



Report

Australia-Indonesia Partnership for Promoting Rural  
Incomes through Support for Markets in Agriculture

## Progress Report and Implementation Plan

August 2020



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# List of Abbreviations

AI	Artificial insemination
AIP-Rural	Australian-Indonesia Partnership for Rural Economic Development
ASF	African swine fever
AUD	Australian dollar
Bappenas	Badan Perencanaan Pembangunan Nasional, or National Development Planning Agency
Bappeda	Badan Perencanaan Pembangunan Daerah, or Development Planning Agency at Sub-National Level
BPJS	Badan Penyelenggara Jaminan Sosial, or Social Security Administrative Agency
BPS	Badan Pusat Statistik, or Central Bureau of Statistics (Indonesia)
BUMDes	Badan usaha milik desa, or Village-Owned Enterprise
CAGR	Compound annual growth rate
CEO	Chief Executive Officer
CJ	Central Java province
COO	Chief Operations Officer
CV	Commanditaire Vennootschap, or limited partnership
DFAT	Department of Foreign Affairs and Trade (of the Government of Australia)
DOC	Day old chicken
EJ	East Java province
EOPO	End of program outcomes
FAW	Fall Armyworm
Fintech	Financial technology
FI	Financial institution
GAP	Good agricultural practices
GDP	Gross domestic product
GESI	Gender equality and social inclusion
GCP	Good crop protection practices
GHP	Good handling practices or good husbandry practices
GOA	Government of Australia
GOI	Government of Indonesia
GPP	Good processing practices
GRP	Good rearing practices
HH	Household
HOP	Head of Portfolio
ICN	Intervention concept note
IDR	Indonesia rupiah
IP	Intervention plan
ISD	Intervention steering document
ISP	Intermediate service provider
KPI	Key performance indicator

KUB	Kampung Unggul Balitnak, Balitnak's superior kampung' chicken
LTA	Long term advisor
MIS	Management information system
MoA	Kementerian Pertanian, or Ministry of Agriculture
MMAF	Kementerian Kelautan dan Perikanan, or Ministry of Marine Affairs and Fisheries
MSD	Market systems development
MSME	Micro, small and medium enterprise
MSP	Machinery service provider
MT	Metric tonne
MTSR	Management team strategic review
NAIC	Net attributable income change
NTB	Nusa Tenggara Barat (West Nusa Tenggara province)
NTT	Nusa Tenggara Timur (East Nusa Tenggara province)
OPV	Open-pollinated variety (a hybrid seed)
PA	Papua province
PPP	Purchasing power parity
PMT	Project management tool
PRISMA	Promoting Rural Income through Support for Markets in Agriculture
PRIP	Progress report and implementation plan
PT	Perseroan Terbatas (limited liability company)
QMT	Quality management tool
RDKK	Rencana Definitif Kebutuhan Kelompok, or Group Requirement Definitive Plan
RML	Results measurement and learning
SAFIRA	Strengthening Access to Finance in Rural Agriculture
SCP	Systemic change progress
SME	Small and medium enterprise
SOP	Standard operating procedure
SROI	Social return on investment
TIRTA	Tertiary Irrigation Technical Assistance
TJPS	Tanam Jagung Panen Sapi, or Plant Corn, Harvest Cows
USD	United States dollar
VCF	Value chain finance
WEE	Women's Economic Empowerment
WP	West Papua province

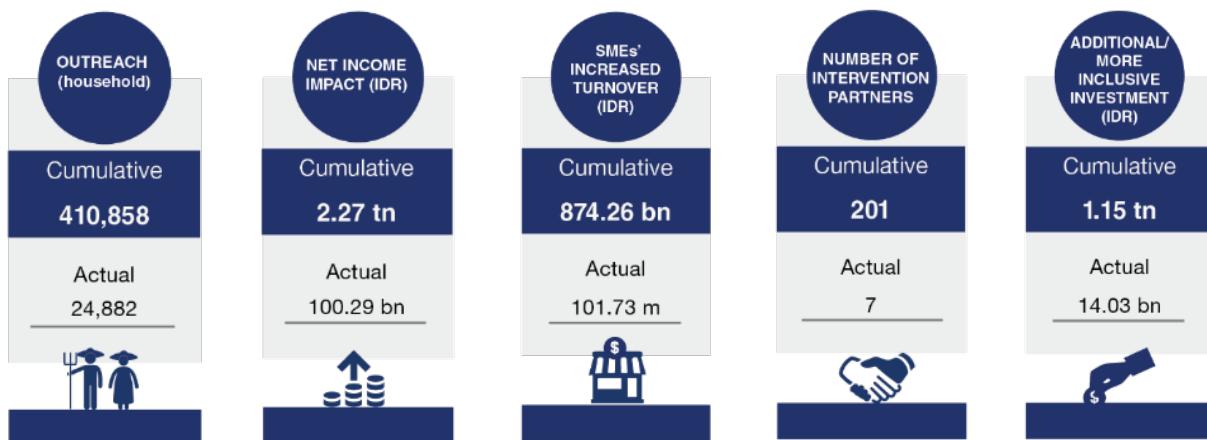
# List of Definitions

Existing intervention	Intervention that is currently running and was started on previous semester
ICN	An Intervention Concept Note is an initial document outlining the main features and context of a planned intervention
IP	An Intervention Plan is a detailed document containing all information and data relevant for the understanding of a planned intervention and for the decision to start and 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 USD2.50 PPP poverty line with increased net income
KPI 1a (old)	Number of smallholder farming households under USD2.00 PPP poverty line with increased net income
KPI 1b (new)	Number of smallholder farming households under USD5.50 PPP poverty line with increased net income
KPI 1b (old)	Number of smallholder farming households under USD2.50 PPP poverty line with increased net income
KPI 2	Net attributable additional income for benefited farming households in IDR
KPI 2a	Net attributable additional income for benefited farming households under USD1.90 PPP poverty line (extreme poverty) in IDR
KPI 2b	Net attributable additional income for benefited farming households under USD2.50 PPP poverty line in IDR
KPI 3	Number of intermediary service providers (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	Value of additional turnover of private sector partners in IDR
KPI 8	Value of attributable additional and/or more inclusive investment by public and private sector in IDR
KPI 8a	Value of attributable additional and/or more inclusive investment by public and private partners in IDR
KPI 9	Number of crowding-in businesses/institutions induced by PRISMA
KPI 10	Number of responding businesses/institutions induced by PRISMA
KPI 11	Number of policy engagements
NAIC	Net Attributable Income Change is an additional income generated from a specific technology or input promoted by PRISMA during one production cycle. For livestock the measurement period is six months
New intervention	Intervention that is started in last 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 Upcoming Intervention which is still in idea/ICN/IP stage
Projection	Projection value from Existing and New Intervention
QMT	Quality Management Tool is a tool to assess intervention quality over time, from ICN to IP and implementation. The QMT is used at least once a year during and ongoing intervention
SCP	Systemic Change Progress, a dashboard to measure the change in PRISMA's systemic change
Total outreach	Partnership + Wider Market Outreach
Wider market outreach	Outreach that comes from PRISMA's partner in the other areas; other market actors in the targeted area; and other market actors in other areas that are attributable to PRISMA's interventions

# Executive summary

This Progress Report and Intervention Plan provides an overview of the Australia-Indonesia Partnership for Rural Incomes through Support for Markets in Agriculture (PRISMA)'s progress towards the end of program outcomes during the first "COVID-19 semester," its response to the crisis, and its recovery strategy for the coming twelve months. It articulates how we are pivoting to implement the Australian Government's new development policy, 'Partnerships for Recovery: Australia's COVID-19 Development Response' and how we continue to contribute to Indonesia's food security and agricultural growth through collaboration with the private sector.



## COUNTRY BACKGROUND

**COVID-19 found Indonesia largely unprepared, and the Government's response took time to materialise.** Measures have focused on health, social protection, food security and support for businesses. Unfortunately, impact on the ground has been limited so far - in terms of stimulus as well as containing the spread of the virus. Liquidity in the market is tight, banks are holding back loans, and most businesses have halted investment for the time being. The economy contracted 5.3 per cent year over year (y-o-y) in the second quarter and a recession is possible.

**Balancing safety with maintaining economic activity will remain a consistent challenge for the Indonesian Government in the coming months - if not years.** By March, 1.63 million people had already been newly classified as poor, while approximately three to six million people had lost their incomes. It is expected that this figure will increase during the next government survey in September. The adverse impact of COVID-19 on low-income households and women is particularly acute. When we conducted a rapid assessment, about 40 per cent of responding women reported an increase in domestic workload due to added care duties.

**Agriculture is less affected than other sectors, but is far from immune; a travel ban and distancing recommendations interrupted rural value chains.** Growth in agriculture, forestry and fisheries slowed down but was still positive at 0.29 per cent during the second semester y-o-y, down from 0.71 per cent in 2019. Pest and disease attacks continue to disrupt food production and are exacerbating the distress caused by the crisis, and 2019's rainy season began much later than usual, causing some regions to experience intense drought. Availability of food is a prerequisite for social cohesion, and the private sector companies we work with play a crucial role in linking farmers to markets and providing information services and inputs to them.

## RELEVANCE

**As agriculture represents a key source of jobs, incomes and food security, PRISMA remains relevant to Australia and Indonesia.** The private sector plays a crucial role in linking farmers to markets, increasing their income and providing information services and inputs to them. The pandemic will continue to drive more families into poverty, and migration of jobless family members adds a further burden to those members who

are still able to earn income from agriculture. Since the start of the program, reducing rural poverty has been and remains our overarching goal, and our portfolio of sectors and interventions continues to focus on this.

## PRISMA'S RESPONSE

**Our response has been threefold:** i) creating an intelligence task force to collate real-world information and use it to assess the effect of the pandemic on partnerships with the private sector and operations and to develop policy recommendations; ii) pivoting resources to critical agriculture sub-sectors with the highest potential for leveraging efficiencies and fostering recovery; and iii) transitioning rapidly from response to recovery, providing pragmatic, strategic planning advice to partners and exploit opportunities emerging from the crisis.

**The immediate initiative to monitor and support supply chains and informing our public and private sector partner has contributed to the production and flow of essential goods.** Pivoting has been a question of resource allocation and intervention design rather than changing goals or approach. PRISMA's work has ensured continued alignment with the Partnership for Recovery goals and Indonesia's strategy for achieving stability and economic recovery. As the pandemic draws on, ensuring that private and public partners are able to plan for the future is critical, and opportunities for recovery are emerging. As part of its recovery strategy, PRISMA pulled together expertise in ICT in agriculture, finance, mechanisation, irrigation and more than a dozen agriculture supply chains in order to identify these opportunities and help partners to navigate them. The policy engagement with Bappenas (see [Case Box 4](#)), together with breakthroughs in online marketing and digital events (see [Case Box 1](#)) are informative examples.

## PROGRESS

**The program's interventions made headway during the semester.** In spite of COVID-19, PRISMA benefitted 24,882 farming households (HHs) during the last semester, thereby bringing the cumulative figure since 2013 to 410,858 HHs. Average net attributable income change (NAIC) slightly dropped from IDR5,049,900 (AUD 504.99) to IDR 4,921,763 (AUD492). This is equals to 232 per cent compared to the target of 30 per cent.

**However, pivoting strategies and contracting new partners took its toll on intervention development progress, which lags behind internal pre-pandemic targets.** We remain confident that we can catch up over the coming twelve months to reach at least one million farming households by the end of 2023. Nonetheless, we cannot rule out the potential of a much longer-lasting crisis, which could prevent us from reaching our ambitious target of 1 million HHs.

**There are plenty of challenges ahead, many of which involve no single, straightforward solution. Maintaining a detailed understanding of the impact that our strategies and recommendations have on the ground – i.e. at the farm level – is a primary key to success.** Over the past months however, travel restrictions imposed by both Indonesia and Australia have prevented us from gathering sufficient information and monitoring impact. Alternative methods were developed (see [Section 4](#)), and a results measurement strategy is in place. Nevertheless, in the medium term, we will need to invest in better understanding the degree of change and benefits we are facilitating through our partners. This means that we need to at least partly collect evidence from the field by ourselves.

**In spite of the pandemic, our internal business continued without interruption.** To support the rapidly evolving context, we established work from home protocols and guidelines to respond to the COVID-19 pandemic and prepared our facilities for staff return to office during the second semester of 2020.

**To cope with the fast-changing environment, we have revised our risk management process.** We will proactively identify and manage risks that might affect the program's implementation and business continuity. Our approach to risk has moved from treatment-and-response to preventive management.

**PRISMA successfully achieved a fully spent re-forecast budget from January to June 2020 totalling AUD6,510,960.** Savings of AUD1.04 million were achieved from the pre-COVID budget as a result of the travel ban and cut to expatriate allowances. Half of this saving was a delay in interventions, which is expected to

be moved to next semester. Despite these delays, the program remains on track and is still delivering value for money.

## OUTLOOK

**During the second semester 2020 and throughout 2021, we will work with our partners in the public and private sector to contribute to social stability, food security and recovery.** This implies that for our portfolio development, efforts will focus on forming and fostering partnerships with businesses and organisations - including Australian ones where possible - that are willing and able to regard COVID-19 not only as a challenge to be mastered, but rather an opportunity to invest in the future. In total we plan to sign 21 new formal agreements with existing and new private and public partners by end of 2020, while an expansion of the sector portfolio is unlikely.

**To revitalise monitoring and learning as a crucial ingredient of quality implementation strategies, we will not only hope for the best but also prepare for the worst in results measurement,** and work on scenarios including reopening of the economy as well as continued working from home. The latter can be addressed partly by using alternative methods already developed and exploring further options. In portfolio quality management, we will now be able to use the full set of tools developed in the past.

# 1 Contextual analysis and COVID-19 response

## 1.1 Policy economy and environment context

**There is considerable uncertainty regarding how and when the world economy will recover from the COVID-19 pandemic.** Protection measures are profoundly affecting economic activity and the IMF expects the global economy to contract by 4.9 per cent by the end of the year (IMF, June 2020). As countries and markets are forced to reopen, case increases are inevitable. The risk of a sustained downturn remains substantial; recovery will likely be gradual.

**COVID-19 continues to spread rapidly throughout Indonesia. Low testing rates mean that the disease could be far more prevalent than it appears.** Only Jakarta has met the World Health Organization (WHO)'s minimum surveillance benchmark. Surabaya and Jakarta are the two hardest-hit cities, but both have allowed businesses to restart trading as financial pressure has mounted. Balancing safety with maintaining economic activity will remain a consistent challenge for the Indonesian Government in the coming months if not years.

**The Government's COVID-19 response are focused on health, social protection, food security and support for businesses (including state-owned) with a total package amounting to IDR695.2 trillion (AUD69.04 billion)<sup>1</sup>,** equivalent to four per cent of GDP, similar to neighbouring countries like Vietnam and Malaysia, but far less than Singapore or Australia. Unfortunately, impact on the ground has been limited as less than 30 per cent of the announced budget has been disbursed. Liquidity in the market is tight, banks are holding back loans and most businesses have halted investment for the time being.

**Recession in 2020 is possible. The economy contracted 5.3 per cent in the second quarter y-o-y, the first contraction since 1999, while agriculture, forestry and fisheries still grew by 0.29 per cent, compared to 0.71 per cent in 2019.** During the first quarter GDP was still positive at 2.97 per cent, so the third quarter might become the determining factor. The figures are a reflection of how household spending and investment have halted abruptly, with manufacturing, retail, hospitality and services among the worst hit sectors. Agriculture is less affected than other sectors but is far from immune. The Ministry of Agriculture has refocused activities and budgets on food security. This may mean more government interventions in the rice and maize markets, and fewer interventions in other of PRISMA commodities.

**As of March, 1.63 million people have been newly classified as poor, and approximately three to six million people have lost their incomes.** PRISMA surveys indicated weakening purchasing power among farmers in CJ, EJ, NTB and NTT, potentially caused by the decrease in commodity prices during the height of the large-scale social distancing. Reduced demand for commodities with high price elasticity (such as chicken) will impact the domestic demand and price of related inputs such as feed and maize. As a result, certain market actors may decide to scale down their operations or postpone new investments.

**The adverse impact of COVID-19 on low-income households and women is particularly acute.** In a rapid assessment of four agriculture businesses (previous and current partners - in EJ, CJ, NTB and NTT) as part of our [study](#) on how the pandemic is impacting women sales agents, 52 per cent of women reported experiencing a decline in sales, with direct door to door sales most effected. About 40 per cent of respondents reported an increase in domestic workload due to extra care responsibilities in addition to working from home. Furthermore, as a result of additional time spent promoting products online, 27 per cent reported an increase in working hours. Women sales agent in NTB experienced the largest decrease in income, while agents in NTT experienced the highest increase in workloads.

**PRISMA's partners and stakeholders are not immune to the effects of COVID-19. As a result, the program expects intervention activities over the next six to 12 months to be slower than usual.**

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<sup>1</sup> As announced by the Government of Indonesia on 18 June 2020.

## 1.2 COVID-19 and challenges in agriculture

**Pest and disease attacks continue to disrupt food production and are exacerbating the severe distress caused by COVID-19.** Maize farmers in Java and Nusa Tenggara Barat (NTB) continue to contend with Fall Armyworm (FAW) and downy mildew (DM). These factors contribute to an expected decline in national maize yield from 12.7 to 11.9 million tonnes by the end of 2020<sup>2</sup>. In the pig sector, more than 24,000 pigs in Nusa Tenggara Timur (NTT) have died since the beginning of this year due to African Swine Fever (ASF). PRISMA is working closely with its partners, including local and national Government, to minimise the impact of these diseases.

**2019's rainy season began much later than usual, causing some regions to delay planting due to intense drought.** Most farmers in Java, NTT and NTB were forced to delay planting their first crop - which normally would have started in October and November 2019 - to January 2020. The impact on yield is yet to be felt, but the Meteorology, Climatology and Geophysics Agency (BMKG) has estimated that 30 per cent of provinces in Indonesia could experience a drier than usual season for the next few months. This will compound pressure on farmers to find a consistent and inexpensive water supply.

**Large-scale social restrictions (Pembatasan Sosial Berskala Besar, PSBB) were first announced at the end of March. Several provinces implemented lockdown measures and banned social gatherings and large-scale promotional events.** This has restricted farmers' access to inputs, information, workers and off-taking services. In March, many private companies responded to the surging number of COVID-19 cases by suspending direct engagement with farmers and retailers. This significantly reduced the number of new product launches. Transport restrictions and quarantine measures disrupted labour movement during the harvesting season, while feed mills and large off-takers significantly reduced their procurement activities. Agriculture input-selling kiosks and retailers remained closed or only stayed open for a few hours per day.

The PRISMA Intelligence Task Force (ITF) systematically surveyed these changes (see [Section 1.3](#) below).

## 1.3 PRISMA's pivot: from response to recovery

### COVID-19 RESPONSE

**PRISMA responded swiftly to the outbreak of COVID-19 in three key ways, by:**

1. Creating an Intelligence Task Force (ITF) to expand its information-gathering activities and synthesise data, assess the effect of the pandemic on partnerships with the private sector and operations, and to develop policy recommendations.
2. Pivoting resources to critical sub-sectors with the highest potential for leveraging efficiencies and fostering recovery
3. Transitioning rapidly from response to recovery, providing pragmatic, strategic planning to support the program's partners and exploit opportunities emerging from the crisis.

### Intelligence

**In early March, PRISMA set up an Intelligence Task Force (ITF) to assess the implications of the emerging pandemic on private and public sector partnerships and operations.** The ITF comprises selected staff members all departments. The team collects and maintains contact with partners and farmers on the ground - as well as with associated SMEs, farming households, associations and governments - to ensure that the program is up to date with the obstacles they face. Understanding the changing environment, particularly implications for women, is critical for PRISMA to make informed decisions.

**We analyse the information for the impact on the program's activities, interventions and targets, agriculture and the Indonesian economy, as well as the global economy.** Key findings include:

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<sup>2</sup> United States Department of Agriculture (USDA), [Grain and Feed Annual Report 2020](#)

- Since April 2020, most partner companies have banned fieldwork and temporarily suspended new initiatives and investments. Domestic and mid-sized businesses struggle with the technical skills necessary to engage in virtual meetings and embrace social media marketing. Trust in online services is low.
- Farmers face a double health risk: poor understanding of the threat of COVID-19 combined with social stigma mean many refuse to be tested. This in turn prevents them from seeking treatment if they are unwell, and from complying with safety measures that partners attempt to introduce. For example, Corteva, one of PRISMA's partners, found it challenging to convince its contract farmers to apply safety protocols when they refused to wear masks and to maintain social distance, as they believed the situation was already back to normal.

## Pivot

**PRISMA then used this intelligence to pivot resources to sub-sectors<sup>3</sup> which demonstrated the greatest potential for safeguarding stability and food security within the parameters of distancing and lockdowns.** Leveraging the program's network of private sector actors, rural producers, input suppliers and policymakers, and its strong research and evaluation skills, PRISMA set about using its data to make informed changes. The team then adapted its approach and adjusted collaborations to better address the real-life situation faced by farmers on the ground. Given the particular vulnerability of women farmers, significant effort was made to ensure that all activities were inclusive (see [Section 3.2 GESI](#)).

**Crucially, acting on real-world data and experience allows PRISMA to support its partners to identify and capitalise on emerging opportunities.** Among the most successful solutions were the use, monitoring of impact and commercial utilisation of social media and increasing collaboration with Bappenas in areas such as price monitoring, recommendations focus areas for policy interventions and analysis of

### Case Box 1 – Supporting an online marketing breakthrough for FMC and Agricon

#### Online marketing – a major breakthrough for partners and consumers

When all direct marketing activities were abruptly cancelled due to COVID-19, many companies struggled to find ways of maintaining contact – and sales – with farmers and agents on the ground. To help them address this, PRISMA advised partners FMC and Agricon to run online marketing events through Facebook and Zoom platforms. Acting quickly, FMC was enthusiastic about online marketing and went live in late March with an online event. Agricon and a few other companies joined FMC's webinar to learn more and assess participant responses.

**By June, FMC had recorded more than 225,000 views of its online marketing content, and Agricon reported nearly IDR3 billion of sales from its first four online marketing events.**

PRISMA continues to provide web analytics and behaviour change assessments to FMC and Agricon, helping them to improve their online marketing strategies and stay connected with customers. These successes demonstrate how taking a measured, informed response to adversity translated to better sales for PRISMA partners and maintained.

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### Case Box 2 – Active management of safety protocols supports soil treatment education

**A fertiliser producer, Pupuk Kaltim (PKT), with assistance from PRISMA, has taken a novel approach towards reaching farmers during COVID-19 lockdown measures.** PKT, along with its distributor in East Java, CV Sabar Subur, is using government extension agents to assist in quality fertiliser promotion at the farm level. The innovation involves PKT and its distributor providing training and communication material on good agriculture and fertilising practices to government extension agents. The agents, who are already located in the field, meet with farmer groups while maintaining all government-regulated safety measures, such as keeping 1.5 metres apart, washing hands and wearing masks. The extension agents will now also educate farmers on use of quality non-subsidised soil treatment to improve their farming performance.

The strategy is fully aligned with the mandate of the District Agriculture Office of Ponorogo, East Java.

<sup>3</sup> Maize, Rice, Policy Engagement, ICT, Innovative Finance, Soil Treatment, Crop Protection, Irrigation and Mechanisation

current and planned government intervention.

## Recovery

**The third pillar of PRISMA's response involved switching gear from response to recovery.** As the pandemic draws on, ensuring that private and public partners are able to plan for the future is critical. The disease remains a threat, but opportunities for recovery remain. As part of its recovery strategy, PRISMA pulled together its expertise in ICT, agriculture, finance, mechanisation and irrigation, and more than a dozen agriculture supply chains in order to identify these opportunities and help partners to navigate them. The policy engagement with Bappenas (see [Case Box 4](#)), together with breakthroughs in online marketing and digital events (see [Case Box 1](#) and [Case Box 6](#)) are informative examples.

## 1.4 PRISMA's relevance

### AGRICULTURE

**PRISMA occupies a unique position as one of DFAT's only programs in Indonesia which leverages a pool of private and public sector investment and expertise to support sustainable, inclusive growth in agriculture.** Over the past seven years, our work has so far **benefitted more than 400,000 smallholder farming households and generated more than two trillion Indonesian Rupiah (over AUD214 million) in net income.** However, some partners whose former growth trajectory was encouraging are now suffering, leaving their clients – especially women – particularly vulnerable to economic distress. Against this backdrop, PRISMA has worked hard to ensure that partners can access the inputs they need in order to keep their businesses functioning. This included responding quickly and supporting partners to adapt to health and safety measures (see [Case Box 2](#), above). Where links in supply chains have broken down, PRISMA has supported other partners with logistical advice and helped them to keep inputs flowing (see Case Box 3).

#### Case Box 3 – Gaspar Bio maintains seed production despite logistical challenges

Gaspar Bio operates a composite maize seed nursery in Sikka, NTT. When the pandemic hit, the effects of social distancing and movement restriction limited him from producing seed and promoting his product. However, as Gaspar was unwilling to just stop producing altogether, the Maize team supported him with seed production, supply chain management and logistical planning within the boundaries of government COVID protocol. As a result, Gaspar is well-prepared to sell it seeds to farmers in time for the next planning season. Additionally, he is now ready to promote his products using online platforms.

### GOVERNMENT OF INDONESIA (GOI)

**Ensuring food security through sustainable agriculture development is one of the key agendas for President Joko “Jokowi” Widodo.** In mid-May, Mr Diaz Faisal Malik Hendropriyono, Special Staff to the President responsible for the country's social welfare and security - invited PRISMA to participate in a focused discussion on food security and food availability during COVID-19. Specific topics for discussion included how the government could stimulate the agricultural sector during COVID-19 and beyond, and how the government could anticipate an increase in poverty caused by disruptions to the supply chain and loss of labour. Mr Diaz Hendropriyono appreciated PRISMA's insights and requested a follow-up discussion to learn more about the program's experience in commodities.

**Working together with Bappenas, PRISMA has contributed towards growing a sustainable development mindset and the value of the Market Systems Development (MSD) approach within the GOI, public stakeholders and the private sector.** Director of Food and Agriculture, Bappenas, Mr Ir. R. Anang Noegroho Setyo Moeljono, M.E.M, endorsed PRISMA's contribution towards a change in thinking from government assistance towards supporting those 'without economic capacity' to become 'entrepreneurial and judicious actors' who can 'improve their own lives' (See Case Box 4, below). PRISMA will continue to work with Bappenas to facilitate the entry of Indonesian farmers to the agricultural supply chain and drive inclusive income growth.

**Case Box 4 – Director of Food and Agriculture, Bappenas, Mr Ir. R. Anang Noegroho Setyo Moeljono, M.E.M, addresses more than 50 representatives from public agencies of several ministries of the GOI and private companies on MSD and sustainable, inclusive development during the “*Praktik Bisnis Inklusif untuk Bisnis yang Berkelanjutan di Sektor Pertanian dan Peternakan*” webinar on 20 May:**

“We [the government] have been providing assistance that until now has been primarily focused on charity and this kind of mechanism is clearly not sustainable. We have so often seen that government subsidies and other forms of beneficiary assistance, which are worth an enormous amount of money, are just not on target. ...we have learned through the PRISMA approach that it is not about charity for the poor, but what is important is that those who lack economic capacity must be able to enter the supply chain or economic development in their field.

I would like to introduce M4P (Making Market Systems Work for the Poor) where we do not give charity to the poor, but we involve the poor in market mechanisms. Within our government ecosystem, we are so used to providing the poor with charity, but that mindset really has to change now. We hope that our farmers are not just farming for survival - that it's not just a livelihood for them but that they are entrepreneurial and judicious actors. It is exactly this capacity and mindset that is being developed through PRISMA.

PRISMA has facilitators who develop these market mechanisms. By using a facilitator approach, we have formulated a format that is continuous. In this way, the extension support continues until the end of the farmers' lives.

The PRISMA program is still being piloted. Our hope is that by 2023, we can scale-up this pilot so that it can be sustained permanently to assist those who don't have ongoing opportunities in rural areas. Hopefully, we can continue these development model results pursued through the PRISMA program so that they are not only project-based but

## THE AUSTRALIAN GOVERNMENT

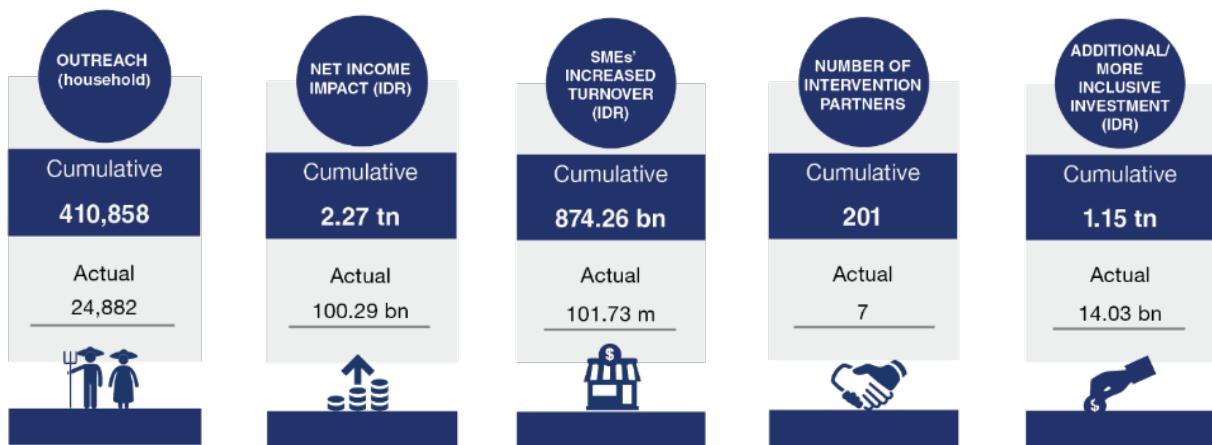
**In May, Australia’s Department of Foreign Affairs and Trade (DFAT) published its COVID-19 policy framework, ‘Partnerships for Recovery: Australia’s COVID-19 development response.’** In it, the Australian Government’s objective of partnering with the ‘Indo-Pacific in responding to and recovering from COVID-19’<sup>4</sup> through health security, stability, economic recovery and protecting the most vulnerable is clearly outlined.

**PRISMA remains aligned with DFAT’s objectives.** In spite of the chaos that COVID-19 has brought, PRISMA’s response – Intelligence, Pivot, Recovery (see [Section 1.3](#)) - has helped to keep agricultural businesses afloat, generating over IDR100 billion (AUD9.4 million) in income and reaching over 24,882 smallholder farming households since January 2020. This has maintained stability and food security for farmers and vulnerable workers, especially women (see [Section 3.2](#), below).

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<sup>4</sup> Partnerships for Recovery: Australia’s COVID-19 Development Response,’ p.8

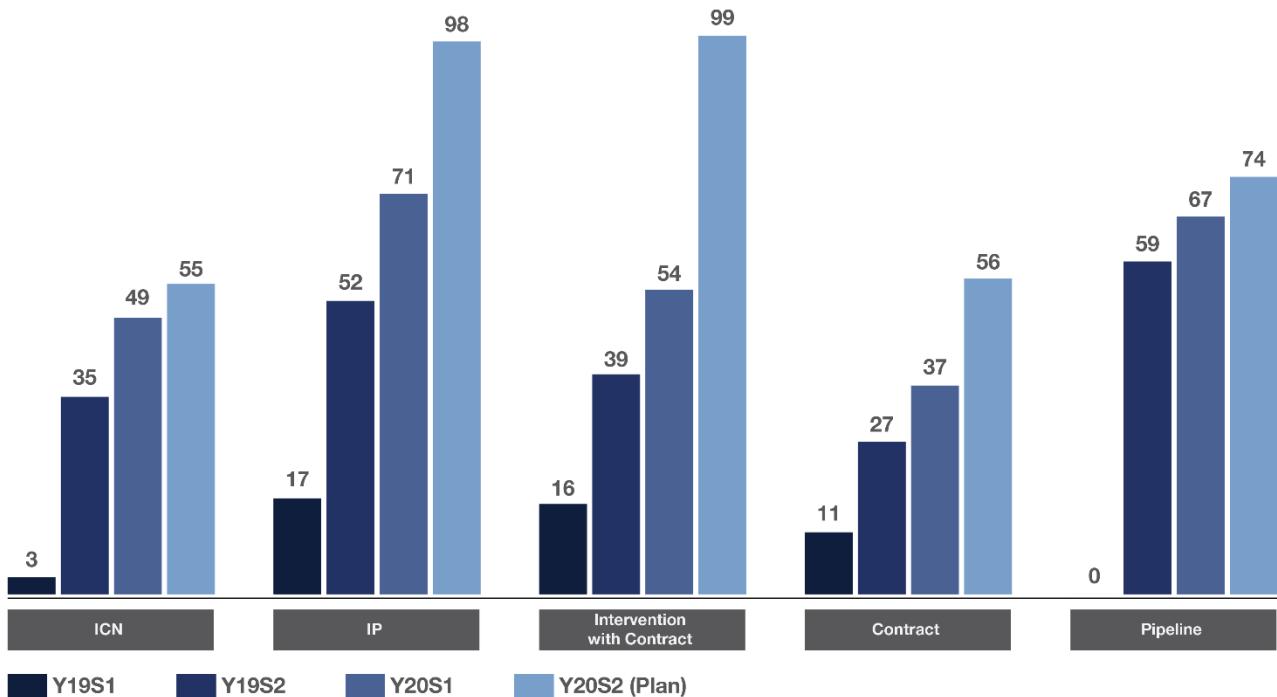
## 2 PRISMA – portfolio management and monitoring



### 2.1 Portfolio and intervention development progress

In the first semester of 2020, PRISMA signed 15 new interventions against an internal target of 50. We recognise that COVID-19 has taken its toll. The new interventions are spread across five provinces: six in East Java (adding up to a total of 21), five in Central Java (CJ; total 15), two in East Tenggara Timur (NTT; total 12), one in West Nusa Tenggara (NTB; 5), and the first new intervention in Papua on improved seaweed seedlings. Crop Protection, Rice, Pig and Soil Treatment each added two new interventions while Beef, Dairy, Innovative Finance, Mechanisation, Irrigation, Seaweed, and Maize gained one new intervention each. Six of the new interventions involve new partners.

FIGURE 1: PORTFOLIO DEVELOPMENT PROGRESS



The number of Intervention Concept Notes (ICN) and Intervention Plans (IP) lagged behind internal planning by 7 and 15 respectively. However, we were able to add 14 ICNs and 19 IPs during the first semester of 2020 and plan to catch up during the second semester 2020.

**PRISMA intends to move away from using the number of interventions to using the number of actual contracts signed as a leading indicator.** The number of interventions with contracts is not very useful as it depends heavily on the definition of intervention. Coupled with the number of partners (KPI6), the number of contracts will give a better idea of progress.

**Overall, the new interventions developed this semester aim to reach 156,852 households (HH) by the end of 2023 (55,627 HHs < \$2.50 PPP and 86,290 HHs < \$5.50 PPP),** adding up to 509,004 HHs (195,068 HHs < \$2.50 PPP and 305,918 HHs < \$5.50 PPP) if combined with existing interventions, i.e. without the actual outreach of Phase 1. In Phase 2, we are looking to build more strategic interventions compared to those we had in Phase 1 (see below [Chapter 2.3](#)). An average projected outreach of approximately 10,000 HHs for the newly launched interventions looks relatively low, but in Phase 1 the average intervention only resulted in an actual outreach of approximately 3,000 HHs. As often mentioned in the past, the final success is often not predictable and program success often depends on a few very successful sectors.

