

As reported in the previous semester, PRISMA had a policy objective of encouraging the government to change import rules to allow the import of Jersey breed cows to improve dairy production. PRISMA did some advocacy and the government agreed to the import changes. However, PRISMA cannot attribute these changes to the program's advocacy efforts since the trigger for policy change is unknown at this point. PRISMA is now helping the government develop a plan on how to operationalise the use of Jersey cows in the dairy sector.

- Bappenas demonstrated tremendous support for PRISMA's efforts to revise the SNI for beef feed certification by allocating IDR 114 billion (approximately AUD 11.4 million) from the 2023 national budget for feed quality testing and a certification centre in Bekasi.
- PRISMA, LPEM UI and PSEKP continue to engage with the MOA and Bappenas while waiting for the results of the rice production studies to conclude in August 2022.
- This semester, PRISMA is supporting MOA in developing the Terms of Reference for Jersey Cattle RoadMap. The interest of the MOA in PRISMA's dairy interventions is demonstrated by its request to speak to PRISMA's experts in Jersey cattle. MOA plans to conduct a brainstorming session with PRISMA and PISAgro next semester.



“Bappenas will support the SNI policy change initiative by submitting recommendations to the Ministry of Agriculture and allocate IDR 114 billion in the 2023 national budget for a feed quality testing and certification centre in Bekasi”

Ir. R. Anang Noegroho Setyo Moeljono
The Director of Food and Agriculture Bappenas

Sub-national level

- PRISMA continues to communicate with local governments in the beef, maize, crop protection, dairy, soil treatment, pig, and vegetable seed interventions. Most of the interaction is to ensure synergy between PRISMA sector strategies and related government programs.
- During the semester, PRISMA signed an MOU with local governments for the maize sector (one province and four districts in Central Java) and the pig sector (one province and one district in NTT) to implement actions that will support the progress of the sector strategies.
- PRISMA invited Bappenas to participate in the Pig Restocking Workshop in Labuan Bajo to encourage communication between government agencies and the private sectors after a spike of ASF on Flores Island.
- PRISMA has been coordinating with the East and Central Java governments to support the relevant agencies to contain the recent FMD outbreak. PRISMA conducted a rapid assessment of the outbreak in PRISMA's beef and dairy working districts (Tuban, Malang, Probolinggo, Boyolali) to study the awareness, readiness, and response of the market players to the outbreak. The study confirms that the outbreak is likely to spread before effective containment actions are in place. The East and Central Java provincial governments have requested PRISMA undertake a preliminary cost-benefit analysis on the local impacts of the outbreak. PRISMA was asked to provide this service based on the program's extensive private sector network.



Influencing the influencer

This semester, the bulk of the influencing work was to support the national level policy objectives of the program and provide pertinent study findings that would help convince the government to improve the business enabling environment for the private sector.

- PRISMA was an active speaker at the national and sub-national dialogue with KOMPAK (Pekalongan and Pematang districts) to share lessons learned about MSD and market linkages.
- As a result of active engagement with PISAgrO, PRISMA supported the PISAgrO national webinars to raise awareness on the importance of Jersey cattle for increasing milk production in Indonesia. PRISMA developed the concept, and arranged participants and the relevant speakers.
- PRISMA was invited to host a session in the Indonesia Development Forum, a BAPPENAS national event to implement the SDG and promote inclusive and sustainable economic growth.
- PRISMA undertook a few short market studies on the impact of the Russian and Ukraine conflict, including the impact on household food spending and the fertiliser sector. PRISMA also conducted a market study on the preparedness of market actors to respond to the FMD outbreak in East and Central Java. These reports were shared with Bappenas and DFAT.
- As part of the PRISMA exit strategy, PRISMA is preparing an anthology of PRISMA's studies, learnings, major documents, and publications which are being reviewed by a government consultant who is summarising the documents to create a knowledge bank for reference. The timeline for this deliverable was the end of the semester, but the work has been extended for a few months. Expected delivery will be August.
- An MSD expert is assisting PRISMA develop an MSD government guideline, which can be used by Bappenas in the event it was to commission its own MSD delivery modality. This request came directly from Bappenas. The guideline is expected to be completed in the next reporting period.
- PRISMA is actively engaging with Bappenas in regular offline and online meetings focussed on sector updates and sharing PRISMA lessons learned.
- PRISMA participated in and supported a further 11 events across its sectors to share PRISMA's technical experience and lessons learned.

Engagement with Bappenas

- PRISMA is actively engaging Bappenas and DFAT as part of strategic government engagement of the program, this includes through frequent coordination meetings as well as field visits..
- PRISMA facilitated a field visit for Bappenas and DFAT as a precursor to the Program Coordinating Committee (PCC) meeting. They visited Tuban for beef and Bojonegoro for crop protection. The field visit was very successful in demonstrating PRISMA's work, and as a result, Director of Food and Agriculture was very supportive of the SNI policy change initiative.
- The PCC meeting planned for this semester has been delayed due to travel plans of Bappenas but is still expected to take place next semester.

RESULTS MEASUREMENT AND LEARNING

Outreach

This semester, 173,679 farmers' households benefitted, bringing the accumulative outreach to 763,055 households. This is 64,609, or 9.3 percent, more households than the trajectory for this period. The incremental outreach is from the soil treatment, crop protection, mechanisation, rice, beef, and dairy sectors. The program is still on track to reach its EOPO, although this does not yet calculate potential losses in the beef and dairy sector due to FMD.

PRISMA conducted nine field impact assessments against 10 planned. The team also caught up on last semester's delayed impact assessment reporting and one extrapolation from the peanut sector.

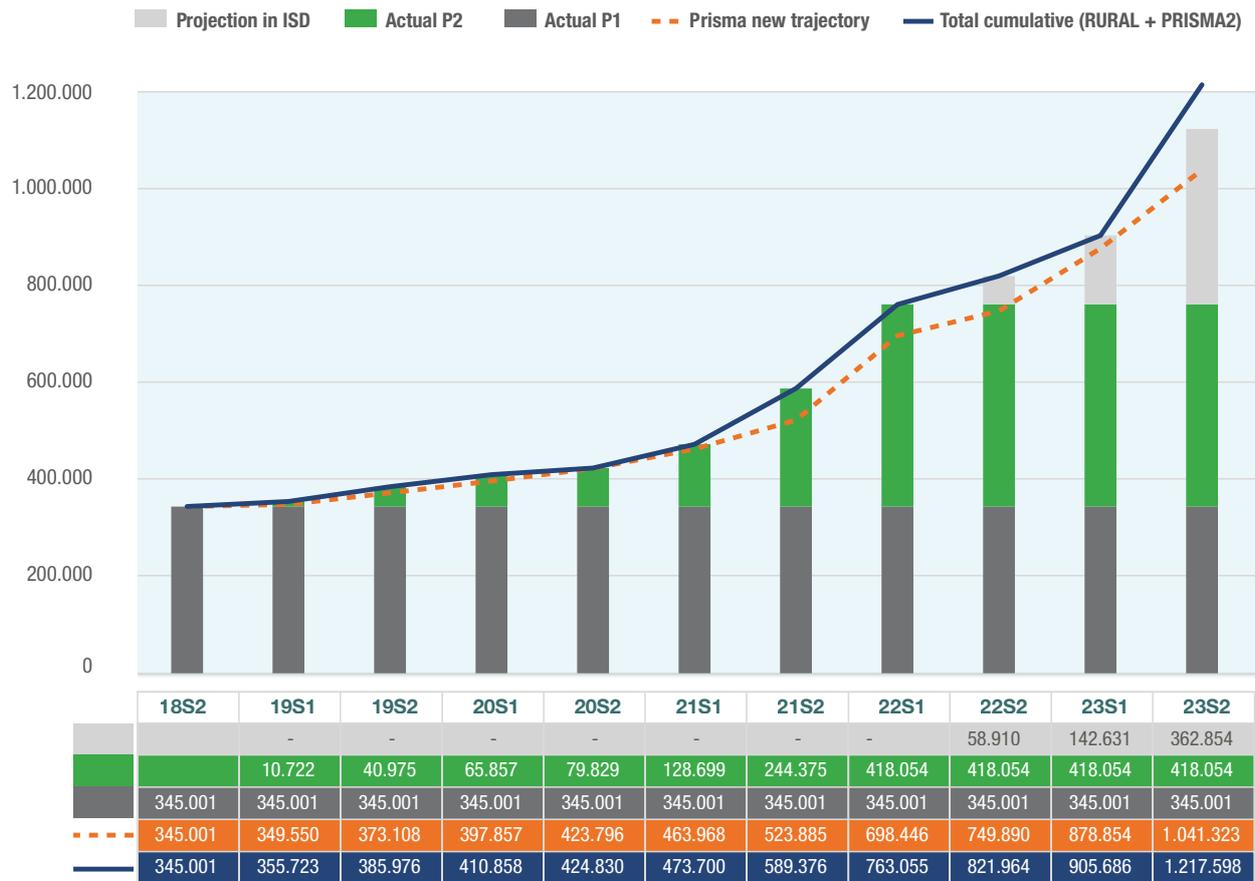


Figure 5. PRISMA outreach trajectory

Partnership and wider market outreach

This semester, 18.1 percent of total outreach came from the wider market compared to 8.1 percent in the previous semester. The cumulative percentage of the wider market is 28.4 percent. However, as noted in challenges section, the program has not been able to capture all wider market outreach from crowding in companies because of the difficulty in collecting sales numbers and geographical data. PRISMA will explore options for measuring this next semester.

Net attributable income change

The average NAIC reached 53.6 percent (IDR 7.3 million), bringing the cumulative percentage to 218 percent per household. The high outreach and IDR 11.9 million income increase per household in the soil treatment sector increased the average cumulative NAIC to IDR 5.75 million per household. The total incremental NAIC from all beneficiary farmers this semester reached IDR 1.571 trillion, bringing the cumulative NAIC up to IDR 4.392 trillion or approximately AUD 439.2 million.

Other KPI

Solid progress is being made in other key indicators. The amount of partner and ISP turnover has more than doubled this semester. The total cumulative market system (private sector, ISP, and farmers) investment has increased by 58 percent from the previous semester. Both indicators are strong signs of systemic change in the market system.

It should be noted that PRISMA is exploring alternative methods to measure the number of organisations crowding-in, particularly in areas outside of the system boundaries and geographic areas of PRISMA. This will be discussed in addition to alternative methods for measuring wider market outreach.

The details of progress against the remaining KPIs can be found in Annex 2 and are summarised in Table 2.

Table 2. Summary of PRISMA KPIs

KPI Indicator		Actual January-June 2022	Actual up to June 2022
KPI1	Number of farm households with increased income due to PRISMA Interventions	173,679	763,055
KPI1a	Number of farm households under extreme poverty (\$2.50 PPP poverty line) with increased net-incomes	105,853	322,737
KPI1b	Number of farm households under \$5.50 PPP poverty line with increased net-incomes	145,174	514,968
KPI2	Net attributable additional income for targeted farming households in IDR	1,571,330,461,714	4,392,123,409,786
KPI2a	Net attributable additional incomes of farming households under extreme poverty (\$2.50 PPP poverty line) in IDR	888,185,955,797	1,915,897,169,053
KPI2b	Net attributable additional incomes of farm households under \$5.50 PPP poverty line in IDR	1,168,293,753,203	2,920,530,706,771
KPI3	Number of ISPs providing additional/improved access to innovation for farmers	224	12,572
KPI4	WEE effectiveness within PRISMA innovations	1.34	0.93
KPI5	Value of additional turnover of ISPs in IDR	658,104,408,909	1,693,666,782,776
KPI6	Number of intervention partners (private sector and public sector)	11	238
KPI7	Value of additional turnover of Private Sector Partner (PSPs) in IDR	580,014,242,194	876,242,121,778
KPI8	Value of attributable additional and/or more inclusive investment by PSP, ISP, and farmers in IDR	695,771,646,312	1,970,691,124,117
KPI8x	Value of attributable additional and/or more inclusive investment by PSP in IDR	62,011,592,738	228,762,430,321
KPI8y	Value of attributable additional and/or more inclusive investment by ISP in IDR	210,975,885,955	223,655,372,955
KPI9	Number of crowding-in businesses/institutions induced by PRISMA-2	4	27
KPI10	Number of responding businesses/institutions induced by PRISMA-2	6	89
KPI11	Number of Policy Engagement	10	79
Access	Number of farming households with access or information about the innovation from PRISMA	519,847	1,988,909
User	Number of farming households that adopt or use information about the innovation from PRISMA	305,200	1,098,667

Value for money

Against the total intervention costs, investment per household improved against last semester and stands at AUD 101.13 (from 122.98). The continuous downward trend in investment shows PRISMA continues to be more efficient. Social return on investment increased from 3.89 to 5.69 and investment leverage by sector increased from 1.76 to 2.55. Investment leverage by partners has increased from 0.23 to 0.30, with partners investing AUD 1.50 for every dollar PRISMA invests. All the indicators show the program is delivering better value for money and that partners are adopting, adapting, and expanding the business models.