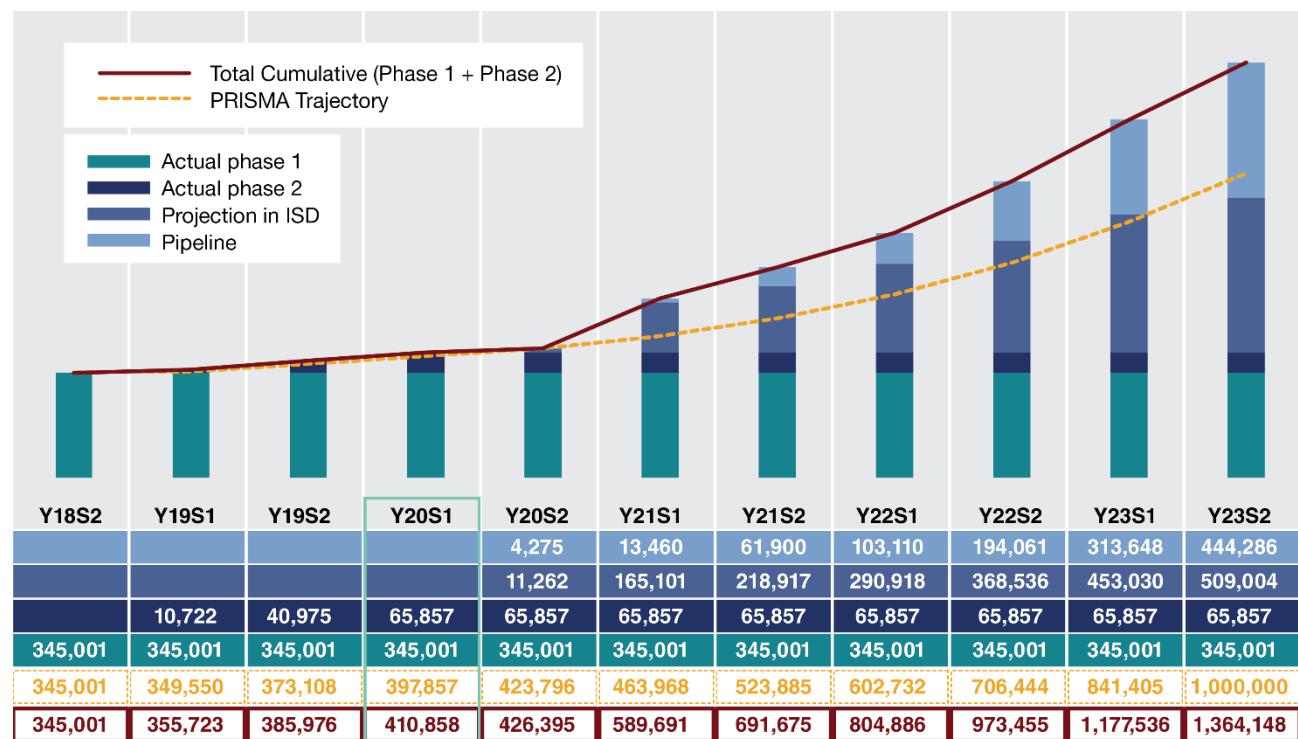
## 2.2 Progress of key performance indicators

### OUTREACH

**PRISMA is on track to outperform its EOPO target for outreach.** All completed and ongoing interventions are projected to reach 919,862 HHs by the end of the program. Together with interventions in the pipeline, PRISMA expects 1,364,148 HHs to benefit, compared with a target EOPO of 1,000,000 HHs. However, the team will continue to verify the assumptions behind the projections and develop revised projections to better reflect the COVID-19 realities.

**During the first semester of 2020, 24,882 HHs benefitted (11,960 HHs < \$2.5 PPP and 16,708 HHs < \$5.5 PPP), more than the expected figure of 11,881 households.** The total number of households benefitting since the start of Phase 1 is 410,858 (61.5 per cent, 252,635 HHs < \$ 2.5 PPP<sup>5</sup>), 3.27 per cent above the targeted trajectory of 397,857. It should be noted here that a significant part of the actual benefitting outreach from maize (~60,000 HHs) was confirmed by initial field assessments conducted before the crisis. These have not been included in the reported outreach as PRISMA was unable to confirm the income increase due to travel restrictions.

FIGURE 2: PRISMA OUTREACH TRAJECTORY AND INTERVENTIONS



<sup>5</sup> 224,335 HHs below \$2.5 from Phase 1 and 28,300 HHs below \$2.5 from Phase 2

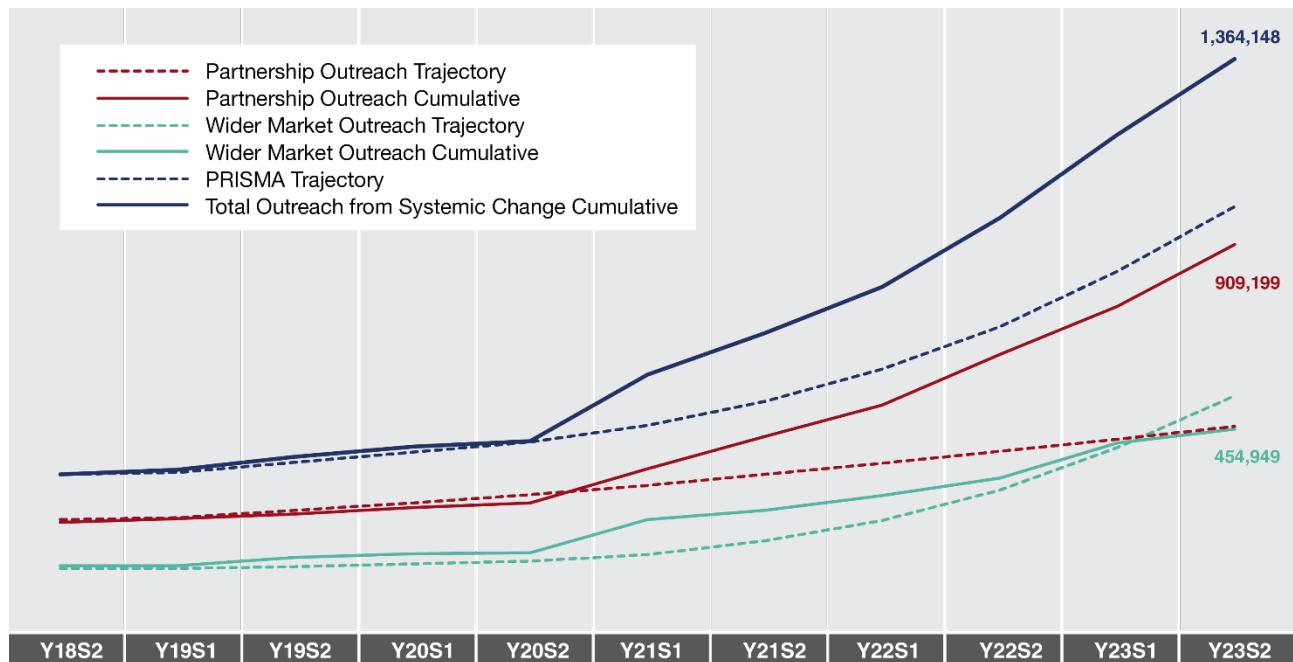
The following sub-sectors contributed most to the outreach:

- **Soil Treatment EJ, NTB, and NTT 14,586 HHs:** 13,346 are attributable to an intervention with PT Pupuk Kalimantan Timur (PKT) in NTB. Due to the success in NTB, PKT is now replicating the strategy in EJ and NTT.
- **Mung Bean CJ 8,477 HHs:** The outreach came from CV Semi (3,947 HHs) and PB Utama (4,530 HHs). CV Semi, a seed nursery from Central Java, has successfully expanded its seed sales to NTT's government subsidy program. PB Utama, another seed nursery, has copied the business model of CV Luwes (PRISMA's partner in Phase 1) and has successfully sold certified seed to government program in Central Java and East Java. The response from these businesses has proved the growing development of mung bean seed players and further potential of scale up to other local nurseries.

**Against the target of 1,000,000 HHs, PRISMA is 3.5 per cent (14,883 HHs) below the indicative trajectory of 425,741.** However, with the rescheduling of missed impact assessments in the following semesters, it is still possible to catch up with the higher target trajectory.

**The ratio between partnership outreach and wider market outreach narrowed slightly but continues to stay on track.** PRISMA strives for a rate of 40 to 60 per cent. However, other than the target trajectory, this ratio for internal management is not based on any empirical model. We therefore believe that further discussions are needed on what constitutes adequacy of progress in this area. Partnership outreach was 16,405 HHs and impact from wider markets was 8,447 HHs during the reporting semester. The result would be much nearer to a 40:60 ratio if the impact from maize could have been accounted for (see above). While we expect the trend towards a more significant contribution from the wider market to be confirmed in the next semester, we will need to observe this in the future carefully. Likely, the flattening of the related projections shown in the green projection line in Figure 2 below can be addressed by more targeted monitoring of the impact we have on the wider market.

**FIGURE 3: PRISMA PARTNERSHIP OUTREACH AND WIDER MARKET OUTREACH**



## INCOME

**The cumulative average NAIC per farming household is 232 per cent,** slightly lower than reported last semester (239 per cent) due to the absence of impact from the high-yielding interventions in Maize and Pig and the relatively low-income increase from Soil Treatment, where NAIC was 23 per cent. Even though this figure is below the target of 30 per cent, the absolute NAIC value of IDR4,306,391 per season with a seven-

fold return on investment is encouraging for the farmers. Level of effort, investment risk and investment outlook are other criteria for household decision making and incentives to change behaviour sustainably. We will continue to triangulate such information combined with the NAIC value for decision making and reporting.

**Cumulative absolute NAIC per farm household for the portfolio decreased to IDR4,921,763 (AUD492) from IDR5,049,900 (AUD504.99) during the second semester of 2019.**

**All other sub-sectors have shown positive progress in terms of NAIC:** Crop Protection EJ with IDR5,235,565 per HH; Soil Treatment NTT with IDR3,567,611 per HH; Soil Treatment EJ with IDR 6,198,336 per HH; and Soil Treatment NTB with IDR 4,128,647 per HH.

**The cumulative NAIC this semester is IDR2.272 trillion, or approximately AUD227.2 million.** This equates to an income increase of IDR4,921,763 (AUD492) per HH for 410,858 HHs in Indonesia.

## OTHER SELECTED KPIS

**KPI 3 and KPI 5:** This semester, the number of an additional intermediate service providers (ISPs) is 216 and the additional ISP turnover reached IDR101.7 million per ISP (AUD10,173). The additional ISPs stem from the Beef, Maize, Mung Bean and Pig sectors, demonstrating that PRISMA's partners were able to expand their sales network in spite of COVID-19. The increase in turnover came from Maize (Corteva), while the other sectors showed no change in turnover.

**The regular surveys of the Task Force show that more than 50 per cent of the kiosks and off-takers could not maintain their sales,** mainly due to disruption in supply chains and reduced farmers' marketing activities.

**KPI 4: The usefulness of this experimental indicator remains questionable.** WEE effectiveness of 1.41 indicates that PRISMA is targeting more women with the intervention activities compared to the women involved in different sectors. As we have more strategic level activities and less direct field level activities, this indicator might not be very useful in the future.

TABLE 1: PRISMA KEY PERFORMANCE INDICATORS

KPI Tracking		Actual cumulative Y20S1	Actual Y20S1
<b>KPI1</b>	# Outreach (all farming HHs)	410,858	24,882
<b>KPI1a (new)</b>	# Outreach (< USD 2.50 PPP)	28,300	11,960
<b>KPI1a (old)</b>	# Outreach (<USD 2.00 PPP)	129,089	
<b>KPI1b (new)</b>	# Outreach (< USD 5.50 PPP)	42,518	16.708
<b>KPI 1b(old)</b>	# Outreach (< USD 2.50 PPP)	224,335	
<b>KPI2</b>	Net income impact in IDR (all farming HHs)	2,271,745,651,084	100,293,236,882
<b>KPI2a</b>	Net income impact in IDR (< USD 2.50 PPP)	841,354,020,171	49,687,435,662
<b>KPI2b</b>	Net income impact in IDR (< USD 5.50 PPP)	1,423,128,591,432	67,926,604,911
<b>KPI3</b>	# ISPs	10,688	216
<b>KPI4</b>	WEE effectiveness	1.41	1.16
<b>KPI5</b>	ISPs' increased turnover in IDR	874,256,156,987	101,732,000
<b>KPI6</b>	# Intervention partners (public and private sector partners)	201	7
<b>KPI7</b>	Private partners increased turnover in IDR	87,746,889,877	620,000,000
<b>KPI8</b>	Additional/more inclusive investment in IDR	1,145,150,042,493	14,028,029,192
<b>KPI8a</b>	Additional/ more inclusive investment in IDR (public and private sector partners)	138,813,571,012	2,564,002,791
<b>KPI9</b>	# Crowding-in business/institutions	6	5
<b>KPI10</b>	# Responding business/institutions	5	5
<b>KPI11</b>	# Policy engagements	10	6

**KPI 6:** The number of active partners increased from 27 to 34 (21 of which we did not work with in the first phase), working in 54 interventions. Since its inception, PRISMA has worked with 164 private sector players (including 17 state-owned enterprises), and 37 government bodies. PRISMA continues to monitor several of its partners after partnerships have closed to assess how far they are continuing to apply strategies and business models.

**KPI 8 and KPI 8a:** Additional partners' investment during the reporting period was IDR2.56 billion (AUD256,400), while the total cumulative investment from the private sector was IDR14.02 billion (AUD1.402 million). The main reason for the relatively low number is travel restrictions, which prevented the team from assessing many ISPs and almost all farmer investments.

**KPI 9 and KPI 10:** We have found evidence of 5 businesses crowding-in in the Maize, Mung bean, Beef and Peanut sectors. Five more private and state-owned companies responded in Maize, Soil Treatment and Peanut sectors. However, PRISMA will work on more structured evidence collection and reporting processes for these two KPIs to capture more examples of 'expand' and 'respond'.

**KPI 11:** PRISMA has engaged with Bappenas in five policy areas; Facebook Platform Berbagi Informasi Pangan dan Pertanian, policy recommendations on mechanisation, the impact of COVID-19 on agriculture, analysis of 10 strategic commodities price movements, and facilitated a meeting between Bappenas and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) on TraNSIT. PRISMA has also facilitated the development of the five-year maize NTT roadmap of the provincial government which acts as a reference document for policy and budget at provincial and district level.

## VALUE FOR MONEY

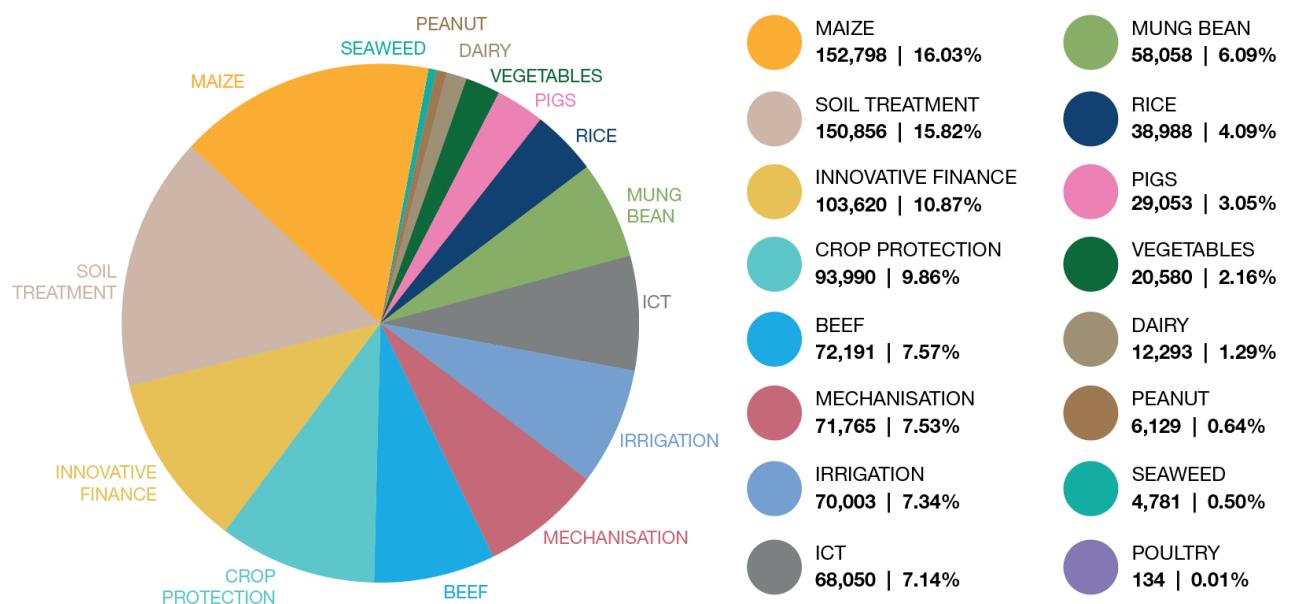
The investment per HH, the social return on investment and investment leveraged from the sector remains stable at a high level of AUD155 per HH, 3.57, and 1.80, respectively against the total intervention

costs. Investment leveraged from the partner experienced a slight downward trend and currently stands at 0.22 (see [Annex 8](#)). However, partner investment against PRISMA's direct cost shows a stable 50:50 cost-sharing (leverage value of 1.00) for the last two years. We expect significant changes once we are able to continue with impact assessments in the field and confirm more outreach, NAIC and investment.

## 2.3 Portfolio analysis

**The current portfolio comprises a total of 54 interventions, which have reached 65,857 HHs (28,300 < USD 2.50 PPP and 42,518 < USD 5.50 PPP) in Phase 2.** In the reporting semester, PRISMA reached 24,882 HHs, out of which 3,058 HHs came from Phase 1 interventions as impact from wider markets. These results are in line with the target trajectory (1 million outreach) that shows an incremental semester increase of 24,749 HHs.

FIGURE 3: "FUTURE STARS" PROJECTIONS TO Y23S2



**In Phase 2, Maize and Soil Treatment are expected to become the largest contributors with estimated results of above 150,000 HHs each.** Crop Protection and Innovative Finance have similar expected outcomes of above 90,000 HHs. After the adjustment during the recent semi-annual strategic review, only seaweed - with a current projection of only 4,781 HHs - remains questionable. The rationale of keeping the sector is its high potential for systemic change, especially within the GOI, which could lead to an outreach of between 30,000 and 70,000 HHs and significant institutional change across ministries.

**The rationale for maintaining a portfolio of sectors with varying growth potential remains robust and relevant.** Since the program's start, we have worked in 29 sectors in total. By June 2020, we had reduced the number of active sectors to 16. We believe that in the current context, this size is appropriate. The MTSR indicated that the right level of diversification would remain crucial to EOPO achievement. For instance, Maize and Pig were the stars in Phase 1, but towards the end of 2018 the significant threats of ASF, FAW and subsidies had already made the outlook bleak.

Early in Phase 2, Maize turned out to be challenging due to frequent government interventions. Fortunately, it regained momentum after revamping our strategy to engage with the provincial government and thanks to the sustainability of our work with the government in the maize district of Sumenep and a private sector response to the FAW pest. Pig, on the other hand, saw constantly revised outreach reductions from 140,810 for Phase 2 in Y19S1 to the current projection of 29,053 HHs due to the impact of ASF. Soil Treatment, Innovative Finance and Crop Protection emerged as star sectors but were not even on the list in the first phase.

The uncertainty arising from the COVID-19 and the risk of market-distorting policy and practices will continue and are likely to intensify during the economic recovery stage. All of these factors demonstrate the importance of portfolio diversification as a means of EOPO achievement.

**Off-taking services became a new area of solutions to on-farm constraints. In total, we now have nine interventions working in this area and two in the negotiation stage.** The off-taking intervention with PT Seger, a large Maize market actor in CJ and NTT emerged as part of broader systemic change strategy. Other small and medium sized off-takers were added to the seed interventions to stimulate maize farmers to adopt high-quality inputs quickly. PRISMA also saw opportunities to utilise ICT to provide off-taking solutions during the pandemic. The social distancing measures and transport restrictions prevented many customers from buying from traditional marketplaces and farmers. PRISMA partnered with several ICT platforms such as PanenID, VIAMO to connect farmers with buyers.

**Finance is becoming an essential component for many intervention business models.** Across the portfolio, 17 interventions include financial services as a component in the new business models. For instance, access to credit for retailers selling fertiliser is being provided by Bank BRI and BNI; maize seed nurseries receive credit from Distan KP in NTT; and combined harvester service providers from machine supplier, P.T. Rutan. These are examples of the integration of financial services within our interventions. Several ICT interventions are supporting financial institutions with data and linkages to the potential borrowers.

**Using the Quality Monitoring Tool (QMT) scoring, the MTSR in July confirmed the composition of current portfolio to a large extent.** However, Coffee remains a niche market in NTT with limited private sector incentives and no large players interested; vegetable consumption has been stagnant since 2018; and Peanut never reached sufficient scale potential. We will therefore discontinue our work in all three sectors. Central Java, East Java, NTB, and NTT vegetable cultivation have no scalable pro-poor potential anymore and we will therefore focus in Vegetables only in PA and WP. Most of the remaining sectors are still qualifying as "Let flow" or "Push" after pivoting the sector strategies towards COVID-19 recovery. Some changes in strategy are needed to increase the chance of positive impact in interventions in Pig, Irrigation, Finance, Mechanisation, Mung Bean and Irrigation (see [Annex 4](#)). Overall, it should be noted that it was hard to assess the performance of several interventions due to the lack of impact assessments and field visits.

**Sector collaboration has become the norm for developing intervention ideas and selection of partners.** Sharing of sector analysis between commodities (e.g. Rice, Maize) and cross-sectors (e.g. Soil Treatment, Finance) in the design of partnerships covering multiple commodities and cross functions has helped us strengthen our strategies. For example, Rice has become the most prominent commodity in Soil Treatment, Crop Protection, Mechanisation and Irrigation. Our Rice team has therefore been working closely with the other teams on coordinated sector analysis, joining the partner meetings, and selecting complementary interventions rather than duplications. Similar collaboration and sharing of information and ideas in Maize, Policy, Finance and ICT made PRISMA more efficient.

**PRISMA's progress towards achieving systemic change shows a positive trend; two sub-sectors moved up from the 'initial' to 'intermediate' level of systemic change.** PRISMA piloted its Systemic Change Progress (SCP) tool to measure and analyse progress towards systemic change. We used both quantitative data and qualitative information from the verified sources (e.g. impact assessments and sub-sector review) to measure the progress. Out of 25 sub-sectors assessed, 19 are still at the initial stage. A total of six sub-sectors are now at intermediate stage. Soil Treatment in NTB and Mung Bean in Central Java moved up from initial to intermediary level. The piloting exercise helped implementation teams to set internal systemic change goals by the end of 2023. Current projections indicate that most of PRISMA's sub-sectors will be at the intermediate and advanced level of systemic change by the end of 2023.

**PRISMA has continued to design high-quality interventions that address multiple constraints for achieving greater systemic change impact, which can be pivoted towards COVID-19 response at the same time.** We believe the current interventions fulfil this aspiration of the design of Phase 2. During the

reporting period, 27 interventions adopted more systemic approaches and 14 integrated COVID-19 responses in the intervention design as Table 2 below illustrates.

TABLE 2: PRISMA NEW APPROACHES

SECTOR AND LOCATION	PARTNER	NEW APPROACHES
📍 Maize - East Java, Central Java, NTB, NTT	Corteva Agriscience (PT DuPont Indonesia)	
📍 Maize - NTT	Dinas Peternakan NTT; BPPT NTT	
📍 Maize - East Java	PT Syngenta Indonesia	
📍 Seaweed - National	NEW Ministry of Marine and Fishery	
📍 Beef - Central Java, East Java	KJUB Puspetasari	
📍 Beef - Central Java, East Java	CV Fermen Hipro Feed	
📍 Beef - Central Java	NEW Sumber Rejeki Feed	
📍 Soil Treatment - East Java, NTB, NTT	PT Pupuk Kalimantan Timur	
📍 Soil Treatment - Central Java, East Java	NEW CV Saprotan Utama	
📍 Dairy - Central Java	NEW PT Nufeed International Indonesia	
📍 Irrigation - East Java	PT East West Indonesia (EWINDO)	
📍 Irrigation - East Java	PT Syngenta Indonesia	
📍 Mechanisation - East Java, Central Java	PT Rutan	
📍 Mechanisation - NTB	NEW PT Terra Agro Digital	
📍 Pig - NTT	PT Sierad Produce, Tbk	
📍 Pig - NTT	PT Panca Patriot Prima	
📍 Pig - NTT	PT Sinar Indochem	
📍 Pig - NTT	CV Sinar Terang Madani	
📍 Pig - NTT	NEW PT Sinta Prima Feedmill	
📍 Pig - NTT	NEW CV. Aroma Duta Boga	
📍 Poultry - NTT	PT Sumber Unggas Indonesia (SUI)	
📍 Mung bean - Central Java, East Java	PT East West Indonesia (EWINDO)	
📍 Mung bean - Central Java	CV Semi	
📍 Peanut - Central Java, East Java	PT GarudaFood Putra Putri Jaya, Tbk	
📍 ICT - East Java	PT Rekan Usaha Mikro Anda (Gojek Group)	
📍 ICT - East Java	PT Agri Tekno Karya (HARA)	
📍 ICT - NTT	PT Ditant Brinanta Jaya; PT BISI International, Tbk; Kopdit Swasti Sari	
📍 Innovative Finance - Central Java	PT Crowdte Membangun Bangsa	
📍 Innovative Finance - NTB, NTT	PT BISI International, Tbk	
📍 Innovative Finance - East Java, Central Java	PT Tanjjoy Agriteknologi Nusantara	
📍 Crop Protection - Central Java, East Java	PT Bina Guna Kimia (FMC)	
📍 Crop Protection - Central Java, East Java, NTB	PT Agricon Indonesia	
📍 Crop Protection - Central Java, East Java	NEW PT UPL Indonesia	
📍 Rice - Central Java, East Java, NTB, NTT	PT Agrosid Manunggal Sentosa/PT Primasid Andalan Utama	
📍 Rice - Central Java, East Java	NEW Corteva Agriscience	

LEGEND:

Built in research within the interventions	Multi-stakeholder partnerships/ collaboration	COVID-19 response/pivot
Intervene in interconnected market systems	National level strategy	Digital marketing and content development
Policy (corporate) level intervention	Downstream	NEW New intervention/partnership started in Y20S1
Business planning	Multi-sector	NEW New approach introduced in Y20S1
Retailer/agent training	Product diversification	

Action points:

- Continue portfolio management approach towards risk diversification

- Assess and quantify the systemic change potential of Seaweed
- Sub-sector review Y20S2 followed by bi-annual MTSR workshop in Jan 2021
- Continue exploring opportunities in other sectors to address off-taking constraints
- Allocate more resources for the "Push" sectors in terms of staff, management time and budget if needed. For example, we will allocate additional staff for the Policy and Maize teams.
- Continue collaboration as needed to maximise value for money from our resources.
- Response: Even though finance might not appear to be a key constraint, it can work to unlock potential opportunities and to stimulate growth. Depending on the success of the current interventions, we will make finance one of the cross-cutting themes for all sectors to stimulate economic recovery and growth.

## 2.4 Challenges and highlights

### CHALLENGES

**Establishing a robust framework for monitoring and measuring the performance of online marketing is complex.** Since the start of the pandemic, a few private partners have pivoted to online marketing to continue their businesses. This is likely to intensify in coming semesters: some companies have generated significant sales, and others have achieved several hundred thousand views of their educational videos. However, this number is still considered pre-access and requires further calculation and discounting before getting to a useable number. Web analytics provide basic information such as number of viewers, time spent on the online content and number of clicks, but companies need deeper analysis of the changes happening through the online marketing.

**Using remote interviews to capture insights from women can be difficult.** In the current landscape, as we consider remote monitoring techniques, we need to be considerate of interviewing women, who face increased workloads and burdens. Remote assessments represent significant challenges to conducting comprehensive qualitative assessments of the burdens women are carrying and the emerging risks and opportunities. PRISMA will need to adapt this strategy if travel restrictions prolong, ensuring we engage local resources and conduct baseline and progress monitoring, with safety protocols.

**COVID-19 has dramatically reduced women's savings, provoking a complete shift in the Mapan model.** PRISMA supported PT RUMA (Mapan) to develop new strategies to distribute agriculture products and services through its extensive network of women agents. Mapan started distributing 17 agricultural products (including sprayers, planters, water pumps) through its network. The economic downturn lowered the members' household income by 60-70 per cent. Either these women themselves or their husbands lost their jobs. Without funds for savings, the network is no longer purchasing products, creating a massive dent in Mapan's and women agents' sales. Since April 2020, Mapan has shifted to distributing lower-priced, daily necessity products deemed to be in high-demand during COVID-19.

**The COVID-19 outbreak has worsened the effect of ASF in NTT.** The pig sector in NTT has been suffering from the ASF outbreak since early 2019. The projected outreach in pigs NTT decreased by 102,163 HHs from 243,752 HHs in June 2019. As of June 2020, around 30,000 pigs had already died of ASF in NTT. The virus was first detected in Timor Island and over time, has spread to other neighbouring islands in NTT province. The impact of ASF is likely to increase in the coming months as the provincial government has recently lifted the ban on inter-island pig transportation. PRISMA's effort to contain the ASF outbreak was further hampered by the social distancing measures and transport restrictions in NTT. Companies have also postponed farmers' education programs for the same reasons.

**Our private sector partners have reopened their offices and started engaging with farmers on a limited scale.** Some input companies have sought approval from the government authority to operate during the PSBB. Since June 2020, state-owned enterprises and mid-sized companies from Indonesia have also reopened their operations on a limited scale. For instance, PKT and PT UPL are conducting farmers' meeting following the health protocols. Similarly, many potential partners are operating in the field, and expect

PRISMA to meet face-to-face for future collaboration. However, PRISMA is still following zero travel policies due to the pandemic. We are relying on partners' report and feedbacks for monitoring the intervention progress. This has limited our value addition to the partnerships.

**Rapid changes in banking structure, investment funds and liquidity challenged PRISMA's planned interventions with financial institutes.** The withdrawal of investment funds and liquidity challenges within banks took place on a grand scale. Between the months of March to June 2020 banks in Indonesia worked to facilitate government relief programs with regard to loan grace periods but were not engaging in any new lending. During this semester, PRISMA was developing a new intervention plan with a large, state-owned bank and the conversation was progressing about developing an application for SMEs to train agricultural kiosks in financial management and loan disbursement. However, as things rapidly changed this past semester, the bank was restructured from the top-down and the team we had been discussing with was broken up and reassigned. As a result, the application development was terminated along with the intervention plan.

**Integrating new recruits remotely is challenging.** PRISMA recruited 20 young professionals at the beginning of the year and by mid-March they had started working from home. Between the month-long MSD training and the office closure, the new recruits have had few opportunities to visit the field and absorb the program's culture. Interactions rapidly moved online afterwards, but inevitably, the learning curve for this cohort is flatter compared to previous cohorts.

#### Action points:

- Monitoring and assessment framework: Conduct an impact assessment for online marketing activities; validate assumptions and propose a robust assessment and monitoring framework
- Data collection on women: Identify and train local enumerators and consultants to collect data on women;
- Containment of ASF: PRISMA will continue ASF containment efforts in NTT in partnership with both public and private sector players
- Supervision of field level activities: Expand the enumerator led data collection and validation approach to intervention areas
- Mapan model: revisit the Mapan strategy to enter the rural agriculture market.
- Finance: develop strategy to support our partners (FIs) continue lending during recovery stage; focus on state owned banks in the short term;
- New recruits: Increased supervision of newly recruited cohort by the managers; continue online refresher trainings.

## HIGHLIGHTS

**Online marketing strategies have taken off, bringing impressive results.** Agriculture companies joined the Government's efforts of curbing the COVID-19 outbreak by suspending face-to-face marketing programs with farmers. Against this background, we advised our partners to adopt online marketing to reach farmers with products and information. Crop protection companies adopted the approach promptly and benefitted the most. Agricon, for example, achieved nearly IDR3 billion in sales by June 2020, while FMC recorded more than 225,000 views on its online educational content (see [Case Box 1](#)). Similarly, partners in the poultry sector are using multiple online channels and e-commerce platforms to disseminate information on nutrition. EWINDO used Facebook ads to inform rural households about the nutritional benefits of mung beans. As a partner, PRISMA has supported these companies to develop the online marketing strategy for educating farmers and promoting products.

**PRISMA prioritised ICT off-taking during lockdown periods to ensure farmers maintained a point of sale and a means of obtaining a fair price.** PRISMA collated intelligence from the field during the early stages of the pandemic and accurately predicted that supply chains would face disruption as lockdowns

were imposed and movement was restricted. The team then developed a strategy to deal with COVID-19 which was in line with the existing ICT strategy and focused on technology to digitise intermediary service providers, in this case off-takers. The program prioritised tech companies that would be able to off-take the commodities from farmers during periods of lockdown to centralise and provide a virtual point of sale for farmers when physical distancing requirements and closures of wet markets was in effect. As part of this effort, PRISMA signed new partnerships with PanenID and Viamo (utilizing interactive voice messaging for market linkages platform), while rapidly accelerating an additional three pipeline interventions of similar nature.

#### Case Box 5 – Fighting drought with new quality seed from Corteva

Corteva demonstrated increased resilience to the potential business shock, introduced a drought resistant variety of seed. In 2019, a longer than usual dry season caused maize production to decrease by around 25 per cent. A survey conducted by Corteva and PRISMA showed that available maize seeds in the market were not performing well in the prolonged drought, proving the business case for developing a drought-resistant variety. Seeing the potential market, Corteva introduced a new drought-resistant seed in April 2020.

**Changes in farmer purchasing power have triggered product diversification.** Feed partners are now producing in smaller packages (10kg), promoting feed alternatives or second-tier products. An example is PT Sinar Indochem which introduced Unigrain, a single component feed, that can be mixed with concentrate to reduce price at farmers level.

## 2.5 Portfolio management response

**This chapter focuses on practical responses in portfolio management.** Broader, more strategic responses to the challenges posed by the current crises and its policy responses by relevant governments, are provided in [Chapter 1](#) above.

**In portfolio development, we will focus on forming and fostering partnerships with businesses and organisations - including Australian ones where possible - that are willing and able to regard COVID-19 not only as a challenge to be mastered but rather an opportunity to invest in the future.** If we want to achieve our EOPOs, we need to find leverage points such as working with businesses and government bodies that want to “go online”, invest in expansion, question their strategies or can continue their successful strategies unrestrictedly. PRISMA’s beef feed partners, for instance, are expanding their distribution networks to compensate lower sales from their current retailers. They have also increased their investment in the sales forces and new feed to cater to the new market segments. We have identified at least 19 current partners that are likely to pivot to utilise the opportunity. In our collaboration with Bappenas, we saw a high level of interest in including recommendations like improving the mechanisation policy, which indicates an appetite to do things differently and to cover topics like irrigation for quality seed production. (See [Case Box 5](#)). In total, we have identified more than 20 potential partners that are willing to regard COVID-19 as an opportunity for future investment.

**In total we plan to sign 40 new formal agreements with private and public partners in the upcoming two semesters.** This may seem ambitious, but we feel confident we can achieve it and have revised the portfolio development plans in detail (see [Annex 5](#)) in order not to overestimate the possibilities. In terms of measurement, this means that we would like to abandon the number of interventions as leading indicator for portfolio development progress.

**An expansion of the sector portfolio is unlikely** and we will instead focus on investing in the core sectors identified in the “push” category of the QMT and on intensifying the efforts in strategic cross-sectors and transversal topics such as finance and off-taking. In total, we have planned to add four new agreements with partners in these two areas.

**To revitalise monitoring and learning as a crucial ingredient of quality implementation strategies, we will not only hope for the best but also prepare for the worst.** If the travel ban continues and risk analysis indicates to work from home for a longer time, we will intensively use the alternative methods assessed and developed over the past months, and expand further options such as using visual and audio connections

instead of field visits. We will also utilise more local agents to strengthen our efforts to connect with target groups.

**With regard to portfolio personnel management and capacity building, we will continue to focus on bringing our new staff up to speed.** Building on the intensive capacity building conducted during the reporting semester, we will shift focus to more advanced topics like case studies to learn from and data driven strategy development. Deal making and relationship management will be a priority and personal performance target for each Head of Portfolio. The goal is to reach full capacity and integration by end of the semester, and we hope that we will soon have more opportunities to one to one coaching in the re-opened office and to have at least some, carefully selected and planned field visits.

**In portfolio quality management, we will now be able to use the full set of tools developed in the past.** This includes the QMT and the SCP tool but also the strategic reviews. Combining the latter with a field visit will become the longer, the more essential though we have proven that it can also be done remotely.

**Other action points are mentioned across the whole PRIP** and are listed in the table in [Annex 1](#). Supporting elements such as a revised communications strategy and increased investment in higher-level networking are mentioned in [Chapter 4.3](#).

## 3 Cross-cutting issues

### 3.1 Policy engagement

**PRISMA's policy engagement activities progressed well in the first semester of 2020.** Since the end of April, PRISMA has been holding regular fortnightly meetings with Bappenas to: discuss agriculture topics such as the impact of COVID-19 on farmers and kiosks; analysis of strategic commodities' price movements; recommend pathways in agriculture mechanisation policy; and share learnings on food logistics from other countries. Bappenas subsequently shared parts of the analysis of strategic commodities' price movements in a cabinet meeting on food security. PRISMA was also invited to provide inputs on national food security to a group of Special Staff of the President (see [Section 1.4](#), above).

**In line with the Government's focus on food security in the wake of COVID-19, PRISMA supported Bappenas in the development and management of the Berbagi Informasi Pangan dan Pertanian (Food and Agriculture Market Information) Facebook group.** The group connects agriculture stakeholders and provides them with a platform to share up-to-date information from multiple points in supply chains. PRISMA will work closely with Bappenas over the next semester to grow members and engagement.

**Two Policy Engagement Plans (PEPs) from PRISMA's Maize and Irrigation teams were presented to PRISMA's review panel this semester.** The PEP template is a new addition to PRISMA's toolbox. It was developed to help the team to prepare sector-specific policy by encouraging a deep dive into the Business Enabling Environment and Political Economy Analysis aspects. The PEPs have enabled both Maize and Irrigation teams to articulate their policy recommendations. The Maize team is now working with the Central Java provincial government to promote smart seed subsidies, while the Irrigation team is working with the East Java provincial government to solve water shortage issues using advanced underground water detection technology.

**Finally, this semester PRISMA established a collaboration with a national government body through a partnership with the Ministry of Marine Affairs and Fisheries** in the Seaweed sector. This demonstrates our movement towards working more on policy and enhancing systemic impact.

#### Action points:

- Continue close collaboration with Bappenas
- Step up the monitoring and learning of the policy engagements
- Build up internal political economy analysis

### 3.2 Gender equality and social inclusion

**During this semester, PRISMA invested significant effort into ensuring an inclusive lens was used during the COVID-19 response.** The first step involved analysing how PRISMA's approach to COVID-19 would affect women, men, persons with disabilities and other neglected groups. This was then shared internally and discussed amongst the team to ensure that the program's COVID response was inclusive and had assessed risk of exclusion.

**COVID-19 was a setback to the program's Women Sales Agent strategy as partners switched to working from home.** In July, the team updated its analysis to include the impact of COVID-19, strengthening the program's understanding of how the most vulnerable, especially women and girls, are faring. Overall findings confirm that farmers tend to prefer field agents of the same gender. Women agents' success rate in impacting farmers was 91 per cent compared to 85 per cent for male agents. These learnings will be used by Pig, Maize and other sector teams to propose the commercial case to partners for more inclusive marketing strategies.

**Sector teams continue to advance towards inclusive implementation of business models.** Across a range of sectors and teams, PRISMA has explored ways of specifically targeting women as critical agents from a number of perspectives. This has included using Facebook to promote smaller machinery for planting, to target women for seed subsidies and reduce their workloads during pig rearing (see selected examples in Case Box 6 and Case Box 7).

**The program made strong progress towards improving the capture and assessment of WEE impact during the semester.** A qualitative WEE assessment framework has been developed to strengthen PRISMA's understanding of its broader impact, benefits and risks to women. This will be piloted in pig interventions in NTT in the next semester. For quantitative impact assessments - conducted every semester across the portfolio - the guidelines for assessing WEE impact are being sharpened to ensure higher quality and consistency in sampling strategies, questionnaire designs, reporting and analysis.

**PRISMA continued to engage with other development programs as part of its strategy to become a program of reference for WEE in MSD by 2023.** In February, the GESI team shared PRISMA's market-based approach on WEE at the Australasian Aid Conference in Canberra. PRISMA also shared learnings in identifying, designing, and implementing WEE commercial cases, captured in the [USAID-funded Advancing Women Empowerment Landscape Analysis](#). Going forward, PRISMA will continue to seek opportunities to share its approach, learnings and lessons with other programs.

**As COVID-19 adds new and exacerbates pre-existing inequalities, women's economic empowerment and social inclusion remain critical. Over the next year, PRISMA will focus on relieving constraints and implementing innovating solutions for women.** Emphasis will be placed on mainstreaming GESI across the portfolio through deeper engagement and capacity-building support to the sector and results

#### Case Box 6 – Using Facebook to reach 37,000 women in Indonesia

Together with the Mechanisation sector team, PT Galaxy Partani Mas, an importer of agriculture machinery, conducted an advertisement campaign to promote small planter machinery for maize specifically to women, as they are involved in planting. The online campaign reached over 37,000 women on Facebook and sales will be monitored. In the next semester, PRISMA will strengthen this strategy through both offline and online marketing for women. Learnings will be applied to other sectors as digital marketing strategies are refined in the next semester.

#### Case Box 7 - PRISMA supports inclusivity of access to government assistance programs.

Findings of PRISMA's analysis show that maize seed subsidy recipients in Central Java are mostly male. In response, the Maize sector team provided data on female-headed households to the Central Java Government's subsidy program. As women are often involved in planting, supporting women's access to high-quality seeds will improve the maize productivity and quality. This will be followed up in the next semester and implementation is expected in 2021.

measurement (RM) teams. The program will also improve its understanding of the role of youth in agriculture, and other market segments.

#### Action points:

- Update our WEE Impact Methodology and embed into all internal impact assessments
- Pilot a qualitative study to strengthen our understanding of broader impact, benefits and risks to women in Pigs interventions in NTT (contingent on travel and identification of local enumerators)
- Continue mainstreaming GESI across the portfolio through deeper engagement with sector teams and development of sector level inclusivity briefs
- Capacity-building support to the sector and results measurement (RM) teams
- Share PRISMA's learnings on women sales agent models with our partners, agriculture businesses, other development programs, DFAT and GOI
- Provide guidance to sector teams on improving the inclusion of women and other groups in digital marketing strategies with partners
- Improve PRISMA's understanding of indigenous farmers in Papua and West Papua to design more inclusive interventions
- Improve PRISMA's understanding of the role of youth in agriculture to support market actors to identify feasible commercial cases to involve them
- Provide guidance on Universal Design principles to ensure product design and services can reach all market segments

### 3.3 Nutrition

**In February 2020, PRISMA completed an internal nutrition constraint and opportunity analysis.** The findings showed that food availability and affordability in NTT are critical areas for improvement in nutrition. Potential ideas to be integrated in current interventions include promoting rice and maize varieties with higher value nutrition content, egg consumption, and access to irrigation. In other PRISMA provinces, food availability was not a key issue and food affordability risk was scattered. Lack of nutritional literacy was a common constraint across provinces. The Nutrition team has shared these findings with related sectors and conducted an initial discussion with NTT Government.

**Our nutrition evaluation findings identified a framework to measure PRISMA's nutrition impact and found that awareness-raising is the most appropriate way for PRISMA to address nutrition as a cross-cutting issue.** However, a direct link between higher production in Maize and Pig and increased food availability and intake could neither be proven nor be ruled out. A surprising and exciting finding was that usage of quality feed also reduced women's workloads and increased their time available for childcare.

#### Case Box 8 - Promoting mung bean consumption for better nutrition

PRISMA partnered with seed company PT EWINDO to increase not only mung bean production but also consumption and its nutritional benefits. Their campaign has reached 589,000 Facebook users across Indonesia.

One serving of 100 grams mung bean contains 24 grams of protein, well above the daily intake of 18 grams recommended for infants by the Ministry of Health, whereas the cost per gram of protein from mung bean is, for instance 50 per cent lower than protein from eggs. See [Annex 2](#), for more information on PRISMA's mung bean interventions.

**Over the next twelve months and against the background of COVID-19, PRISMA will further explore and test ideas regarding how to integrate nutritional components into existing interventions.** This might include communicating nutrition messaging in marketing materials and exploring potential collaboration with the government and other stakeholders to increase nutrition knowledge. A measurement strategy will be tested to assess progress towards food security, specifically for internal learning purpose and management decision making.

**Action points:**

- Explore and test on how to integrate nutritional components into existing interventions
- Share our nutrition study learnings to NTT government and discuss potential collaboration areas
- Finalise and test a measurement strategy to assess progress towards food security

## 3.4 Environment

**This semester marked the start of the Environmental Smart Checklist (ESC) implementation – the self-assessment component of PRISMA's EPS that enables staff to document both positive and negative environmental impacts of the program's interventions.** The full integration of the ESC into PRISMA Portfolio Management Tools (PMT) now assures that the environment is embedded into both the intervention life cycle and intervention performance measurement that feed into the management decision-making process.

**Based on the ESC, PRISMA has documented and identified several interventions that may positively impact the environment.** Better soil treatment management practices – such as mulching, use of organic inputs, and crop rotation - in sectors such as Mung bean, Maize and Rice could contribute to positive environmental impact. Depending on opportunities and partners' interests, PRISMA will consider to incorporate these ideas into our intervention. The intervention on production and promotion of drought tolerant maize seeds is also an important step towards adapting to the challenges of climate change. As agriculture by its nature has a substantial impact on the environment, use of the ESC has also helped implementation teams to be better informed and to design interventions which reduce negative impact as much as possible.

**To access more in-depth and expert assessment on environmental issues, PRISMA has expanded its pool of experts.** The program has onboarded a new pool of environment experts including four national and one international consultant who will provide a broad range of expertise on environment to the team. They will provide technical advice on potential environmental risks, impacts, and opportunities in delivering positive impact. It is expected that by end of the year, 20 interventions will be reviewed.

**Action points:**

- Work with the environment experts to conduct environmental desk assessment on 20 interventions
- Initial step to screen environmental impact assessment could be explored based on expert's recommendation

## 4 Quality and Risk

### 4.1 Results measurement

**PRISMA has pivoted its results measurement strategy to accommodate COVID-19 travel restrictions and social distancing.** Out of the 20 interventions planned for assessment at the beginning of the semester, only eight were completed before the pandemic. 10 were postponed due to travel restrictions and two other

assessments were cancelled because of delayed implementation. To cover this shortfall, the team rapidly investigated other technological options to minimise in-person interactions and travelling for PRISMA staff. These included phone surveys, field surveys using local data collectors with remote quality assurance measures, and a combination of the phone and the field surveys for impact assessments in the following semesters.

**The program continues to review its activities for intervention quality. During the reporting season, sector mentors<sup>6</sup> reviewed 15 interventions in 10 sub-sectors<sup>7</sup>.** However, as the mentors could not visit the field, they completed the review based on discussions with the implementation teams.

**In March, PRISMA piloted its Systemic Change Progress (SCP) tool to measure and analyse progress towards systemic change.** Using the tool, implementation teams set internal systemic change goals for the end of 2023. Quantitative data from impact assessments and qualitative data from the team, verified by the sector mentors, was then used to analyse progress. Out of 25 sub-sectors assessed, 19 are still at the “initial” and six are at the “intermediate” stage. Two sub-sectors, Soil Treatment NTB and Mung Bean CJ have moved up from “initial” to “intermediate” following recent interventions.

**The program’s newly developed standardised impact assessment database will enable the analysis of cross-sectoral topics such as poverty, farmer satisfaction, spending patterns, and women’s economic empowerment.** It will also be used as a farmer’s directory to find respondents for future surveys. During the last semester, all impact assessment results were transferred to the standardised impact database.

**PRISMA is developing a data protection policy to comply with the responsible use of data regulations from Indonesia and Australia.** In line with these regulations, the program has revised consent forms for interviews with farmers, kiosks, off-takers or any other respondents. Furthermore, data protection policies to safeguard data within PRISMA’s MIS are also in development.

**Action points:**

- Develop sound survey methodology for remote quality assurance and conduct impact assessments from September 2020
- Update the SCP tool to reflect the baseline systemic chance stages of the sub-sectors by December 2020
- Add a set of nutrition-related questions to the standardised questionnaire for impact assessments
- Finalise the consent form after consultation with Palladium’s legal team by September 2020

## 4.2 Management Information System (MIS)

**The Portfolio Management Tool (PMT), (i.e. the intervention portfolio management part of the MIS), now provides better accuracy and accessibility of program data and results for staff and management.** Staff can update the intervention steering document (ISD) and aggregate results while working from home. PRISMA will continue to update PMT features based on the program’s need and feedback from the users and promote its use for data-driven decision-making.

**This semester, the MIS team focused on improving PRISMA’s data integration by combining data from internal applications,** including the PMT, the corporate management system tool (SHIELD), and other sources. PowerBI then combines, analyses and visualises data, which is then used for decision-making. Additionally, the MIS team also focused on enhancing internal applications by adding new modules – i.e. Back to Office Report (BTOR) and Outstanding Invoice Tracker – to collect and store data more efficiently, as well as to manage risks.

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<sup>6</sup>Heads of implementation units are assigned as a mentor for a sector they don’t manage directly. Every six months mentors will conduct a peer review to look at the progress and provide recommendation for the future.

<sup>7</sup>Innovative Finance (NTB, NTT, EJ, and CJ), Rice (EJ), Mechanisation (EJ), Crop Protection (EJ, NTB, and CJ), and Pig (NTT)

**Next semester, PRISMA will integrate the SCP tool into the PMT and PowerBI dashboard to offer better access to the analysis of systemic change information for PRISMA's staff.** The initial version of the integration will be finished in August 2020. After a series of user feedback sessions with the implementation team, the team expects the final version to be ready to use from October 2020.

**Action points:**

- Integrate the SCP tool into the PMT and PowerBI dashboard

## 4.3 Communications

**In response to COVID-19, Communications developed a number of targeted products.** These included a newsletter highlighting work involved in PRISMA's pivot (see [Section 1.3](#)), up to date analyses of changes faced by agri-businesses, SMEs and farmers, and how PRISMA could support in the economic recovery. In several surveys of the six provinces, the team also gathered detailed information regarding new COVID-19 regulations and their impact on agriculture and developed weekly provincial situation reports. These are available for view on the program's website.

**Going forward, PRISMA will invest in taking a more strategic approach to communications.** During the initial stages of the COVID-19 outbreak, it became evident that the program requires a broader range of communication channels and tools in order to accurately represent its contribution to the economic recovery of Indonesia and the development goals of Australia. As a result, future communications materials will aim to reach more decision-makers in both countries and seek to better articulate PRISMA's broad base of private sector, GESI and RM expertise.

**In semester two 2020, PRISMA will revise its communications strategy to raise the program's profile within DFAT Indonesia, DFAT Canberra, Bappenas, Palladium and with other relevant stakeholders.** The program has recently hired a communication consultant to support this effort, restructure processes and internal culture, and strengthen communications capacity within the PRISMA team. Other priorities include knowledge-sharing amongst agricultural stakeholders, primarily through the PRISMA-Bappenas Facebook Group, improving the design and branding of PRISMA materials and conducting the Stakeholder Engagement Perception Survey (SEPS). In this context, we are also assessing opportunities for greater senior management engagement in communications and program representation.

**Action points:**

- Strengthen the implementation of the communication strategy
- Upgrade knowledge-sharing amongst agricultural stakeholders
- Improve design and branding of PRISMA materials
- Conduct the Stakeholder Engagement Perception Survey (SEPS)

## 4.4 Risk management

**PRISMA has revised its risk management process to proactively identify and manage risks that might affect the program's operations and business continuity.** As part of this, risk management has become a regular management function: risk is a mandatory topic for the weekly management meeting, the risk matrix is updated monthly instead of semi-annually and a risk management workshop will now take place quarterly. Two senior management team members have been appointed to oversee and report on the progress and management of specific risks. Additionally, the revised process clearly outlines the risk escalation process from individual employee to the senior management. Finally, an exhaustive list of risk-related questions to guide managers and staff to identify risks and take preventive measures is in development.

**The key focus of risk management was on minimising disruption to the program arising from the COVID-19 outbreak. This will continue in semester two.** Resources have been reallocated to the sectors

where PRISMA saw opportunities to pivot (see Chapter 1). PRISMA has been proactive in its COVID-19 response but needs to closely monitor the sheer degree of uncertainty arising from the virus outbreak (second wave potential), together with changes happening in internal and external environments. Business discontinuity, farmer engagement and the timely supply of inputs to the rural areas are all threatened by the outbreak. The team will continue to monitor how the outbreak develops and where possible, mitigate negative impact.

**Efforts to minimise the effect of livestock diseases continue.** The main risks in the livestock sectors lie in the failure to contain disease outbreaks (African Swine Fever, Hog Cholera, Bird Flu). PRISMA is supporting the private sector and provincial public bodies to provide relevant information to their value chain actors. However, COVID-19 has interrupted direct engagement with market actors and progress has slowed. The program will keep working with its partners to manage livestock diseases as well as is possible in the current context.

**The potential negative impact of Fall Armyworm (FAW) demands that the program continues to monitor how it spreads in Indonesia and to determine effective countermeasures.** PRISMA's strategy for combating FAW has commenced implementation with crop protection companies. Selected partners have already incorporated products and services for FAW into their portfolios. Recognising the potentially devastating impact of FAW however, the program also plans to work with companies that promote biological control of pests and diseases.

**From an operational perspective, COVID-19 will continue to provide a challenge to the program during the next semester.** As the Indonesian immigration system is not issuing new visas and it is unclear when DFAT will redeploy expatriate staff, the CEO and three Heads of Portfolio will continue to work remotely for the foreseeable future. Potential risks regarding supervision and program oversight are being closely managed with greater interaction on online platforms.

**Budget forecasting may be volatile as a result of uncertainty due to COVID-19 and its impact on the Aid budget.** However, improvements in budget management by the team that resulted in a zero variance at the end of the financial year will continue. Monthly budget reviews will continue to be reported to DFAT to adjust budget projections going forward.

**Staff exposure to the health risk of COVID-19 is a growing concern.** The operations team has prepared carefully and thoroughly for office reopening and all measures strictly follow the prescribed health and safety measures both for the Australian Government and GOI. Recognising the severity of the potential risk, PRISMA will follow a phased reopening policy. Health and safety measures will be intensified, and the team will continue to monitor the development of the virus outbreak in Indonesia. **Annex 3 presents a detailed risk matrix.** A number of new COVID-related risks have been included, for both implementation and operations.

**Action points:**

- Monthly updates of portfolio risks will be discussed in the Management Team (MT) meetings on first Monday of the month
- Quarterly risk workshops with the MT will continue
- Internal capacity building with implementation staff on configuring risk statements
- Monthly budget reviews with the finance and portfolio teams
- Regular updating of the Return to Office Health Protocols to manage potential for infection

## 5 Stakeholder relationship management

### 5.1 Government of Indonesia's subnational agencies

In early May, PRISMA shared ideas and market knowledge with the Central Java Regional Development Planning Board (Bappeda) and NTT provincial government's COVID-19 mitigation plans for the food and agriculture sector. Head of Bappeda, Prasetyo Ariwibowo, requested that PRISMA 'provide insights' for the formulation of the 2021 Provincial Government's Activity Plan (RKPD), noting that 'the agriculture sector is a vital backbone of Central Java's economic revival post COVID-19.'

**Inputs from PRISMA will also be used in the revision of the 2020 provincial program budget and formulation of the 2021 regional budget.** Additionally, PRISMA has discussed and agreed with NTT Governor Viktor Laiskodat on a range of public-private initiatives. These will improve market competitiveness in NTT and ensure food security and nutrition in the province.

**PRISMA has provided Indonesia's Provincial Governments with strategic advice to inform its agricultural strategy and pandemic response.** The program discussed ten of its sectors while working with the Government of Central Java. In NTT, the team helped to develop a Working Plan which aligns its sectors with their corresponding technical offices under the supervision of the Governor. In NTB, PRISMA provided updates and information gathered from sector teams and private sector partners, while in East Java, it responded to the Provincial Government's requests to boost agriculture online marketplaces in the region. This information has been used by the respective government agencies to support 2020 budget revisions, the development of the 2021 budget and their responses to the pandemic.

**In NTB, PRISMA was involved several times in the preparation of the provincial planning and the poverty reduction strategy.** For instance, PRISMA was asked by Bappeda and the NTB Agricultural Office for inputs to prepare a COVID-19 response strategy, and during the preparation of the provincial government program for 2020-2021, the Administration and Cooperation Bureau of the Regional Secretariat of NTB discussed challenges in agriculture and the livestock sector with the program.

**In East Java, PRISMA has concluded a plan to collaborate with the provincial government to digitise agriculture retailers and kiosks.** PRISMA was also asked to share its lessons in working with farmers and agriculture market actors during the National Regional Development Award event in Surabaya.

**In Papua and West Papua,** PRISMA has continued to monitor the situation closely and analyse the possibility of restarting interventions.

**Going forward, PRISMA will develop an Annual Work Plan (AWP) for all of its six program provinces.** The AWP will serve as an implementation plan endorsed by local governments and align with Bappenas' administrative requirements. It will inform local governments as to the program's primary focal areas and highlight opportunities.

See [Section 3.1](#) for policy engagement with the Government of Indonesia at the national level.

#### Action points:

- Develop an Annual Work Plan for all six provinces
- Continue to provide support to the sectors team
- Provide information to support the Government of Indonesia both at the national and subnational level

### 5.2 Development partners and civil society organisations

**In late March, PRISMA initiated the development of a COVID-19 response strategy for the Partnership for Indonesia's Sustainable Agriculture (PISAgro).** Recognising the value of PISAgro's network, the team focused on linkages and information dissemination and gathering. This involved setting up support

workshops by Maize, Beef and Dairy, and working with other network allies - including the Indonesian Chamber of Commerce and Industry (KADIN) and the Indonesia Livestock Alliance (LIA) - to deliver knowledge sharing sessions and explore potential partnerships in other sectors.

**PRISMA also supported the DFAT-funded SIAP SIAGA program to develop its procurement and HR systems.** In particular, support focused on the establishment of procurement panels and local consultants, as well as the sharing of several policies, guidelines and templates. SIAP SIAGA was then able to deploy local consultants rapidly to support their COVID-19 response.

**PRISMA continued to seek partnerships for research opportunities.** For instance, PRISMA and the Australian Centre for International Agricultural Research (ACIAR) engaged in discussion and knowledge sharing on their research on ASF in Timor-Leste and the seaweed seedlings project in Sulawesi. PRISMA also explored a potential collaboration with the Climate and Meteorological Agency (BMKG) in Malang on weather information related to planting season, draught, pest and disease and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) related to the FAW and logistics in agriculture.

**Since February, PRISMA has also been engaging with IDH (The Sustainable Trade Initiative) and CBI (Centre for the Promotion of Imports from Developing Countries) on a seaweed intervention.** PRISMA will link its seedling provision activities to IDH's 'Green Investment for Papua' project and provide information on production areas to help CBI's private partners secure supply for their seaweed markets.

**Action points:**

- Continue to follow up leads and explore further collaboration with PlsAgro and its network
- Continue to collaborate with IDH and CBI

## 6 Operations and finance

### 6.1 Human resource management

#### LOCALLY ENGAGED STAFF

**Twenty new staff from cohort seven commenced their induction training in January.** One member from cohort seven resigned in June to take up a new job opportunity. This brought the total number of locally engaged staff in PRISMA to 140.

**A workload analysis was undertaken during Work from Home (WFH) conditions** and this enabled the identification of portfolios that had spare staff capacity. Based on this analysis, a number of staff were reassigned to other portfolios to fill identified gaps.

#### LONG-TERM ADVISORS

**The visa renewal process and COVID-19 resulted in four expatriate managers being repatriated.** Delays in December 2019 in the visa renewal application process led to the need for the CEO, Goetz Ebbecke and Portfolio Adviser Nasir Ahmed to leave the country. Visa applications for Goetz and Nasir were in process when the pandemic struck, leaving borders to Indonesia closed. In March, a further two Portfolio Advisers were repatriated on the recommendation of Palladium, and the Chief Operating Officer was caught in border closures while taking leave in Australia. The remaining two Portfolio Advisers and the Chief Quality Officer chose to remain in-country as repatriation was untenable for safety reasons.

**Visas can only be processed once the pandemic has been declared over by the relevant Indonesian body.** Adjusted work arrangements for repatriated advisers are being managed through the COVID Business Continuity Plan and a Visa and Re-deployment Plan, the latter of which will be submitted to DFAT during the next reporting period.

**Action points:**

- Workload analysis for operational and finance staff
- WFH survey for cohort 7 staff
- Finalise revised Performance Management Guidelines
- Work with DFAT and other DFAT funded programs in Indonesia to determine possible visa actions for three expatriates unable to obtain appropriate visas to re-deploy

## 6.2 Operations

**During this reporting period operations focussed on establishing WFH protocols and guidelines to respond to the COVID-19 pandemic.** Systems were put in place for the reporting, tracking and management of staff movements as some staff (30 per cent) moved back to their hometowns. Palladium put in place new IT applications to assist programs with WFH arrangements. Guidelines were established to manage workflow processes and to move approvals on-line.

**In preparation for return to work, an Office Re-Opening Protocol was developed,** which outlines the approach to a staged return commencing late August 2020. Measures were put in place for infection control late in the reporting period in preparation for re-opening. Risk mitigation measures for the office, including plexiglass screens for high density seating, PPE, sanitising stations and exhaust fans are being procured. It is anticipated that return to work will commence during semester two of 2020.

### WORKFLOW PROCESSES

**During the semester a number of operations audits were undertaken that improved effectiveness and efficiencies<sup>8</sup>** and new guidelines and protocols developed in areas that lacked clarity for staff (see [Annex 10](#) for further information).

**Action points:**

- Update Office Re-opening Protocols based on most current health information from GOA and GOI
- Refresher training for staff on health protocols
- Follow-up on audit findings and consequent improvements in processes
- Asset audit
- Continue to work with MIS on SHIELD stock take and finalise operational and procurement modules
- Gradual change of existing contract templates to Palladium standard templates

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<sup>8</sup> These were submitted to DFAT during the reporting period

# Annex 1 – Summary of Action Points

## Action Points Challenges:

- Monitoring and assessment framework: Conduct an impact assessment for online marketing activities; validate assumptions and propose a robust assessment and monitoring framework
- Data collection on women: Identify and train local enumerators and consultants to collect data on women;
- Containment of ASF: PRISMA will continue ASF containment efforts in NTT in partnership with both public and private sector players
- Supervision of field level activities: Expand the enumerator led data collection and validation approach to intervention areas
- Mapan model: revisit the Mapan strategy to enter the rural agriculture market.
- Finance: develop strategy to support our partners (FIs) continue lending during recovery stage; focus on state owned banks in the short term;
- New recruits: Increased supervision of newly recruited cohort by the managers; continue online refresher trainings.

## Action Points Portfolio Analysis:

- Continue portfolio management approach for risk diversification
- Assess and quantify the systemic change potential of Seaweed
- Sub-sector review Y20S2 followed by bi-annual MTSR workshop in Jan 2020
- Continue exploring opportunities in other sectors to address off-taking constraints
- Allocate more resources for the "Push" sectors in terms of staff, management time and budget if needed. For example, we will allocate additional staff for the Policy and Maize teams.
- Continue collaboration as needed to maximise value for money from our resources.
- Response: Even though finance might not appear as the root constraint, it can work to unlock potential opportunities and to stimulate growth. Depending on the success of the current interventions, we will make finance as one of the cross-cutting themes for all sectors to economic recovery and growth.

## Action Points Policy Engagements:

- Continue close collaboration with Bappenas
- Step up the monitoring and learning of the policy engagements
- Build up internal political economy analysis

## Action Points GESI:

- Update our WEE Impact Methodology and embed into all internal impact assessments
- Pilot a qualitative study to strengthen our understanding of broader impact, benefits and risks to women in Pigs interventions in NTT (contingent on travel and identification of local enumerators)
- Continue mainstreaming GESI across the portfolio through deeper engagement with sector teams and development of sector level inclusivity briefs
- Capacity-building support to the sector and results measurement (RM) teams

- Share PRISMA's learnings on women sales agent models with our partners, agriculture businesses, other development programs, DFAT and GOI
- Provide guidance to sector teams on improving the inclusion of women and other groups in digital marketing strategies with partners
- Improve PRISMA's understanding of indigenous farmers in Papua and West Papua to design more inclusive interventions
- Improve PRISMA's understanding of the role of youth in agriculture to support market actors to identify feasible commercial cases to involve them
- Provide guidance on Universal Design principles to ensure product design and services can reach all market segments

#### **Action Points Nutrition:**

- Explore and test on how to integrate nutritional components into existing interventions
- Share our nutrition study learnings to NTT government and discuss potential collaboration areas
- Finalise and test a measurement strategy to assess progress towards food security

#### **Action Points Environment:**

- Work with the environment experts to conduct environmental desk assessment on 20 interventions
- Initial step to screen environmental impact assessment could be explored based on expert's recommendation

#### **Action Points Results Measurement:**

- Develop sound survey methodology for remote quality assurance and conduct impact assessments from September 2020
- Update the SCP tool to reflect the baseline systemic chance stages of the sub-sectors by December 2020
- Add a set of nutrition-related questions to the standardised questionnaire for impact assessments
- Finalise the consent form after consultation with Palladium's legal team by September 2020

#### **Action Points MIS:**

- Integrate the SCP tool into the PMT and PowerBI dashboard

#### **Action Points Communications:**

- Revise the communication strategy
- Upgrade knowledge-sharing amongst agricultural stakeholders
- Improve design and branding of PRISMA materials
- Conduct the Stakeholder Engagement Perception Survey (SEPS)

#### **Action Points Risk Management**

- Monthly updates of portfolio risks will be discussed in the Management Team (MT) meetings on first Monday of the month
- Quarterly risk workshops with the MT will continue
- Internal capacity building with implementation staff on configuring risk statements
- Monthly budget reviews with the finance and portfolio teams

- Regular updating of the Return to Office Health Protocols to manage potential for infection

#### **Action points Government of Indonesia's Subnational Agencies**

- Develop an Annual Working Plan for six provinces and revisit the plan annually
- Provide support for sectors in achieving optimum implementation in the respective provinces
- Supply information to support the Government of Indonesia both at the national and subnational level

#### **Action Points Development Partners and Civil Society Organisations**

- Continue to follow up leads and explore further collaboration with PlsAgro and its network
- Continue to collaborate with IDH and CBI

#### **Action Points Human Resources**

- Workload analysis for operational and finance staff
- WFH survey for cohort 7 staff
- Finalise revised Performance Management Guidelines
- Work with DFAT and other DFAT funded programs in Indonesia to determine possible visa actions for three expatriates unable to obtain appropriate visas to re-deploy

#### **Action Points Operations**

- Update Office Re-opening Protocols based on most current health information from GOA and GOI
- Refresher training for staff on health protocols
- Follow-up on audit findings and consequent improvements in processes
- Asset audit
- Continue to work with MIS on SHIELD stock take and finalise operational and procurement modules
- Gradual change of existing contract templates to Palladium standard templates

# Annex 2 – Sub-sector Profiles

## 1. BEEF

### Beef Sector Summary

Beef industry is important globally, with world production and consumption steadily increasing over time. From 2014-2018, world beef consumption increased by 0.94% annually and strong global demand is expected to continue, driven by demand from the US and Chinese market. Indonesia, as the largest beef producer in Southeast Asia, experiences a shortfall in production as domestic consumption outstrips supply; hence national demand is fulfilled by imports. The majority of beef cattle farmers in Indonesia are suffering from low productivity and low production caused by poor quality input and inferior rearing management. In general, farmers rear the cattle for 11-12 months whereas good quality input and proper rearing management can shorten the period to 3-6 months. With shorter rearing period, farmers can rear more cattle in a year, resulting in higher income.

#### Quick facts:



**Total production**  
490,421 ton



**Total population**  
17,118,650 head



**Consumption**  
0.466 kg/capita



**Demand**  
4.51%

Facts Source: Statistik Pertanian 2019



- ✓ Total Provincial Population : 4,763,182
- ✓ Total Provincial Production : 99,146
- ✓ Total farm households in the sector : 1,908,037

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	11,004
Cumulative Outreach Projected to Dec 2023 (HHs)	20,554
Total NAIC up to Y20S1 (IDR)	171,707,645,530
Total NAIC to Y20S1 (%)	132%
Total projected NAIC to Dec 2023 (IDR)	237,000,806,537



- ✓ Total Provincial Population : 1,755,396
- ✓ Total Provincial Production : 65,640
- ✓ Total farm households in the sector : 817,623

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	21,312
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	109,227,213,949



- ✓ Total Provincial Population : 1,087,615
- ✓ Total Provincial Production : 11,937
- ✓ Total farm households in the sector : 207,539

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	65
Cumulative Outreach Projected to Dec 2023 (HHs)	65
Total NAIC up to Y20S1 (IDR)	212,240,015
Total NAIC to Y20S1 (%)	144.76%
Total projected NAIC to Dec 2023 (IDR)	212,240,015



- ✓ Total Provincial Population : 1,242,749
- ✓ Total Provincial Production : 9,823
- ✓ Total farm households in the sector : 192,000

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	657
Cumulative Outreach Projected to Dec 2023 (HHs)	657
Total NAIC up to Y20S1 (IDR)	4,678,089,946
Total NAIC to Y20S1 (%)	99.37%
Total projected NAIC to Dec 2023 (IDR)	4,678,089,946

#### Beef OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	11,726
Cumulative Outreach Projected to Dec 2023 (HHs)	42,588
Total NAIC up to Y20S1 (IDR)	176,597,975,491
Total NAIC to Y20S1 (%)	131.25%
Total projected NAIC to Dec 2023	351,118,350,446

Value For Money (VFM)	Beef Overall
Investment Leverage:	0.51
Investment Per HH:	AUD 413.67
Social Return:	3.64

## 1.1 Beef East Java and Central Java

East Java and Central Java's beef sectors are characterised by a similar context and outlook, and they face common challenges. PRISMA interventions in both provinces are intentionally similar and are designed to address common challenges.

East Java (EJ) is Indonesia's largest cattle-producing province. In 2019, it accounted for 27.8 per cent of the total national cattle population and 20.22 per cent of beef production. The sector's growth in EJ is driven by local consumption of beef and inter-regional live cattle and beef exports.

Central Java (CJ) is home to the nation's second largest cattle population (10.25 per cent of Indonesia's total) and is its third largest beef producer, contributing to over 13 per cent of total national beef production in 2019. Rising nationwide demand for beef combined with the government's target of national self-sufficiency by 2026 drive the growth of the sector in this province.

However, both provinces suffer from suboptimal beef production and productivity. Most farmers raise cattle mainly as a means of savings and they are usually reluctant to make the investment necessary for improving their cattle rearing performance.

Importantly, COVID-19 has caused demand for beef to drop significantly, in turn forcing prices down by five per cent. Farmers are therefore even more reluctant to invest in quality inputs such as concentrated feed in this context.

### Challenges and constraints

The key constraints farmers in EJ and CJ face include:

- **Cows owned by breeding farmers currently experience long intervals between calving** (on average 12-18 months) due to the low conception rate of artificial insemination (AI). The underlying causes are poor female breeder cattle nutrition, low availability of nutritious feed information and problems detecting oestrous periods, which hinders AI success rates.
- **Smallholder farmers' capacity to invest in improving cattle rearing performance is limited.** On average, farmers own one to four cows per household. Cattle are sold at irregular intervals, resulting in a low selling price. The underlying cause is the perception among many farmers of cattle as savings vehicles instead of income generators.
- **Farmers who focus on fattening cattle face problem of low weight gain.** The average daily gain is <0.4 kg, while the average fattening period lasts 12 months. This is due to lack access to good quality feed, limited knowledge about good rearing practice and sub-optimal nutritional condition of the cows and calves for efficient fattening business.
- **Poor animal health management practices by the farmers;** only 15.2 per cent of cattle farmers in CJ give their cattle medicine regularly. The situation is similar in EJ. Most of the pharmaceutical companies are yet to prioritise large livestock business due to their limited knowledge of the market potential.
- **A decrease in beef demand due to the COVID-19 economic disruption** has led to a five to 10 per cent drop in the live cattle price, resulting in a decrease of cattle feed sales of 20 per cent during the March-May period. However, with the peak cattle trading season (end of July) approaching, sales of feed have recovered during June and early July.

### Intervention areas

To address these challenges and constraints, PRISMA works with partners to:

- Promote cattle-specific concentrate feed and better feeding practices to cattle breeding and fattening farmers in East Java and Central Java.

- Promote cattle-specific pharmaceutical products and better cattle health management practices to cattle farmers in East Java and Central Java.