GENDER AND SOCIAL INCLUSION

This semester, PRISMA conducted a stocktake to monitor partner progress towards embedding WEE in business models. The stocktake identifies concrete actions by the sector teams to intentionally engage women in partnership activities. This may include adopting marketing and promotional activities focussed on women, undertaking women only farmer meetings, and activities intentionally inviting women. It was found that 62 of 92 interventions reviewed have progressed towards embedding WEE into business models. The extent of the mainstreaming can be seen in Figure 5. The 30 interventions that did not demonstrate gender mainstreaming was because there is no viable business case to do so, there is a low commercial incentive, or because the intervention is still in pilot phase and opportunities have not yet been identified.

Improving how PRISMA measures WEE impact

This semester, PRISMA RML and the sector teams have involved more women in the data collection process and improved the data collection method. PRISMA engaged more than 450 women respondents in nine WEE impact assessments during this semester, which is double the number of women responses from the previous semester. The impact assessments are important to understand how PRISMA interventions are impacting women's lives, both positively and negatively. The improved qualitative collection method helps PRISMA determine the extent to which women are moving from access to agency and how intervention strategies can be modified accordingly.

Women's Economic Empowerment

Impact assessment Dec 2020 – July 2022

PRISMA has positively impacted women in a number of ways, measured in the following Women's Economic Empowerment (WEE) dimensions.



Leadership and social networks

29%

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



Manageable workload

30%

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



Decision making

34%

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

51%

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



Economic advancement

62%

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



Access to products and services

53%

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

We can use the money from crop farming to manage savings in cooperatives for our children's education.

A maize farmer in East Nusa Tenggara

The products are found in many kiosks nearby, so it is easier to purchase them.

A mung bean farmer in Central Java

Women sales agent model

PRISMA has been actively promoting the use of the women's sales agent (WSA) model to improve the inclusiveness of the market. The key to this is helping businesses acknowledge that women farmers are a marketable segment in agriculture. More partners are open to recruiting women as field agents.

This semester, two of PRISMA's partners adopted the WSA model. PT Bio Agromitra Indonesia (BAI) in the fertiliser sector was willing to try the sales agent model to market and increase its bio-fertiliser product awareness. CV BTS adopted the WSA model in Madura to target women with high-quality mung bean seeds.

BAI PILOTS THE WOMEN SALES AGENT MODEL



One of the challenges BAI faces is selling its liquid organic fertiliser products in kiosks and retailers because the product is relatively new. PRISMA is supporting BAI develop a marketing strategy, including investing in sales agents. PRISMA shared the findings from the WSA study with BAI and suggested it extend its sales agent recruitment process to both men and women. In Central Java, BAI recruited one woman sales agent out of five sales agents hired. Lailatul Umami, or Ibu Ami is now conducting women farmer meetings to share information about organic fertiliser. While this may seem insignificant, it is a big step because sales agents are traditionally always men. PRISMA will continue supporting BAI on its journey recruiting and supporting women sales agents.

Disability inclusion

This semester, PRISMA continued exploring opportunities to incorporate the Universal Design (UD) principles across the portfolio to ensure farmers living with disabilities have access to products and information. PRISMA met with the MAHKOTA program to connect PRISMA to relevant disability organisations as reference points for PRISMA.

PRISMA started to capture data this semester on smallholder farmers living with disabilities. The impact assessments show there are 29 farmers or household members engaged in agriculture. Thus, 8.96 percent of the interviewed households are living with disabilities. Six of these respondents had a lot of difficulty, and 23 had some difficulty with mobility impairment, the most common challenge (59 percent), followed by vision impairment (21 percent).

This PRIP has also been designed to adhere to the Accessible and Inclusive style manual supported by DFAT. This means leaving more white space, making the PRIP a little longer than the previous version.

In the coming semester, PRISMA, in collaboration with MAHKOTA, plans to organise a workshop with Organisations working for People with Disability (OPD) to better capture the prevalence and issues around disability in agriculture.

Youth inclusion

In January 2022, PRISMA spoke at the Communal Youth in Agriculture panel discussion hosted by Market Linkage Association in Zimbabwe and shared the program's findings on challenges and opportunities for including youth in agriculture.

The Gender Equality and Social Inclusion (GESI) team supported the beef team do an assessment of youth in the beef sector in East Java to identify opportunities to improve youth participation. There are increased opportunities for sales agents to use digital platforms to encourage youth farmers to adopt concentrate feed. This will be taken up by the beef team.

In the fertiliser sector, PRISMA supported Agrotama Tunas Sarana to target youth farmer groups to help disseminate promotional material through its digital networks.

Indigenous inclusion

In April, the vegetable team commenced its off-taking study in Papua and West Papua that will provide insight into potential opportunities for indigenous vegetable traders in both provinces.

COMMUNICATIONS

During the reporting period, PRISMA set up the channels and infrastructure to meet its strategic objectives while delivering 10 new products. The new channels and infrastructure include refreshing the PRISMA brand and communications products, commencing a website upgrade, obtaining approval for a LinkedIn page, and undertaking a stakeholder mapping exercise to reach policy influencers, think tanks and academics. PRISMA will use these channels to share and amplify communications products and program key messages with our target audiences.

In terms of products, PRISMA launched its “Indonesia Market Watch” brief, sharing timely insights from PRISMA’s sectors. The program produced four briefs, including a survey on food price inflation in partnership with the Market Development Facility, a review of the impact of the Russian-Ukraine conflict on the fertiliser sector, a rapid analysis on the outbreak of foot and mouth disease, and a review of the response to the fall armyworm outbreak. All briefs received positive feedback from stakeholders both at Post and in Canberra.

A PRISMA partnership with Economist Impact⁸ produced a standalone website with two long-form articles, data visualisations and imagery. The first article focused on the PRISMA model explaining the market systems development approach through interviews with DFAT Counsellor for Human Development Daniel Woods, PRISMA CEO Nina FitzSimons and Economist and Academic Bob Warner. The second article took a closer look at PRISMA’s impact on individual farmers using examples from the beef and mung bean sectors. The impact was brought to life through the farmer’s stories. In Tuban, East Java we learnt how smallholder cattle farmers, Mugi and Zaen have grown their cattle herd using concentrate feed. In Malaka, NTT we learnt how smallholder mung bean farmers Yuliana, Joavita and Wendeilina have increased their yields by using certified seeds. Together the articles present what PRISMA is doing at the macro level, influencing market change, and how this has translated into increased incomes and food supply at the farmer level. Read more: <https://impact.economist.com/projects/growing-indonesia>

PRISMA is developing a “learning series” to capture lessons learned through implementation and key achievements. The series will be launched in the second half of 2022 with the aim to inform both DFAT and the development community.

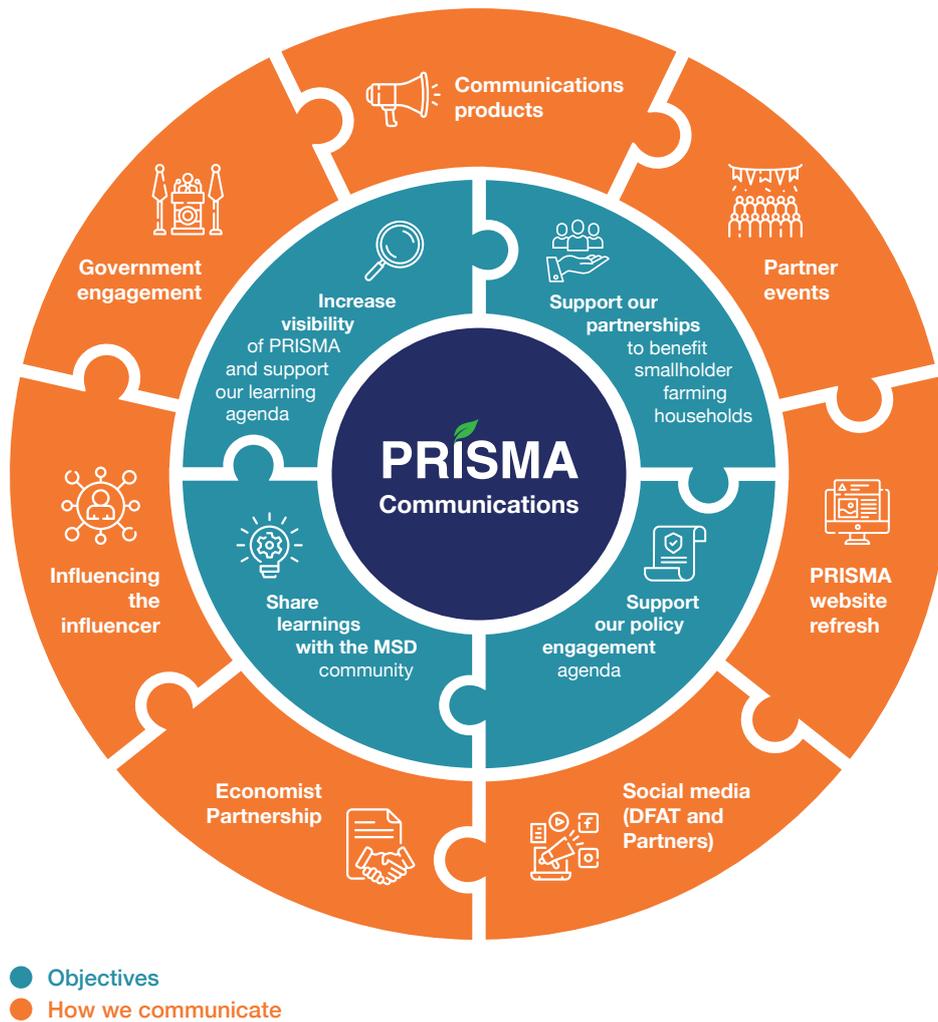
This semester, PRISMA worked with consultants supported by the Donor Committee for Enterprise Development (DCED) to produce the case study, “How to Monitor Interventions Effectively: Lessons from PRISMA’s Intervention in the Mung Bean Sector in Indonesia”. The study provides practical tips for addressing eight common monitoring challenges the PRISMA team encountered.

PRISMA was able to go back into the field this semester to interview farmers and gather photo and video content for stories. This content helped tell the PRISMA story via our refreshed website and social media. PRISMA also made contributions to DFAT’s public diplomacy, feeding content from the field to the Rural Development Unit for the Jakarta Embassy Facebook page. Communications staff joined field trips by sector teams as well as GOI and GOA delegations to visit the beef, pig and mung bean interventions.

Climate change will continue to be a focus for communications in the next semester and beyond. Communications is working with the policy team to better understand our climate impacts and support the communication of learnings and achievements.

⁸ A PRISMA partnership with EI studios, a custom division of Economist Impact.

How we communicate



ENVIRONMENT

PRISMA continued to implement its Environmental Protection Strategy (EPS) and monitor sectors with potential negative impacts based on previous semester’s Environmental Desk Assessment (EDA) results, especially those contributing toward key findings reviewed in the previous semester’s sector review. To date, none of the potential negative impacts were observed across those sectors. No additional EDA’s were implemented this semester by PRISMA.

This semester, PRISMA started to collect positive climate smart agricultural impacts across the portfolio. A summary of the impacts this semester include:

- PT Botani’s HYV seed variety is demonstrating strong applicability for drought restricted areas. PRISMA will support PT Botani in determining the water saving potential of the seed for marketing the seed as environmentally friendly.
- Partners in the crop protection sector have shown commitment to endorsing more green labelled products and are switching their active content to less toxic alternatives in their product formulation. The partners are refocusing their marketing to greener products while promoting responsible use and dosage
- The soil treatment sector has completed some of its impact assessments. It validated the prospect of further reducing total fertiliser usage by switching to commercial fertiliser. PRISMA is now in the process of developing and implementing a full-fledged environmental impact assessment study for the wider impact of the Soil Treatment sector the study will be completed by the end of the second semester 2022.

CLIMATE FIELD STORY

Climate smart agriculture in the soil treatment sector

Tarkumpul is a seasoned farmer with decades of experience. As the leader of the farmers' association in Tombo village, in Central Java, he is keen to share any innovation with his farmer groups that will improve their crop yields.



The price of fertiliser has been steadily increasing and at the end of last year Tarkumpul and other farmers were having difficulties accessing subsidised fertiliser. So, in a leap towards innovation born out of necessity, Tarkumpul turned to organic fertiliser after going to a product information day hosted by BAI on its product Bio Konversi.

◀ Tarkumpul (55), Lead of the Association of Pagersari Farmers Group in Tombo village, Banjar sub-district, Batang district, Central Java, showing some harvested maize using organic fertiliser.

Bio Konversi produces liquid organic fertiliser from processed organic waste from the Bantargebang integrated landfill in Bekasi. With support from PRISMA, Bio Konversi now includes a B2C component, so it now serves smallholder farmers with organic fertiliser and information on fertiliser management practices.

After 30 years of using only chemical fertiliser, Tarkumpul now also uses organic fertiliser and experienced improved maize productivity. He has reduced using chemical fertiliser which helped him in cost saving. "The other farmers and I have cut our costs almost by half", says Tarkumpul. "Compared with chemical fertilisers, organic is cheaper. The maize yields are also good. The plan is that I will continue to use this fertiliser for my rice as well," adds Tarkumpul.



Another farmer in the same district, Ifa, is also singing the praises of organic fertiliser. Ifa grows chillies, mustard greens, maize and rice. She says that she received information from a woman sales agent from BAI that using liquid organic fertiliser could strengthen her plant's immune and root system, which helps to minimise attacks from pests", says Ifa. "I tried it and it worked and gave me much better yields. Before I used Bio Konversi I got half a quintal (50 kilograms) of vegetables. After using the organic fertiliser, I produced one quintal", she says.

◀ Ifa, vegetable, maize and rice farmer from Batang district in Central Java.

The other advantage of using organic fertiliser for both farmers has been the shorter planting time. Maize usually takes 110-120 days to harvest, but with Bio Konversi, the farmers were able to harvest their maize on the 100th day. While the shortened crop cycle does depend on other factors, such as seed variety and water application, Tarkumpul was able to reduce the number of day workers he hired this harvest season.

Both farmers are firm converts and they plan to continue supplementing their chemical fertilisers with organic fertiliser.

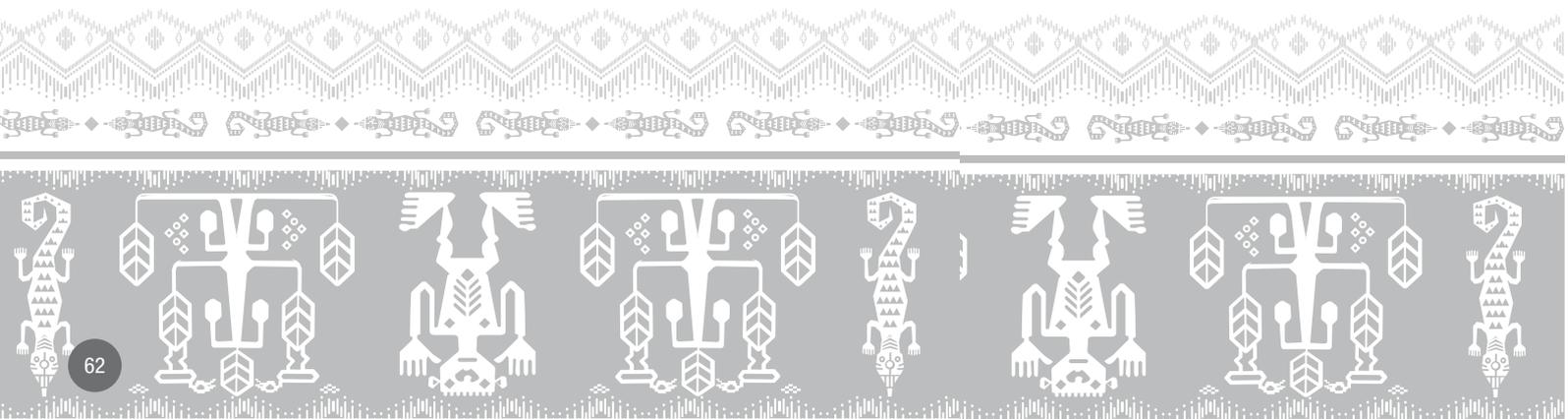
PRISMA partners with commercial fertiliser companies to promote quality fertiliser and good fertilising practice to smallholder farmers.

With proper and balanced application, fertiliser has a direct contribution to climate smart agriculture's goals of increasing agricultural productivity and adapting and mitigating agricultural impacts from climate change realities.

In Indonesia, farmers mostly overuse chemical fertiliser such as urea and NPK. Balanced application of fertiliser leads to lesser use of chemical fertiliser, which helps reduce greenhouse gas emission to the environment.

Mixing chemical fertilisers with organic fertiliser helps increase organic matter in the soil, improves soil health and quality and results in more CO2 capture from the environment.

Organic fertiliser helps crops to gain a stronger root system and improved resistance/immunity against disease and pest attack, which can also contribute to reducing crop protection products.







5

Operations

OPERATIONS

OUR PEOPLE

The program recruited and onboarded a further cohort of staff (Cohort 10), including implementation and RML. Cohort 10 comprised 17 Business Consultants, a Strategic Liaison Officer, 8 RML Business Consultants and a RML Senior Business Consultant. In addition to Cohort 10, one Finance Officer and one Contracts Assistant were recruited.

There were eight internal staff promotions and three lateral transfers in the sector and RML teams.

Two international Long-Term Advisers were deployed in-country – the Portfolio Adviser for Finance and ICT, and the Communications Manager. All international Long-Term Advisers are now in-country.

The program recruited a replacement Chief Technical Officer for Inclusion and Engagement.

This semester, 13 staff resigned; two to take up scholarship opportunities and the rest for other job opportunities.

The program's remuneration policy was updated and shared to all staff, which included changes to salary bands and linking performance measurement to salary increments, incentivising good performance. The program's Working Parent Policy was also expanded to include facilities that allow returning mothers to work in the office with their new-borns up to six months of age. The policy change for working parents is to better enable new mothers to continue their careers.

The program continues to invest in staff development. Technical MSD training was conducted by Springfield for Cohort 10. This semester, there was also training in:

- Lessons Learned – how to capture and write lessons learned
- What to Fund refresher training for all senior staff
- Procurement refresher training for all operations staff
- Preventing Sexual Exploitation, Abuse and Harassment (PSEAH) refresher for all staff
- Partnership brokering for all implementation staff
- Gender bias training for all staff
- Building confidence and strategic thinking for operations staff
- WEE measurement training for cohorts 8 and 9
- Systems Change Measurement training for all staff
- Research and statistics skills for RML staff



OPERATIONS

This reporting period saw the COVID Omicron variant wave come and go. All offices remained open except for a couple of weeks during the peak of the wave. All offices continue to adhere to PPKM (Public Activity Restrictions) capacity restrictions.

With the easing of PPKM, field travel by staff has increased and is approaching pre-pandemic levels. International short-term advisers have also started to travel to Indonesia to undertake assignments with international border restrictions easing.

Eleven new Collaboration Agreements were entered into this reporting period from a planned ten. Currently, program-wide, there are 59 active Collaboration Agreements and four were closed this semester.

The Program's Management Information System (MIS) was refined to report key management performance indicators for the SMT to track implementation progress by team and sector. The reporting includes the number of approved Intervention Plan presentations, number of contracts signed, current and projected outreach figures, and number of meetings held with partners and potential partners.

PROGRAM RISK MANAGEMENT

The PRISMA risk management strategy is underpinned by a transparent risk management process, and awareness amongst staff, led by the CEO and the management team, together with a robust system designed to ensure regular and open communication between key stakeholders. This reporting period, the risk matrix was updated to the new DFAT template and reviewed.

The departure of a core member of the SMT may have short-term impact on staff cohesion but a transition team is ensuring a smooth handover and staff have been fully briefed.

PROGRAM LESSONS LEARNED

The program is now getting to the point where broader lessons learned are being collected and collated. During this semester, two Short Term Advisers were tasked with assisting the SMT and sector teams to review PRISMA's legacy and current sectors to identify key lessons learned. These documents will be used to inform the independent strategic review that DFAT will commission to undertake a forward-looking review of the program next semester. PRISMA will also use the Lessons Learned documents to supplement the knowledge management work being undertaken for Bappenas.

This semester, the SMT acknowledged the need to supplement the sector review process with field visits. This enables the senior management to verify findings from the review process and also better identify areas for improvement. By speaking directly to partners, intermediary service providers and beneficiaries, the Chief Technical Officers are able to provide key strategic advice to the team on how to modify the approach to increase the chance of reaching scale, improve the chance of sustainability, and build resilience.





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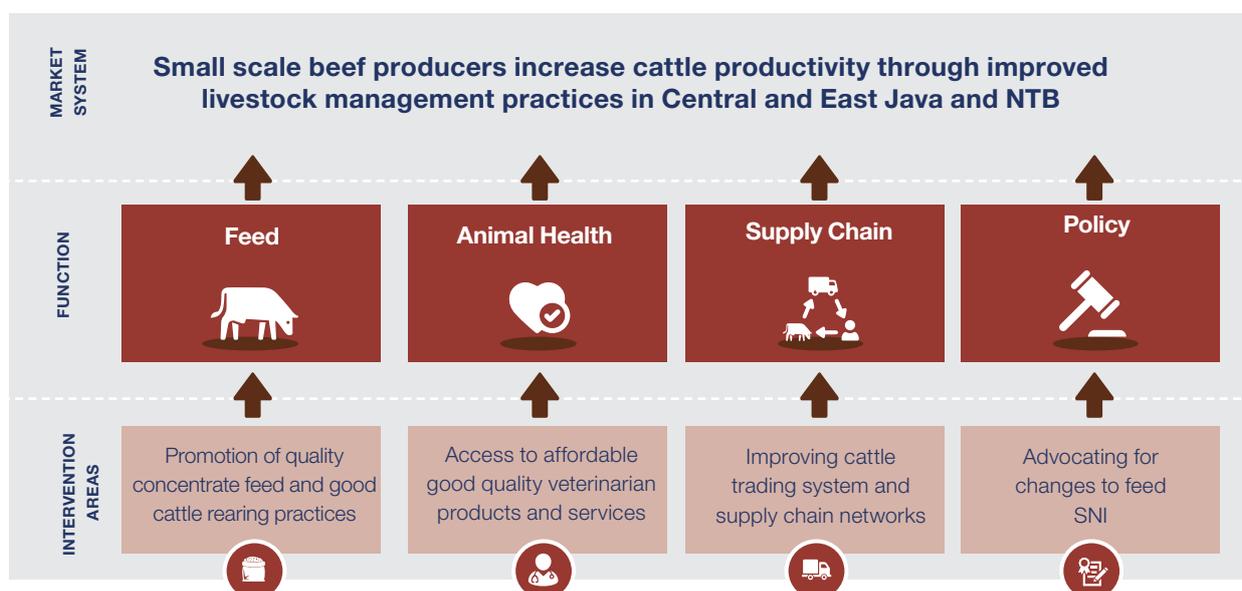
Annexures

ANNEXURES

PROGRESS AGAINST MSS

Beef

Domestic consumption of beef 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 with about 1.4 million small-scale beef producers. Yet, cattle production and productivity are low.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Jun 2022 (%)
 <p>Cumulative outreach actual to Jun 2022 (HHs) 14,991</p>	<p>51,420</p>	<p>121% ↓</p>
	<p>Total NAIC up to Jun 2022 (IDR) 206.8 billion</p>	<p>Total projected NAIC to Dec 2023 (IDR) 257.5 billion</p>

Value for money (VFM)

 <p>Investment leverage 1.44</p>	 <p>Investment per HH AUD383.59</p>	 <p>Social return 3.60</p>
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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 SNI for cattle concentrate feed by the GOI, and a better trading system for live cattle.

Market function 1: Feed

There has been considerable progress this semester with PRISMA partners increasing feed sales by nine during this semester. If compared to the same semester last year, this represents a 32 percent increase. A feed assessment conducted by the University of Gadjah Mada shows 80 brands of cattle feed are now being sold in the market in East and Central Java. This increase represents a significant increase in the level of autonomous crowding-in by competing companies entering the cattle feed market. Eight years ago, there were no commercial feed companies in these provinces, highlighting the transformational shift in the sector.

East and Central Java are still the largest markets for cattle feed, but demand from other provinces continues to grow, accounting for around 12 percent of total partner sales this semester.

139 new cattle feed agents were recruited this semester, bringing the total feed agents to 889 from a baseline of zero. This marks a substantial improvement in the expansion of the geographic boundary of the cattle feed market, meaning more cattle farmers in Indonesia benefit from better access to quality feed and better knowledge on good rearing practices.

PRISMA partners continue to invest in the cattle business and expand their market coverage nationwide. Nutrifeed built a new feed plant in Cirebon, West Java, with an installed capacity of 9,000 tonnes per year for a total investment of IDR 4 billion. Munir has invested IDR 500 million in purchasing new land and constructing a new warehouse in Tuban. The company has also rented a 60-tonne warehouse in Madura, as its sales increased by 200 percent this semester. This strongly indicates increased independent adoption of innovation by partners and their feed agents, driving sustainability in the sector.

Partners continue to conduct on-the-ground promotions, including market storms at livestock markets, and farmer gatherings, including FMD socialisation meetings. During this semester, there were 26 promotion activities on the ground with 1,050 farmers participating. The FMD outbreak is an opportunity to promote concentrate feed as it boosts cattle immunity.

PRISMA recently hired an expert in research and measurement to review and verify the methodology, analysis, and findings of the cattle study undertaken in 2020 regarding update of commercial feed by farmers. The findings of the verification report will be available next semester.

Market function 2: Animal health

Considerable progress has been made in this market function this semester. PRISMA has signed a partnership agreement with PT Cipta Ternak Sehat (CTS), a key player in the Indonesian animal pharmaceutical industry, to promote deworming technologies and good animal health management practices in East Java, Central Java, NTB, and NTT.

Two viral diseases affecting cattle, LSD and FMD, occurred in Indonesia this semester. LSD has been contained but FMD is affecting PRISMA's working areas. There are 26 districts/municipalities in East and Central Java that fall under the intervention areas of PRISMA and have FMD cases. PRISMA is monitoring the impact at farm and partner level to determine if the MSS needs to be modified.