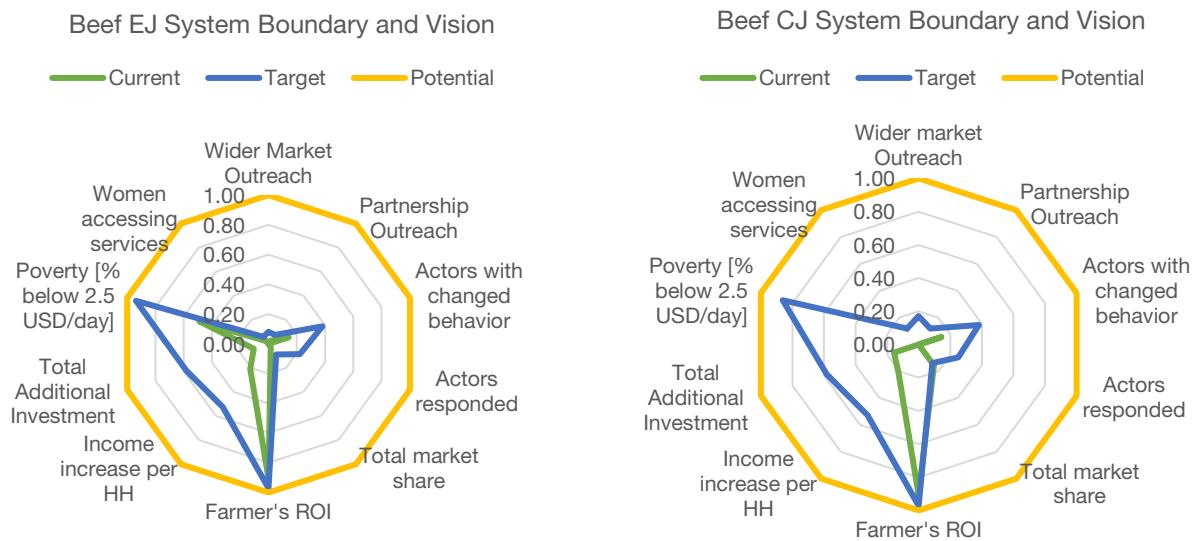
## Sub-sector vision for systemic change<sup>9</sup>

By 2023, the beef sector in East Java is expected to benefit 20,554 and in Central Java 21,312 smallholder farming households by producing more and better-quality cattle and beef due to the adoption of good cattle management practices.

Feed companies will provide more concentrate feed options together with up-to-date knowledge of good feeding practices to farmers in Central Java.

Animal pharmaceutical companies will begin to regard the beef livestock market as an attractive source of business, stimulating more investment in promoting their products and equipping farmers with better animal health management knowledge.

At the off-farm level, meat distributors will adopt grading practices for local beef to cater to a higher value market.



## Progress toward sub-sector vision for systemic change in East Java and Central Java

### Adopt

- KJUB Puspetasari has invested in warehouse expansion, new machines, vehicles, and hired two new marketing staff for its Klaten factory, with a total investment of IDR2 billion.
- KJUB Puspetasari has invested in new machines, vehicles and hired new marketing staff for its East Java factory, with a total investment of IDR580 million.
- With PRISMA support, KJUB Puspetasari has completed research with the University of Gadjah Mada to develop new concentrate feed, specifically for breeder cows and calves. KJUB Puspetasari will start to promote these feeds during the ‘new normal’ period and will actively collaborate with five

<sup>9</sup> The diagram demonstrates 10 quantitative indicators essential for achieving PRISMA’s vision in a specific sub-sector. The full market potential in orange shows what is achievable if there are no resource constraints and time limitations. The target in blue demonstrates what PRISMA aims to achieve with the given resources and within the program’s lifetime. The current situation in green depicts PRISMA’s progress towards the target. Refer to this footnote to read the diagram in all sub-sector profiles.

district governments (Klaten in CJ and Jember, Malang, Tuban and Ngawi in EJ) for promotion of the feed.

- KJUB Puspetasari has implemented the marketing strategies recommended by PRISMA, including market storm, cattle contest, and one day promotions.
- CV Fermen Hipro has invested in new machines to increase its production capacity and plans to expand its warehouse to accommodate increasing production volume.
- CV Fermen Hipro is currently conducting agent assessment with research firms to find potential new agents and as a COVID-19 response supported by PRISMA.
- SR Feedmills Group has started its business transition from focusing on government program tenders to targeting smallholder farming households in the open market. SR Feedmills slowed down its field activities during COVID-19 but expects to regain momentum once the situation improves. As part of its COVID-19 response, SR Feedmills synergised both offline and online marketing activities by conducting market storms and adapting its digital promotion through its website and Facebook page. These activities were supported by PRISMA.

#### **Adapt**

- KJUB Puspetasari expanded its distribution network by adding 20 and 28 new agents in East Java and Central Java respectively.
- KJUB Puspetasari expanded its marketing and sales to South Sulawesi and Bali on a pilot basis.
- As a COVID-19 response, KJUB Puspetasari has developed new promotional tools including jingles, local radio advertisements and promotional videos to widen the reach of its product information with support from PRISMA. It has also recruited one new IT employee to manage its digital marketing activities.
- As a COVID-19 response, KJUB Puspetasari has also distributed 5,000 discount vouchers to farmers to attract repeat purchases.
- As part of its COVID-19 response strategy, CV Fermen Hipro is currently preparing the launch of a new and more affordable product. This is also in line with the findings from a market study conducted by PRISMA previously which shows farmer preference for high quality and affordable feed. PRISMA supported by developing marketing strategies for the new product.
- To expand its distribution network, CV Fermen Hipro has hired two new marketing employees in Central Java and three in West Java.
- **SR Feedmills** has expanded its distribution network with 15 new agents.

#### **Expand**

- Two big feed mills - PT Sierad Produce and PT Sinta Prima - have started investing in developing cattle feed. Both have started action research and trials to finalise their beef feed products. PT Sierad has also finished designing its feed packaging and is preparing training for its marketing and sales staff.
- Bimafeed and Agrofauna entered the cattle feed market in Tuban using a similar business model to PKM Wahyu Utama (PRISMA's partner in Phase 1).

#### **Respond**

- The Provincial Government of Central Java and Magelang district government have engaged KJUB Puspetasari to organise events related to livestock, such as cattle contests and farmers' socialisation events.
- The Government of Central Java is also responding positively to beef feed interventions as it plans to integrate with Sapi Kerbau Komoditas Andalan Negeri (SIKOMANDAN) programs. SIKOMANDAN aims to boost national cattle production through the use of artificial insemination, targeting 4.1 million

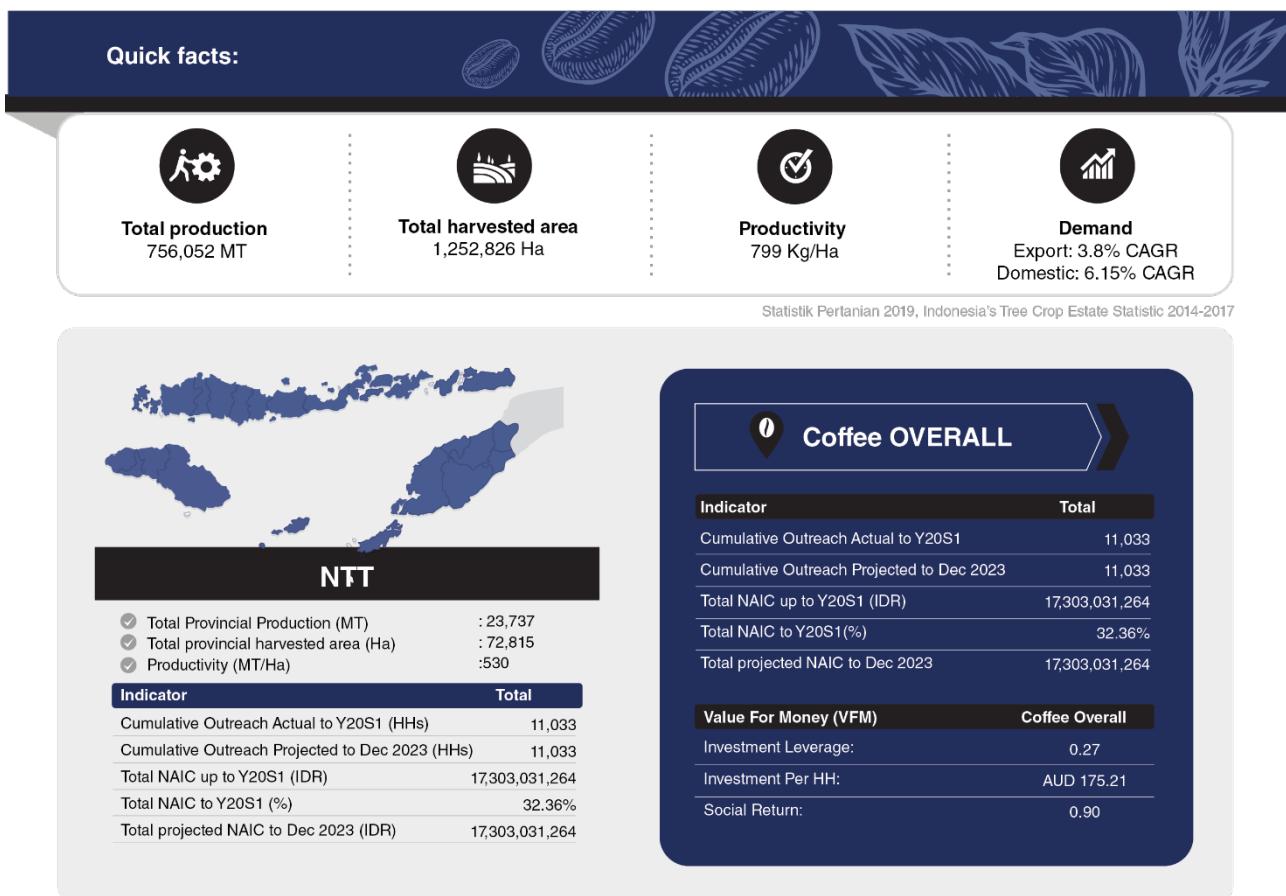
cattle in 2020. Other areas of focus include concentrate feed procurement, feed standardisation guidelines and strengthening lab capacity.

- The Aceh Provincial Livestock Department showed an interest in the PRISMA intervention with KJUB Puspetasari and aims to replicate the business model of partnering with the private sector to promote concentrate cattle feed to farmers. The provincial government is also exploring opportunities to collaborate with KJUB Puspetasari in establishing a feed mill in Aceh. Progress has slowed following the reallocation of budget as part of the Government's COVID-19 response.

## 2. COFFEE

# Coffee Sector Summary

Indonesia's coffee production is declining amidst growing global and local consumption. Indonesia contributed to around 7% of the global coffee production (Dec 2017/2018), of which 12% constitutes of Arabica and the remaining 88% is Robusta. At the global level, Indonesia ranks 4th in global coffee production behind Brazil, Vietnam, and Colombia. However, according to USDA, Indonesia's coffee production declined by 1.7% (2013-2017) and has led to a 4.4% decline in Indonesia's coffee export in the same years. Given the situation, it is projected that coffee will experience a demand – supply gap where global coffee production cannot fulfill the growing demand in the global market. On the national level, the demand for coffee in the domestic consumption has been also increasing. Based on previous trend on production, Indonesia's coffee consumption is projected to surpass its production by 2035, meaning that improving Indonesia's coffee productivity will be a necessity, not only to strengthen Indonesia's position in the coffee global market but also to improve farmers livelihood through higher coffee yields that are currently still far below its potential.



### 2.1 Coffee NTT, East Java, Central Java

East Java (EJ), NTT, and Central Java (CJ) account for 14.7 per cent of national production, producing of 64,529 MT, 23,737 MT, and 23,686 MT respectively in 2018. Productivity in EJ and CJ provinces is getting closer to the national average<sup>10</sup>, but it remains far behind other coffee-producing countries such as Vietnam, Brazil, and Colombia. Productivity in NTT is much lower at 530 kg/ha. Although 65 per cent of production is Robusta and around 35 per cent Arabica, Arabica coffee from Flores NTT is listed among the premium coffee types in Indonesia. The top five producing districts are in West Flores (Manggarai Timur, Ende, Manggarai, Manggarai Barat, and Ngada).

#### Challenges and constraints

Income for smallholder coffee farmers across all three provinces is low. Farmers in NTT face more challenges than those in EJ and CJ. Challenges faced specifically by NTT farmers include:

<sup>10</sup> 793 kg/Ha for East Java and 699 Kg/Ha for Central Java, while average national productivity is 799 kg/Ha. Productivity in Vietnam (2,681 kg/Ha), Brazil (1,687 kg/Ha) and Colombia (1,012 kg/Ha).

- **Absence of an aggregating function for specialty coffee.** Most specialty coffee buyers (roasters and coffee shops) are located outside of NTT (mostly in the big cities in Java) and require a relatively small supply. This increases the shipping and logistic costs per kilo for both processors and roasters.
- **Limited access to market information.** Most processors suffer from low levels of educational attainment and limited ways of accessing information distribution channels. Networking capacity is likewise limited.
- **Limited Good Processing Practice (GPP) assistance.** Despite the efforts of many NGOs and government programs in the region, there have been few real-life changes to processing practices. This is because existing coffee buyers only demand low quality (only maximum defect percentage and moisture content), so processors have little incentive to demand higher quality. As such, higher quality does not translate into higher prices for farmers.

Common challenges faced by all three provinces (NTT, East Java, Central Java) include:

- **Low productivity due to low adoption of Good Agricultural Practices (GAPs), old trees and limited rejuvenation activities.** In NTT, coffee trees are older and need rejuvenation, replanting and GAP application. Because of this, farmer income is likely to decrease even further over the next three to four years. Understanding of high-quality inputs and GAP is not widespread because there are so few market actors promoting them. In East Java and Central Java, this is only applicable to farmers with smaller plots of land as they tend to focus on other crops with faster harvest cycles. Though coffee farmers in East Java and Central Java do use fertiliser, they don't use enough, and application is infrequent.
- **Limited adoption of high-quality seedling varieties.** Many farmers cultivate coffee seedlings that are informally sourced from their own coffee farms. They are not aware of other coffee seedling varieties that mature faster, require less maintenance and produce higher yields. Again, this is largely due to the lack of market actors actively promoting these products and limited available information on high-quality seedling varieties.

**Challenge due to COVID-19** is as follows:

- **Since COVID-19 hit, coffee consumption (especially out-of-home consumption) has decreased sharply and global prices have plummeted.** Some exporters have even stopped buying altogether. This is particularly affecting farmers and processors in NTT as their access to markets is more limited.

## Progress of key activities

In Phase 1, PRISMA worked mainly in NTT to promote GAP to farmers and link private owned processors to market and financial institutions. However, farmer adoption was low and private sector investment did not materialise. Linkages led to increased competition between buyers and triggered higher prices but attempts to boost productivity were not successful. Farmers are reluctant to apply GAP since they will have no production for two to four years before increased productivity can be observable. In Phase 2, PRISMA has worked with its partners to promote high quality seed in order to increase coffee productivity. GAP assistance is embedded. The intervention was planned for the three provinces to offer larger scale collaboration with the potential private sectors. Several attempts to pitch collaborations with private businesses were made, as detailed below.

Area of engagement	Market actor	Key findings
Quality seed and GAP	Coffee Exporters and Buyer (Starbucks and its exporters, MTC), Local Manufacturers (Kapal Api)	<p>For Robusta coffee, the business is price sensitive, the product is highly substitutable, with low quality standard. Exporters also have sources from other countries. There is low incentive for market players to invest at farm level.</p> <p>For Arabica coffee, established demand is for Mandailing coffee (from North Sumatera and Aceh). Within Indonesia, Sumatera region has climatic competitive advantage which allows higher production (2 main harvest annually), thus most investments are done for Sumatera region.</p>
	Local Specialty Coffee Roasters	<p>High willingness to collaborate and invest in giving assistance to farmers as a sourcing strategy but has limited capacity as off-taker because specialty coffee is still a niche market – thus limiting the scale of farmers which could be reached. Branding at a global level is needed before it can translate to scalable quantity.</p>
	Perhutani	<p>Perhutani has social considerations and limited capacity to enforce profit sharing mechanism to coffee farmers currently using Perhutani land. Additional investment to increase coffee productivity is less likely to translate to company profit.</p>
	Quality Seed Producers (ICCR)	<p>ICCR mainly focuses on marketing new varieties to government subsidy programs. Potential sales from direct promotion to farmers is considered too small.</p>
	Local private processors in NTT	<p>Though the pilot in Phase 1 intervention led to positive outcomes from linking private processors to financial institutions and markets, the number of private processors with strong business development plans is limited.</p>

To minimise COVID-19's impact, PRISMA assessed the possibility of increasing access to financing for local processors, to enable them to continue buying coffee until exporters can buy coffee again. Financial institutions consider this too risky, however. The Coffee team also considered mitigating this impact via government funding, but all government budget has been reallocated to the COVID-19 response.

## Lessons learned

- Currently, the main markets for coffee are the bulk export market and local consumption. These only require the minimum quality, are easily substitutable and price sensitive. These factors make it difficult for smallholder farmers to compete with large scale producers who have economies of scale.
- The growing specialty coffee market needs time and a high degree of initial investment to build a brand in foreign markets (e.g. through international coffee competitions, expos, etc). Only then will substantial demand follow.

## Quality Management Tool (QMT) decision and reasoning

There are incentives for major market players to invest in on-farm assistance in Sumatera, whose climate makes it favourable to better harvests. Elsewhere however, where this competitive advantage does not exist, emerging market players and local roasters have shown interest in investing, but they need more time to grow their market before scalable on-farm investment will be feasible. This is likely to last longer than the program's current phase. With this in mind, PRISMA has decided to close its operations within the Coffee sector.

The Finance sector team is currently re-exploring the idea of linking coffee processors with financial institutions as part of a small-medium enterprise (SME) incubation program under a developing intervention. Sustained access to financial loans and a wider market may trigger processors to start investing in addressing productivity and quality at the farmer level. If the assessment results show feasibility, the intervention will be managed under the Finance team with advice from the Coffee team where applicable.

### 3. CROP PROTECTION



## Crop Protection Sector Summary

Amongst multiple crop protection methods, farmers across Indonesia rely heavily on chemical control for the perceived efficacy and noticeable result. In 2018, the Indonesian chemical pesticides market size was estimated at USD 846.7 million, with an expected compound annual growth rate (CAGR) of 5.6%. The main drivers for demand growth of this market are the growing population, the government's self-sufficient initiative, and the expansion of arable land. Smallholder farmers across EJ and CJ have practiced crop protection widely, but many of them still experience yield loss to pests and diseases attack. Farmers face challenges on the limited availability of natural enemies, limited access to Good Crop Protection Practices (GCP) knowledge, and limited access to alternative crop protection methods.

#### Quick facts:



##### Total potential farmers

3.33 million farmers



##### Total market value of chemical pesticides in Indonesia

USD 576.9 million in 2018

Quick Facts Sources: SOUT 2017, Grandview 2019



#### East Java

- Total potential farmers (rice & maize) : 1.51 million farmers
- Total market value of chemical pesticides : USD 126.7 million (2018)

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	48,272
Cumulative Outreach Projected to Dec 2023 (HHs)	72,750
Total NAIC up to Y20S1 (IDR)	287,577,896,682
Total NAIC to Y20S1 (%)	47.64%
Total projected NAIC to Dec 2023 (IDR)	379,716,308,241



- Total potential farmers (rice & maize) : 125,067 farmers
- Total market value of chemical pesticides : USD 25.8 million (2018)

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	4,712
Cumulative Outreach Projected to Dec 2023 (HHs)	4,712
Total NAIC up to Y20S1 (IDR)	32,112,369,655
Total NAIC to Y20S1 (%)	37.97%
Total projected NAIC to Dec 2023 (IDR)	32,112,369,655



#### Central Java

- Total potential farmers (rice & maize) : 1.47 million farmers
- Total market value of chemical pesticides : USD 194.7 million (2018)

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	21,884
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	88,192,110,797



#### NTB

- Total potential farmers (rice & maize) : 226,372 farmers
- Total market value of chemical pesticides : USD 8.5 million (2018)

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	10,435
Cumulative Outreach Projected to Dec 2023 (HHs)	18,806
Total NAIC up to Y20S1 (IDR)	103,132,730,642
Total NAIC to Y20S1 (%)	33.77%
Total projected NAIC to Dec 2023 (IDR)	143,313,918,962

#### Crop Protection OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1	63,419
Cumulative Outreach Projected to Dec 2023	118,153
Total NAIC up to Y20S1 (IDR)	422,822,996,979
Total NAIC to Y20S1 (%)	44.48%
Total projected NAIC to Dec 2023	643,334,707,655

Value For Money (VFM)	Crop Protection Overall
Investment Leverage:	4.03
Investment Per HH:	AUD 31.58
Social Return:	21.11

### 3.1 Crop Protection, Rice and Maize in East Java and Central Java

Crop protection refers to the chemical, physical, mechanical, genetic and biological methods (including natural enemies and shelter plants) designed to prevent the damage, disturbance and death of plants. It also includes the eventual losses in plant cultivation processes caused by pest and disease attacks.

Most farmers lack knowledge of the many types of crop protection methods. As a result, they naturally gravitate towards chemical pesticides because they are widely available, more efficient than some other methods and the results are noticeable.

In Indonesia, six multinational pesticide companies dominate more than 60 per cent of the market, while 300 smaller companies share the remaining portion. The major players are Syngenta, Bayer, BASF, Nufarm, Corteva, and FMC. Market saturation in East Java (EJ) and Central Java (CJ) has led to intense competition, with many companies implementing massive promotional campaigns focused only on purchase bonuses. Not many companies provide consultation and extension services to farmers, leaving them with inadequate access to knowledge and information, especially during the COVID-19 pandemic.

Smallholder farmers across EJ and CJ have practiced crop protection widely; even so, 30 per cent continue to experience significant harvest losses of more than 25 per cent<sup>11</sup>. The challenges they face include inadequate knowledge of pests and disease management, inability to identify pests' accurately and inappropriate dosing of chemicals. Farmers also suffer from a lack of timely and reliable information, exacerbating the threat of migratory pests and diseases.

An ideal control method is to apply the Integrated Pests and Diseases Management (IPDM) approach, which balances the use of all methods and suggests chemical control only as a last resort. However, farmers across Indonesia have been relying heavily on chemical control. They tend to be sceptical of the efficacy of alternative methods, which are undermined by limited access to tangible experience within their vicinity. Therefore, despite the GOI preference for IPDM, it is difficult to persuade farmers of the benefits of this ideal practice.

#### Challenges and constraints

The main constraints of farmers in the crop protection sector include:

- **Lack of availability of natural solutions, mainly due to the widespread use of harmful broad-spectrum chemical pesticides.** Because farmers struggle to accurately identify pests and diseases, they prefer to use broad-spectrum pesticides which kill lots of different pests at once. Only a few market actors educate farmers about the negative implications of misusing these pesticides as these actors stand to gain even from this behaviour. Moreover, the commercial availability of natural pests' enemies (e.g., *telenomus remus* for FAW, tomcats for leafhoppers, civets for rats) is scarce.
- **Inappropriate use of chemical pesticides due to the lack of timely and reliable crop protection knowledge.** In addition to the above, farmers remain unaware of the right dosage, application techniques and good crop protection practices (GCP). The GCP education from public extension services tends to be insufficient due to limited internal capacity over large areas. At the same time, very few companies promote GCP and safer pesticides.
- **Limited access to alternative crop protection methods** (e.g. biopesticide, water treatment, soil treatment). Farmers perceive them to be less cost-effective, slower acting, and less visible than chemicals in combating pests and disease, regardless of the potentially harmful long-term implications. This perception is further hampering the commercialisation of alternative methods. In addition, the incentive for public extension services to educated farmers on these methods is limited, and only a small number of private companies produce and promote them. Complicated administrative procedures for product registration and license renewal further hamper the commercial viability.

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<sup>11</sup> BPS. 2017. Struktur Ongkos Usaha Tani.

- **Limited access to GCP knowledge from the COVID-19 outbreak.** Due to domestic quarantine measures, private companies have cancelled or delayed large-scale field activities. Similarly, restrictions have also prevented the government extension staff from conducting farmer meetings. Farmers' closest networks, such as peer farmers and kiosks, are becoming preferred options to seek GCP knowledge during the pandemic. Finally, farmers with limited access to smartphones and the internet cannot participate in online programs organised by the private sector.

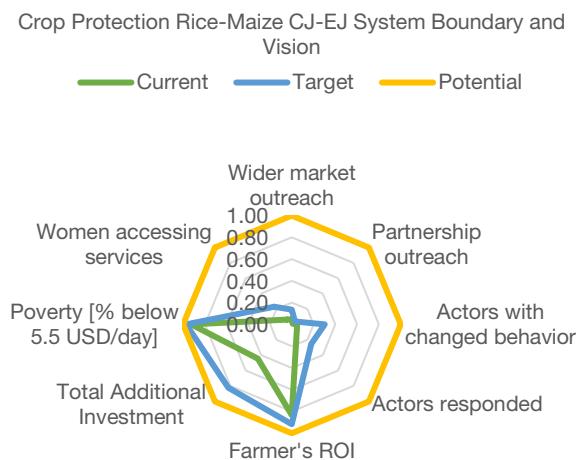
## Intervention areas

To address these challenges and constraints, PRISMA works with partners to:

- Improve the marketing strategy of crop protection producers and embed alternative methods in education and training activities.
- Increase safer and appropriate use of pesticides, including the promotion of (1) safer pesticides, and (2) GCP knowledge.
- Increase the use of alternative crop protection methods such as biopesticides, water, and soil treatment, biological control, physical control, and refugia plants.

## Sub-sector vision for systemic change

PRISMA aims to increase the production and productivity of maize and rice farmers in East Java and Central Java by adopting safer, high efficacy, and cost-effective crop protection methods and practices promoted by private market actors. By 2023, at least 200,225 rice and maize farmers in East Java and Central Java will increase their incomes by at least 30 per cent.



## Progress towards sub-sector vision

### Adopt

- In response to government-imposed social restrictions, FMC and Agricon have both invested in adopting an online marketing strategy and a capacity building strategy advised by PRISMA. FMC, for instance, has assigned more human resources to improve its marketing strategies and execute a new promotional campaign. Agricon has conducted capacity development and adjusted field staff KPIs to enhance their marketing strategy.
- FMC and Agricon have expressed satisfaction and interest over the learning and evaluation of intervention activities. FMC acknowledged the benefit of collaborating with PRISMA by publishing a story in its worldwide FMC internal newsletter. The company then conducted a new online marketing campaign based on the evaluation of pilot activities. Meanwhile, Agricon and PRISMA conducted customer satisfaction surveys to evaluate online marketing and capacity building activities.
- FMC and Agricon have both experienced short-term benefits and endorse the long-term viability of the shift to online marketing. Agricon received IDR3 billion in sales from just 4 Zoominars and experienced positive feedback from stakeholders regarding how to build their brand. Meanwhile, FMC acknowledges the long-term benefit of improved online marketing strategies and has committed to continue developing the pilot.

- Most male farmers, as the main targets of pesticide assistance, expressed their satisfaction with the technical assistance provided by FMC and Agricon during field activities. They have also improved farm productivity by using FMC's safer pesticide and soil treatment products.

### **Adapt**

- FMC and Agricon have both invested independently to continue with the strategy advised by PRISMA. To reach more farmers, FMC is improving its existing localised online campaign and rolling-out the new one at the national level and has allocated an additional budget for the new campaign.
- Agricon is improving the piloted online marketing campaign to better fit its capabilities. The planned refresher training is being adapted to a series of online training sessions to cope with social restrictions. Agricon has also sent some of its staff to data science training by MarkPlus, a renowned national training provider. In addition, Agricon is also requesting PRISMA to deliver a training on research in agriculture.

### **Expand**

- The online marketing model proposed by PRISMA to partners has inspired other partners to adopt a similar approach. Agricon followed FMC's initiative in shifting to the online marketing strategy, while FMC and Syngenta followed Agricon's online seminar model and plan to conduct similar events in the future.

### **Respond**

- Local Government and other stakeholders have responded well to these initiatives and are actively engaged in the intervention activities. EJ and CJ local government officials attended online farmers' events by FMC and Agricon in June. Tanijoy, a fintech company, has good buy-in to Agricon's business model and is looking to partner with Agricon to provide services to farmers.

## 4. DAIRY



### Dairy Sector Summary

Annual demand of milk at the national level is 4.4 mill ton. Local milk production is only 0.93 mill ton (21% of demand) and the rest (3.5 mill ton or 79% of demand) is fulfilled via import in form of skim milk powder, anhydrous milk fat, and butter milk powder from several countries. During the period of 2016-17, local demand for milk has increased at around 4% while local production increased at only 3%. Three provinces in Indonesia - East Java, West Java and Central Java supply around 95% of local milk production. Both on farm and off farm factors contribute to low productivity and quality of dairy milk in Indonesia; some of these factors include traditional feeding practice, poor on-farm animal health management, long calving interval and poor post-harvest management. Presence of large market actors including milk processing companies like Nestle, Indolacto, Friesian Flag; animal pharmaceutical companies like Medion; and dairy farmer cooperatives provide significant opportunities for collaboration and contribute to the development of dairy sector.

#### Quick facts:



**Total National Population**  
561,061



**Milk Production**  
996,440 ton



**Milk Productivity (L/day)**  
11 L/day



**Demand (% increase or decrease)**  
4.1 %

Facts Source: Statistik Pertanian 2019



#### East Java

<input checked="" type="checkbox"/> Total Provincial Population	: 287,482
<input checked="" type="checkbox"/> Milk Production (Ton)	: 523,104
<input checked="" type="checkbox"/> Total farm households in the sector (HHs)	: 64,504

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	-
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	-



#### Central Java

<input checked="" type="checkbox"/> Total Provincial Population	: 139,111
<input checked="" type="checkbox"/> Milk Production (Ton)	: 100,799
<input checked="" type="checkbox"/> Total farm households in the sector (HHs)	: 30,922

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	3,543
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	-



#### Dairy OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1	-
Cumulative Outreach Projected to Dec 2023	3,543
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023	-

Value For Money (VFM)	Dairy Overall
Investment Leverage:	-
Investment Per HH:	-
Social Return:	-

## 4.1 Dairy East Java and Central Java

The dairy sectors in both East Java and Central Java are characterised by a similar context and outlook. They face common challenges. As such, PRISMA's interventions are similar in both provinces.

East Java province is the largest milk producer in Indonesia, accounting for around 50 per cent (287,482 head) of the country's dairy cattle and 53 per cent (523,104 MTs of milk per year) of national milk production. However, growth in EJ milk production is slower than the increase in its dairy cattle population: the CAGR for milk production was 4.62 per cent between 2013 and 2017, but the number of cows grew by 5.28 per cent during the same period. Dairy cattle productivity in EJ is around 11.2 litres of milk per cow per day, higher than CJ but lower than West Java's 13.5 litres/day. Dairy farming is centralised in selected districts - Malang, Pasuruan, Probolinggo, Kediri and Tulungagung. These are mainly located on high land and account for 85 per cent of the total cattle population of the province.

Central Java is home to the second largest population of dairy cattle in Indonesia with 139,111 head of dairy cattle, who produce only 100,799 MTs of milk per year. This is primarily due to three factors: (1) low productivity of cows, (2) fewer lactating cows compared to other classes of cattle, and (3) low quality of milk. In Central Java, the ratio between male/young cows and the lactating cow population is comparatively larger than in other areas (57 per cent male, young and unproductive cows vs 43 per cent lactating cows). Dairy cattle productivity in Central Java is around 9.4 litres per day, significantly lower than that of West Java (13.5 litres/day) and East Java (11.2 litres/day). Most dairy farming households are located in Boyolali, Semarang, Salatiga, Klaten, Magelang, Banyumas and Banjarnegara.

### Challenges and constraints

Both on-farm and off-farm factors contribute to the low productivity of dairy milk in East Java and Central Java.

#### On-farm factors contributing to low productivity:

- **Low milk production due to traditional feeding practices.** Most dairy farmers rear their cattle following traditional methods, using makeshift feed. In East Java, concentrate feed is more widespread but is of insufficient quality and quantity, while in Central Java, only 50 per cent of farmers use concentrate feed; the rest use agriculture by-products. In both provinces, forage feed is also of poor quality and in limited supply, resulting in less nutrients for the cows and lower milk production.
- **Long calving intervals.** Low nutrient intake also affects cattle fertility, which in turn lengthens calving intervals and reduces milk production.
- **Genetic breeding of cattle** over several generations and inbreeding result in low cow immunity. Disease is more prevalent among these populations and adversely affects milk production and productivity.
- **Inefficient economic scale.** Average cow ownership is just three cattle head per household, often insufficient to act as the main source of income for dairy farmers. This disincentivises them from investing in improved on-farm practices.
- **Poor health and breeding management.** Farmers rely heavily on government veterinarians to treat cattle health problems and to carry out artificial insemination (AI). However, very few farmers practice preventive measures to tackle cattle health issues. There is also no system to monitor the growing stages of dairy cows in order to conduct AI and other services at the appropriate time.

#### Off-farm factors contributing to low income (the last two points are challenges and constraints for farmers in Central Java):

- **Poor post-harvest handling of milk results in substandard quality.** Milk is highly susceptible to bacteria and temperature. However, because dairy farmers, cooperatives and private milk collectors

do not follow standardised post-harvest handling practices, milk often does not meet the requirements of the milk processing companies. In Central Java, 42 per cent farmers sell milk to private milk collectors, who accept milk of different quality, thus making it difficult to set a consistent and standard milk quality. This is also reflected in the milk price at the farmer level (IDR4,600 per litre), which is lower than East Java.

- **Low capacity of dairy cooperatives.** Many of the dairy cooperatives in Central Java are not functional, and they fail to deliver good cattle rearing information, AI and veterinary services to the farmers. This is also attributed to the absence of any large milk processing factory in Central Java.
- **Lower demand for milk from the individual milk collectors during COVID-19.** In Central Java, almost 50 per cent of the farmers sell milk to the dairy cooperatives and individual milk collectors. However, during COVID-19, many of the traditional food cafes have closed, leading to lower milk sales by the individual collectors. As a result, the collectors are procuring less milk from the farmers.

## Intervention areas

To address these challenges and constraints, PRISMA works with partners to:

- Promote good quality feed, especially concentrate feed and feed supplement.
- Promote good animal health management practices.

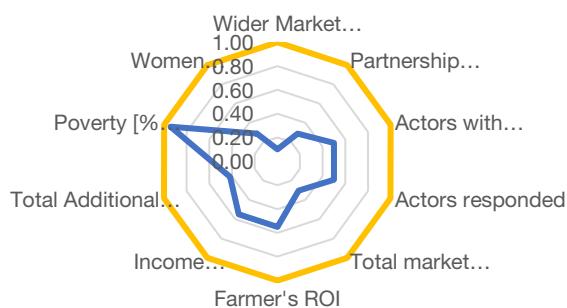
## Sub-sector vision for systemic change

PRISMA aims to achieve systemic change in the dairy sector in East Java and Central Java by strengthening relationships between market actors and other stakeholders such as the Government. Initially, PRISMA plans to focus on addressing the on-farm constraints of feed quality and animal health management. Input companies (feed and animal medicine) and forage traders will provide increased options of good quality input. Off-takers (milk processing companies) will collaborate with these input companies to promote good dairy cattle management practices, and leverage dairy cooperatives and individual milk collector to disseminate information on good post-harvest practices.

By 2023, it is expected that the dairy sector will benefit 12,200 farmers in East Java and 9,170 farmers in Central Java, and produce more and better quality milk due to the higher adoption of good farming practices of balanced feed management, proper health management and improved collaboration between cooperatives, input providers and milk processing companies.

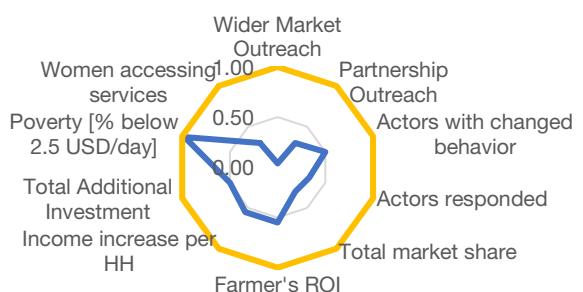
### Dairy EJ System Boundary and Vision

— Current — Target — Potential



### Dairy CJ System Boundary and Vision

— Current — Target  
— Potential



## Progress towards sub-sector vision

### East Java

This semester, the dairy sector team has focused on intervention preparation. This includes the signing of a tripartite collaboration with Nestle (off-taker) and Medion (animal pharmaceutical company) to conduct two action research evaluations to assess the effectiveness of a Medion treatment for mastitis. Following the completion of a successful field trial, PRISMA plans to collaborate with Medion to promote animal health. The team has also developed a Partnership Agreement with feed supplement company Trow Nutrition, to promote feed supplements. Agreement signing is anticipated to occur once COVID restrictions are lifted.

### Progress towards sub-sector vision Central Java

#### Adopt

- To respond to COVID-19, PRISMA and PT Nufeed International Indonesia have codesigned and developed awareness posters explaining how to maintain appropriate COVID-19 protocols for dairy farmers. The posters cover information on four areas including good practice of milking cows while maintaining social distancing and bio security, as well as protocols for milk collection centres.

#### Respond

- Six district government offices are lending support to Nufeed to disseminate information on COVID-19 protocols and good feeding practice among dairy farmers, using field level staff who regularly visit dairy farms.