The PRISMA team participated in coordination meetings organised by the provincial governments to develop

a preparedness and response strategy for the FMD outbreak. The government has also asked PRISMA to help with a cost-benefit analysis, which will be completed next semester. PRISMA is working closely with the Australia Indonesia Health Security Partnership (AIHSP) on a coordinated response to the outbreak.

Market function 3: Supply chain

No progress was made this semester, although the team explored a partnership with PT Tabana to enter the NTT market, which is one of Indonesia's leading exporters of live cattle. The partnership with PT Tabana is expected to commence next semester if feasible.

Market function 4: Policy advocacy

Good progress has been made in advocating for the SNI feed improvement policy this semester. UGM completed the cattle feed surveillance where 102 samples were collected and lab-tested to assess nutrition indicators in accordance with SNI. Based on rigorous analysis of nutrition and prices, UGM has established three grades of concentrate feed standards. PRISMA's short-term policy advisers will develop a robust Policy Brief based on the report findings. Following peer review, the Policy Brief will be submitted to Bappenas prior to submission to MOA. This semester, Bappenas allocated IDR 114 billion to set up a Bekasi Feed Quality Testing and Certification Centre to support the policy change.

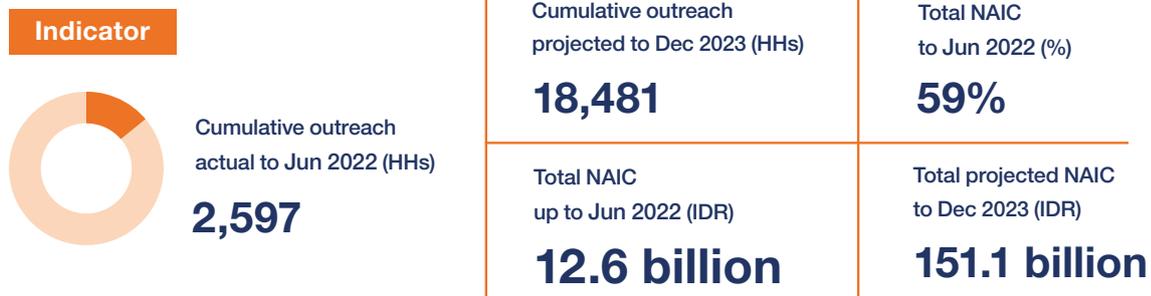
Challenges and learning

The recent outbreak of FMD with its rapid spread, presents significant challenges for PRISMA livestock interventions. Farmers can potentially lose entire herds and will experience increased costs to treat infected animals. This may discourage farmers from continuing investing in commercial feed.

Lack of farmer knowledge on prevention and farm biosecurity has led to FMD spreading. A slow government response, lack of access to vaccines, and concerns about panic selling have slowed the response. PRISMA is using partner networks to accelerate the delivery of appropriate information to ensure the timely recovery and resilience of the sector.

Dairy

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 100,000 small dairy producers. Nevertheless, milk productivity and quality are suboptimal.



Value for money (VFM)



Constraints

The performance of the dairy sector in East and Central Java is marked by low productivity and poor-quality milk. This is due to a lack of access to good quality feed, pharmaceuticals and veterinary services, as well as dairy breeds that are appropriate for the climatic conditions. Added to this is the poor know-how on good dairy farming practices and the underperformance of milk collection points in farmer groups.

Sector vision

PRISMA will address market constraints through good management and business practices at the farm level in the areas of feed, pharmaceuticals, breed, and milk handling at collection point levels. It will also expand distribution networks for better access to inputs through Dairy Processing Industries (DPIs) and encourage strong government policy support.

Market function 1: Feed

Good progress was made this semester in feed. PT Nufeed sold a total of 2,727 tonnes of feed for dairy cattle this semester. Sales records for this semester are three percent lower than in the second half of 2021. This reduction is because of lower government sales, but commercial sales continue to rise. Commercial sales accounted for 85 percent of Nufeed's total sales this semester. Sales for the commercial market continue to grow because of massive online promotions and more agents hired to promote and sell the feed. Nufeed now has 89 active agents in dairy, whereas previously, they had very few.

Market function 2: Animal health

On the animal health market function, the partnership with PT Medion has also shown major progress. The sale of mastigrin, a medicine to treat mastitis in dairy cattle, has grown in Central Java. Sales reached 61,500



kg in Central and East Java this semester. Medion has also improved its uptake of digital marketing with 20 staff from the ruminant and poultry portfolio trained in digital marketing. These staff can now develop content and disseminate materials across social media and the network of agents. Medion confirmed that investment in digital marketing, including online promotion, has contributed to over 50 percent of its national mastigrin sales. It is also important to note that mastigrin is essential to the recovery process of cows infected with FMD.

In response to the FMD outbreak, Medion provides online educational materials on FMD mitigation and control for its agents, veterinarians, and farmers. In total, 500 farmers were reached through the 15 FMD trainings that were held.

Market function 3: Policy advocacy (new function)

Good progress has been made for this new policy advocacy function. A national webinar, “Increasing Domestic Milk Production Through Jersey Cattle Development to Support the Achievement of the 2013-2025 Indonesian Dairy Blueprint Indicators”, was successfully held in partnership with PISAgro. The webinar attracted more than 230 dairy stakeholders from across Indonesia and was opened by the Indonesian Coordinating Minister of Economic Affairs, Dr. (HC) Airlangga Hartanto, MBA, MMT. The event supports PRISMA’s policy agenda to enable Jersey cows to be more accessible and to increase national milk production. PRISMA also advocated for issuing a ministerial decree to include milk as a staple. By issuing this decree, the government must ensure the availability, quality, and affordability of milk. This means that the dairy sector will be one of the strategic sectors that the government will be committed to improving, which will then stimulate a better business environment for the dairy industry.

As a follow-up to the webinar, MOA agreed to develop a roadmap and guideline for Jersey cattle. MOA will set up a working group composed of MOA, PISAgro, PRISMA, and experts to develop the roadmap and guidelines. The working group will work with PT Greenfields Indonesia to understand the technical and business aspects of Jersey cattle. MOA also has appointed a person responsible for communicating with PISAgro and PRISMA to develop the TOR and budget for the roadmap and guidelines. The TOR is being reviewed by MOA and the roadmap and guidelines will be developed in the coming six months.

The government will prioritise vaccination of dairy cows to limit systemic disruptions in the dairy industry caused by FMD.

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

An intervention with SGM-Danone has been approved by PRISMA and Danone Global. The partnership will be launched in July 2022.

Challenges and learning

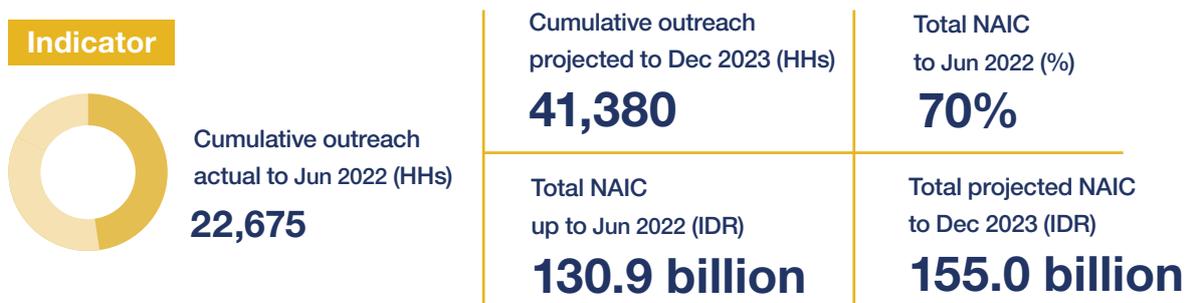
The recent outbreak of FMD has affected dairy cattle in Lumajang district in East Java. Cows infected with FMD experienced a 25 percent drop in milk production per day. This, in turn, may discourage farmers from investing in high-quality feed, which reduces feed sales for PRISMA partners. This could also lead to farmers selling their cows for slaughter to avoid further financial loss, leading to further systemic disruption to domestic milk supply.

The rapid assessment into the readiness of the market to contain FMD undertaken by PRISMA revealed that most dairy farmers do not know about FMD, and that current prevention and biosecurity measures are inadequate. PRISMA’s private sector networks and cooperatives need to accelerate the delivery of appropriate information and improve access to medicines, vaccines, and biosecurity products to ensure the timely recovery and resilience of the dairy sector. The reintroduction of new, productive cows will be costly and take time. It is, therefore, crucial for PRISMA to work on policy advocacy so that farmers and cooperatives have access to Jersey cattle after the FMD outbreak.

Finance

The strategy refresh for finance shifted the focus from smallholder finance to SME finance, focusing primarily on agricultural input kiosks and agents (off-takers). This shift was based on experience showing the smallholder model was hard to scale and replicate, expensive, and had low incentives for FI.

There are approximately 17,500 kiosks in Central and East Java and 63 per cent of these say they require more capital. Two thirds of the kiosks wanting additional capital want to use banks to obtain it. The total addressable market for revolving loans to kiosks is approximately AUD 324 million, and the serviceable available market in Central and East Java is approximately AUD 64 million.



Constraints

On the demand side, kiosks lack capital to stock high-quality products at peak periods or to diversify into other areas, such as providing agri-services. Kiosks are constrained by uncertain business conditions, pre-existing loans, and lack of access to Islamic finance.

On the supply side, FIs have low incentives to lend to agricultural SMEs and kiosks due to perceived risks associated with agriculture and lack of knowledge regarding the potential to serve the SME market.

Sector vision

By 2023, at least three banks will have increased their commercial interest in disbursing agricultural financial products to agri-kiosks in Central and East Java. Agri kiosks will be able to provide a wider range of high-quality products and services, including financial services, with flow-on benefits to at least 10,000 farmers.

Market function 1: SME financing

PRISMA partnered with Bank Mandiri to promote kiosk specific revolving loans. Two other banks, BRI and BNI, agreed to conduct kiosk landscaping research to develop and promote similar loan products. Negotiations are underway with Bank Sinar Mas to develop a similar Islamic finance product to tap into the 30 percent of non-loan taking kiosks that feel that conventional loans contravene their religion. This semester, the consulting firm SPIRE was engaged to explore the barriers to kiosk lending and identify further potential partners.

PNM's on-going intervention has shifted its focus on financing kiosks, and PRISMA will conduct an impact next semester to gather applicable lessons learned.

Market function 2: SME finance consulting services

So that kiosk revolving loans will continue to grow beyond PRISMA, there needs to be a viable service that can continue to support FIs to do the necessary research and customer acquisition work. Instead of simply outsourcing to research firms, PRISMA will provide capacity building to research firms to provide exposure to FIs. This work commenced with SPIRE, and next semester will identify other potential sub-contractors.

Market function 3: SME financial services

This function partly relates to legacy interventions (pre-refresh), and partly recognises that kiosks offer informal credit 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 – although this is not a priority of the finance strategy.

The current intervention with CROWDE is financing smallholder farmers through kiosks using in-kind loans. This intervention will have an impact assessment next semester.

Market function 3: Agricultural SME finance policy engagement

PRISMA aims to support good policy on SME financing by engaging the Financial Services Authority (OJK) directly and presenting evidence from the portfolio, and by engaging other influencers.

Ongoing legacy interventions

PT. BISI and REMITPRO will complete their current interventions by September, and any useful learning from the impact assessment will be used to influence other interventions.

Challenges and learning

The challenge for the finance sector will be to execute the strategy in the amount of time remaining.

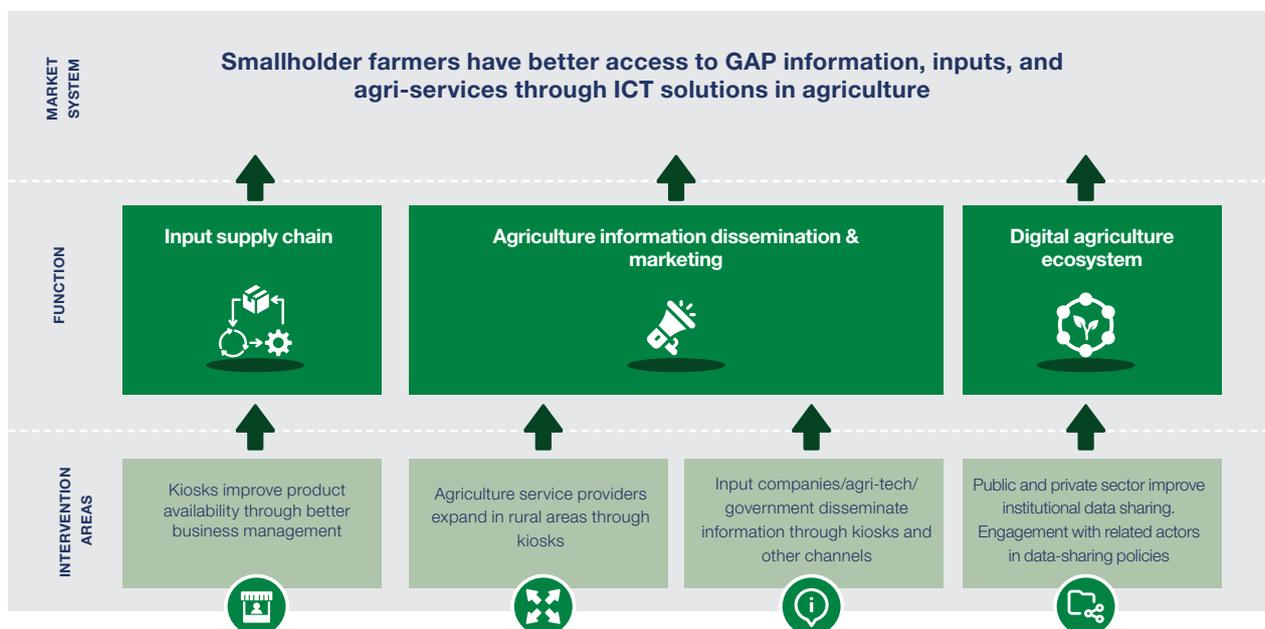
Information and communication technology

Digitisation can provide smallholders with access to information and services that can dramatically improve their productivity and reduce production costs.

Rural Indonesians are increasingly connected to sources of agricultural information via their mobile phones. While smart-phone ownership and internet connectivity in rural areas is 41 percent on average, it is not sufficient to scale direct-to-farmer services. Reaching farmers directly with agricultural information and other services remains a challenge, and experience from earlier on in PRISMA shows that the direct-to-farmer business model does not attract investors or developers at this stage.

There is, however, a burgeoning development of channels through agricultural kiosks. Kiosks have better connectivity than farmers with 68 percent of kiosks having mobile phones and 66 percent of kiosks connected to the internet. Forty-four percent of kiosks already use the internet to search for agricultural information, which highlights their potential as information providers.

PRISMA's ICT sector, alongside the finance sector, will capitalise on both the scale afforded by the kiosks at the village level and their connectedness, as well as the momentum generated by the rise of established and start-up companies.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Jun 2022 (%)
 <p>Cumulative outreach actual to Jun 2022 (HHs) 1,809</p>	1,809	-
	Total NAIC up to Jun 2022 (IDR) 9.8 billion	Total projected NAIC to Dec 2023 (IDR) 9.8 billion

Value for money (VFM)

 <p>Investment leverage 0.06</p>	 <p>Investment per HH 488.56</p>	 <p>Social return 0.86</p>
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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.

Sector vision

PRISMA will partner with a range of private sector, state-owned, and government actors in the digital agriculture space to ensure that over 5,000 kiosks in Eastern Indonesia have improved capacity to disseminate agriculture related information and promote agriculture services through digital platforms to 100,000 farmers.

Market function 1: Input supply chain

PRISMA aims to support kiosks get access to management training and systems to help them manage their kiosk businesses better. This semester, discussions are underway with the potential partner, PT. Agri Pintar Asia (Semaii) to develop a digital inventory system for kiosks that will have inventory management integrated into the platform (see below) with potential to add other functions such as point of sale. The partnership is expected to be signed in July.

Market function 2: Information dissemination and marketing

Kiosks need to become effective information hubs by partnering with input suppliers and other market actors to act as conduits for GAP information. This semester, PRISMA is in negotiations with PT. Bayer Indonesia to refine its Better Life Farming Programme and associated application to connect to kiosks. In addition, there are plans to support it to conduct more detailed gender analysis and segmentation.

This reporting period's discussions with Semaii included integrating GAP information in its Toko Tani application and promoting this application to kiosks.

PRISMA is also in final talks with PT. Pupuk Indonesia Persero to improve its application design and user experience so farmers (supported by kiosks and field agents) can calculate their fertiliser requirements more accurately, saving them money and improving the environment.

Finally, PRISMA is also in negotiations with PT. Media Dokter Investama (Halodoc) to convince it to branch into rural agricultural veterinary advice provision through its application and via veterinary kiosks.

Market function 3: Digital ecosystem

PRISMA aims to explore the wider digital ecosystem from a policy perspective (especially emerging consent laws, as well as licensing) to improve the sharing of agricultural information between public and private sector actors.

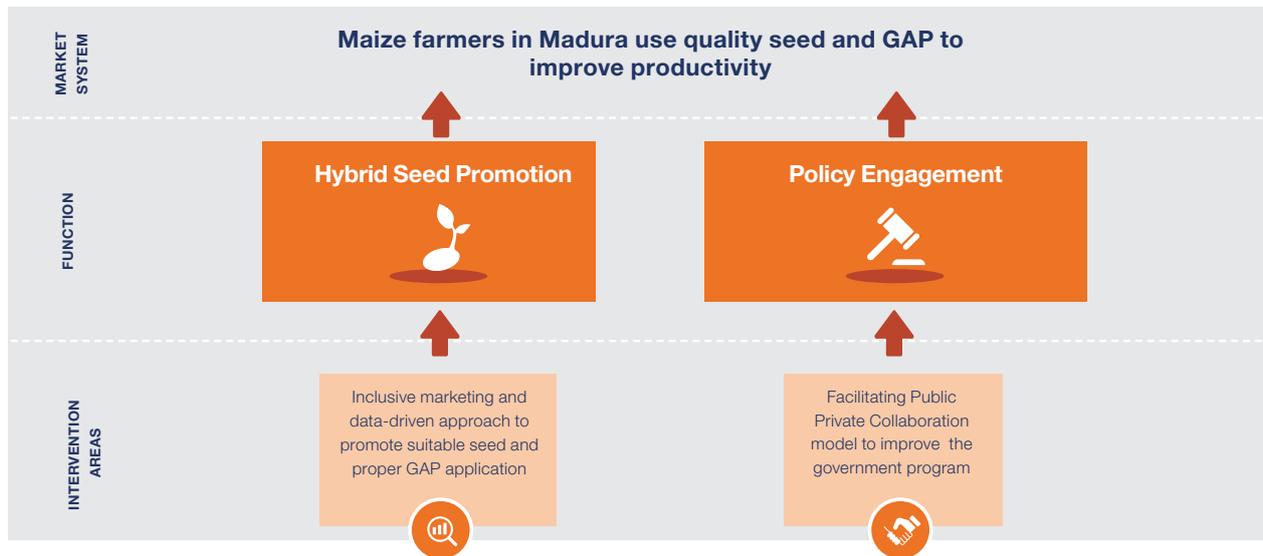
PRISMA is discussing with MOA to improve the user experience of its CYBEXT application that connects with its extension officers. PRISMA is exploring ways to integrate CYBEXT with other platforms such as Bayer and Semaii.

Challenges and learnings

The challenge for the ICT sector will be to execute the strategy in the amount of time remaining.

Maize Madura

More than 370,000 maize farmers in Madura Island cover approximately 22 percent (292,000 Ha) of the cultivation area in East Java. The government recently declared Madura, especially Sumenep district, 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 low productivity, which is around 2.1 metric tonnes (MT) per hectare (HA). Using quality hybrid seed can increase the yield up to 6 MT/HA.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Jun 2022 (%)
<p>Cumulative outreach actual to Jun 2022 (HHs)</p> <p>144,177</p>	<p>144,177</p>	<p>430% ↑</p>
	Total NAIC up to Jun 2022 (IDR)	Total projected NAIC to Dec 2023 (IDR)
	486.7 billion	486.7 billion

Value for money (VFM)		
<p>Investment leverage</p> <p>3.02</p>	<p>Investment per HH</p> <p>21.01</p>	<p>Social return</p> <p>12.80</p>

Constraints

Farmers in Madura lack access to commercial hybrid seed, and knowledge about benefits and GAP associated with using hybrid seed. While local governments have consistently promoted hybrid seed through subsidy programs, adoption rate has been limited and slow as the availability of hybrid seed in the commercial market is limited. The reasons are the inferior quality of the seeds; 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 seed and applying GAP as well as improved collaboration between private players and government programs.

Market function 1: Hybrid seed promotion

The commercial hybrid seed market in Madura has continued to grow in 2022. Currently, six maize seed companies are actively promoting their products in Madura. At least three of them, BCA, GARS, and Bayer, have entered the market independently of PRISMA. The increased hybrid seed adoption has also led to farmers' adoption of herbicides and seed treatment products. A recent market assessment revealed that kiosks in Madura have experienced increased sales of herbicides and seed treatment products.

Market function 2: Policy engagement

The district agriculture departments have continued practicing the essence of public-private collaboration. As part of the subsidy program, the government made it mandatory for all seed suppliers to organise demonstration plots to further promote hybrid seeds. Around 500 MT of seeds were supplied by more than three companies during the last agriculture season. All these companies organised demonstration plots and provided information on good practices.

To increase the hybrid seed adoption further, the district governments of Pamekasan and Sumenep focussed on increasing farmers' access to irrigation. The local government offices have successfully drilled over 130 new boreholes using high-precision detection technology previously introduced by PRISMA's partner. In addition, both districts have allocated IDR 100 million to improve the functionality of existing wells.



Challenges and learning

The longer planting period of hybrid maize (25 days more than local maize) impedes the adoption of hybrid seeds among the non-hybrid users. Since maize farmers are dependent on rain and consider planting other crops, they prefer local varieties over hybrid. On the other hand, due to increased competition in the free market, seed companies stretch their existing resources to cover a larger geographic area. As a result, many non-hybrid users get limited exposure to the benefits of using hybrid seeds, which limits further market development. In the next semester, PRISMA will engage with seed companies that have varieties with short planting periods and support them to expand their coverage to Madura.

Maize Central Java

Following the sector review exercise last semester, it was decided that Maize Central Java will be dropped as a separate sub-sector for the following key reasons: (1) while some of the pocket districts in Central Java have lower productivity compared to the national average, the average productivity at the province remains consistent with the national productivity rate, (2) lack of appropriate seed variety and interest of the private sector in going into the selected pocket areas, (3) lack of feasibility to contribute to significant systemic change by focusing only on selected districts. However, some ongoing interventions will continue as they still contribute to the broader maize strategy (explained in more detail below).

Market function 1: Policy engagement

Leveraging on the success of public-private collaboration in Madura, PRISMA initiated a partnership with the provincial government and four district governments (Banjarnegara, Demak, Temanggung and Rembang) in Central Java. PRISMA plans to capture the evidence and learning from these pilot initiatives and share a learning paper with the national government for adoption of a smart seed subsidy system that minimises overlap with commercial maize seed users.

During this semester, PRISMA supported the provincial government to review its implementation and technical guideline (JUKLAK and JUKNIS) process by facilitating an exchange visit to East Java for representatives from Central Java Provincial Agriculture Office and district offices, and BAPPEDA. During the visit, the participants saw how the Sumenep government is improving its maize seed subsidy allocation system. Next semester, PRISMA will support the provincial government to update the JUKLAK and JUKNIS for the allocation of the free maize seeds program in Central Java.

Market function 2: Hybrid seed promotion

Progress on the intervention with BISI on hybrid seed promotion slowed down during the semester due to changes in key personnel in BISI. However, with the appointment of a new provincial manager in May, engagement with BISI has picked up, and BISI is revising its marketing plans for Central Java based on the findings of a farmers' behaviour study. The intervention is expected to gain further momentum next semester as BISI has decided to focus only on the commercial seed market and not serve the government subsidy market for the next two years.

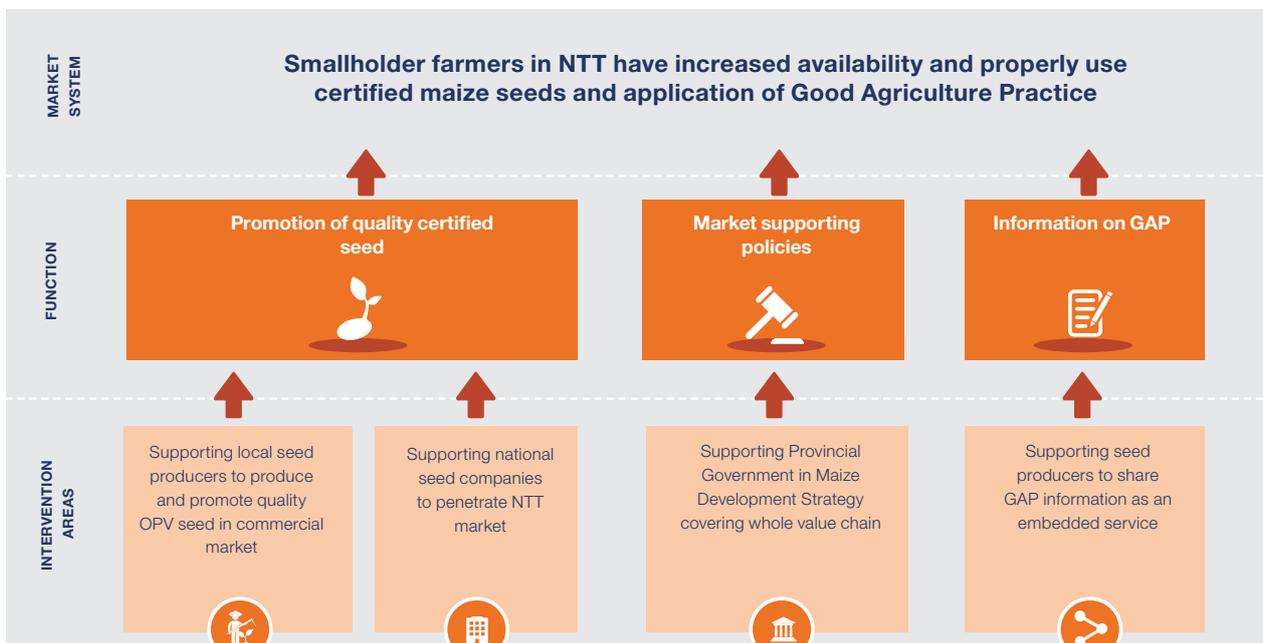
Challenges and Learning

The need of evidence-based promotion of the public-private collaboration model remains essential to ensure wider acceptance of a smarter subsidy allocation mechanism. Reduction of the maize subsidy to only 800 Ha this year limited the ability to scale up the model in four districts. Instead, only one district was scaled-up. On the other hand, the reduced seed subsidy budget has meant many seed companies started to develop their commercial market base, including several medium-scale national seed companies. PRISMA is conducting a study on national maize seed companies to explore their current business positioning, challenges, and opportunities for sustainably expanding their business in a way that would benefit smallholder maize farmers.