#### Adapt and Expand

- Adaption and crowding-in from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## 5. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)



### Information and Communication Technology Sector Summary

ICT as a sector in the second phase of PRISMA can largely be thought of as a cross-cutting sector and therefore a delivery mechanism for other products and services be it information (including extension services, marketplace information, etc) or finance and financial products. In contrary with the situation in urban area, ICT sectors in agriculture industry faces some major challenges such limited infrastructures, lack of technology knowledge of the farmers and poor understanding of agriculture of ICT players who are willing to tap in to the sector. Despite it grows fast along with time, PRISMA's latest farmers information source survey (2015) in East Java, NTB, and NTT shows smartphone ownership and internet usage in farmers level are still low; at 15% and 5% respectively.

#### Quick facts:



**Number of Farmer Groups**  
143,251



**Number of R2 Kiosk**  
9,520



**Kiosk and Farmers Group Covered by Signal**  
76%



**Kiosk and Farmers Group Accessing Internet**  
41%



**Kiosk and Farmers Group Using Smartphone**  
36%

Facts Source are processed data from Statistik Telekomunikasi Indonesia 2018



#### East Java

- ✓ Village areas covered by signal (2018) : 84.90%
- ✓ Smartphone ownership in rural area (2017) : 41.37%
- ✓ Internet user in rural area (2017) : 45.33%
- ✓ Number of R2 Kiosk (2018) : 4,615
- ✓ Number of Farmers Group (2018) : 52,426

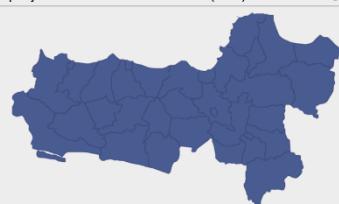
Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	4,613
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	5,276,118,528



#### NTT

- ✓ Village areas covered by signal (2018) : 51.45%
- ✓ Smartphone ownership in rural area (2017) : 23.75%
- ✓ Internet user in rural area (2017) : 25.87%
- ✓ Number of R2 Kiosk (2018) : 115
- ✓ Number of Farmers Group (2018) : 27,165

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	-
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	-



#### CENTRAL JAVA

- ✓ Village areas covered by signal (2018) : 84.41%
- ✓ Smartphone ownership in rural area (2017) : 44.71%
- ✓ Internet user in rural area (2017) : 49.23%
- ✓ Number of R2 Kiosk (2018) : 4,392
- ✓ Number of Farmers Group (2018) : 45,748

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	-
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	-



#### NTB

- ✓ Village areas covered by signal (2018) : 84.60%
- ✓ Smartphone ownership in rural area (2017) : 32.51%
- ✓ Internet user in rural area (2017) : 35.61%
- ✓ Number of R2 Kiosk (2018) : 398
- ✓ Number of Farmers Group (2018) : 17,912

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	-
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	-

ICT OVERALL		
Indicator	Total	Value For Money (VFM)
Cumulative Outreach Actual to Y20S2 (HHs)	-	Investment Leverage:
Cumulative Outreach Projected to Dec 2023 (HHs)	4,613	Investment Per HH:
Total NAIC up to Y20S2 (IDR)	-	Social Return:
Total NAIC to Y20S2 (%)	0.00%	
Total projected NAIC to Dec 2023	5,276,118,528	ICT Overall

## 6.1 ICT

In PRISMA's second phase, ICT will operate as a cross-cutting sector to provide a delivery mechanism for other products and services, including information (e.g. extension services, marketplace information) and finance or financial products. In contrast to the situation in urban areas, ICT sectors in the agriculture industry face major challenges: limited infrastructure, lack of technology knowledge among farmers, and poor understanding of agriculture among the ICT actors who are willing to tap into the sector. Despite its rapid growth over time, PRISMA's most recent farmer information source survey (2015) in East Java, NTB and NTT shows smartphone ownership and internet usage at the farmer level to be low, at 15 per cent and 5 per cent respectively. The ICT sector will therefore target the ISP level (including kiosks and off-takers) and farmer groups to improve the flow of information using technology provided by tech companies, in order to achieve an efficient flow of inputs, finance and off-taking.

### Challenges and constraints

- **Gradual uptake in technology adoption.** Due to their geographical remoteness, most rural areas of Indonesia have limited connectivity with only basic telecom infrastructure available; as a result, technology adoption is often slow in these areas. This remoteness combined with the prevalent farmer behaviour of 'seeing-then-believing' makes technology adoption even more challenging.
- **Reliable market-based data (both historical and current) and aggregation is limited.** This is due to the high cost of collecting primary data, as farmers are scattered and widespread. Ineffective and inefficient data collection processes and an absence of cost-sharing between stakeholders also contribute to this high cost.
- **Poor understanding of the agriculture sector at the ICT provider level.** Most agriculture start-ups have minimal business experience and little to no agriculture knowledge. At the same time, most ICT actors are currently focusing on urban areas, as they perceive there to be a higher barrier to entry to rural areas.
- **Due to COVID-19, many agricultural activities have been disrupted.** First, supply chains are interrupted: demand for fresh produce has declined as HORECA (Hotel, Restaurant, Café) businesses have been forced to close, logistical services are impaired, and lockdown or stay-at-home measures are imposed. These have stopped farmers from tending to their fields and hindered traders from travelling and marketing their produce. This disruption also occurs in agri-input supply chain, such as machinery that is mostly sourced from China. Second, information flow has also been disrupted: face-to-face activity such as farmer group meetings and marketing activities from input companies have been cancelled. This limits and distorts the information received by farmers and traders.

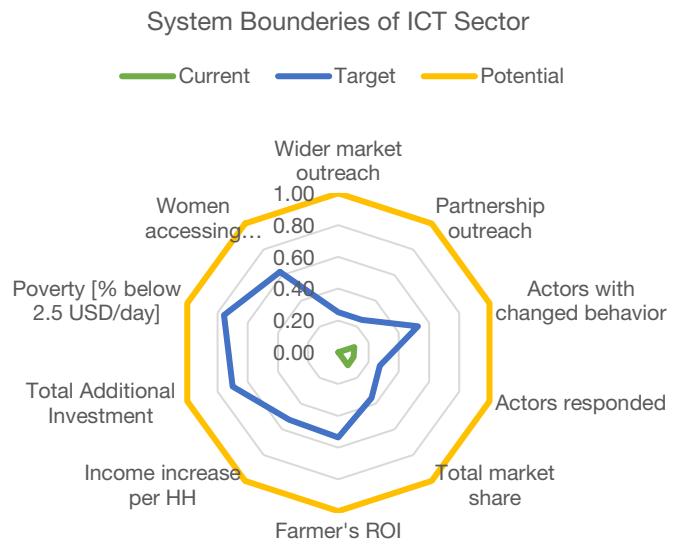
## Intervention areas

To address these challenges and constraints, the ICT sector will work in several areas (including but not limited to the following):

- Commercialisation of information business models through technology.
- Digitisation of Intermediary Service Providers (including farmer groups, traders, off-takers, and agri-kiosks) to improve the flow and collection of information.
- Provide support to PRISMA sector teams to increase the adoption of technology by market actors with the aim of improving information flow and accelerating business processes.

## Sub-sector vision for systemic change

In Phase 2, PRISMA aims to achieve greater impact in agriculture through ICT utilisation by improving the access and availability of information and finance to the agricultural sector. This will be done through technology development for financial institutions and agri-input companies, as well as by providing agricultural-relevant support to technology companies. The program will also work to build up the depth, breath and supply of supporting functions tailored to agricultural ICT, including consulting, marketing and agent networks, as well as incorporation and linkages with and through input providers, kiosks, government, insurance providers and off-takers.



By 2023, at least 57,621 farmers households in CJ, EJ, NTB, NTT will increase their incomes by 30 per cent due to the adoption of technology that leads to increased scale, as well as more efficient and inclusive market systems.

## Progress towards sub-sector vision

### Adopt

- In Phase 1, HARA took up the business model developed together with PRISMA and established a pilot. In Phase 2, HARA has agreed to implement a new business model which utilises kiosks as part of credit disbursement improvements.
- A pilot has been rolled out through the multi-stakeholder partnership in Sumba. BISI and Swasti Sari have implemented the business model recommended by PRISMA by establishing an input distribution channel during the pilot. The channel includes farmers who are ready to access finance, gives in-kind loans to farmers, and sends field staff to monitor and conduct activities on the ground.
- Through its flagship service Arisan Mapan, PT RUMA started distributing 17 agricultural products (e.g., sprayers, planters, and water pumps). Operated using a smartphone application, Arisan Mapan is a network of rotating-savings groups that use savings to finance high-priced products, most of which are household related. The agricultural products increased sales for PT RUMA and its agents - as well women farmers - by expanding their ability to buy improved equipment. COVID-19 has however,

severely impacted the network's ability to save. PT RUMA is currently developing new strategies to provide agriculture productivity-improving products and services through the network

- A new partnership with ICT off-takers such as Panen.ID and Tukang Sayur.co was signed, and a new off-taking business model developed with HARA to tackle supply chain disruption during the pandemic. These interventions also work with government of Central Java and East Java to locate potential farmers and smooth the transport of goods during lockdown periods.
- A new partnership was signed with Viamo to match farmers and traders or off-takers using use 'lower tech' solutions. The partnership also helps to tackle supply chain disruption during COVID-19.

#### **Adapt**

- Utilising the financing business case, HARA expanded its business into new regions and evolved the incentive scheme for data collection. HARA progressively grew the number of farmers registered on its platform, broadening scale while also improving the business process.

#### **Expand**

- HARA established collaboration with other financial institutions (BTPNS and DANAMAS) independently of PRISMA's support. HARA also piloted a collaboration with an off-taker (PT Seger) in Tuban and explored a potential collaboration with an input supplier.

#### **Response**

- Local government in some areas (e.g. Situbondo, Trenggalek) has expressed willingness to use the HARA service in order to put reliable agriculture data to good use. However, HARA still considers this a low priority due to the issue of sustainability.

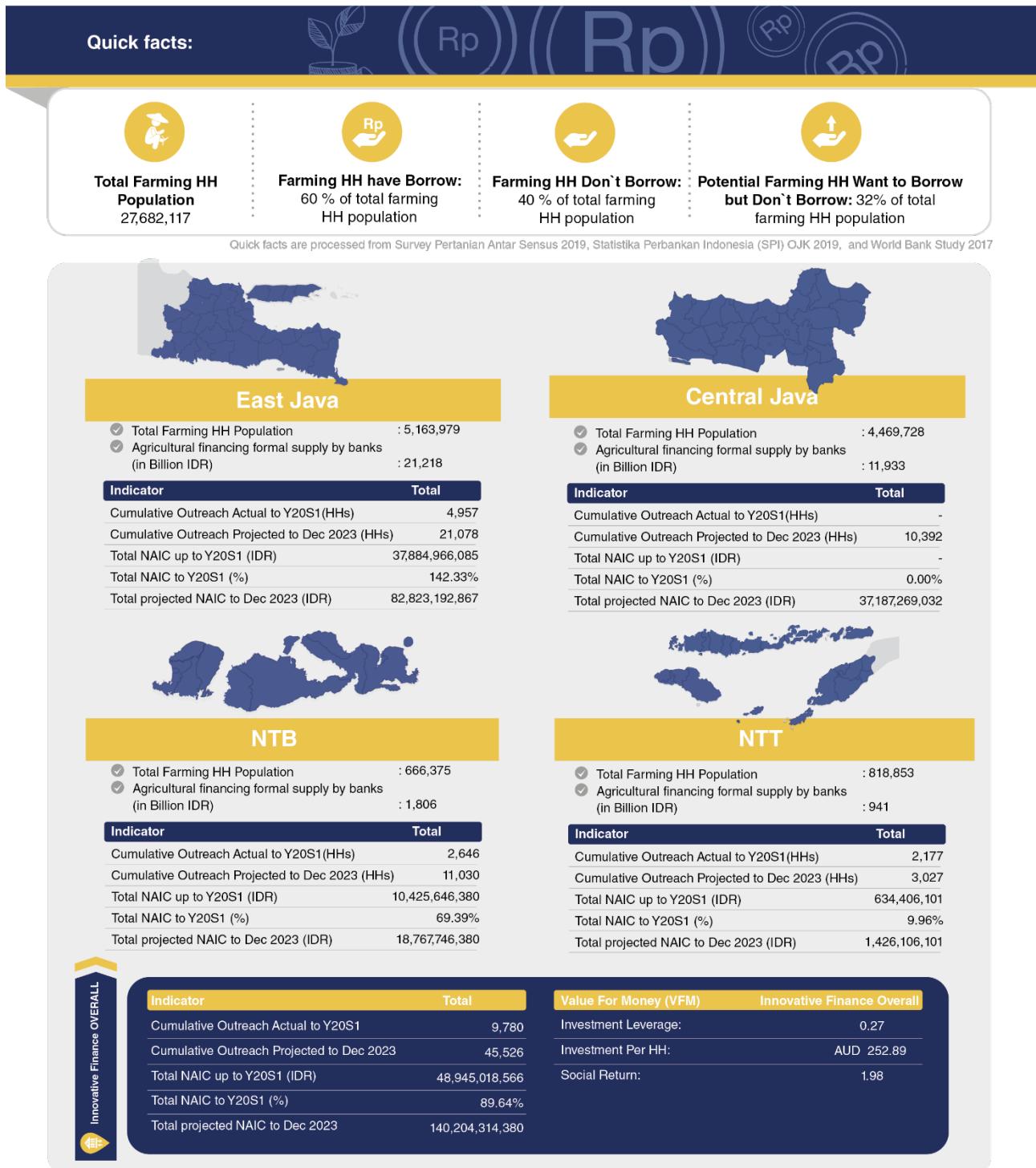
## 6. INNOVATIVE FINANCE<sup>12</sup>



# Innovative Finance

Sector Summary

A World Bank study estimates that around 62% of the adult population worldwide have formal financial access where 27% of the total world population is farmers. This percentage of population who have formal financial access is even lower in Indonesia at 49%. Insufficient fund become the main reason for not having formal financial access for the population. In Indonesia, agriculture sector only contributed of 6.56% of bank credit portfolio where majority of this credit goes to agriculture companies or big value chain actors in agriculture and not to smallholder farmers. Unwillingness and scepticism around servicing the micro-segment of the MSME market, difficulty and cost associated with accessing historic credit data on smallholder farmers, unawareness of suitable financial products and services are some of the reason for low access to finance for farmers.



<sup>12</sup> Also referred to as Finance

## 6.1 Innovative Finance

A 2017 World Bank study estimated that only around 62 per cent of the global adult population has formal access to finance. In Indonesia, this figure is even lower at 49 per cent. The country's agriculture sector contributes only 6.56 per cent to the bank credit portfolio, only around 10 per cent of which goes to MSME borrowers<sup>13</sup>. Some of the reasons for such low access to finance for the agriculture sector include associating agriculture with micro-finance and the scepticism around servicing the higher risk segment of the market; the difficulties and costs associated with accessing historic credit data of potential borrowers; and lack of suitable financial products and services.

In addition, as COVID-19 hit the industry, the Government of Indonesia launched a Countercyclical Policy of COVID-19 Impact. This regulation suggested that Financial Institutions (FIs) can and should seek to restructure loans during the pandemic period. Restructuring and rescheduling loans at scale would typically have the knock-on effect of reduced liquidity, which will lower FI capacity and willingness to expand their financing portfolio. As of June 2020, 100 banks have restructured IDR740.79 trillion loans to 6.56 million borrowers in total<sup>14</sup>. This has directly affected how FIs conduct their business operations and perceive the risks of targeting new markets.

### Challenges and constraints

The major challenges and constraints faced by the agricultural finance sector are:

- **On the supply side**, potential market actors do not see the commercial value of reaching out to farmers in rural areas due to high transaction costs and complicated logistics. They also perceive there to be a higher risk within the agricultural sector. Financial products are regulated centrally in Indonesia and based around low-risk, high-reward principles, creating little room for adjustment to the products themselves to meet the needs of more risky customer segments. Impacted by COVID-19 pandemic, financial institutions are now focusing more on conducting loan restructures for their borrowers as suggested by OJK. In turn, less of their attention is focused on the agricultural sector as they seek to manage their credit risk. Consequently, FIs prefer to disburse new loans to their existing customers rather than acquire new customers.
- **On the demand side**, many market actors in the agricultural sector have concluded that existing products are not right for them. Administrative procedures are intensive and often require documentation that they do not have, while waiting times for processing are longer than they can afford. They tend to have minimal interaction with financial institutions and as a result do not know how to access the products or services that are on offer. During COVID-19 the interaction between agriculture market actors and FIs became even more challenging due to physical distancing measures and the reduced operations of banks.

### Intervention areas

To address these challenges and constraints, in Phase 2 PRISMA will work with partners in several areas (including not limited to the following), to:

- Bridge formal and informal gaps in financing. This includes using tools such as value chain finance (VCF) and trader credit, credit scoring, finance for kiosks and domestic remittances to bring existing financial products to agriculture and to reduce the cash flow burden on market actors who are already supplementing farmers.

<sup>13</sup> Otoritas Jasa Keuangan: Statistika Perbankan Indonesia, Desember 2019 (processed internally).

<sup>14</sup> Otoritas Jasa Keuangan (As quoted in <https://www.cnbcindonesia.com/market/20200707135001-17-170816/ojk-per-29-juni-restrukturisasi-kredit-bank-tembus-rp-741-t>)

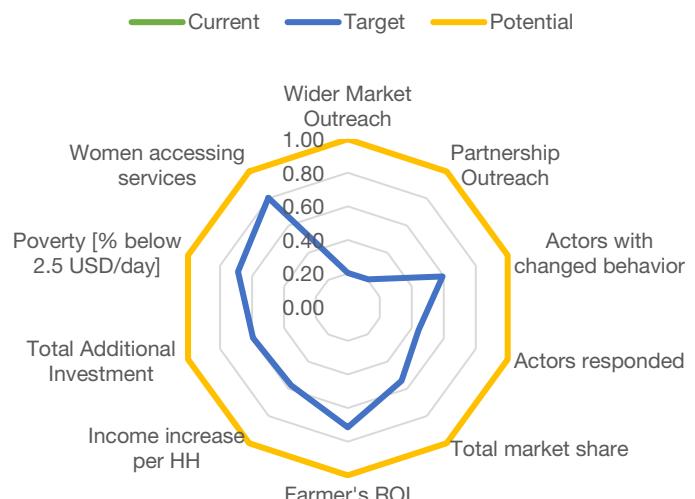
- Facilitate partners to see the value in strengthening agent networks. More efficient, fair, technologically equipped, legitimate agent networks (including kiosks) and appropriate forms of finance will be able to reach more farmers in more remote areas.

## Sub-sector vision for systemic change

In Phase 2, PRISMA aims for more commercial interest by financial institutions in disbursement of agricultural financial products (affordable, appropriate, and specific products) to ISP level market actors, including kiosks, agents, and traders. With the disbursement, we expect that the finance and/or the benefit can be passed to farmers by incorporating elements of ICT, VCF, cash transfer technologies, formalising the informal, etc.

As a response to COVID-19, PRISMA will prioritise partnerships with state-owned financial institutions, channelling impact investment and information sharing in an effort to leverage the stimulus and support the economic recovery. The goal is to benefit 50,000 smallholder farming households by improving their access to a broad range of affordable and appropriate financial services for agricultural market actors.

Innovative Finance System Boundary and Vision



## Progress towards sub-sector vision

### Adopt

- PT Crowde Membangun Bangsa (CROWDE) conducted three kiosk socialisations between October to December 2019. These involved more than 50 agriculture input kiosks in two locations in Central Java (Cilacap, Sragen) and one location in East Java (Banyuwangi) as part of PRISMA's kiosk acquisition strategy for extending the agent model.
- CROWDE provided a trader financing product for its borrowers in Central Java and West Java.
- CROWDE has partnered with agri-input companies to finance a bundling scheme and expand to more areas in Central Java and East Java.
- Tanijoy recruited one new field manager as replacement senior field manager. The latter will assume the role of acquiring more agents to facilitate business expansion.
- Tanijoy shared information on loan acquisition through online farmers for farmers to mitigate the impact of COVID-19.
- Tanijoy is implementing an ongoing process to improve its credit rating. Its aim is to increase its compatibility with the agriculture sector and improve its loan acquisition.
- PT Bisi International Tbk (BISI) conducted 11 agent socialisation activities in different locations from September to November 2019. These resulted in 96 potential agents, 22 of whom are women. Based on the evaluation from the pilot, rather than conducting a few big socialisation events, BISI has chosen to conduct smaller events with more frequent activities. This is due to more scattered targeted locations and strong competition with existing free market distribution channels.

- From October 2019 to January 2020, 36 new YARO agents ordered BISI seeds (ten of whom are women). These new agents helped BISI to increase their YARO sales in NTB area by 24 per cent (against its 2018 sales).
- In September and October 2019, BISI conducted joint promotional activities with BNI and Pegadaian in Sumbawa and started discussion regarding potential collaboration for a future input financing scheme.
- As part of intervention's strategy, BISI have agreed to collaborate with some financial institutions where they can share networks and risks to grow their markets.

### **Adapt**

- CROWDE hired new dedicated staff for kiosk acquisition as part of its plan to extend its agents model.
- CROWDE invested in the Kiosk App to help kiosks to manage their inventory, keep digital transaction records, and improve their credit profile.
- CROWDE developed a new product which allowed borrowers to pay their loans using their harvest commodities. The pilot focused on maize commodity.
- CROWDE invested in the Agent Management App to get more reliable monitoring data and work more efficient.
- CROWDE recruited more local field staff for loan acquisition and monitoring to reduce the impact of local lockdowns and large-scale social restrictions due to COVID-19
- A BISI agronomist informally supported a female BNI agent in West Sumbawa to increase her revenue as part of loan disbursement to farmers (although any formal partnership between BISI and BNI has not yet developed, this is a positive sign of potential future collaboration between the two).
- Acknowledging potential difficulties for farmers in getting capital due to COVID-19, in June 2020 BISI has agreed to collaborate with BNI Bima to promote agri-input financing. They will combine YARO scheme with bank's loan product in that area.
- BISI provided masks to their farmers to mitigate the impact of COVID-19 transmission during their field activities with farmers
- Tanijoy required all field managers to acquire agents to facilitate business expansion.

### **Expand**

- Some financial technology companies such as Amarta and AwanTunai showed interest in copying the partner business model for agriculture financing.
- The BISI area manager in Central Java showed interest in obtaining the learnings and implementing the improved YARO process from the NTB pilot.

### **Respond**

- Bank Mandiri, BJB, BPR Supra and a multi-finance (BCA Finance) have partnered with CROWDE to implement loan channelling.
- Insurance company Jasindo has partnered with CROWDE to provide agriculture insurance for the borrowers.
- Some financial institutions (i.e. BNI Bima, BNI Sumbawa, CU Swasti Sari, and Jasindo) showed interest in collaborating with BISI to provide input financing for farmers.
- Good Return, an impact investing institution, is exploring a partnership with CROWDE to provide loan guarantees and mitigate the higher risks associated with loan disbursement during COVID-19
- Tanijoy is in the process of collaboration with Bank Sinarmas on loan disbursement to farmers. Potential target farmers have been identified and desk-screened by Bank Sinarmas. Bank Sinarmas is planning a further field assessment by August 2020.

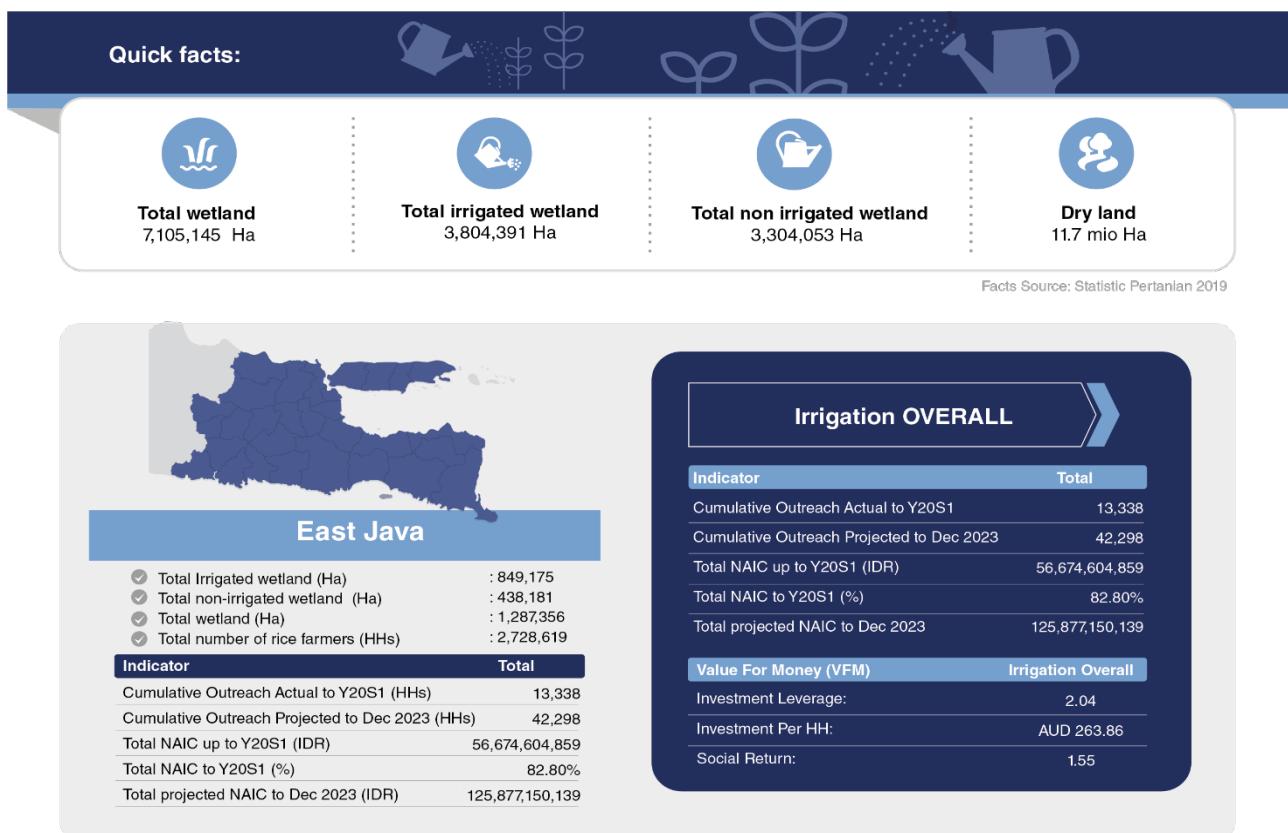


## 7. IRRIGATION

### Irrigation Sector Summary

The use of irrigation in the agricultural sector, has been key to increasing the productivity of agricultural production around the world. However, the pace of expansion in irrigation schemes has slowed in recent years and there is growing interest in finding ways for the private sector to play role in irrigation. In Indonesia, irrigated agricultural land produces 85% of national rice production and 95% of Indonesian people consume rice as a staple. However, 45% of irrigation infrastructure are damaged because of limited budget, low maintenance, incomplete irrigation network system, and Water User Association (WUA or HIPPA) performance in tertiary irrigation management are not yet optimal. And existing water storage capacity only cover 13% of agriculture land which is very low compare to neighboring country like Thailand.

Total agriculture land in East Java is 2,1 million ha and based on PRISMA calculation around 1,8 million ha or 84% of total agriculture land has limited or even no access to water for cultivation during dry season because of no irrigation infrastructure, damage existing irrigation infrastructure, very limited water supply from existing dam, and farmers limited capacity (financial and technical) to provide small irrigation for their land.



#### 7.1 Irrigation

85 per cent of Indonesia's total agricultural land has limited access to water for irrigation during the dry season (Ministry of Agriculture, 2017). For smallholder farming households with very limited resources and reserves, the effects of insufficient irrigation can be catastrophic. A clean, accessible water supply can have up to three times more impact on farming productivity than other agricultural inputs, such as seed variety and fertiliser (TIRTA Program Design Document, 2014), as it (1) increases production and profitability per hectare per crop, (2) increases cropping intensity, and (3) reduces the risk of crop failure.

#### Challenges and constraints

- There are very few technical and managerial irrigation consulting firms serving the rural irrigation market. This is due to their lack of awareness of market potential and inadequate capacity to provide solutions adapted to village needs and affordability.

- **Well drillers lack the technical capacity and supporting tools** needed to identify water points and perform proper drilling to ensure good lifespan of the boreholes to produce water for irrigation. They also have limited access to finance.
- **Major pump and pipe producers only target government projects and industry markets.** Pump and pipe producers are aware of the sales potential at the village level, but face challenges entering the rural market due to their limited number of staff and financial capacity.
- **Contractors (civil and electrical) for village irrigation are available in the rural market** but have limited knowledge of how to design a proper irrigation system.
- **Absence of financial products dedicated to the irrigation service business** due to limited understanding at financial institutions of the business opportunity.
- **Water-user associations/HIPPAAs are non-functional and/or operating inefficiently** due to lack of managerial, technical and financial capacity, despite support and assistance from the government. Water-user associations operate more as non-formal farmer groups rather than as for-profit business entities.
- **Private sector irrigation service providers are obliged to adopt informal rules at the village level to acquire a casual “permit to operate”** which undermines business sustainability and poses greater risks to the return on investment. Central government does not set the “rules of the game” for private sector irrigation service providers, making their position even more vulnerable.
- **Absence of government regulations** to accommodate private sector involvement in the provision of tertiary irrigation. The government is hesitant of recognising the importance of the private sector in irrigation development and management despite the limited resources allocated.
- **PSBB or Limitation of Physical and Social Movement has delayed irrigation construction (for the time being).** Some village irrigation construction and installation projects have been held back by up to two months - especially those using contractors from outside the village – due to COVID-19 related restrictions.
- **The Government of Indonesia has reallocated the budget for Dana Desa (reduction up to 35 per cent) to COVID-19 mitigation.** Some villages in Indonesia rely on Dana Desa as a source of funds for irrigation construction and installation and the reduction of Dana Desa has caused some delays or cancellation to the village’s irrigation project.
- **The Ministry of Public Works and Housing has reduced some irrigation projects and instead offered workers cash to work on rural irrigation projects to create employment in the village (short term and long term).**

## Intervention areas

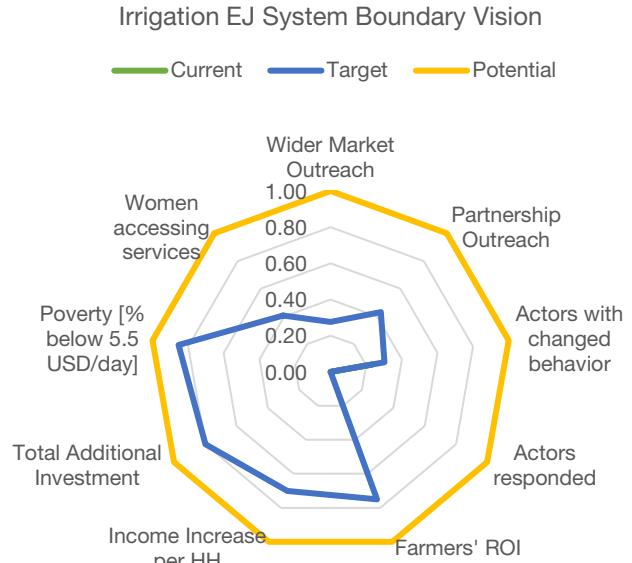
PRISMA's irrigation sector focuses on working with scale agents interested in investing in irrigation in a rural setting to:

- Promote new and improved irrigation service providers for seed production and seed market farmers among seed producers and related associations
- Promote irrigation contractor services by facilitating the development of an irrigation consortium and expanding irrigation market actors to provide more products and services
- Promote policy engagement plan to improve public sector performance in solving water crisis through innovation and inter-agency coordination
- Promote access to finance for irrigation service providers to improve the existing irrigation system and expand the service area.

## Sub-sector vision for systemic change

In the second phase of program implementation, PRISMA will focus on stimulating and increasing private sector participation and investment across different stages of the irrigation value chain to promote more efficient water use in agriculture, boosting farmers' production and productivity. Technical irrigation consultants will provide sound design and advice to irrigation providers, who in turn will invest in and provide a more efficient irrigation service, able to serve increasing numbers of smallholder farming households. Seed producers will promote the availability of irrigation services to their seed growers.

By 2023, at least 79,923 farmers in EJ will have increased their incomes as a result of better access to water for increased their productivity.



## Progress towards sub-sector vision

### Adopt

- Syngenta is providing new irrigation services to seed growers through its grower leaders at three locations in Malang and Blitar, East Java. Syngenta appointed Rongcuyu (a local well driller, pump supplier and contractor) to undertake the projects. The irrigation construction and installation were slightly delayed (20 days) due to COVID-19 but it did not impact the overall schedule due to the delay in maize seed planting season. Syngenta is actively monitoring progress on the ground to ensure construction work is completed on time. Irrigation activity with EWINDO is not progressing due to the saturated horticulture seed market and the company's strategy.
- Syngenta's decision to engage local well-drillers for their pilot projects in Malang and Blitar, led Grundfos to postpone discussions of a partnership agreement with PRISMA until a concrete business case is in place. They remain convinced of the business opportunity in rural irrigation. PRISMA approached, Rucika (a pipe producing company) and Supra (an irrigation contractor and drilling company) and presented the business opportunity of functioning as the irrigation contractor through a consortium with Grundfos to them. The team facilitated a tripartite meeting in June in which all the companies expressed commitment to adopt the PRISMA's proposed business model.

### Adapt

- Mesindo continues to expand its business to Pati (Central Java) to support the first-time village irrigation service in Desa Sejomulyo (200 ha) planned for 2021.

### Expand

- Botani Seed Indonesia, a rice and maize seed producer, has shown interest in exploring irrigation solutions within its production area in East Java, similar to the exploration model applied by Syngenta.

### Respond

- Asbenindo, a seed producer association, conducted a webinar with PRISMA on irrigation business opportunities to its members.
- PT Komunal Finansial Indonesia ("Komunal"), a fintech company based in Surabaya, company has developed a financing scheme for irrigation businesses and offered the product to an irrigation

provider (a former TIRTA partner) in Tuban. The fund will be used to expand the irrigation service area.

- APPATINDO EJ, a well driller association, showed bought the in improved water detection (AWUG) based on PRISMA's advice.
- Pak Ronald, an AWUG producer, improved his promotion strategy based on PRISMA advice by conducted a presentation at an APPATINDO EJ event.
- The District Government of Pamekasan followed PRISMA's recommendation to use improved water detection technology and successfully detected water in 44 locations enduring a water crisis. Delays in ground water detection occurred from March to April 2020 due to COVID-19 but overall the project remains on schedule. Additional drilling activity has been carried out by the District Government of Pamekasan.
- Sinar Harapan, a Lorentz solar pump national distributor, followed PRISMA advice to discuss potential collaboration with a well driller in East Java through APPATINDO EJ.
- Sinar Harapan also followed PRISMA's recommendation to identify other target markets (private irrigation providers) and offer another source of funding to its potential customers by working with financial institutions.

## 8. MAIZE

### Maize Sector Summary

Maize is the second most important crop in Indonesia after rice. More than 20 million MTs of maize are grown each year on four to five million hectares of farmland. More than half is used to cater the ever-increasing demand for animal feed. It is a seasonal crop, with a surplus during peak harvest months and severe undersupply the rest of the year. The Government of Indonesia, under 'self-sufficiency' agenda, highly subsidized the sector. In 2017 around 80% of total harvested area is covered by the free seeds and subsidized fertilizers. It continued in 2018 and 2019 since The GoI still allocated free seeds to the farmers although using different program. The maize price has been increasing steadily over the year. The zero-import quota has further contributed to the higher corn price started in 2017. The national average productivity is 5.23 MT per hectare. However, the field observation and USDA data shows lower productivity around 3-4 MT per hectare, especially in Eastern Indonesia. PRISMA has identified a clear opportunity to increase maize production, productivity and quality as part of Indonesia's drive towards import substitution.

#### Quick facts:



**Total Production**  
28,924,015 MT



**Total Harvested Area**  
5,533,169 Ha



**National Productivity**  
5,227 kg/Ha



**Demand**  
3.4%

Facts Source: Statistik Pertanian 2019, Sensus Pertanian 2013



#### East Java

- Total Provincial Production (Ton) : 6,335,839
- Total provincial harvested area (Ha) : 1,257,111
- Total farm households in the sector : 1,692,530

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	63,301
Cumulative Outreach Projected to Dec 2023 (HHs)	164,045
Total NAIC up to Y20S1 (IDR)	105,115,642,675
Total NAIC to Y20S1 (%)	227.33%
Total projected NAIC to Dec 2023 (IDR)	237,126,032,416



#### NTT

- Total Provincial Production (Ton) : 809,806
- Total provincial harvested area (Ha) : 313,150
- Total farm households in the sector : 464,066

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	29,932
Cumulative Outreach Projected to Dec 2023 (HHs)	60,591
Total NAIC up to Y20S1 (IDR)	47,750,343,801
Total NAIC to Y20S1 (%)	142.96%
Total projected NAIC to Dec 2023 (IDR)	115,834,825,995



#### NTB

- Total Provincial Production (Ton) : 2,121,172
- Total provincial harvested area (Ha) : 310,990
- Total farm households in the sector : 306,899

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	6,995
Cumulative Outreach Projected to Dec 2023 (HHs)	9,095
Total NAIC up to Y20S1 (IDR)	20,924,328,813
Total NAIC to Y20S1 (%)	47.54%
Total projected NAIC to Dec 2023 (IDR)	32,324,288,013



#### CENTRAL JAVA

- Total Provincial Production (Ton) : 3,577,622
- Total provincial harvested area (Ha) : 588,812
- Total farm households in the sector : 843,486

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	11,467
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	10,100,000,000

#### Maize OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	100,228
Cumulative Outreach Projected to Dec 2023 (HHs)	245,199
Total NAIC up to Y20S1 (IDR)	173,790,315,289
Total NAIC to Y19S2 (%)	197.36%
Total projected NAIC to Dec 2023	395,385,146,425

Value For Money (VFM)	Maize Overall
Investment Leverage:	2.31
Investment Per HH:	AUD 71.74
Social Return:	2.42

## 8.1 Maize Central Java

Central Java is the second largest producer of maize in Indonesia, accounting for around 16 per cent of national production. Maize is a primary cash crop, engaging around 1.1 million farmers, with an average cultivated land size of 0.56 ha per household<sup>15</sup>. However, growth in production is very low, at only 2.28 per cent per year (2014 – 2018). Over 87 per cent of farmers already plant hybrid seed, obtaining average productivity of around 6.01 MTs per ha. Less than two per cent of maize produced in the province is for human consumption; the remaining 98 per cent is used in the feed industry (the expansion of which in Central Java has led to a tremendous economic boost for farmers). Despite these opportunities, farmers still experience low profits from maize cultivation, especially in the peak harvest period during the rainy season. Improper application of inputs such as fertiliser and lack of pest and disease control prevent farmers from obtaining optimum productivity, which can be up to 10 MTs per ha. Some farmers have also difficulty cultivating maize in the dry season which limit them from earning more income.

### Challenges and constraints

Maize farmers in Central Java find it difficult to increase their income for the following reasons:

- **Low production in some areas due to geography and poor soil condition, improper application of fertiliser and pest and disease attacks** (particularly downy mildew or *Bulai* and Fall Armyworm (FAW)). In pockets where local or retained seed varieties are cultivated, some farmers have not realised the economic value of cultivating higher-yielding seed variety. In addition, some areas have not been reached by the government's seed subsidy program.
- **The absence of water and irrigation systems hinders maize production and reduces productivity, especially during the dry season.** Establishing an irrigation service is considered costly, especially in hilly areas; in low-lying lands, farmers prefer to plant rice as it delivers a higher income when water is available. Consequently, some farmers are unable to engage in cultivation of either maize or other maturity crops during drought season and they also encounter difficulties in obtaining suitable seed, up-to-date knowledge, and tools for maize cultivation on drought-stricken land.
- **Many farmers lack access to post-harvest technology and facilities for storage and drying.** When harvest occurs during the rainy season, farmers tend to sell all their yield as soon as possible to avoid damage and loss. Because of over-supply, off-takers often push down the prices.
- **The supply chain from farmers to end customers is long in some locations.** Feed mills, the biggest maize consumers in the province are concentrated in north eastern region. This condition makes farmers in some locations receive lower price because of the chain to the end consumers is long.
- **Due to COVID-19 restrictions, farmers in some locations experience difficulties in finding off-takers and experience delays in agri-input deliveries.** There has also been a decline in the maize grain price due to weaker demand from feed mills. In addition, physical distancing measures have caused delays in the procurement and distribution of subsidy programs, agri-input sales, as well as activities in the field.
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### Intervention areas

To address these challenges and constraints, PRISMA will work with partners to:

- Improve good agricultural practices (GAP) and integrated pest and disease management (IPDM) services.

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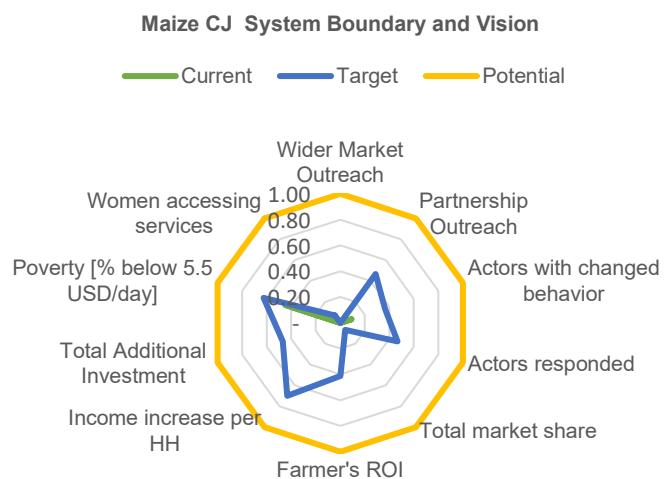
<sup>15</sup> Field assessment in eight districts; PRISMA, 2019

- Promote the use of hybrid seed suitable for farming in identified pocket areas.
- Promote farming techniques suitable for the dry season.
- Improve provincial government's subsidised seed delivery and implementation.
- Promote appropriate post-harvest services, as well as better linkages in the off-taking system.

## Sub-sector vision for systemic change

PRISMA aims to increase maize production and productivity by helping seed producers to promote quality hybrid seed and farming techniques, off-takers to source grain and provide embedded services, and government to improve subsidy program concept and delivery in underperforming areas.

By 2023, at least 78,210 farming households in underperforming areas of Central Java will experience a minimum income increase of 40 per cent by adopting quality hybrid seed, applying proper farming practices, and accessing off-takers services.



## Progress towards sub-sector vision

### Adopt

- Corteva agreed to expand its hybrid market in marginal and low productivity areas. It has hired Women Front Liners, adopted canvassing and selling activity in Wonogiri and started to use promotional material containing GAP information in piloted districts.
- Canvassing activity in Wonogiri, which was supported by PRISMA, has become one of Corteva's main strategies in selling its seeds to farmers. The activity has helped farmers to access quality seed in spite of mobility restrictions due to COVID-19.

### Adapt

- Corteva has expanded its canvassing activity by hiring two canvassers (mobile agri-input salesperson) for Gunungkidul and Bantul districts and distributed promotional materials with GAP information in Grobogan district.

### Expand and Respond

- Crowding-in and responses from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## 8.2 Maize East Java

East Java is the country's province with the highest level of maize production, accounting for around 22 per cent of national production. It produced 6.7 million MTs of maize in 2018, nearly twice that of Indonesia's second leading producer. There are 1,922,318 smallholder farming households involved in cultivating maize with a Poverty Probability Index (PPI) score of 52.35 per cent in mainland areas and 68.32 per cent in Madura Island.

Maize is an important commodity for East Java, hence the ubiquitous presence of commercial actors (traders, feed millers and seed companies) along the maize value chain in the province. Despite being the leading producer of maize and having the largest total harvested area in Indonesia, in 2017 average yields were only 5.04 MTs per ha, and were significantly below hybrid seed productivity, which can reach 10 MTs per ha with moderate use of GAP. Average maize yields for districts on Madura Island were as low as 1.89 MTs per ha (2017), attributable to the limited adoption of hybrid seed and the subsistence nature of maize farming in Madura.

## Challenges and constraints – East Java, Madura

Low productivity maize farming in Madura are mainly caused by:

- **Low quality seed, inputs and GAP application.** In 2019, over 75 per cent of smallholder maize farming households were using local varieties of seed, despite its low productivity, and remain reluctant to invest in better seed, inputs and GAP. In January 2020, the potential damage to crops by FAW is likely to be exacerbated by this minimum use of high-quality inputs and GAP application.
- **Economic, cultural and social contexts are strong barriers for seed companies to promote hybrid seed in Madura.** Smallholder farming households prefer to use local seed since maize is deemed as staple instead of as cash crop. Slow adoption of hybrid seed in Madura disincentivised seed companies to invest in product marketing and GAP assistance for reaching Madura farmers.
- **Access to hybrid seed is concentrated in South Madura, leaving around 46 per cent of the maize farming population with limited access to hybrid seed.** Transportation costs and the strenuous effort needed to obtain inputs are compromising farmers' ability to use hybrid seed.
- **Lacklustre government subsidies which provide limited GAP assistance.** Government subsidy has a prominent role in introducing hybrid maize seed to farmers in Madura. However, government extension services are limited and provide insufficient distribution of GAP information. As a result, the subsidy program does not function well, sometimes even disincentivising the private sector from developing the market and delivering GAP assistance, as the government programs have become the preferred customer for seed companies to achieve scale in Madura.
- **Rainfed water system and marginal soil.** About 76 per cent of maize farming in Madura depends on rain as its irrigation source, and it makes majority of maize farmers start planting in the end of the year (November - December).
- **The decline of the maize grain price in East Java due to COVID-19 has so far had a limited impact in Madura as most farmers cultivate maize at the end of the year.**

## Challenges and constraints – East Java, Mainland

Although the productivity rate of maize farmers is higher on the mainland than on Madura Island, several constraints in the market prevent them attaining a higher income.

- **Farmers experience difficulties in increasing maize production during the dry and second planting season.** 55 per cent of maize farmers plant maize for the second time following the main season when there is enough rain or irrigation in place. However, as adequate rain or irrigation is not certain, farmers will reduce input quality. Technical irrigation is limited, and drought-resistant seeds are not widely available.
- **Maize downy mildew disease is common and destructive.** With intensive maize farming and sugarcane farming areas located next to each other, downy mildew outbreak is very common, probable and can become a serious, frequent threat in mainland areas.
- **Illegal seed distribution in upland areas.** Upland farmers are less advanced at maize farming and less concerned than lowland farmers about the brand of maize seed. They prefer to use retained hybrid

or illegal seed to reduce sunk costs, especially for dry season cultivation of maize in case the harvest fails.

- **Poor application of fertiliser.** The average usage of fertiliser in EJ Mainland is 382kg of NPK per ha and 496kg of urea per ha (the level recommended by the GOI is 300kg per ha). In addition, most smallholder farming households opt to sow fertiliser on the surface of the soil instead of under it. This takes less time and reduces labour costs, but also minimises fertiliser absorption and induces leaf-rust disease.
- **Low penetration of mechanisation or utilisation of access to finance.** Despite the intensive nature of maize farming in the region, most farmers do not use simple mechanisation (such as land tractors or seed planters) to reduce labour costs (which constitute 51 per cent of farming costs), mainly because of the limited availability and high cost of machinery (the mechanisation penetration rate is a mere 4 per cent across 12 districts and mainly in the form of land tractors).
- **Due to COVID-19 there has been a decline in the maize grain price due to lower demand from feed mills.**

## Intervention areas

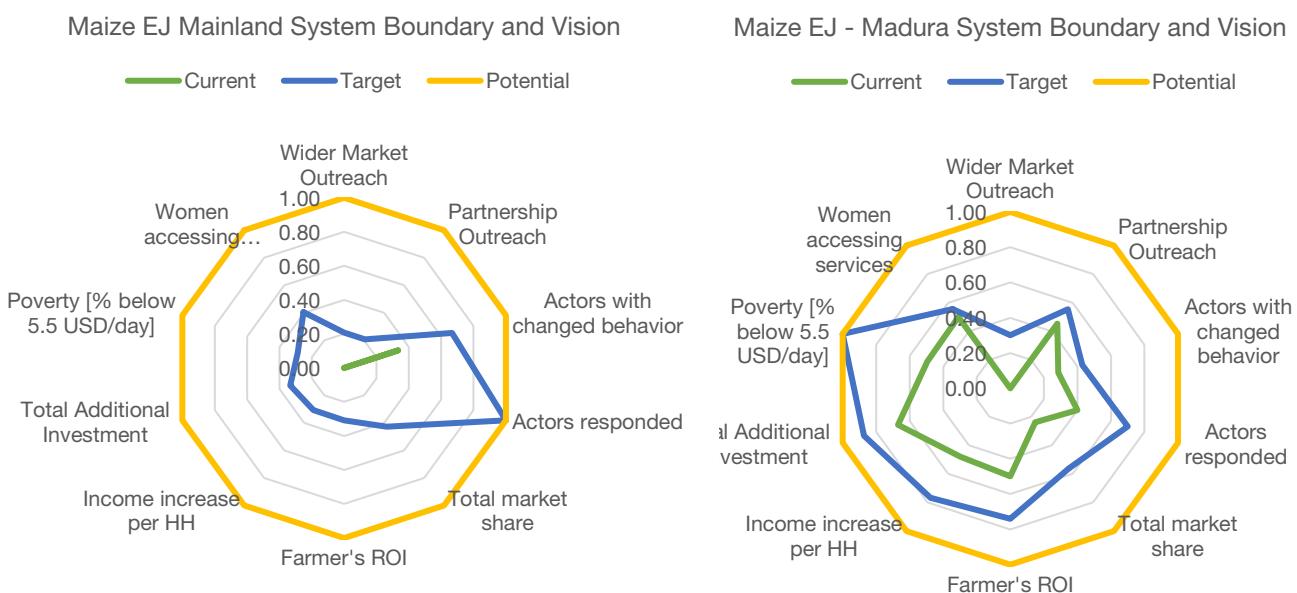
To address these challenges and constraints, some potential interventions are:

- Promote hybrid seed and the relevant GAP.
- Optimise inputs (fertiliser, crop protection) and the relevant GAP.
- Improve subsidy program policy.
- Increase access to irrigation and its services (for grain farmers and seed growers).
- Promote appropriate financial products for maize farmers.
- Promote affordable mechanisation (planting machinery, drying and threshing services).

## Sub-sector vision for systemic change

PRISMA aims to increase maize production and productivity by facilitating more seed players to tap into the Madura market, encouraging district governments to continue with smart subsidy concept and delivery (targeting non-commercial hybrid areas and collaborating with private seed companies) and influencing other input companies to expand their target market in the island. By 2023, at least 122,817\* maize farming households in Madura will have increased income by 347 per cent due to the adoption of hybrid seed and improved agricultural inputs and practices.

In mainland East Java, PRISMA aims to increase maize production and productivity by facilitating seed companies to produce improved seed for captive markets (such as drought-tolerant varieties), introducing crop protection for FAW control and by connecting other private players (i.e. financial institutions, input and mechanisation producers) to promote their innovation and supporting services. By 2023, 18,381 maize farming household farmer incomes will increase by 15.36 per cent due to the adoption of improved hybrid seed and better access to finance.



## Progress towards sub-sector vision

### East Java, Madura

#### Adopt

- Syngenta Indonesia conducted training for government extension services to ensure their products are maintained and endorsed as part of the government scheme of work.
- Corteva expanded its presence and distribution channel in the commercial and government markets in Sampang.

#### Adapt

- Corteva acknowledged Sumenep district as a commercial area and expanded its business through the public and private sectors to the mid-North areas. Corteva also adapted PRISMA's gender strategy to the national level and incorporated a hybridisation strategy used in Madura to develop a new area in Sulawesi.
- BISI maintained private sector sales in Madura and expanded its extension services to Sampang and Pamekasan.

#### Expand

- PT Giri Aryo (2017), Pertiwi (2018), PT BCA and Dhanaya Seeds (2019) have been crowding into the seed market in Madura.
- Eighteen input retailers were established in 2016-2017 and have prioritised their stock of maize seeds in response to demand. 67 per cent of canvassers from Corteva's Canvassing program continued to sell inputs after the program ended, increasing the availability of hybrid seed.

#### Response

- District Agriculture Offices of Sumenep and Pamekasan have reduced overlaps in the subsidy-free market and have prioritised underdeveloped areas for subsidy to increase overall production. GAP information from PRISMA seed partners is now continuously applied by government extension services beyond the lifetime of their partnership with PRISMA. The government has changed the type of subsidy seed from OPV to dominated hybrid varieties and allocated the hybrid seed subsidy to more underdeveloped areas.

- DGW, BASF, FMC and Petro Kimia Kayaku (crop protection companies), and Pupuk Tawon and NPK Mutiara (fertiliser) started conducting joint promotion activities, targeting maize farmers with Corteva and Syngenta seed.

### **East Java, Mainland**

#### **Adopt**

- Corteva committed to conducting a market baseline study designed to analyse maize market constraints and opportunities, as well as maize seed performance across the brand.
- Corteva has tested using SMS blasts to keep farmers informed about its new product and marketing program during COVID-19.

#### **Adapt**

- Based on previous research, Corteva has implemented a new communications strategy, re-targeting consumer segments by market mapping and developing new drought-resistant seed to fulfil market demand during the dry season.

#### **Expand and Respond**

- Crowding-in and responses from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## **8.3 Maize NTB**

NTB is among Indonesia's top ten maize-producing provinces accounting for 6.8 per cent (two million MTs) of the country's maize production in 2018. Although its contribution is small, maize cultivation in NTB has increased by more than 200 per cent since 2013. This corresponds to a CAGR of 27.2 per cent between 2014 and 2018. In comparison, the national CAGR was 12.1 per cent over the same period.

Rapid growth in NTB's maize sector was driven by significant increases in the harvested area and it is estimated that there is an increase in the number of 66,000 new maize farming households. Between 2015 and 2017, there was a 167,000 ha increase in maize farming area, which only slightly decreased in 2018. Trends in food crop cultivation in NTB indicate that this increase was realised from switching 63,000 ha from other crops (such as soybean, mung bean, cassava and sweet potato) and possibly 104,000 ha from expanding the planting area.

The average productivity of maize in NTB is 6.7 MTs per ha – higher than the national figure (5.2 MTs per ha). In some areas, however, productivity remains low. The new maize farmers have an average experience of growing maize of less than three years. In West Sumbawa productivity remains the lowest at only 3.9 MTs/ha. Furthermore, in other districts like Lombok Timur, the trend of tobacco farming showed a significant decrease between 2012 and 2018, with 60 per cent of farmers leaving the industry and switching to planting secondary crops, mainly maize.

### **Challenges and constraints**

Although maize productivity in NTB is high, farmers continue to face challenges in their efforts to maximize productivity and reduce cost. These include:

- **Limited access to affordable bank loans.** The use of hybrid seed requires sufficient supply of other inputs such as fertiliser, agrichemicals (including herbicide and pesticide) and labour. Farmers have little money to support these and limited access to external financial resources. Some farmers rely on moneylenders who provide loans at exorbitant rates of interest. The NTB market survey showed 25 per cent of farmers in Lombok take out informal loans, while only three per cent of borrowers are able to access formal finance. In Sumbawa, 16.7 per cent of farmers take out informal loans, and 54 per cent of farmers in Lombok and Sumbawa respectively are self-funded.

- **Mechanisation to support agricultural activities has not been widely introduced.** Maize prices vary depending on the physical form in which it is sold. For example, grain is much more expensive than cobs. Particularly in Lombok, farmers do not have access to affordable maize threshing machines or service providers. In addition, the cost of labour is increasing, making the need to use agricultural machinery increasingly important.
- **Maize productivity does not reach its optimum level due to improper application of GAP; in pockets low productivity correlates with low quality seed.** Farmers have limited access to information from public extension officers, who only visit farmers at times of subsidy provision and proposal development. Information from input suppliers is available, but delivery has not been effectively received by farmers.
- **Due to COVID-19, labour scarcity becomes a new challenge for farmers in some areas like Sumbawa and Lombok.** Movement restriction hindered farmers to hire labours from other areas such as Bima and NTT. Consequently, harvest and post-harvest processes take longer, leading to low quality grains, damage and pests.

## Intervention areas

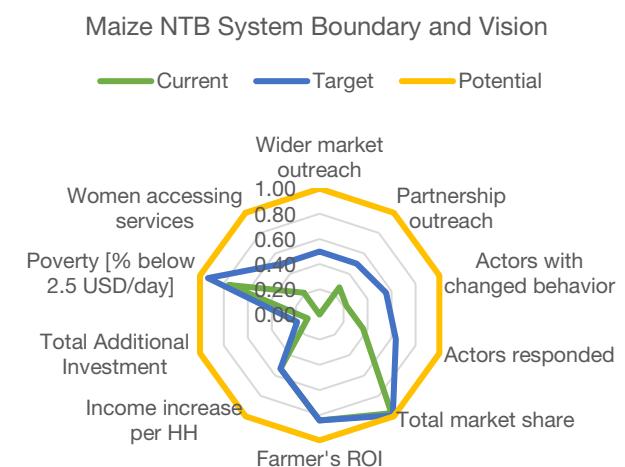
To address these challenges and constraints, potential interventions include:

- Promoting quality hybrid seed and GAP in pocket areas or to new maize farmers.
- Optimising fertiliser inputs in more advanced areas.
- Promoting financial products appropriate for maize farmers.
- Promoting access to affordable on-farm and off-farm machinery and services.
- Facilitating access to irrigation and its services for second planting season.

## Sub-sector vision for systemic change

PRISMA aims to increase production and productivity in pocket areas by facilitating seed producers and other input companies to reach out to farmers with quality inputs and GAP training and private off-takers to expand sourcing areas and provide embedded services.

By 2023, about 26,000 farming household will increase income by 70 per cent due to proper use of and/or access to improved hybrid seed, fertiliser, mechanisation, finance, and off-taking service.



## Progress towards sub-sector vision

### Adopt

- Corteva actively promotes hybrid maize cultivation in pocket areas (former tobacco areas in Lombok Timur and Lombok Tengah, and newly developed maize area in West Sumbawa). 14,268 farmers have accessed the information and Corteva's sales rose from 17 to 280 tonnes in 2019.
- Corteva conducted applied research in tobacco-farming areas by utilizing a tobacco oven as an alternative drying for maize. The result has been shared with a wider audience include local governments, farmers, and other private sectors.

## Respond

- Dinas Pertanian Lombok Timur and Lombok Tengah are interested in sharing the results of alternative drying tools for maize to their extension service staff in those areas. This could boost the maize sector in these areas.
- Sakpattana, a machinery company, has entered the market in Sumbawa to introduce combine harvesters for maize farmers.

## Adaption and Expand

- Adaption and crowding-in from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## 8.4 Maize NTT

NTT is largely characterised by its drylands and a dry climate; it is Indonesia's twelfth largest producer of maize, contributing 859,230 MTs (2.9 per cent) to national production in 2018<sup>16</sup>. With a greater harvest area than paddy, maize is the most widely grown crop in NTT, engaging 512,021 (71 per cent) of all of the province's smallholder farming households<sup>17</sup>. However, production growth is very low, at only 0.9 per cent per year (2010-16)<sup>18</sup>. Productivity is just 2.5 MTs per ha, less than half the current national average of 5.23 MTs per ha<sup>19</sup>. Unlike East Java and NTB, where most of the grain goes to supply milling operations, maize produced in NTT is used mainly for human consumption and for feeding household livestock. Local maize, which is the main variety grown, is popular because of its taste, cooking characteristics, and resistance to pests during storage.

In 2019, the government of NTT announced its vision of increasing production of maize by 218 per cent from 2018-2023, which means that the production of maize NTT in 2023 will need to reach 1.85 million tonnes. The target is to achieve self-sufficiency of maize in NTT: for human consumption (7 per cent), to fulfil raw material demand from the future feed mill factory (54 per cent) and to export the rest to other provinces such as East Java for production (39 per cent). To achieve this target, the NTT provincial government paid considerable attention to the maize development program, mainly through following the "Corn Agri-business Community Movement (GEMA AGUNG)" approach initiated by National Corn Council. GEMA AGUNG approach, it is expected to be able to meet the needs of feed industry raw materials and ensure the availability of food self-sufficiency in NTT. To realise GEMA AGUNG, the NTT government has developed a program called "*Tanam Jagung Panen Sapi*" (TJPS), which is expected to strengthen supply-demand system of maize NTT.

## Challenges and constraints

PRISMA has focused mainly on the Timor island, whose five districts are among NTT's top seven maize producing districts. In summary, challenges and constraints faced by the smallholder farmers are:

- **Limited access to improved seeds.** Information and access about good quality seed is not widely available. Local nurseries do not expand their market beyond subsidy program to reach commercial farmers while private seed companies are hesitant to enter the NTT market due to limited information on risk profiles and market research.
- **Low productivity because of poor agricultural practices.** Current yields are constrained by farmers' limited access to information on proper input application to increase productivity. This condition

<sup>16</sup> Badan Pusat Statistik NTT 2018.

<sup>17</sup> Survei Pertanian antar Sensus (SUTAS) 2018.

<sup>18</sup> Statistik Pertanian Nusa Tenggara Timur 2016.

<sup>19</sup> Statistik Pertanian 2017.

occurs mainly because public extension services are not updated with current technology and information, while private sector extension services are not widely available.

- **Limited access to other inputs such as fertilisers and crop protection products.** Limited commercial fertiliser and crop protection companies enter the market because farmers have low purchasing power and still have subsistence farming mindset.
- **Lack of labour and access to machinery.** The provision of machines by the government is still limited and many of those machines fall into disrepair because farmers have limited knowledge on how and where to repair them. Private providers are rare because they lack knowledge of the market's potential.
- **Poor post-harvest practices.** Poor quality maize can be attributed to insufficient knowledge of good post-harvest practices and maize quality standards, along with limited access to good post-harvest equipment.
- **Limited access to irrigation.** Low cost well drillers have not entered the market because farmers lack the purchasing power needed to use their services and do not yet think of long-term investment (subsistence farming mindset).
- **Limited access to market.** Off-takers struggle to procure local maize because of its limited availability: low productivity and low quality are caused by poor GHP and storage practices.
- **Due to COVID-19, some new challenges have arisen particularly at the farmer level.** There is a significant decline in demand from feed mills, causing prices to plummet. In addition, limited access to information and labour shortage due to large social restrictions have added to challenges. These impact farmers who struggle to secure investment for the next planting season.

## Intervention areas

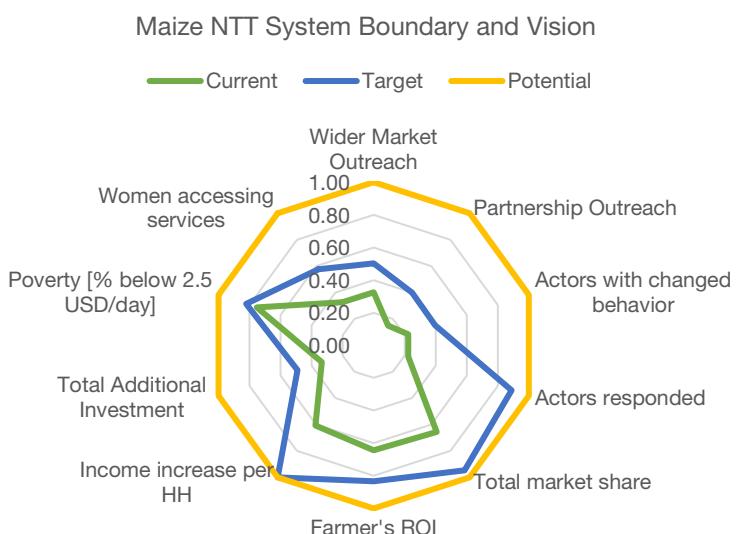
To address these challenges and constraints, PRISMA will work with partners to:

- Promote the use of OPV and improve OPV seed production and promotion.
- Promote the use of hybrid seed in more advanced areas.
- Support off-takers (local and national) to buy from NTT farmers.
- Promote the use of and access to other inputs (e.g. fertiliser, crop protection), irrigation, financing, and machinery (collaborative work with other PRISMA's sectors).

## Sub-sector vision for systemic change

PRISMA aims to increase production and productivity of maize in NTT by improving the capacity of OPV seed producers for production and commercial market, facilitating local government in development and implementation of sector strategy and policy, facilitating national and local off-taking companies in sourcing supply, and facilitating coordination among key market players.

By 2023, about 70,828 maize farming households will have increased their income by 94 per cent due to the adoption of and/or better access to improved cultivation techniques and quality seeds,



grain market, and other agriculture inputs and services.

## Progress towards sub-sector vision

### Adopt

- Corteva continued to focus its promotional activities on Kupang and Malaka and hired an additional field employee to target 30-tonnes of total sales from the commercial market by 2020.
- The Agriculture Office and BPTP of NTT produced the Maize NTT Roadmap as guidance for the achievement of its maize production target in 2023. Some activities (e.g. development of selected local nurseries and private sector engagement at demand side) are already ongoing.

### Adapt

- Three prominent local nurseries (YMTM, TPM and Gaspar Bao) expanded their target markets for commercial seeds in Timor (TTU, TTS, Malaka, Belu) and Flores (East Flores, Sikka, Ngada). Gaspar Bao (local seed producer) invested in eight irrigation wells and expanded his business to off-taking in East Flores and Sikka. Another local seed producer, Petrus Mulyanto, expanded to off-taking in Belu and Malaka.
- Gaspar Bao, a local seed producer, became adaptive by himself during COVID-19. His business is still running despite physical distancing restrictions. He requested a certificate of health from Public Health Office (Dinas Kesehatan) and a permit pass from Department of Transportation (Dinas Perhubungan) to ease mobilisation between areas. In running his business, he has also been following recommended health protocols. PRISMA provided advice to him to be prepared for the probability of scarcity in agri-input stock in the near future.

### Expand

- Sangkara, a national hybrid seed company started to produce hybrid seed on 50 ha as part of a Farming Corporation program.

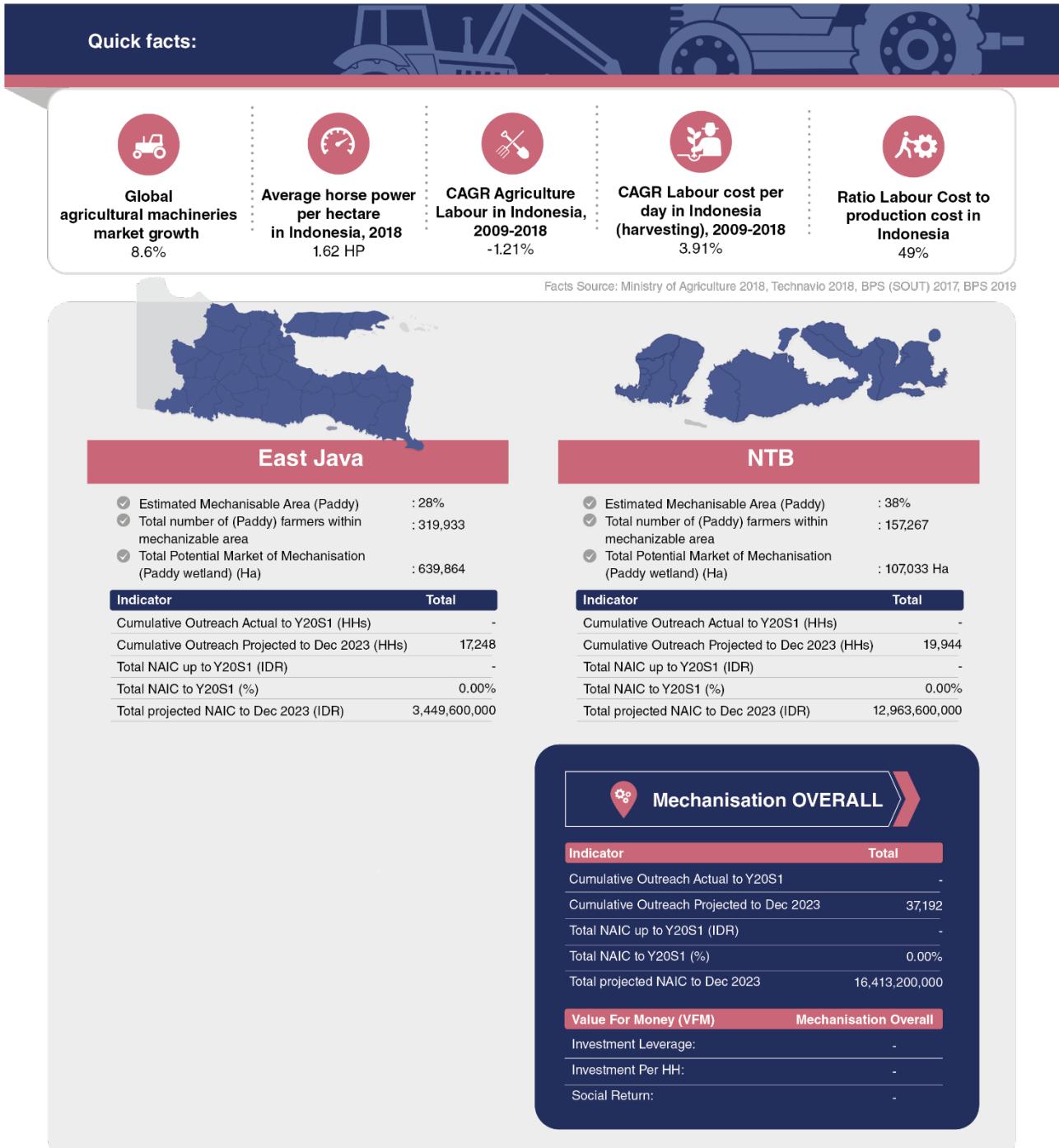
### Respond

- Two off-takers (PT Suaka Bumi and PT Flobamora) has started to procure maize from TJPS program and successfully delivered 42 tonnes of maize grain to Java. Flobamora further plans to develop a Village Owned Enterprise (Badan Usaha Milik Desa or BUMDes) as off-taking business unit at village level following strategy proposed on the Roadmap Maize NTT.
- Pupuk Kalimantan Timur (PKT) has entered the NTT market for commercial fertiliser.

## 9. MECHANISATION

# Mechanisation Sector Summary

Global agriculture machinery market is dominated by tractors and harvester machines which accounted for 44% and 17% of total market share, respectively. APAC region held the major share (36%) of global agriculture machinery market in 2015 and it was expected to grow at a CAGR of 8.6% in 2015-2020. Indonesia is in the top 5 countries in APAC with regards to agriculture land area which presents market opportunity for mechanisation. Early adoption of mechanisation happened in areas where labours are scarce i.e. Sumatra and Sulawesi island. In recent years, farm labours supply is trending down in more provinces and cost is going up, this is an opportunity to develop mechanisation service market and increase farmers access to agriculture machineries.



## 9.1 Mechanisation – East Java, NTB

Increasing production costs are a major challenge for smallholder farmers in Indonesia. Labour costs account for up to 49 per cent of total production in wetland paddy and maize. High and increasing labour costs are perpetuated by an ageing rural labour market as young people tend to migrate to urban areas in search of job opportunities. In East Java and NTB, total labour in agriculture has declined at a CAGR of 2.4 per cent and 4.8 per cent from 2014 to 2018<sup>20</sup> respectively, making it difficult for farmers to find workers for their land.

Agriculture mechanisation can address the labour cost and availability issue. Approximately 28 per cent and 38 per cent<sup>21</sup> of farming areas in East Java and NTB respectively can be accessed easily by large machinery. The rest of the farming areas are not easily accessible, which presents an opportunity for intermediary technology, such as small agricultural machinery and tools.

### Challenges and constraints

The root cause of large machinery market underperformance is as follows:

- **Limited information about machine service market and business potential.** Many importers have not built their capacity in the commercial market as they have been relying on government procurement. As a result, the growth of private machine service providers (MSPs) is limited as manufacturers do not actively promote and provide information about the machine and the business opportunity to potential market segments. Meanwhile, the government MSPs are notorious for low machine utilisation. This market dynamic leads to limited access to machinery service at farmer level. As per PRISMA's survey in 2019, 68 per cent of farmers in East Java are interested in using the service but do not have access to it.
- **Lack of machine tracking and renting support functions for the MSPs.** High utilisation is vital for the machine owner to gain profit. However, farmers usually plant diversified crops throughout the year so most machines can only run in one to two seasons maximum in one location. MSPs need to mobilise machines to other areas in the off-season but they do not have the tracking technology to confirm the revenue remotely. There is a risk of machine breakdown or stealing if they rent the machine to individual operators. Such risk presents a high barrier to entry and causes some MSPs to exit the business due to under-utilisation.

The root cause of small machinery market underperformance is as follows:

- **Limited information about relevant small machinery and tools.** Farmers have little awareness of small machinery and tools that are relevant for them. Most of the small agricultural machinery vendors do not promote their products as they lack information about the local context or needs and perceive marketing as a high-effort low-return activity.

On top of the market constraints, COVID-19 has presented some challenges to the mechanisation market:

- **Supply chain disruption** at the beginning of the COVID-19 outbreak as market actors rely on China to supply the machines and spare parts.
- **Limited machine financing option.** As a result of COVID-19, loan providers have increased their requirement for machinery down payments and interest rates, causing a drop in sales.
- **Limited marketing activity.** Travel and mass gathering restrictions prevents machine vendors from using traditional promotion (i.e. canvassing and demo plot). The earlier marketing strategy that was proposed to mechanisation partners has become obsolete in the era of COVID-19.