Maize NTT

Around 71 percent of the farmers (512,000 farming households) 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, which is far below the national average of 5.23 MT per Ha. Unlike in Java and NTB maize, where most of the grain goes to livestock feed mill operations, maize production in NTT is used for human consumption and feeding household livestock.

Following an internal assessment towards the end of last semester, PRISMA decided to drop off-taking as a market function due to limited opportunities of this function achieving systemic change. It is unlikely that PRISMA would be able to attract any more off-taking businesses to NTT as the largest maize off-taker, PT Seger Agro Nusantara (SAN) is already there. The business model for SAN is still viable, and PRISMA will continue with light touches to this partnership to determine if there are any opportunities to attract other off-takers. The partnership is showing strong progress, and SAN has successfully procured more than 800 tonnes of maize, against a break even target of 200 tonnes by June.



Indicator	Cumulative outreach projected to Dec 2023 (HHs)	Total NAIC to Dec 2021 (%)
<p>Cumulative outreach actual to Dec 2021 (HHs) 41,911</p>	<p>53,267</p>	<p>118%</p>
	<p>Total NAIC up to Dec 2021 (IDR) 59.4 billion</p>	<p>Total projected NAIC to Dec 2023 (IDR) 64.6 billion</p>

Value for money (VFM)

<p>Investment leverage 3.20</p>	<p>Investment per HH 77.17</p>	<p>Social return 1.84</p>
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Constraints

Farmers have limited access to information and knowledge on GAP. They also have limited access to certified seeds (Open Pollinated Varieties (OPV) or hybrid varieties). Local seed-producing nurseries produce seeds for the government subsidy program 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.

Sector vision

PRISMA aims to increase 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. PRISMA will also facilitate local governments to develop and implement their maize sector strategy and policy, and promote provision of GAP information for farmers.

Market function 1: Quality certified seed

Following the provincial government's flagship TJPS program – Plant Maize, Raise Cattle, maize farmers in NTT are now aware and willing to purchase quality OPV seed. However, the majority of the local seed nurseries lack the capacity to tap into the commercial market. This semester, PRISMA collaborated with the Seed Control and Certification Centre in the Provincial Agriculture Office of NTT (UPT-PSB DISTAN KP NTT) and BPTP to arrange training programs for seed nurseries on the three main islands of NTT. The training programs were attended by 32 nurseries and focussed on good production and post-harvest practice, and financing and marketing management. As a result of the training, 11 seed producers have developed plans to expand their seed business.

The Association of Seed Producers of NTT, which was formed in 2020 with support from PRISMA, is showing signs of maturing. It continues to hold monthly sessions for its members.

Market function 2: Market supporting policy

A PRISMA study has shown that more than 50 percent of the TJPS farmers have started to adopt GAP, particularly in planting. Considering the scale of the TJPS program, this semester, PRISMA supported DISTAN-KP and BPTP to develop an updated Technical Assistance Module for TJPS field staff. The module complements the previous module and focuses on (1) guidelines for better TJPS program delivery and (2) a summary of good practices for maize cultivation and livestock rearing, including farm-level business calculations.

Market function 3: Information on GAP

Next semester PRISMA will support the Provincial Agriculture Office (DISTAN-KP) and BPTP develop effective strategies for disseminating the information in the Technical Assistance Modules to farmers.

Challenges and learning

There is a growing shift in maize cultivation among farmers in NTT from subsistence to semi-commercial. While OPV seeds are more aligned with farmers' preference and purchasing power (OPV seed price ranging between IDR 10,000-15,000/kg), there are pocket areas (such as in the western part of Sumba and Flores) where hybrid seed is preferred. PRISMA will continue to support developing the OPV seed commercial market through collaboration with local seed producers and the association. PRISMA will also explore opportunities to link hybrid seed companies with key stakeholders in the niche areas where hybrid seed adoption has a high uptake potential.

Mung bean

Mung bean 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 fulfill the demand for mung bean consumption, especially for the food processing industry.



Indicator



Cumulative outreach actual to Jun 2022 (HHs)
24,211

Cumulative outreach projected to Dec 2023 (HHs)

70,778

Total NAIC to Jun 2022 (%)

47%

Total NAIC up to Jun 2022 (IDR)

21.7 billion

Total projected NAIC to Dec 2023 (IDR)

120.2 billion

Value for money (VFM)



Investment leverage

0.28



Investment per HH

84.83



Social return

1.20

Constraints

Over 102,000 metric tonnes of mung beans are imported to Indonesia 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 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 mung bean seed players to enter the market. PRISMA aims to improve the downstream mung bean market development by connecting relevant market players with each other.

Market function 1: Quality seed with GAP

This semester, PRISMA conducted a market assessment which showed that despite production challenges, such as rat infestation and unstable climatic conditions, more actors are crowding-in to produce and sell their own certified and quality seeds. This is due to the existing seed producers being unable to meet farmers' demand. PT Tunas Mulia is an example of this autonomous crowding-in.

PRISMA also identified wider market changes outside PRISMA's direct intervention area. In Malaka district, Timor Island, NTT, a women's farmer group has independently crowded-in and are using the high-yielding VIMA variety. The female leader has established a seed nursery, providing certified seed to other farmers who are experiencing yields of more than 100 percent.

To manage annual rat attacks, CV Semi has initiated a Trap Barrier System (TBS) pilot in Central Java. PRISMA worked with BBPADI to support the TBS trial. It uses a small plot of rice as bait in the middle of a large mung bean area.

This semester, PRISMA supported CV BTS to better engage and sell to women farmers in Madura. PRISMA conducted a Women Sales Agent training of trainers with CV BTS's management and staff.

Market function 2: Off-taking (downstream market)

As a newly identified function, PRISMA is currently negotiating with CV Citra Kinaraya and UD Dwi Prima on off-taking business models. The deals are expected to be signed next semester.

Challenges and learning

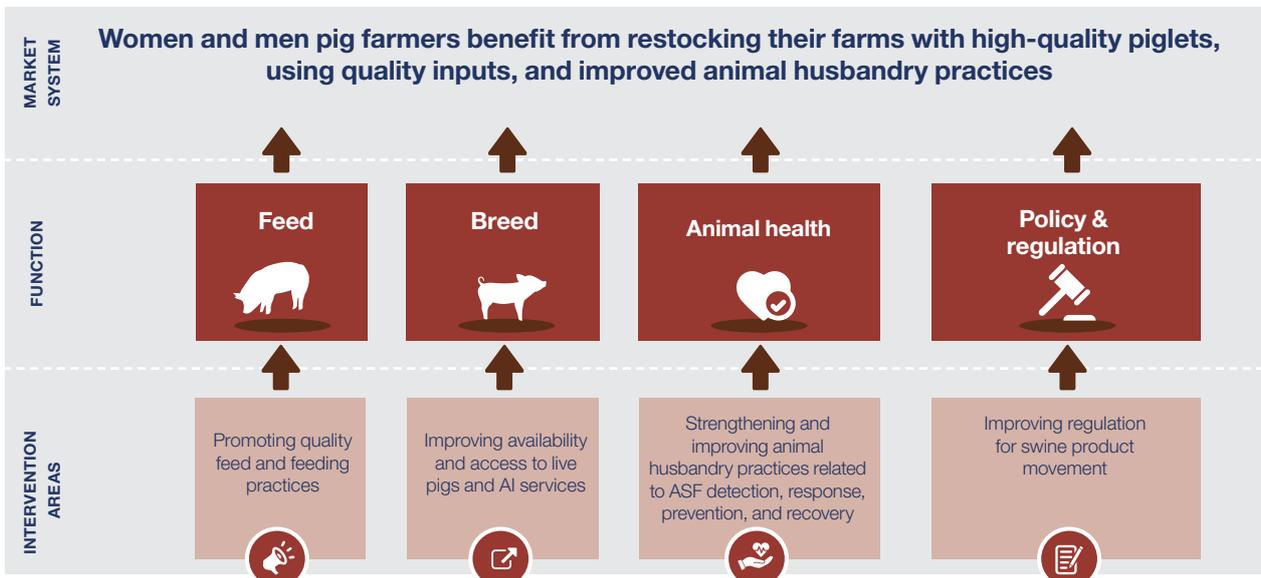
Endemic rat attacks are limiting nurseries to reach peak production in Central Java, despite multiple efforts by nursery owners and contract farmers. It is hoped that the trial of the TBS will be successful.

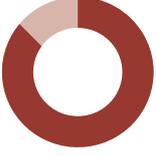
Changing weather patterns have affected the sector. As a secondary crop with a short planting period, the especially long rainy season has hindered farmers in the main production area from realising the full production potential.



Pigs

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 – two of PRISMA’s main functional areas. PRISMA has therefore refocused the pig strategy towards sector recovery by building and strengthening the breed and animal health management systems through partnerships with the private and public sectors.



Indicator  Cumulative outreach actual to Jun 2022 (HHs) 125,596	Cumulative outreach projected to Dec 2023 (HHs) 133,605	Total NAIC to Jun 2022 (%) 412%
	Total NAIC up to Jun 2022 (IDR) 712.7 billion	Total projected NAIC to Dec 2023 (IDR) 726.3 billion

Value for money (VFM)

 Investment leverage 12.35	 Investment per HH 42.07	 Social return 13.49
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Constraints

Pig farmers in NTT do not have access to quality breeds or good husbandry practices, including farm and breeding management. Pig health products are not readily available and ASF outbreaks continue without good animal health practices. Trade transactions for pigs and pork products are restricted due to government regulations.

Sector vision

PRISMA will work towards a 20 percent recovery of the pig sector in NTT. The focus will be on detection,

response, prevention, and recovery from ASF through improving restocking, awareness, and information related to animal husbandry practices. Sector resilience will focus on breed improvement by building the capacity of key market actors and by strengthening the conducive regulatory environment. To do this, PRISMA is engaging with the public, private sectors, and other stakeholders to enhance the pig industry in NTT.

Market function 1: Feed

With the improvement and easing of COVID-19 restrictions, this semester, pig feed partners (PT. Sreeya Sewu, PT. Sinta Prima Feedmill, and PT. Panca Patriot Prima) continued promoting good quality feed utilising online and offline marketing activities.

This semester, Sreeya focussed on a digital campaign using YouTube influencer KABOAX to deliver promotional material. Two YouTube videos have been created, titled “*Janji Babi*” and “*Babi Bunting*”. *These videos have been watched by nearly 300,000 viewers each over the last few months respectively.* PT Sreeya Sewu has expanded its feed operations to Toraja (Sulawesi) and Papua.

This semester, PT. Sinta Prima feed mill expanded its operations from Flores to Timor Island. Sinta Prima collaborated with Tilong Farm, one of PRISMA’s breeding farm partners, to set up a feed distribution centre in Kupang district. The distribution centre is selling on average, 20 MT/month of pig feed products.

PT. Panca Patriot Prima has expanded its operation in Flores Island by actively collaborating with multiple stakeholders, such as churches, agents, and local government. In addition, it also set up a new depot in



Labuan Bajo, increasing its feed sales capacity to 40 MT/month.

Market function 2: Breed

This semester, PRISMA, in collaboration with the NTT Provincial Animal Husbandry Office, conducted an island-based breed workshop. The objective of the workshop was to bring together crucial breeding stakeholders to identify collaboration opportunities for the NTT pig sector recovery. The workshops engaged multi-stakeholders such as private and public breeder farms, pharma companies, the provincial and district Animal Husbandry Offices, and the quarantine office. The three island-based breed workshops have resulted in 12 potential partnerships between PRISMA and local breeding farms in NTT.

Through these partnerships, PRISMA will facilitate the partners to secure seed stock and increase their production capacity. If ASF hits again, the restocking process can be done swiftly through the procurement of seed stock from surviving farms within the same island. The pig seed stock production increase will be done through: (1) improving the genetics and production management and (2) commercialising AI products and services.

PRISMA signed three partnerships this reporting period with Tilong Breeding Farm, the TTS District Animal Husbandry Officer, and Mataloko Farm.

Market function 3: Animal health

An ASF campaign was launched online last reporting period in August using webinars, radio talk shows, and digital promotion. The ASF campaign was in collaboration with the district animal husbandry offices, animal health services stations (sub-district level), village governments, and public and private partner companies. The campaign continued this semester, utilising partners' networks to distribute ASF leaflets, posters, banners, modules, and stickers. This semester, ASF-related information was distributed through seminars conducted through universities and churches, including:

- 1,523 students (University of Nusa Nipa Sikka, University of Timor, College of Community Development (STPM), St Ursula Ende, Christian University of Wirawacana)
- 220 church attendees (Catholic and Christian youth and church leaders)
- 1,135 printed materials through GOI and partners
- radio talk-shows
- Five webinars reaching out to all islands in NTT

In February 2022, PRISMA collaborated with Pusvetma, a state-owned pharma company that has just released its ASF serum convalescent product named "Scovet", which has a 52 percent efficacy rate against ASF. PRISMA is helping the company promote the product by including Pusvetma in the ASF socialisation events with other PRISMA partners.

Market function 4: Policy and regulation

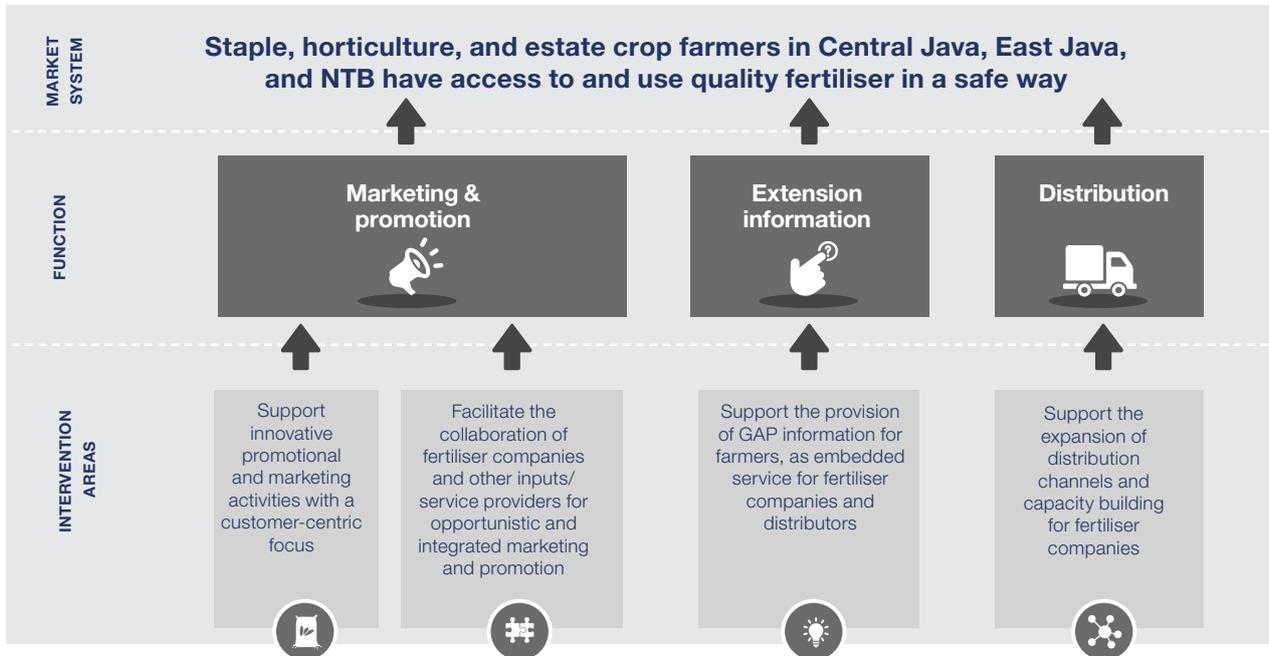
PRISMA is conducting ongoing discussions with the NTT provincial and district Animal Husbandry Offices, the quarantine office, and AIHSP to work on possible policy synergies related to facilitating the movement of pig and pork products.

Challenges and learning

ASF remains an ongoing challenge for the sustainability of the sector. However, if PRISMA had not been working in this sector, the chances of recovery would have been much lower. ASF cases are decreasing, but further work needs to be undertaken to improve access to ASF-free live pig sources.

Soil Treatment

The soil treatment market in Indonesia consists of both subsidised and non-subsidised (commercial) fertiliser. During 2018-2021, demand for fertiliser increased at a cumulative rate of 7.4 percent. However, the current supply of fertiliser can cover only 68 percent of the demand.



Indicator



Cumulative outreach actual to Jun 2022 (HHs)
159,774

Cumulative outreach projected to Dec 2023 (HHs)

170,779

Total NAIC to Jun 2022 (%)

69% ↑

Total NAIC up to Jun 2022 (IDR)

1.4 trillion

Total projected NAIC to Dec 2023 (IDR)

1.9 trillion

Value for money (VFM)



Investment leverage
19.42



Investment per HH
9.34



Social return
96.17

Constraints

The major constraints in the sector include; 1) Limited and on-time 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 lack of market intelligence and prevalence of subsidised fertiliser; and 3) Farmers' lack of awareness on the benefits and proper application of quality fertiliser, including GAP.

Sector vision

PRISMA works with private and SOE fertiliser producers to ensure that over 290,000 farmers in East Java, Central Java, NTB, and other provinces have increased income due to the availability and proper application of quality, commercial fertiliser products. Fertiliser producers and distributors/retailers will offer a variety of fertiliser through smart marketing and promotional strategies and provide information on Good Fertilising Practice (GFP).

There has been good progress towards achieving the vision on systemic change in the fertiliser sector. PRISMA's partnership with PT Pupuk Kalimantan Timur (PKT) ended in June 2021 and with PT Saprota Utama Nusantara (SUN) in February 2022. Both companies have continued their business model and activities independently.

Market function 1: Marketing and Promotion

During the semester, PRISMA's partners have not only continued to promote their products, but also invested heavily in expanding and developing the skill of their sales and marketing force at both the managerial and field levels. PT Inbio Tani Nusantara (ITN) has created a National Sales Manager position to focus more on the commercial market and plans to recruit additional field staff during July-August. PT Agrotama Tunas Sarana (ATS) has created a senior management position (Area Manager for Java) and hired seven agronomists to strengthen its salesforce composition in East and Central Java. ATS has conducted two workshops during the semester to develop sales and communication skills of its sales force in Java and Sumatra. Furthermore, the company has also independently engaged with an industry expert for follow-up skills development for staff. Another partner, PT Petrokrimia Gresik (PKG), helped its agronomists to better implement the flagship multistakeholder based collaboration, Program Makmur,⁹ through organising a collaboration workshop. PKG is on track to achieve its 2022 goal for Program Makmur and has already achieved more than 50 percent of its 85,000 hectares 2022 annual goal within this reporting period.

All these companies have executed a series of field level marketing activities to create brand awareness and promote commercial fertiliser among farmers involved in maize, rice, horticulture, and estate crops in East and Central Java. The activities included demonstration plots, harvest days, farmer gatherings and key farmers meetings. ATS conducted field events specifically targeting female farmers to enhance their brand positioning in the community.

BAI continues to focus on the B2C market and recruited six new agronomists to strengthen its marketing activities in four districts in Central Java. The company also leveraged its promotional activities by closely collaborating with local government extension workers to organise demonstration plots and harvest day events for farmers. BAI has also hired digital marketing and communications personnel this semester to produce and disseminate promotional information digitally.

Market function 2: Extension information

PRISMA's partners have continued transferring GFP information to farmers. While most of the GFP information sharing is embedded in marketing activities, the partner companies also held specific events targeting skills development. BAI has continued its opportunity-based collaboration with government extension workers to educate farmers to use a balanced mix of chemical and organic fertiliser. With PRISMA's support, PKG has also equipped its field teams with technical knowledge on its commercial fertiliser products as well as effective communication skills to strengthen PKG's customer-centric approach.

Market function 3: Distribution

This semester, ATS increased its retail network by 21 percent in East and Central Java by engaging 12 new kiosks. In March 2022, ATS also organised its first retailer gathering workshop in Central Java, where 30 kiosks learned about the company's new fertiliser product, NPK, and relationship management skills. ITN has started to penetrate the B2C market in Java, and during the reporting period engaged two new sub-distributors for East Java.

⁹ Program Makmur is an adaptation of the multistakeholder partnership model (Agrosolution), which was supported by PRISMA during its intervention with PKT. The GOI also responded to PKT's Agrosolution program when PT Pupuk Indonesia, the holding company of all SOEs producing fertiliser, adopted the model and rebranded it as 'Program Makmur' in August 2021.

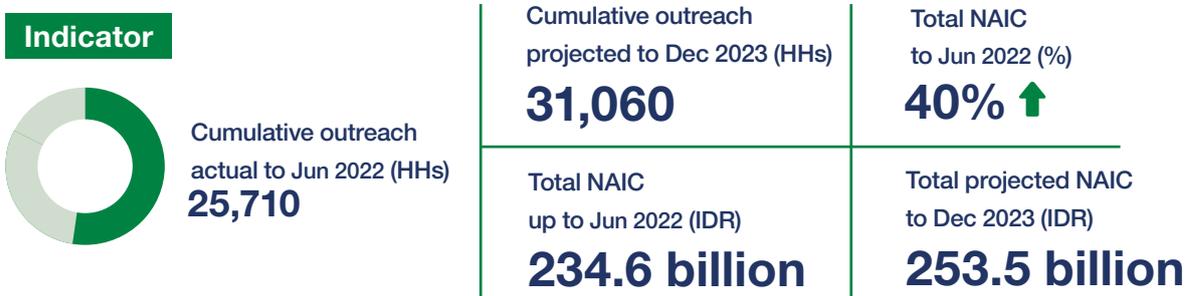
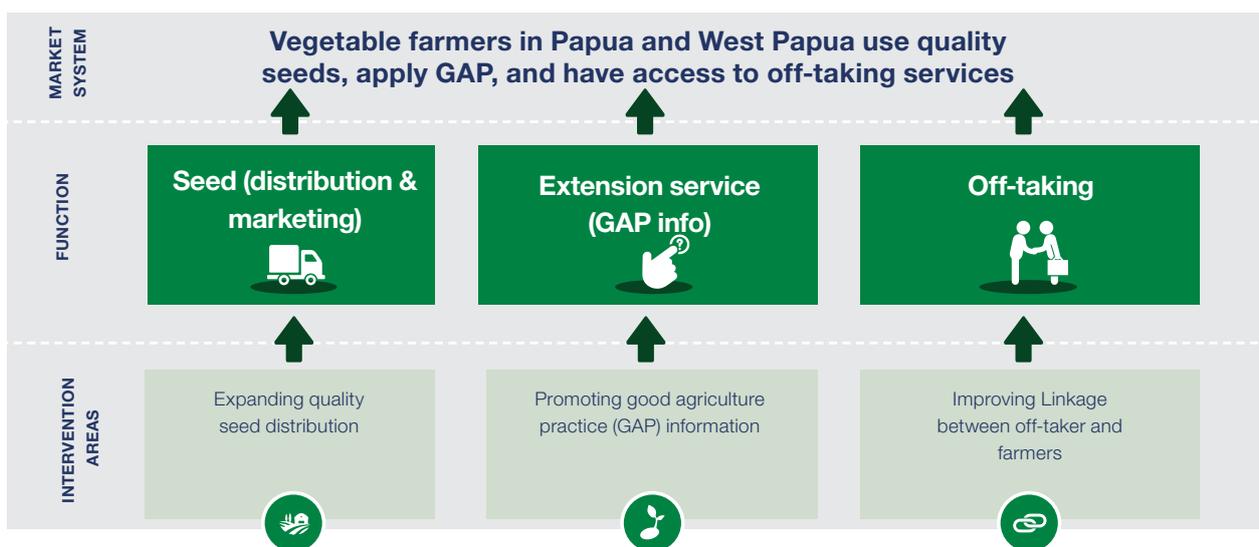
Challenges and learning

Chemical fertiliser products experienced a significant increase in price (70-85 percent increase) around October-December last year, and many farmers reduced their use of chemical fertiliser. However, this reduction did not lead to any significant drop in crop production during the main harvest season of February-April. Probable reasons are: (1) farmers tend to overuse chemical fertiliser anyway, and (2) many farmers off-set reduction in chemical fertiliser by complementing it with organic and/or mineral fertiliser. Moreover, higher rainfall in the first quarter of 2022 also had a positive impact in key agriculture producing regions; for example, rice production had a year-on-year increase of 7.7 percent.

The Russia-Ukraine conflict has not contributed to any further significant price increase for fertiliser in Indonesia. With the next major agriculture season approaching in November, fertiliser price is unlikely to experience any major change. PRISMA will continue to observe and assess the situation and inform the partners to adapt their strategies accordingly.

Vegetables

In Papua and West Papua, the vegetable sector involves approximately 250,000 households, which comprises indigenous farmers (85 percent) and transmigrant farmers (15 percent). Women play a critical role in almost all agriculture production activities, ranging from land preparation and purchasing inputs to harvesting and managing agricultural income, particularly in areas that mainly consist of indigenous Papuan.