### Intervention areas

<sup>20</sup> Ministry of Agriculture. (2015). Statistik Pertanian 2015; Ministry of Agriculture. (2019). Statistik Pertanian 2019.

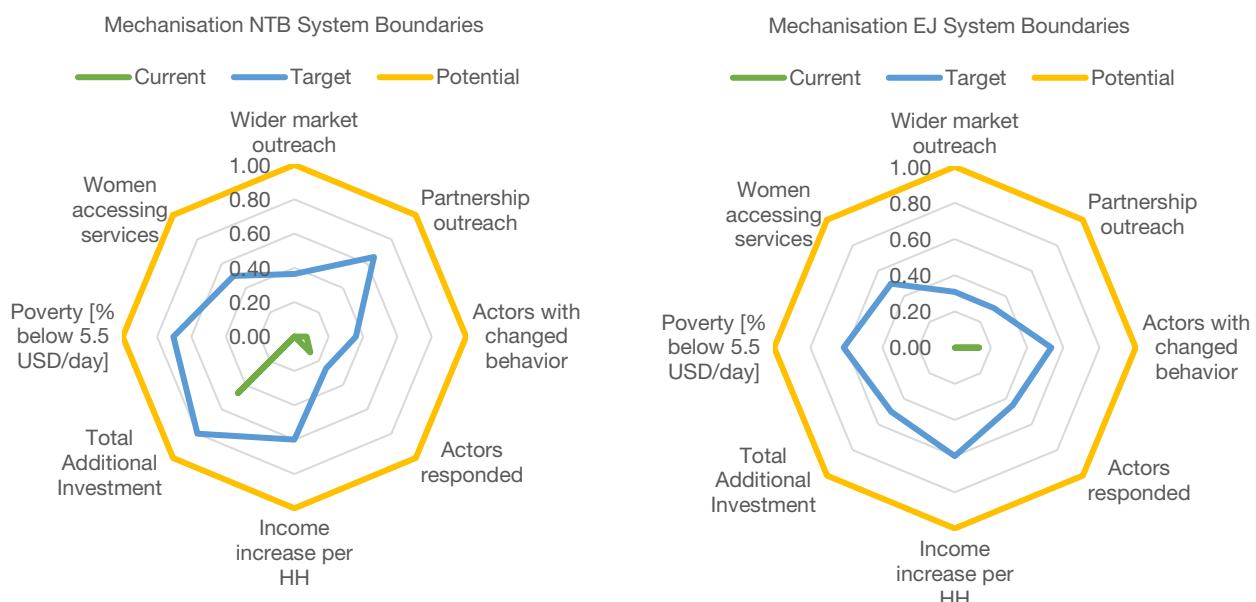
<sup>21</sup> KATAM Alsintan (2019).

To address these challenges and constraints, PRISMA will work with private sector partners to:

- Innovate marketing activities for relevant large and small machinery to help market actors acquire more customers in the open market.
- Introduce machine management outsourcing service to support machine service providers to mobilise their machine fully.
- Provide market linkage between machine vendors and financial institutions to provide credit for machinery transactions.

## Sub-sector vision for systemic change

PRISMA aims to improve farmers' access to small and large machinery services in East Java and NTB, leading to a more efficient farming process and reduced production costs. To achieve this, PRISMA will support manufacturers/importers in promoting their machines and business potential. PRISMA also aims to support the introduction of machine management outsourcing service. For large machinery, this will lead to more MSPs providing services to farmers due to better information and reduced risk. For small machinery and tools, this will lead to more farmers using products suitable to their needs and context.



## Progress towards sub-sector vision

### Adopt

- PT Rutan has incorporated the result of market research in their marketing strategy development.
- Terra has executed the machine management business model. They have worked with five local agents to bring the service of 14 combine harvesters and six four-wheel tractors to the market. In the last three months, Terra has provided its service to 241 ha of farming areas.
- As part of its COVID-19 response, PRISMA has supported PT Galaxy Partani Mas, a potential partner, to set up its social media presence and perform a preliminary online marketing trial. The online campaign reached 421,696 relevant farming users at the cost of IDR5 per access. On the other hand, average offline marketing cost is IDR 30,000 per audience. Galaxy now has dedicated one online customer service employee to managing incoming queries from farmers.

### Adapt

- PT Rutan expressed newfound interest in piloting a machine renting strategy, responding to the sales slowdown and offline marketing challenges posed by the COVID-19 situation. By renting out its machine assets, PT Rutan can promote new products without intensive demo plots and gain an

additional revenue stream. PRISMA has supported Rutan to commission a small research project to determine pricing and features.

- Terra is planning to pilot new services such as drone spraying, maize planting, and rice transplanting. It is currently learning the technical feasibility and business viability of the services.

#### **Expand**

- Other machine suppliers such as PT Hexa Teknika Prasada, PT Corrin Mulia Gembilang, and Pura Engineering group are showing interest in expanding their market through online and offline marketing in the less saturated area of EJ and CJ, as well as promoting machinery for commodities aside from rice. PRISMA is expecting at least two new contracts within the next three months.

#### **Respond**

- As part of its engagement with Bappenas, PRISMA has proposed optimising the government's machines by tendering the management rights at-fee and switching from machine grant to support for machinery loans to accelerate commercial market growth. Bappenas is interested in the idea and has offered to facilitate a meeting with the Ministry of Agriculture.
- As part of the COVID-19 response, local governments in Sumbawa and Sumbawa Barat are interested in improving the monitoring of machine grant performance. With PRISMA's facilitation support, Terra has promoted its fleet tracking system to governments which gained their interest. Terra is planning to add it as a new revenue stream and is currently developing a subscription package for government clients.
- As part of COVID-19 response, PRISMA has approached several financial institutions that have the potential to provide financing for agricultural machinery. BPR BKK Klaten, has expressed interest and intends to share the proposal with BPR BKK Jateng.

## 10. MUNG BEAN

# Mung Bean Sector Summary

Mung bean is an important crop in Indonesia, having high nutrients and ability to endure dry soil. Domestic consumption in 2018 is projected around 277 thousand MT (experiencing 2% decline annually). Mung bean production in Indonesia has been declining almost 3% annually (projected 235 thousand MT in 2018) with relatively low in productivity (1.1 MT/Ha in average) compared to high yield varieties (1.7 up to 2 MT/Ha), making Indonesia the 6th largest mung bean importer in the world. The national production has yet to fulfil the demand for mung bean consumption, especially for food processing industries who dominates the domestic consumption. PRISMA has identified a clear opportunity to increase mung bean production, productivity, and quality through commercializing high yield/certified mung bean seed varieties and promoting the use of GAP.

### Quick facts:



**Total production**  
207,000 MT



**Total harvested area**  
192,000 Ha



**Total Productivity**  
1,079 Kg/Ha



**Demand**  
4.5%\*

Facts Source: Statistik Pertanian 2019, Setjen Pertanian 2019



#### East Java

- ✓ Total Provincial Production (MT) : 40,780
- ✓ Total provincial harvested area (Ha) : 32,110
- ✓ Total farm households in the sector : 233,996

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	8,059
Cumulative Outreach Projected to Dec 2023 (HHs)	11,464
Total NAIC up to Y20S1 (IDR)	3,975,648,736
Total NAIC to Y20S1 (%)	33.50%
Total projected NAIC to Dec 2023 (IDR)	4,741,971,103



#### Central Java

- ✓ Total Provincial Production (MT) : 108,037
- ✓ Total provincial harvested area (Ha) : 104,442
- ✓ Total farm households in the sector : 258,455

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	8,477
Cumulative Outreach Projected to Dec 2023 (HHs)	40,748
Total NAIC up to Y20S1 (IDR)	4,465,306,917
Total NAIC to Y20S1 (%)	26.21%
Total projected NAIC to Dec 2023 (IDR)	21,826,721,286



#### NTT

- ✓ Total Provincial Production (MT) : 10,319
- ✓ Total provincial harvested area (Ha) : 12,236
- ✓ Total farm households in the sector : 54,642

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	761
Cumulative Outreach Projected to Dec 2023 (HHs)	761
Total NAIC up to Y20S1 (IDR)	400,840,008
Total NAIC to Y20S1 (%)	41.23%
Total projected NAIC to Dec 2023 (IDR)	400,840,008

#### Mung Bean OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1	17,297
Cumulative Outreach Projected to Dec 2023	52,973
Total NAIC up to Y20S1 (IDR)	8,841,795,662
Total NAIC to Y20S1 (%)	30.49%
Total projected NAIC to Dec 2023	26,969,532,397

Value For Money (VFM)	Mung Bean Overall
Investment Leverage:	0.27
Investment Per HH:	AUD 89.22
Social Return:	0.57

## 10.1 Mung bean – Central Java

Central Java is the largest mung bean producer in Indonesia, accounting for around 40 per cent of national production. After paddy, it is a popular crop among farming households in Central Java, (around 258,000) even though domestic production is declining by approximately 3 per cent annually (Setjen Pertanian, 2014-2019). Productivity in Central Java alone is 1.18 MTs per ha, slightly higher than national productivity (1.15 MTs per ha) but still lower than other provinces (South Sumatera, West Sulawesi and Gorontalo). This can be increased by the application of high yield varieties, which have the potential to increase production up to 2MT per ha.

In Indonesia, mung bean consumption is increasing by 4.5 per cent annually (2014-2019) according to Setjen Pertanian; national production has yet to fulfil demand, resulting in high annual imports (102,000 MT in 2018). However, Indonesia has also increased its mung bean trade internationally by 16per cent since 2016 to 2018 and is currently the seventh largest exporter worldwide. Considering the high number of poor smallholder farming households working in the mung bean sector and the availability of input market actors, there is strong potential in Central Java to increase both its production and productivity to meet national demand.

### Challenges and constraints

There are several reasons why the mung bean sector in Central Java is unable to increase its productivity and production:

- **Limited use of high yield varieties of mung bean seed.** Most smallholder farming households use retained or uncertified seed, considering it more accessible and affordable. However, local seed varieties usually produce a lower yield needing multiple harvests, with corresponding to higher labour costs. Farmers lack awareness of good quality varieties due to the limited number of seed producers in Central Java.
- **Mung bean farmers in Central Java do not apply proper GAP due to their limited access to GAP information.** This is exacerbated by the traditional perception of most farmers that mung bean will grow without GAP. Mung bean is currently not a government priority program and public extension service providers focus only on staple crops. Moreover, there is only a limited government budget allocated to incentivising extension services to disseminate GAP information for farmers.
- **Mung bean farmers experience high production costs and choose to plant mung bean only in the small areas due to the high labour cost.** During harvesting, workers cannot pick the beans simultaneously as many different seeds are used at the same time. Limited information of affordable options of harvesting technology also has disincentivised farmers from planting more mung bean.
- **Due to COVID-19, farmers' access to information of quality seed and GAP has been disrupted.** Public and private sector initiatives aimed at distributing more information have been obstructed by limitations on gatherings and the cancellation of the government's mung bean seed subsidy.

### Intervention areas

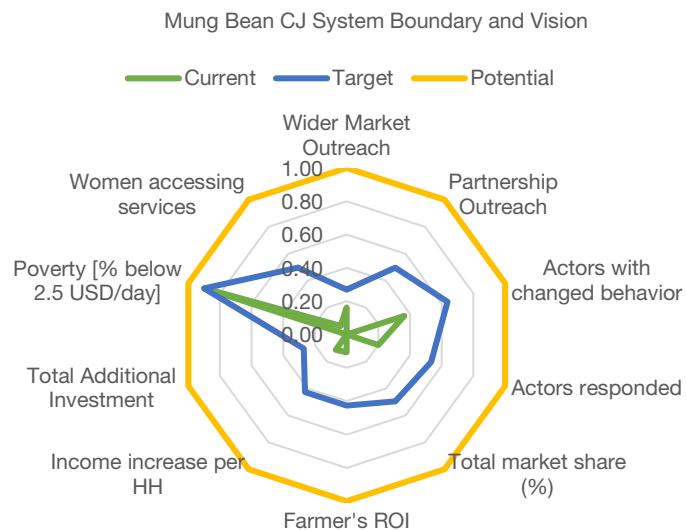
To address these challenges and constraints, PRISMA is working to:

- Collaborate with private sector seed nurseries to produce a higher quality of mung bean seed and to increase farmer awareness of the correct application of GAP.
- Facilitate partnerships between seed research institutions (such as Balitkabi) and the private sector to provide capacity building to seed producers (farmers) to produce better quality mung bean seed, as well as to ensure the timely availability of foundation seed.
- Initiate multi-stakeholder discussions to explore potential collaboration with other market players (both private and public sector) to increase market player awareness of the mung bean industry.

- Collaborate with the private sector, including machinery companies and service providers, to introduce and market combine harvesters to be used in mung bean crops.

## Sub-sector vision for systemic change

PRISMA aims to establish a better mung bean seed market and create GAP awareness by improving the capacity of key market actors. Seed producers and agri-input kiosks will actively promote certified/ high-quality varieties of the mung bean seed and the importance of GAP. Moreover, machinery service providers will provide and actively market the use of combine harvester. By 2023, up to 50,000 smallholder farming households in Central Java will experience income increase due to higher mung bean productivity and lower production cost, as well as better access to and knowledge of certified mung bean seed and GAP. This intervention has the potential to substitute imports for mung bean.



## 10.2 Mung bean – East Java

East Java is Indonesia's second-largest producer of mung bean. Together with the largest producer, Central Java, the two provinces accounted for 68 per cent of Indonesia's total production of mung bean in 2018. East Java has around 233,000 mung bean farmers, roughly half of whom are in Madura, while the rest are spread throughout 30 or more districts. Since 2008, mung bean production and its cultivation area have decreased in East Java, with only a slight increase in productivity, which is currently at 0.8 MT per ha. This yield average is much less than the potential to increase production up to 2 MT per ha through use of high-quality certified seeds.

Mung bean is rich in easily digestible protein and other nutrients. It adds nitrogen to the soil, requires less water, and has a short crop duration, which makes it popular in crop rotation, particularly among more impoverished farmers. It is cultivated as one of the most preferred secondary cash crops in the dry season due to its low maintenance and production costs compared to other crops, though required labour costs are still high. Still, there is potential for farmers in East Java to increase mung bean productivity without significantly raising their production costs. As domestic and international demand is increasing and prices are going up, there is also viable scope for import substitution.

## Challenges and constraints

The significant challenge for mung bean farmers in East Java is low productivity. The main reasons for this are:

- **Lack of commercial players and limited distribution of quality mung bean seed.** Seed producers are reluctant to instigate production as they are not assured of demand and profit.
- **Lack of information about better cultivation practices, improved seed and inputs, and the overall potential of mung bean as a more profitable cash crop.** Information regarding cultivation is not supplied by any actor in the market.

- **Mung bean is not considered a nationally important crop according to the government development strategy.** As a result, extension services (which function with limited knowledge and resources) do not focus on it. Nevertheless, there is a growing interest from government, as shown by the continuous mung bean seed subsidy program from the government; this is likely to have a positive impact upon the availability of information on mung bean market demand.
- **The rat attack has resulted in harvesting failure.** East Java has suffered from persistent rat attacks in several sequential planting seasons, including for other different crops. As a result, farmers are reluctant to invest more in mung bean production.
- **COVID-19 has made the distribution of information more difficult due to the limitation of farmer meetings and gatherings.** The pandemic has also forced MoA and local government to focus more on staple crops such as maize and paddy and cancelled the mung bean seed subsidy for this budget year.

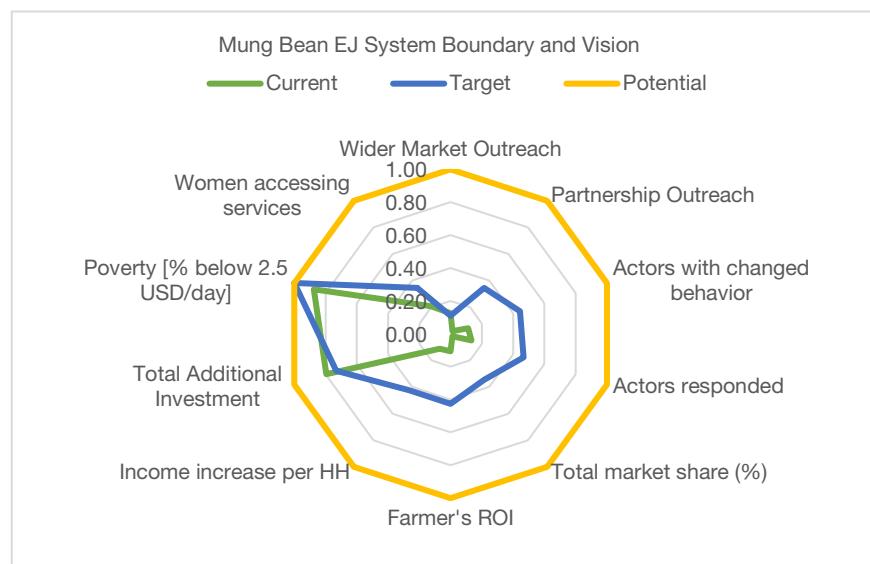
## Intervention areas

To address these challenges and constraints, PRISMA is working with partners to:

- Promote high-yielding varieties of mung bean seed and GAP application through partnerships with seed companies. High-yielding varieties will allow farmers to produce mung bean varieties that have higher yields and a uniform harvest.
- Develop new and high-yielding varieties of mung bean seed which match end-market demand, by linking seed companies with research institutions.
- Initiate multi-stakeholder discussions to explore potential collaboration with other market players (both private and public) to increase market player awareness of the mung bean industry.

## Sub-sector vision for systemic change

By 2023, PRISMA aims for up to 20,000 male and female mung bean farmers in East Java to have increased their productivity and quality by having access to high quality certified mung bean seed. It will achieve this by helping seed producers to develop their business portfolios and increase turnover through effective marketing strategies designed to sell certified quality mung bean seed and educate farmers in GAP. This approach will result in mung bean farmers producing and selling more mung beans at a higher price.



## Progress towards sub-sector vision (Central Java and East Java)

PRISMA works in CJ and EJ with the same partners and intervention areas; progress is the same in both provinces.

### Adopt

- EWINDO and CV Semi are producing a certified, high-quality variety of mung bean seed (Vima 1 for EWINDO, VIMA 1 and 3 for CV Semi). Both continue to follow the business model that PRISMA promoted in its first intervention.

- EWINDO underwent the legal process needed to expand its business to food crop seed production.
- EWINDO has embedded information on mung bean nutritional benefit in its mung bean seed promotions as a response to food insecurities during COVID-19 and to offer an alternative source of protein to rural households.
- EWINDO has developed a new normal agriculture practice campaign to farmers as a response to COVID-19. This will be distributed to all dealers in Indonesia and EWINDO's digital platform.

#### **Adapt**

- CV Semi has independently applied for a license to produce the Vima 2, 4, and 5 seed variety.
- CV Semi is serving the untapped market in NTT and South Kalimantan through the government subsidy program and NTB, Banten, West Java, and Riau through the open market.
- EWINDO has sold mung bean seed independently all over Indonesia and included mung bean in its Anoxia storage testing.
- EWINDO proposed and received licensing for internal seed certification; also conducted a trial to offer an expiration date extension with the Institute for Quality Management System Certification (Lembaga Sertifikasi Sistem Manajemen Mutu or LSSM).

#### **Expand**

- An additional mung bean seed nursery (PB Utama) entered the mung bean seed market by copying the business model from CV Luwes (a PRISMA intervention partner from Phase 1).

#### **Respond**

- Nestle Indonesia is collaborating with EWINDO to source mung bean locally. It aims to gradually replace the imported mung bean raw materials for baby food products due to the improved quality of local mung bean from the Vima variety.

## 11. PEANUT



### Peanut Sector Summary

Indonesia is the 14<sup>th</sup> largest peanut producer which contributes to 1.0% of global production share. Its production has been falling in 2014-2018 period, with 5.4% CAGR, due to declining in harvested area. Indonesia's peanut productivity is 1.3 ton/ha, which is relatively low compared to global level average. Despite its relatively low production, Indonesia is ranked as the 5th largest peanut consumer, which indicates its heavy reliance on import, putting Indonesia in the second top importer in the world. The top producers of peanut in Indonesia are mostly located in Java island, with East Java leading the production with 29% share in 2018, followed by Yogyakarta. Local producers are still unable to fulfill the growing demand from industrial food processors, therefore, there's a clear business opportunity to increase domestic peanut production volume and quality.

#### Quick facts:



**Total production**  
457,024 MT



**Total harvested area**  
353,768 Ha



**National productivity**  
1,292 MT/Ha



**Demand**  
-1.6%

Facts Source: Statistik Pertanian 2019, Sensus Pertanian 2013



#### East Java

- ✓ Total Provincial Production (Ton) : 145,939
- ✓ Total provincial harvested area (Ha) : 110,414
- ✓ Total farm households in the sector : 476,725

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	1,209
Cumulative Outreach Projected to Dec 2023 (HHs)	3,661
Total NAIC up to Y20S1 (IDR)	2,363,117,160
Total NAIC to Y20S1 (%)	56.30%
Total projected NAIC to Dec 2023 (IDR)	6,569,460,532



#### Central Java

- ✓ Total Provincial Production (Ton) : 86,910
- ✓ Total provincial harvested area (Ha) : 63,341
- ✓ Total farm households in the sector : 268,858

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	3,677
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	6,309,515,057



#### NTT

- ✓ Total Provincial Production (MT) : 9,978
- ✓ Total provincial harvested area (Ha) : 11,564
- ✓ Total farm households in the sector : 48,793 HHs

Indicator	Total
Cumulative Outreach Actual to Y20S1(HHs)	1,340
Cumulative Outreach Projected to Dec 2023 (HHs)	1,340
Total NAIC up to Y20S1 (IDR)	1,637,253,720
Total NAIC to Y20S1 (%)	52.72%
Total projected NAIC to Dec 2023 (IDR)	1,637,253,720



#### Peanut OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1	2,549
Cumulative Outreach Projected to Dec 2023	8,678
Total NAIC up to Y20S1 (IDR)	4,000,370,880
Total NAIC to Y20S1 (%)	54.11%
Total projected NAIC to Dec 2023	14,516,229,309

Value For Money (VFM)	Peanut Overall
Investment Leverage:	0.06
Investment Per HH:	AUD 923.63
Social Return:	0.17

## 11.1 Peanut – Central Java and East Java

From 2014-2018, Indonesian peanut production declined at a CAGR of 5.4 per cent before experiencing a slight increase in the end of 2018. The decrease was mainly due to the increased maize subsidy in recent years, making it a more profitable crop alternative. Nationally, the top peanut producers are mostly located in Java Island, where East Java (29 per cent), Yogyakarta (20 per cent), Central Java (19 per cent), and West Java (8 per cent) contributed to 76 per cent of national production.

In Central Java, productivity levels have remained relatively stagnant over the past five years, at between 1.3 and 1.4 MTs per ha for its 268,858 farmers. East Java, which is home to 476,725 farming households, has consistently surpassed average national yields since 2011. Its productivity remains low compared to other top producers such as West Java (1.85 MTs per ha in 2015; an average of 1.63 MTs per ha from 2012-16) and Central Sulawesi (an average of 1.60 MTs per ha). There is a market opportunity to expand peanut production in these provinces to meet the growing demand from industrial food processors, who are looking to expand their procurement of local peanut.

### Challenges and constraints

Despite its market potential, peanut farmers are unable to obtain substantial profits due to the following constraints:

- **Most farmers sell peanuts at the wet pod stage directly from the farm gate, preventing them from value addition and improved returns.** This practice originated decades ago, making GPP uncommon among farmers. In addition, peanuts can always be absorbed into the market, and at the trader's end, any form and quality of peanut is marketable. As a result, there is no incentive for traders to provide embedded services to farmers.
- **Farmers typically obtain peanut seed through three main channels:** (1) retaining seed from the previous harvest; (2) purchasing seed from collectors, traders or neighbours, and (3) planting a small quantity of peanut alongside their primary crop during the rainy season as a source of seed. These are favoured by farmers over certified seed which is more expensive and is rarely available in traditional markets.
- **Large processors now pay more attention to taste and are therefore starting to look for local kernel sources from previously imported peanuts.** However, most do not have GAP, GHP or GPP capability, and have limited staff, as their core competencies are in trading or manufacturing. This is particularly true for the large processors, who only interact with district suppliers when sourcing peanuts.
- **Peanuts are not a government priority crop; as a result, allocation of public extension services is limited.** In addition, no specialty input product for peanut exists, meaning that private input companies also provide no extended services to peanut farmers.

**Due to COVID-19, challenges to mobility have restricted field activities.** This has led to delays in some planned activities which have been adjusted accordingly.

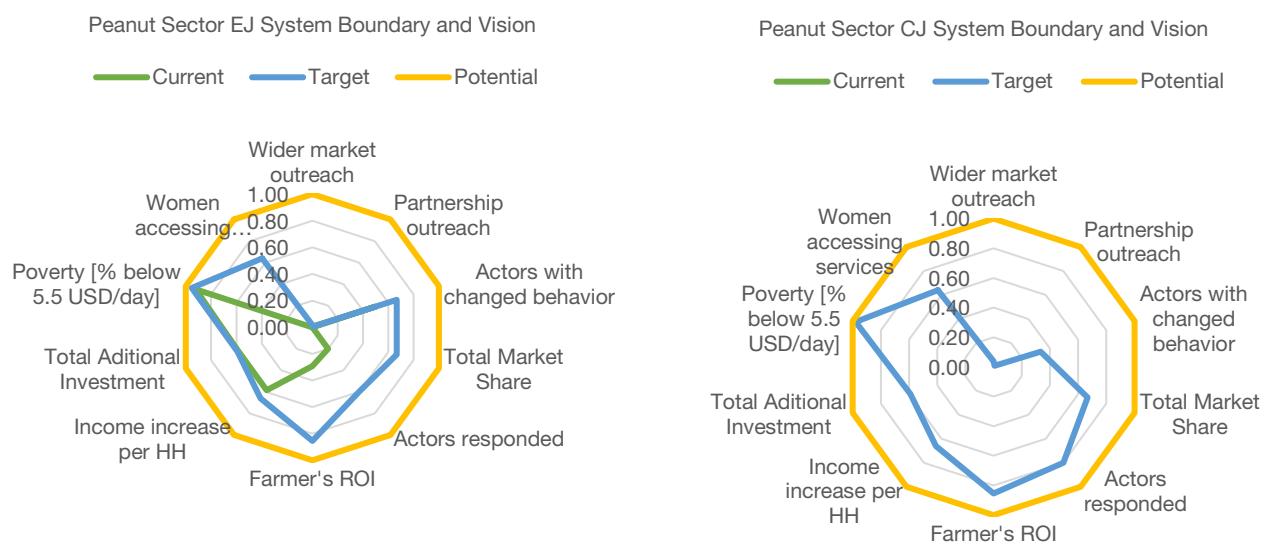
### Intervention areas

To address these challenges and constraints, PRISMA is working with partners to:

- Promote peanut off-taking partnerships.
- Promote good quality seed for peanut production.

## Sub-sector vision for systemic change

Building on experience from Phase 1, PRISMA Phase 2 is focusing on providing strategic advisory services to peanut processors to enable them to expand their business and source locally, and slowly substitute imports. The team will also introduce farmers to advanced processing methods to add more value to their selling price. By 2023, 6,000 female and male farmers in both provinces will benefit from increased income. Food processors will also be better-informed on sourcing locations and factors affecting supply quality. Their technical capacity in terms of peanut GAP and GPP will also have improved by partnering with external partners. By the program's end, seed nurseries will be operating profitably in the market, with better location targeting; they will be informed of the commercial opportunity of the seed market, and well-connected with the existing network established in PRISMA's primary intervention.



## Progress towards sub-sector vision

### Adopt

- Garuda food invested and established partnership/contract farming with newly identified farmer groups in East Java and Central Java as part of their peanut sourcing strategy.
- Garuda food provided good quality seed and peanut farming technical assistance to newly identified female and male farmers groups in East Java and Central Java through collaboration with harvester service providers.
- Processing service providers invested in peanut processing machines that are rented to farmers allowing newly identified farmers in East Java and Central Java to process their harvest before selling it to Garuda Food.

### Adapt

- Garuda Food started to apply the partnership farming scheme with its existing supplying farmers and collectors to fulfil its demand.

### Expand and Respond

- Crowding-in and responses from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## **QMT decision and reasoning**

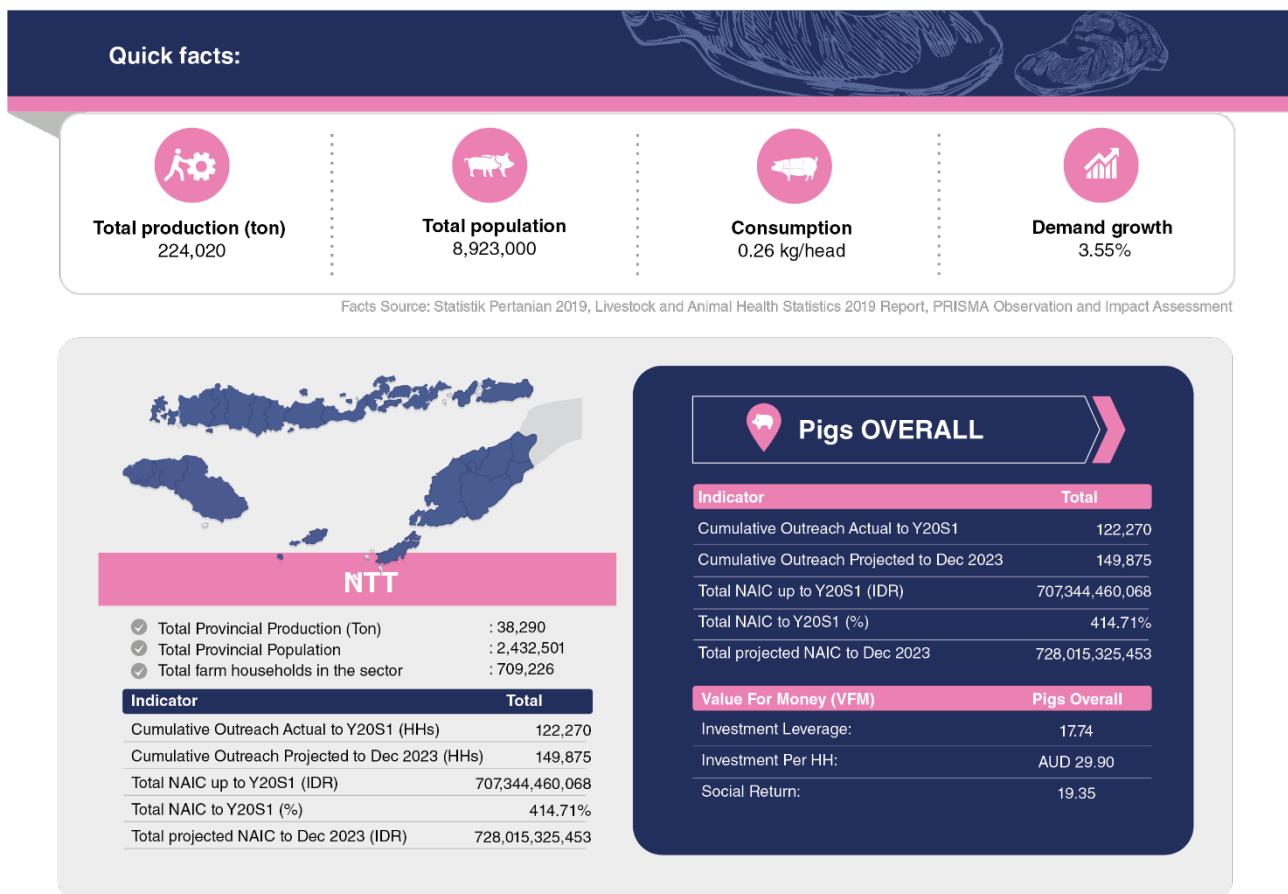
The current incentive for major market players to invest in peanut farming assistance in Indonesia is quite low, mainly due to the high dependency on imported peanut from other main producing countries which enjoy competitive advantages, especially in term of price. In addition, the position of peanut as a secondary crop also disincentivises both farmers and the private sector from investing more in the sector.

Against this backdrop, PRISMA has decided that the off-taking partnership with Garuda Food will follow a phase out strategy to close the sector. Although the partnership was initially scheduled to end by June 2020, PRISMA and Garuda Food decided to extend the partnership for six months to complete delayed activities due to the missed planting cycle and COVID-19. This will enable the partnership to complete one full planting and harvest season to assess the partnership outcomes. Therefore, in the next semester, PRISMA will only focus on completing outstanding activities with Garuda Food and ensuring monitoring tools are in place to capture information from field. Within this plan, PRISMA's involvement will gradually decrease and will be on demand-based consultation while waiting for the impact assessment in 2021.

## 12. PIGS

### Pigs Sector Summary

The recent African Swine Fever outbreak in China decreased the pig population in the country by over 10%. With the largest pig population in the world, this sudden drastic decrease is affecting the global market as more countries are affected creating a gap in the market to be fulfilled. In Indonesia, pork production has increased by 4.5% annually since 2000 and is mostly influenced by feed prices and disease management. NTT with the largest pig population in Indonesia, has the opportunity to improve the overall pig production. Based on an assessment of the pig market system in NTT revealed that farmers were using traditional methods, including local breeds, traditional feed, and minimal pharmaceutical inputs which results to long rearing period - up to 2 years. Furthermore, the sector has the potential to improve the livelihood of farmers in NTT since pigs are considered valuable assets within local communities and an estimated 85% of the pig population in NTT is managed at smallholder farmers level.



### 12.1 Pig – NTT

NTT has the largest pig population of any of Indonesia's provinces; its 2.4 million pigs account for 27 per cent of the national pig population. An estimated 85 per cent are managed by around 709,226 smallholder farmers, rearing an annual average of three pigs per household. The development of the pig sector is driven mainly by its cultural and religious significance as part of customary ceremonies and practices.

Despite having the country's largest pig population, the market and production are underdeveloped. A pig is normally slaughtered at around 100kg, a weight which can be achieved at six to eight months if farmers use a good breed with good rearing practices. However, a PRISMA assessment of the pig market system in NTT revealed that farmers were using traditional rearing methods - using local breeds, traditional feed and minimal pharmaceutical inputs – which mean it can take up to two years to reach the same weight.

African Swine Fever (ASF) was first detected on Timor Island in early 2020. ASF virus is highly contagious with a high fatality rate, which spreads quickly between infected pigs and contaminated equipment and food. The virus has killed at least 24,000 pigs in NTT and as there is no vaccine, it continues to spread across NTT. Farmers, breeding farms, feed companies and off-takers are all affected. The dual impact of ASF and COVID-19 currently presents significant challenges, but also opportunities: triggering innovations, increasing

awareness of biosecurity and stimulating multi-stakeholder collaboration to tackle these challenges comprehensively.

## Challenges and constraints

Farmers are unable to increase pig rearing productivity for these following reasons:

- **Use of low-quality local breeds instead of high-quality breeds.** The high prevalence of low-quality breeds in NTT is due to interbreeding (which leads to high mortality rates), low weight gain, and the overall poor health of piglets. Improving the breed quality of pigs NTT from top-down proves to be a challenging task as it requires either the importation of live pigs from outside NTT, which is currently banned by local government policy due to ASF, or the use of fresh semen. The latter is the most cost-effective and straightforward option, but it is a relatively new practice so capacity building in this area is needed. Farms with upgraded genetics will then have to explore artificial insemination (AI) services to help improve the breed quality at farmer level, which also requires investment in training and equipment procurement.
- **Use of traditional feeding practices.** Many farmers use traditional feeding practices which are time-consuming and are of low nutritional content, leading to low daily weight gain and increased risk of disease. They also apply minimum animal health products (vitamins, supplements, vaccines) and poor rearing practices (breeding, and pen and waste management), which increase health risks and lower pig survival rates.
- **High incidence of epidemic diseases causing slow weight gain and even death.** Lack of farmer access to and willingness to apply health products, and information on how to use them, as well as poor application of biosecurity. At best, these slow pig growth due to sickness and at worse, lead to death. It is critical to address the prevalence of classical swine fever (hog cholera) and the looming threat of ASF to avoid the devastation of pig populations. Moreover, in the field of animal health, pharmaceutical companies have yet to prioritise pig health products, resulting in a limited product range available in the market, (and large pack sizes even when products are available) and poor distribution networks.
- **Unhygienic and underdeveloped live pig and pork end markets, causing a limited market for pig meat.** When pigs are ready to sell, there are only a few markets in which to sell their products as the processing business is very limited. While smoked pork (*sei*) is widely available in Kupang and Timor Island, this is not apparent in other NTT islands. In NTT, the demand for continuity of pork supply is still very low, and live pig demand is highly dependent on religious and cultural ceremonies (95 per cent in Flores, 98 per cent in Sumba, 68 per cent in Timor). Live pig trading also exists, but there is no certainty of when to sell, and negotiating terms is often challenging.
- **A setback in the pig end market due to COVID-19.** As noted above, there is a strong link between cultural and religious events with pig demand. COVID-19 and the measures to contain the spread of the virus have led to a decline in social events. This has flattened demand for not only fattened pigs, but also piglets and pig feed.