Constraints

The quantity of vegetables produced in Papua and West Papua fulfills less than 70 percent of the total demand (230,000 tonnes) in both provinces. This is because local farmers have low productivity due to low-quality inputs, poor agriculture practices, and lack of access to market information, particularly for women. The private sector has limited understanding of the market potential and local culture and is reluctant to invest in the region. The limited logistic options impose challenges for the overall vegetable supply chain.

Sector vision

PRISMA aims to address the market gap in Papua and West Papua vegetable markets by improving farmers' access to high-quality vegetable seeds and GAP knowledge. This will be done by working with seed producers, government, and off-takers to develop territorial management strategies to address the market constraints.

Market function 1: Seed, distribution, and marketing

Papua and West Papua comprise various topographies, and vegetable seeds need to suit the geography of each. PRISMA has two ongoing partnerships with PT Tani Murni Indonesia (TMI) to promote highland vegetable seeds and Agrosid to promote lowland vegetables seeds.

Earlier this semester, TMI acquired two distributors and established three demo plots to kick start the work in Dogiyai, the highland district in the Mee Pago cluster, and in Jayawijaya, as the entry point to the La Pago cluster. In less than six months of operation, TMI has established a distribution network in the highlands of Papua.

As part of the inclusive marketing strategy in Papua, TMI is modifying its marketing materials, such as using local dialects and accents in its promotional videos. These tools will be used and distributed during dissemination events, including in the upcoming farmers' meetings and exposure visits.

For the lowland areas, Agrosid established 30 demonstration plots in Merauke district, of which 11 are managed by women farmers. Agrosid also acquired a new distributor this semester and developed a new revenue stream from its vegetable seed sales in Merauke.

Market function 2: Information and extension service

This semester, TMI recruited its first-ever Papuan field staff to be based in Dogiyai and Jayawijaya districts. In May, TMI conducted training to improve the capacity of its two Papuan field staff, including product knowledge, promotion, reporting, and networking. The field staff held three farmer meetings attended by 27 indigenous Papuan farmers.

Agrosid recruited a field staff for Merauke district, in the Anim Ha cluster, and reached 212 farmers with information on quality vegetable seeds and GAP from eight farmer's meetings.

Last semester, Agrosid held training for public extension workers. This semester, these public extension workers transferred their knowledge to farmers of the shallot program set up by the local government.

Market function 3: Off-taking

To better understand the dynamics of the vegetable value chain, a study on the off-taking vegetable market commenced in March 2022 and is currently in progress. Information is being collected from local traders and importers, district and provincial governments, as well as private companies to further analyse the challenges and opportunities for the local vegetable market absorption. The study interviews have reached 91 percent completion at the time of writing.

Challenges and learning

The constant changes in the political sphere, especially with the recent demonstrations against the formation of three new provinces, have made working in Papua and West Papua unpredictable. Demonstrations and riots, particularly in the highland regions, have resulted in the delay of partnership plans and data collection of some of the off-taking study respondents. PRISMA is now prioritising the areas with lower security risks while tensions remain.



ANNEX 2: PRISMA KPIS

KPI1 Outreach

Crop Protection (EJ, CJ, NTB) 41.805	The outreach recorded is from beneficiaries of the national marketing strategies of PRISMA partners, including the digital marketing approach in response to COVID-19. In this business model, crop protection companies deliver information to farmers via a hybrid of online and offline meetings.
Mechanisation (EJ, CJ) 11.488	The outreach comes from PRISMA's support to PT Galaxy Pertani Mas, CV Agro Jaya, and PT Rutan in marketing combine harvesters and 4WD tractors in East and Central Java.
Rice (EJ, CJ) 3.731	The outreach recorded is from the sale of hybrid rice seed from Agrosid-Primasid in 2021.
Soil treatment (EJ, CJ, NTB, and NTT) 112.535	PRISMA's partnership with CV Saprotan Utama resulted in 16,576 outreaches from East and Central Java. The partnership with PKT resulted in 95,595 outreaches.

KPI2 NAIC

Sectors contributing to positive NAIC per farmer are as follows:

Beef	IDR	9,263,921.54
Crop protection	IDR	3,835,405.38
Dairy	IDR	4,860,579.29
Soil treatment	IDR	11,950,637.94
Mechanisation	IDR	875,476.07
Rice	IDR	2,576,181.83

This semester, incremental NAIC from all beneficiary farmers reached IDR 1.571 trillion, leading to a cumulative NAIC of IDR 4.392 trillion or approximately AUD 439.2 million. This number equates to an accumulated average income increase of IDR 5.75 million per household (HH), or a 20.28 percent increase from the average NAIC in the previous semester.

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

This semester, 224 new ISPs provided services to smallholder farmers resulting in 12,572 enterprises to date. Around 70 percent of the ISPs (152 enterprises) come from the soil treatment sector, while the remaining 72 entities are from the dairy, poultry, maize, and mechanisation sectors.

KPI 4 – WEE effectiveness within PRISMA innovations

WEE effectiveness reached 1.37 this semester, meaning PRISMA has engaged more women than are generally engaged in the sector. This brings the accumulated WEE effectiveness to 0.93.

KPI 5 – Value of additional turnover of ISP

The ISPs have increased their turnover this semester to IDR 658.1 billion, or equivalent to AUD 65.81 million. The additional turnover is an 875 percent increase compared to last semester. The cumulative ISP turnover due to PRISMA is IDR 1.694 billion (AUD 169.4 million.)

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

PRISMA contracted six new private sector partners and five government institutions during the reporting period. This includes PT Inbio Tani Nusantara for soil protection, PT Karya Solusi Angkasa for mechanisation, PT Cipta Ternak Sehat Indonesia for the beef sector, PT Bank Mandiri for Innovative Finance, and PT Pakan Ternak Flobamora and Seminari Yohanes Berkhmans Todabelu Mataloko for the pig sector. PRISMA worked with government agencies including Demak, Rembang, Temanggung, and Banjarnegara Food and Agriculture Departments for maize in Central Java and the NTT Animal Husbandry Department for pigs. Cumulatively, PRISMA has worked with 196 private sectors (18 SOE) and 42 government institutions.

KPI 7 Value of additional turnover of PSP

PRISMA PSP turnover this semester reached IDR 580 billion (AUD58.01 million), raising the cumulative turnover to IDR 876.2 billion (AUD 87.62 million.) The highest contributor was the soil treatment sector - 69 percent or IDR 403.0 billion – and crop protection - (25 percent or IDR 144.1 billion).

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 IDR 695.7billion (AUD 69.57 million):

- PSP – IDR 62 billion
- ISP – IDR 211 billion
- Farmers – IDR 422 billion
- Cumulative IDR 1,876 billion (AUD 187.6 million).

KPI 9 Number of crowding in businesses/institutions

PRISMA has identified and confirmed two crowding-in cases from the crop protection sector: Advansia and Nufarm.

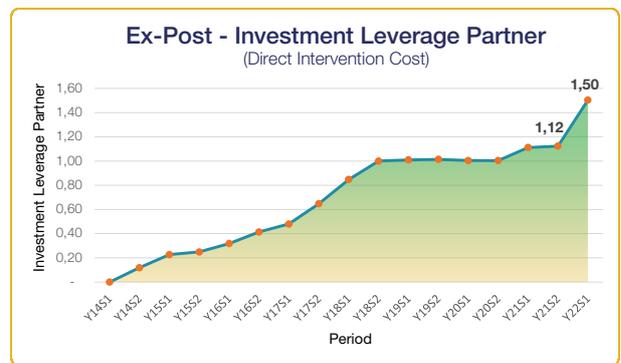
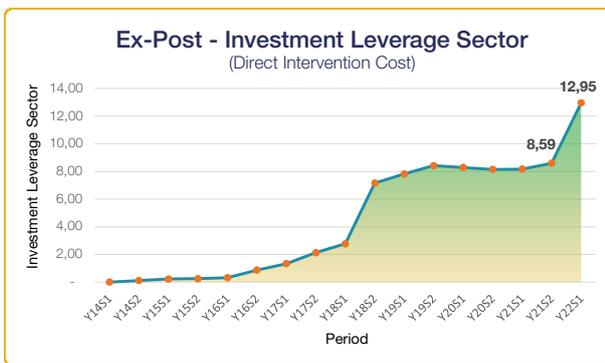
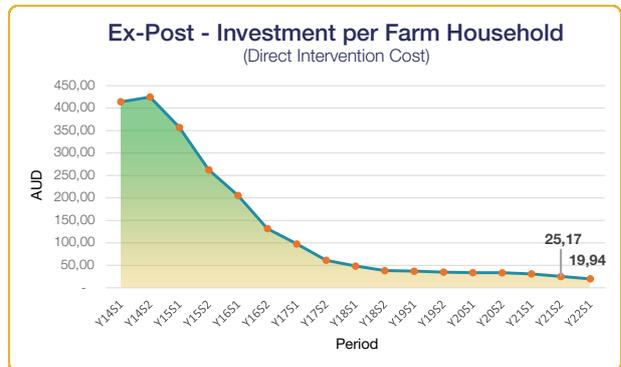
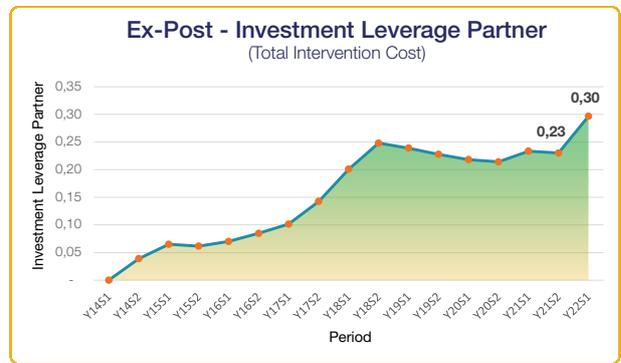
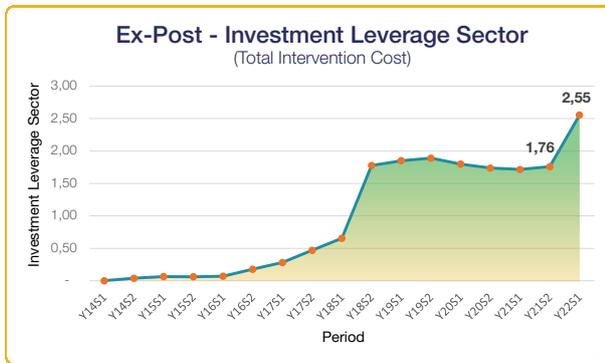
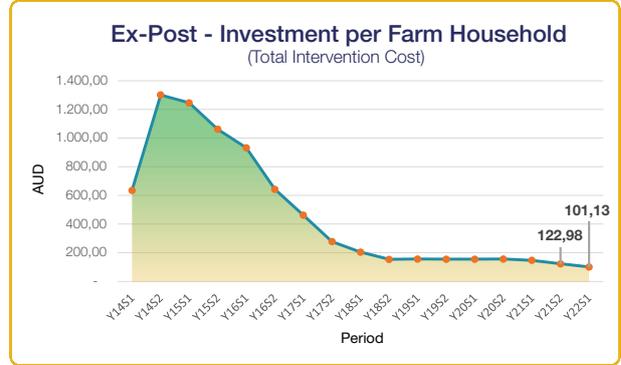
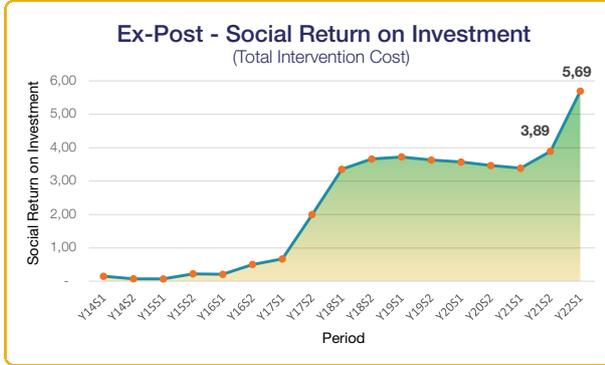
KPI 10 Number of responding businesses/institutions

Five businesses have responded to PRISMA partners' activities and supported the market system in the soil treatment sector (PT Pagilaran, PT Perkebunan Nusantara X, and PT Perkebunan Nusantara XI) and the finance sector (Sayur Organik Merbabu and Bukalapak).

KPI 11 Number of policy engagement

This semester, PRISMA conducted four national and six local policy engagements. PRISMA engaged with BAPPENAS, MOA, and the National Certification Agency concerning regulations on the concentrated feed certification for the beef and dairy sector. The vegetable, and mung bean sectors also conducted meetings with BAPPENAS. At the local government level, the innovative finance sector engaged with Semarang and Ponorogo governments. The maize sector also engaged with governments from 7 districts in East Java, Central Java, and NTT to support the application of recent innovations for farmers.

ANNEX 3: VALUE FOR MONEY GRAPHS



PRISMA

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

 info@aip-prisma.or.id

 +62 31 8420473

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