## Intervention areas

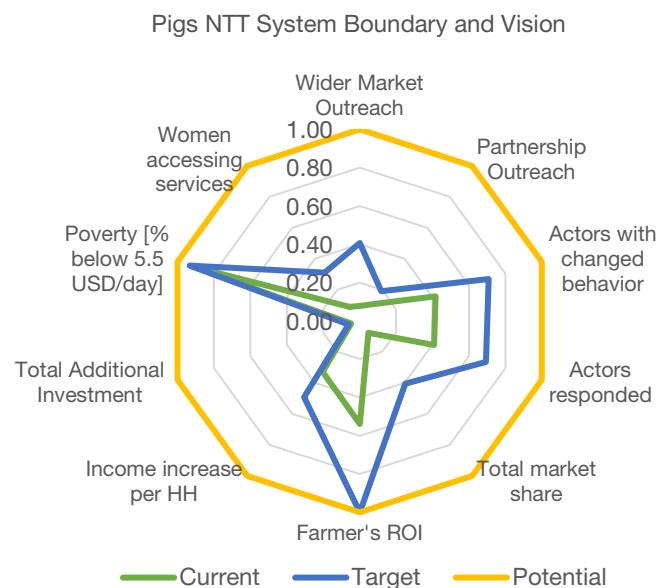
To address these challenges and constraints, PRISMA is working with public and private partners to:

- Develop an NTT breeding strategy to include improved breeds and an efficient breeding system by replenishing breeding stock, breed management and the establishment of selection mechanisms. This will help to produce superior sires of different promising breeds for both natural mating and for semen extraction, facilitating fresh semen AI on a wider scale.

- Improve good husbandry and health management (to ensure GHP) by building the capacity of farmers and ISPs in pig animal husbandry (breeding, rearing, feeding) and health management practices. This will include biosecurity to reduce the risk of disease and lower pig mortality rates.
- Develop and disseminate strategic advice on ASF preparedness, prevention and response in collaboration with the government (national and sub-national), private sectors, and other relevant stakeholders.
- Improve traditional feed and feeding practices by promoting the use of complete feed, concentrate, additives and/or supplements to help boost pig productivity.
- Promote linkages between farmers and higher end markets, increase pig absorption from the commercial pork market by linking farmers or pig producers with buyers and facilitate capacity building for butchers, processors and the end market, including promotional activities and services.
- Promote an enabling environment by organising public-private dialogue, pig and pork strategy development and implementation, humane and hygienic breeding, rearing, transportation and slaughter for the overall development of pig and pork industry in NTT.

## Sub-sector vision for systemic change

Starting the second phase of program implementation, PRISMA is aiming to achieve an income increase for an additional 50,000 smallholder pig farming households on top of 120,000 beneficiaries from previous years (29 per cent of NTT's total of 595,750) by 2023. This will be achieved by providing farmers with access to information about artificial insemination as well as improved pig breeds and breeding system, quality feed and balanced feeding practices, use of biosecurity measures, animal health and pharmaceutical products, good pig husbandry practices, linkages to downstream markets, and a conducive regulatory environment.



In addition, key upstream actors (including feed producers, pharmaceutical producers, breeders) and downstream market actors (including micro slaughterhouses, butchers, restaurants) will continue activity in existing markets, achieving profits and expanding their business to reach smallholder farming households in new areas. Pig breeding centres will continue to provide quality breeds as well as AI services to farmers to establish a sustainable breeding market system. The increase in better production of piglets at the farm level will stimulate the growth of downstream market actors (including traders, abattoirs, processors) and improve their skills and capacity. In addition, policymakers will continue to create a conducive business regulatory environment to support sector growth.

## Progress towards sub-sector vision

### Adopt

- PT Sierad Produce Tbk, PT Panca Patriot Prima, PT Sinar Indochem, and PT Sinar Terang Madani designed and implemented a marketing strategy to promote their products offline.
- As COVID-19 has made face-to-face marketing difficult, PRISMA supported its partners to shift to online, digital channels: Panca Patriot Prima allocated budget to radio and SMS blasts, while Sierad has invested in Facebook and Google Ads.

- With PRISMA's facilitation, Sierad, Panca Patriot Prima, Sinar Indochem and Sinar Terang Madani expanded their distribution channels and developed marketing capacity for better market penetration.
- Based on observations shared by PRISMA, Sierad, Panca Patriot Prima, Sinar Indochem and Sinar Terang Madani tailored feed according to customer needs. This included producing 10kg pig feed packages and launching sow concentrate.
- Sierad, Panca Patriot Prima and Sinar Indochem hired field staff to be based in Flores and conduct marketing activity on the ground.
- Panca Patriot Prima opened a depot in Ruteng, while Indochem's distributor in Sikka opened a new warehouse to ensure the availability of feed should movement restrictions delay shipments.
- Panca Patriot Prima and Sinar Indochem are including local context in their marketing strategies, such as by collaborating with churches that own breeding farms.

### **Adapt**

- Sierad, Panca Patriot Prima, Sinar Indochem and Sinar Terang Madani expanded their market to other areas in NTT.
- In response to ASF, Panca Patriot Prima and PT Sinar Indochem now sell animal health products.
- Sierad, Panca Patriot Prima and Sinar Indochem now produce other feed products (poultry, beef, fish, corn milled, and rice bran).
- Sinar Indochem has replicated and modified its contract demo plot with the breeding farm.
- Sinar Indochem's distributor now offers credit instalments to agents to grow its sales and network.
- Sierad has responded to the ASF outbreak by providing biosecurity products to its pig farms (one litre of such of disinfectant per farm).
- All marketing by Sierad, Panca Patriot Prima, Sinar Indochem that requires physical presence is conducted according to the current safety protocols.
- Panca Patriot Prima and Sinar Indochem are applying adaptive marketing strategies during the pandemic, such as providing free masks or free delivery for a certain amount of feed purchase.

### **Expand**

- Sierad Produce has expanded its feed product offering as a result of its market strategy in NTT. This now includes local pig feed products and single component feed products, delivered in smaller packages and to more regions (Bali and Papua).
- There are some indications that Sierad and Panca Patriot Prima wish to copy their strategy in NTT in other locations in Indonesia.
- Some crowding-in feed companies, e.g. Patriot Panca Prima, already enters the market and partners with PRISMA. More crowding-in feed companies to expand their pig feed market to NTT will continue to be observed.

### **Respond**

- Koperasi Florete sells Patriot pig feed to its members and plans to set up an Arisan for pig feed.
- Animal pharmaceutical (PT Medion Farma) companies have increased their investment in promoting their products and support breeding farms in Kupang.
- CV Aroma Duta Boga's breeding farms have an agreement with Sierad to supply quality feed to the farms.
- Breeding farms have begun to sell quality pig feed with their piglets in bundles. Keuskupan Sikkawich is selling piglets together with PT Sinar Indochem pig feed products. Similarly, Kesusteran Paroki Santa Maria in Ruteng sell piglets with products from Panca Patriot Prima.

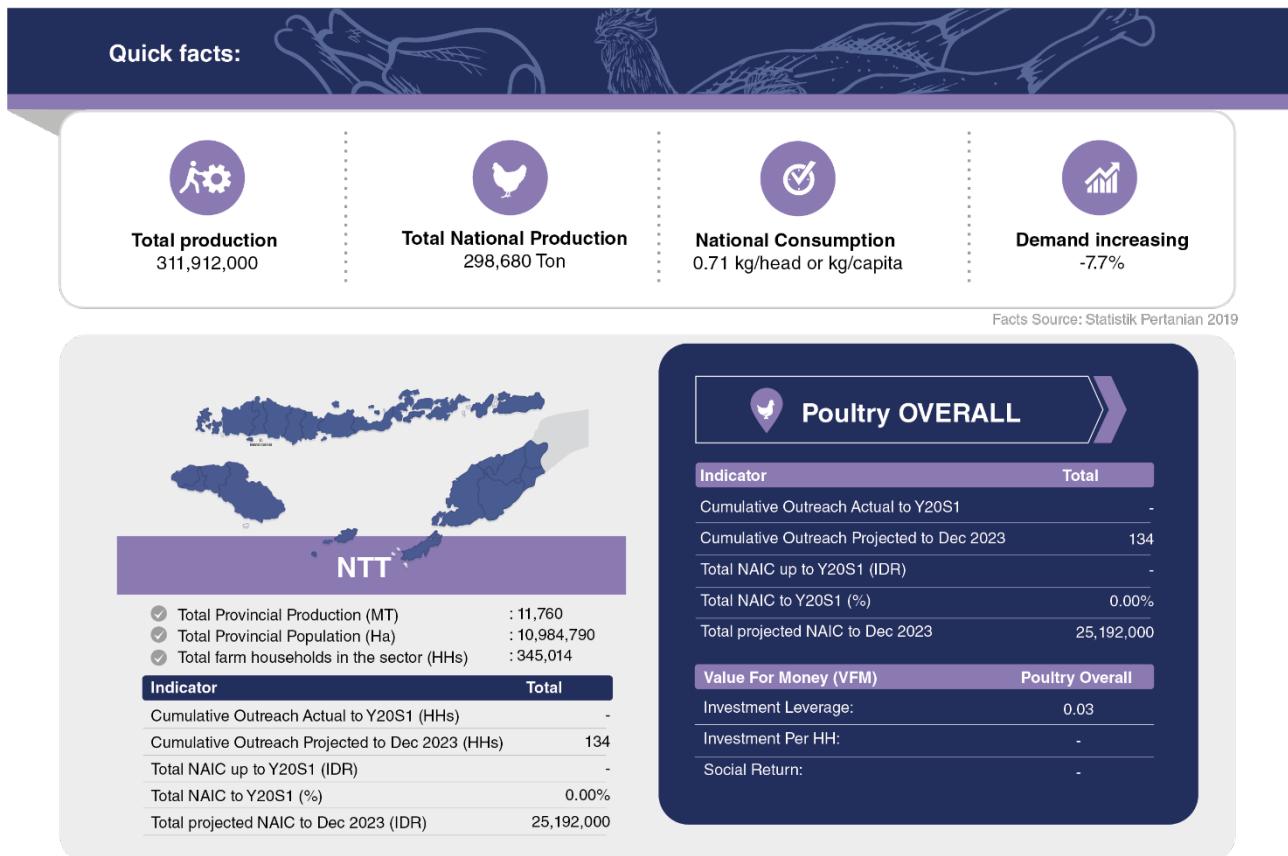
- Cooperative and SME agencies in Flores Timur operate livestock programs that include pig and poultry (chicken and quail) rearing. They are now introducing pig feed products to farmers, including young farmers.
- The government in Flores continues to support the adoption of quality pig feed at government-owned breeding farms (Manggarai Livestock Agency) and includes pig feed product in its social programs (Cooperative and SME agency in Flores Timur).
- Off-takers (butchers, restaurants) are yet to pay higher prices to farmers for better quality pork due to the use of quality feed and good rearing practices as these would take a time to materialise into higher quality pork and price change will take some time to be visible.

## 13. POULTRY



### Poultry (Local Chicken Focused) Sector Summary

Poultry meat is the largest growth contributor in the animal protein market globally and nationally. The number of poultry farmers is also the highest which accounts for 39% of total livestock farmers. Majority of chicken farmers rear local chicken, which has low productivity due to lack of knowledge and skill in good poultry husbandry practice. Ayam Kampung Asli is the real native chicken breed in Indonesia. Farmers still rear them traditionally in their backyard using local sourced feed, which results in long rearing period and high harvest price. Furthermore, there is still unfulfilled demand for real local chicken that is hard to fulfil due to long rearing period and low supply.



#### 13.1 Poultry NTT

Approximately 70 per cent of chicken meat and eggs in NTT is imported from Java and Bali. There is just one broiler hatchery in NTT, owned by Charoen Pokphand in Kupang; another is planned for Nagekeo, Flores. The number of broiler farmers in NTT remains small compared to Java, with around 120 in Timor Island producing less than 250,000 chickens each month. The price of chicken meat and live birds is also considered high in NTT, at times being double that of Java.

Given the high price and lack of local supply of broiler chickens, farmers of local chicken continue to rear poultry only for household consumption. A few local poultry farmers also target bulk buyers, such as restaurants. These farmers tend to buy adult chickens to breed with their own birds, and there is no supplier of high-quality local chicken in NTT, unlike in Java. BPTP Kupang is the sole research centre breeding KUB chicken<sup>22</sup>; however, its capacity is too low to provide a constant supply of KUB day-old chicks (DOC).

Currently, chicken production is one of the government's main priorities in health and nutritional issues, such as stunting among infants and children under five in NTT. Chicken meat and eggs are widely considered to be a source of affordable animal protein for the eradication of stunting in infants and children under five, providing potential opportunity for the growth of local chicken farmers.

<sup>22</sup> Kampung Unggul Balitnak (or 'Balitnak's superior kampung' chicken), bred by BPTP, the Indonesian Animal Research Centre.

## Challenges and constraints

The major challenges and constraints faced by the poultry sector in NTT are:

- **Chicken carcasses and egg supply, especially of broiler, are still limited.** Opportunities therefore exist to improve the supply.
- **High production risk at the farmer level** due to the exposure of transmitted disease, poultry cannibalism and the chickens' vulnerability to stress. Farmers need to start at a large scale due to the small profit margin per chick and high initial investment and, as part of the production process, need to master advanced rearing practices in order to minimise loss.
- **Ineffective rearing practices lead to increased loss or lower income** unless the farmer is involved in contract farming.
- **Lack of DOC and feed supply**, as there is only one broiler hatchery in NTT and no accessible high-quality feed miller. DOCs are imported from Java, doubling costs because of high transportation costs, and the feed supply is unstable because of resellers' reliance on stock from Java.
- **High prices of DOC and feed caused by high transportation costs.** The capacity of local hatcheries currently cannot cope with DOC demand, so they continue to rely on imports from Java. This creates a domino effect, as the feed price is impacted by maize imports, currency fluctuations, and the global maize price, while the input price (of DOC) is highly affected by feed price.
- **The poultry sector has been hit hard by COVID-19.** Chicken demand has decreased significantly as the restaurants are closing and the tourism sector has imploded. Hatcheries need to reduce their production to prevent oversupply. PSBB prohibited air transportation of native chicken DOC from Denpasar to NTT in April and May, completely wiping out sales from native chicken hatcheries during the period. As the airline industry is yet to recover, DOC transportation remains an issue. Often the airline cancels the flight due to not enough passengers, causing scarcity of fresh DOC in NTT. The feed price has slightly increased due to currency fluctuation. Additionally, farmers struggle to connect to the downstream market, making it harder to sell the harvest. Some farmers have stopped rearing chicken altogether and are waiting until the situation is back to normal.

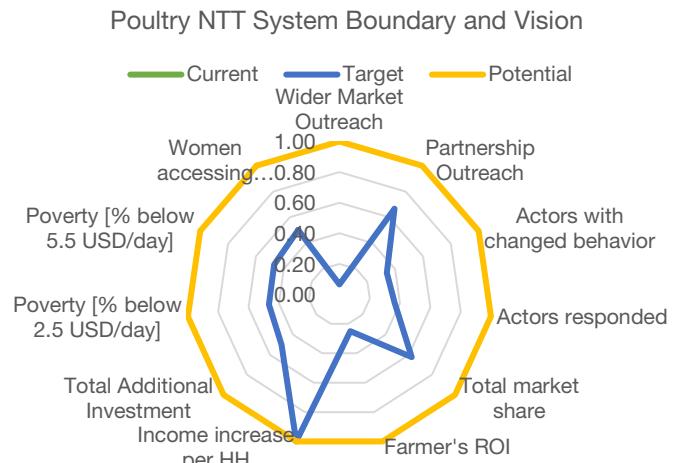
## Intervention areas

To address these challenges and constraints, PRISMA will work to:

- Facilitate market promotion of high-quality local chicken (KUB chicken) from Java to NTT
- Promote of green feeding and market linkages with feed and pharmaceutical suppliers.

## Sub-sector vision for systemic change

PRISMA aims to improve the income of at least 10,000 poultry farming households (6.7 per cent of 150,000 potential poultry farmers in NTT) by facilitating their improved access to high quality input, GRP and market information. It will achieve this through an increased input supply from hatcheries, feed producers, pharmaceutical companies and effective downstream markets, enabling farmers to rear and sell more chickens in a supportive regulated environment and with the relevant government permits.



## **Progress towards sub-sector vision**

### **Adopt**

- PT Sumber Unggas Indonesia (SUI) has been selling DOC in NTT through established agents and training events.

### **Adapt**

- PT SUI has been exploring the development of a marketing strategy through online channels such as Facebook, WhatsApp groups and e-commerce, and Search Engine Optimization (SEO). Since the pandemic hit, online marketing has become a key activity for marketing DOC. As PT SUI had tapped into online marketing before COVID-19 hit, they actively modify their marketing strategy to fit the current condition.
- PT SUI has been improving its marketing strategy from conducting socialisation to conducting farmer canvassing and farmer visits.

### **Expand**

- There have been no signs of systemic change, as the partner is still in the process of implementing the business model effectively.

### **Respond**

- DOC agents have started to sell single/not boxed DOC aged one week to one month to accommodate farmers who have expressed concerns about the DOC's vulnerability and price.

## 14. RICE

### Rice Sector Summary

Indonesia is the 3rd largest rice producer in the world. The country also ranked 27th in global productivity level, 5.41 MT/HA in 2019, slightly higher than the world's average productivity of 3.90 MT/ha. However, Indonesia's average productivity is still behind China (6.93MT/HA) and Vietnam (5.58MT/HA) in Asia, and far behind non-producing countries such as Australia (10.23 MT/ha), Egypt (9.3 MT/HA), Uruguay (8.5 MT/ha) and US (8.1 MT/HA). Java Island contributes more than 52% of the total rice supply in Indonesia. Yet, Java Island has the highest population density in Indonesia. The country must double its current rice production from 31 million MT to around 55 million MT by 2065 due to the increasing demand from population growth. The current strategy to increase rice production focuses on expanding the production area instead of increasing current productivity. This strategy will be a huge challenge in the future as the agriculture land is rapidly being converted to residential and industrial areas. Therefore, PRISMA has the vision to increase rice productivity by intervening in several areas covering the seed, crop protection, irrigation, fertiliser, and mechanisation.

#### Quick facts:



**Total production**  
59,200,534 MT  
Un-milled Dried Paddy



**Total harvested area:**  
11,377,934 Ha



**Productivity:**  
5.20 MT/Ha



**Demand increasing**  
1.89%

Facts Source: Statistik Pertanian 2019, BPS KSA 2018



#### East Java

- ✓ Total Provincial Production (MT) : 10,203,213
- ✓ Total Harvested Area (Ha) : 1,751,192 HA
- ✓ Total Potential Farmers : 1.3 million HH

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	20,988
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	79,842,531,667



#### Central Java

- ✓ Total Provincial Production (MT) : 10,499,588
- ✓ Total Harvested Area (Ha) : 1,821,983 HA
- ✓ Total Potential Farmers : 1.07 million HH

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	18,000
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	72,386,640,000



#### Rice OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	38,988
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y19S2 (%)	0.00%
Total projected NAIC to Dec 2023	152,229,171,667

Value For Money (VFM)	Rice Overall
Investment Leverage:	0.18
Investment Per HH:	-
Social Return:	-

## 14.1 Rice East Java and Central Java

Central Java and East Java are two biggest rice producers in Indonesia, contributing to more than 30 per cent of total national production. In both provinces, rice is the main staple crop, with nearly 98 per cent of inhabitants using it as the main source of food; most households spend around 20 per cent of their income

on rice. Rice farming is also a major source of employment, especially for the poor (80 per cent of Indonesia's rice production is grown by small-scale, low-income farming households).

Although current supply has been able to satisfy (and even exceed) provincial consumption, rice from the provinces is distributed to other non-producing areas. The sustainable production of rice in Central Java and East Java is therefore crucial to national food security. In addition, increasing the production in these two provinces could mitigate the risk of potential food insecurity due to the pandemic. Farmers across Indonesia, including in the two provinces, have not yet reached their potential production for a number of reasons, in particular the use of low-yield seed varieties and limited availability of other seed options.

## Challenges and constraints

PRISMA will focus on addressing the following constraints:

- **Limited knowledge of new improved seed varieties.** Many rice farmers are unaware of the benefits of using improved certified seed and rely on retaining current varieties, which produce lower yields and higher rates of crop failure because of pest and disease (which are common when the same variety is used for more than ten years). In addition, many smallholder farming households are dependent on subsidised government seed which leads to their unwillingness to invest more in improved seed.
- **Unavailability of improved inbreed seed.** Nurseries and inbreed seed producers generally produce only well-known variety such as Ciherang and IR64, so improved inbreed seeds are hard to find in the market.
- **Unavailability of hybrid seed.** Although awareness of the benefits of hybrid seed has been increasing in some areas, the seed itself is often unavailable in the market. The main reasons are the high investment cost of seed production and restrictive government policy affecting the import of commercial hybrid seed. Currently, only two private companies i.e. Agrosid and Corteva Agriscience have invested in producing hybrid seed in Indonesia. However, they are still in the early stage of promoting their hybrid rice seed products.
- **Both farmers, private, and public sectors are affected by the COVID-19 pandemic.** Farmer access to information, services and inputs has been disrupted. Supply and demand have not been adversely affected so far, but movement restrictions mean that private and public sector actors need to adjust their marketing and information strategies.

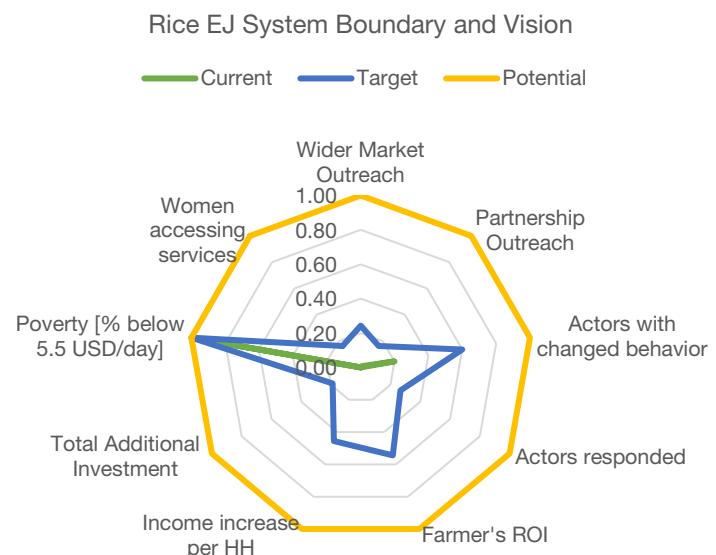
## Intervention areas

To address these challenges and constraints, PRISMA is working with partners to:

- Improve and accelerate domestic production of hybrid and inbreed seed varieties.
- Improve the marketing strategy of high yielding rice seed producers to target the best suited areas.

## Sub-sector vision for wider market outreach

PRISMA aims to leave behind a resilient rice market system where farmers use high yielding seeds, adopt safer, and high efficacy inputs (crop protection and fertilisers), and use appropriate machinery and irrigation systems. By 2023, PRISMA envisions that 65,422 farmers in Central Java and East Java will use high yielding seed varieties with GAP, promoted by both private and public sectors.



## Progress towards sub-sector vision

### Adopt

- PRISMA signed a partnership with Agrostis / Primasid in September 2019 and implemented the business model in expanding the hybrid seed market.
- Agrosid hired more field staff and extended its coverage area to promote rice hybrid seed in Madura EJ and Timor NTT.
- Corteva Agriscience signed a partnership in March 2020 to expand its domestic production of newfound high yielding hybrid rice seed.
- Agrosid focused on small-scale audiences to promote seeds and put health and safety measures in place to continue promoting their products (mask, washing hands, physical distancing).

### Adapt

- Agrosid now collaborates with PT OMYA Indonesia (a chemical company) to produce and promote calcium fertiliser (calcipril) aimed at agriculture soil improvement.

### Expand

- CV Semi has expressed an interest in trying hybrid seed and the number of companies interested in investing in hybrid seed is increasing.

### Respond

- BB Padi is interested in disseminating new improved varieties of seed in PRISMA's working areas.
- The number of distributors/retailers that want to sell hybrid seed is increasing. For instance, Agrosid is entering the Sumenep area for the first time due to the interest from retailers.

## 15. SEAWEED

# Seaweed Sector Summary

As the world's largest producer of red seaweeds, Indonesia's seaweed cultivation is one of the main income-generating opportunities for its coastal communities, particularly in the east. The rise of both local and global seaweed demand in the past 2 years has pushed prices to triple in 2017, and has remained stable at high ranges ever since. This growing demand has not been met by our local production – with a steady decline of 8.6% annually since 2015 – attributable to simultaneous factors such as increasingly unpredictable weather, poor cultivation techniques, as well as the deteriorating quality of seedlings. Responses to this concerning condition have been largely made by the public sector, local and national governments alike; aid for seedlings and processing units that aimed to spur production and value addition – but has now become inefficient and entrenched. Furthermore, the specific issue of poor-quality seedlings has been addressed by various quasi-public research institutions through the creation of improved seedlings – which, in the years of trial to date, have shown poor performance.

### Quick facts:



**Total production**  
11,050,301 MT



**Total harvested area**  
267,814 Ha



**Productivity**  
41.26 MT/Ha



**Demand**

Facts Source: DJPB 2016, PRISMA internal survey



### NATIONAL

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	1,510
Cumulative Outreach Projected to Dec 2023 (HHs)	6,291
Total NAIC up to Y20S1 (IDR)	540,011,780
Total NAIC to Y20S1 (%)	10.98%
Total projected NAIC to Dec 2023 (IDR)	10,580,111,780

### Seaweed OVERALL

Indicator	Total
Cumulative Outreach Actual to Y20S1	1,510
Cumulative Outreach Projected to Dec 2023	6,291
Total NAIC up to Y20S1 (IDR)	540,011,780
Total NAIC to Y20S1 (%)	10.98%
Total projected NAIC to Dec 2023	10,580,111,780

Value For Money (VFM)	Seaweed Overall
Investment Leverage:	0.66
Investment Per HH:	AUD 1,713.29
Social Return:	0.02

## 1.1 Seaweed National

As the world's largest producer of red seaweed, seaweed culture provides one of the major income-generating opportunities for the country's main coastal communities, particularly in eastern Indonesia. From 2016-18, the increase in demand for local and global seaweed has tripled raw dried seaweed prices (from IDR7,200 to IDR 22,000 between July and December 2017 alone), and have since remained fairly stable. This growing demand has not been met by local production which has steadily declined by 8.6 per cent annually since 2015. This is attributable to factors including increasingly unpredictable weather, poor cultivation techniques and the deteriorating quality of seaweed seedlings.

Local and national government have made sporadic advances in increasing production through direct grants, by establishing nurseries and processing state-owned enterprises (SOEs), equipment and inputs. However, these initial grants intended to boost sector growth have become entrenched and led to minimal impact and inefficiency. Several quasi-public research institutions have attempted to address the issue of poor-quality seedlings through the creation of tissue culture seaweed seedling but have shown subpar performance. With the pandemic, all these regular activities have been placed on hold, causing extreme fluctuations in supply and demand. This underlines the considerable vulnerability of the sector to shocks.

### Challenges and constraints

Farmers are unable to increase seaweed production and productivity for the following reasons:

- **Meagre production and productivity due to lack of knowledge and information** on seedling-specific and general cultivation practices. Many farmers treat seedlings and production seaweed in the same way, decreasing productivity by using poorly treated retained seedlings.
- **Subpar access to improved seedlings due to the non-existence of permanent, localised nurseries.** With high market distortion in the seaweed seedling market, private ISPs are disincentivised from establishing nurseries. They also lack technical knowledge of the seaweed seedling business, especially regarding how to deal with the new breed of tissue culture seedlings which need special care and attention in their initial stages.
- **Suboptimal access to improved seedlings due to market distortion caused by poor and unsustainable subsidy system planning.** Tissue culture seedlings are currently only available for farmers through direct subsidies. The lack of private nurseries is due to the high distortion rates caused by subsidies in the seaweed seedling market, disincentivising seedling businesses and affecting farmer behaviour, encouraging them to become subsidy-dependent. In addition, subsidies have targeted the wrong areas using inappropriate media.
- **Substandard quality of improved seedlings due to lack of research, constraining budget and infrastructure, and poor management of development centres.** Current tissue culture seedlings have not been able to support market needs, in terms of both quality and quantity.
- COVID-19 has caused a 37 per cent decline in price (on average) and sharp fluctuations. Exporters have exiting the trade lines and logistics are strained due to the various travel and mobility limitations and restrictions. Additionally, a major budget-refocus of government program implications has caused a halt on the dispersal of grants and subsidies, and an overhaul of activities and planning the public sector.

### Intervention areas

Given the steady growth in demand in the seaweed sector and the enormous potential that improved seaweed seedlings have to increase productivity, PRISMA aims to revamp and expand seaweed interventions to achieve nationwide coverage through engaging with the Ministry of Marine Affairs and Fisheries (MMAF). This will involve:

- Inducing partnerships for improving improved seedling research and production.
- Improving the MMAF strategy of improved seedling (and cultivation knowledge) provision and distribution systems.
- Establishing and engaging with private local seaweed nurseries for sustainable seedling sources.

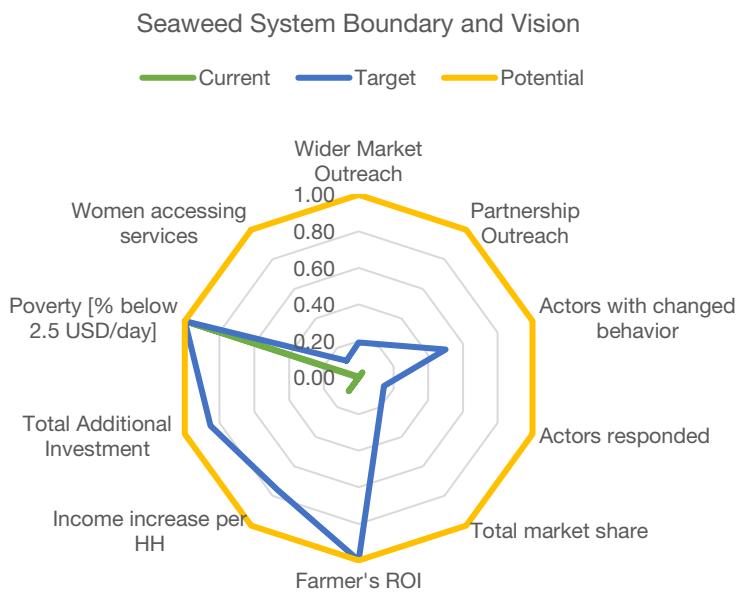
## Sub-sector vision for systemic change

PRISMA aims to increase national production and productivity of seaweed cultivation by facilitating the Ministry of Marine and Fisheries to strengthen partnerships and collaboration with private institutions, private nurseries, and local government for improving the research, production, and strategy of provision and distribution system of improved seedling.

By 2023, 6,291<sup>23</sup> seaweed farming household will gain 25 per cent more income due to the use of and better access to improved seedlings and seedling cultivation techniques

This vision of change will be achievable through:

- **Data and policy making.** The GOI has sufficient real-time data and local insights into seaweed sector to ensure better policymaking, improved grant aiming and system planning, mainstreamed interdepartmental and ministerial collaboration, as well as integration of the private sector in their activities, providing resources for development centres.
- **Research and development.** Research Institutions increase their capacity, knowledge, and resources for the development and production of improved seedlings. They distribute seedlings through and provide technical assistance to local government and nurseries, expanding their scope to new areas. They support the continuous development of the commodity improving seedling quality and expanding research to different stages in the supply chain.
- **Roles and involvement of private sector.** Local private sector players gain knowledge about establishing seaweed nurseries and managing seaweed businesses, and gaining the relevant business information and opportunities through the open access of government seaweed sector development plans. They establish private nurseries, gaining income through the sales of improved seedlings to farmers and through supplying government grant quotas.



## Progress towards sub-sector vision

### Adopt

- The General Guideline in Seaweed Cultivation was successfully revised to include local strains (such as Saccol) as an option for areas such as NTT to be eligible for government grants and subsidies.

<sup>23</sup> Partnership outreach only. Wider market outreach to be calculated.

- The use of intermediary private nurseries model has been instilled in the 2020-2024 national strategic plan (Rencana Strategis or Renstra)
- Policy changes, 2020 grant recipient: MMAF allocated 8 packages (out of 40 pkg, each volume is 5 MT) for pilot location in Lembata, Sabu, Rote and Sumba Timur NTT.
- Parent sample of the local NTB and NTT Saccol strains are being used by BIOTROP and Takalar Development Center to create a new strain of improved seaweed seedling.

#### **Adapt**

- The Directorate General of Aquaculture of MMAF to support six development centres in conducting a strain mapping study. This will identify different local varieties and adaptations of seaweed strains, as well as the best strains to be used in developing improved seedlings.
- The survey and forecast framework taken from the baseline study will be used in Secretariat General of Marine and Fisheries guidelines on surveying, monitoring and using data.

#### **Expand**

- Crowding-in from other market actors is yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

#### **Respond**

- The provincial government of NTT will mainstream the national level seaweed seedlings business model on a local level, working with district agencies. The provincial seaweed road map will also be reviewed.
- Biak District Agency of Marine and Fisheries in Papua will mainstream the national level seedlings business model at a local level, taking the lead to establish a cluster zone including Biak Numfor, Supiori, Yapen, Waropen, Nabire and Sarmi as part of a seaweed development strategy.
- Hidrocolloid Indonesia will create a 400 ha seaweed production site in NTT using improved seedlings created by the MMAF Development Centre.

## 16. SOIL TREATMENT<sup>24</sup>



### Soil Treatment Sector Summary

Soil treatment includes 4 key pillars (1) organic fertiliser, (2) inorganic fertiliser, (3) soil amendment and (4) speciality fertiliser. Fertiliser is one of the most important factors in the process of crop cultivation, approximately 50% of crop yield depends on fertilising practice (IPNI, Agronomy Journal, FAO). The fertiliser market is heavily subsidized as part of the government's efforts on agriculture sector development and ensuring food security. However, there is a wide gap between the need of fertiliser and allocation of subsidised fertiliser by the government. Furthermore, both the budget allocation for subsidies and volume of subsidies show a decreasing trend and thereby providing more opportunities for the commercial fertiliser market. The public and private sector fertiliser producers can tap into the commercial fertiliser business by expanding or improving their distribution network, promoting by highlighting cost-benefit analysis and features of quality commercial fertiliser and providing knowledge on good fertiliser practice.

#### Quick facts:

	<b>Total Harvested Area (Ha)</b> 47,425,449		<b>Total Farmers HH</b> 22,376,861		<b>Potential Demand of Fertiliser (Ton)</b> 36,110,657		<b>Subsidize Fertiliser Allocation from Government (Ton)</b> 7,949,303		<b>Subsidize Fertiliser Realization from Government (Ton)</b> 8,485,692 (96%)		<b>Shortage Demand vs Realization (Ton)</b> 27,624,965
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Fact Source: Statistik Pertanian 2019, Statistik Indonesia 2019; Survey Pertanian Antar Sensus (SUTAS), 2018; Pupuk Indonesia, 2019; Permentan no. 10 Tahun 2020



**East Java**

- ✓ Total Harvested Area 2018 (Ha) : 4,237,455
- ✓ Total Farmers HH 2018 : 3,696,563
- ✓ Potential Demand of Fertiliser 2018 (ton) : 4,032,135
- ✓ Subsidize Fertiliser Allocation from Government 2020 : 2,267,827
- ✓ Subsidize Fertiliser Realization from Government 2019 (94%) : 2,610,417
- ✓ Shortage demand vs realisation 2019 : 1,421,718

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	1,125
Cumulative Outreach Projected to Dec 2023 (HHs)	26,366
Total NAIC up to Y20S1 (IDR)	6,973,128,856
Total NAIC to Y20S1 (%)	22.00%
Total projected NAIC to Dec 2023 (IDR)	55,698,422,656



**Central Java**

- ✓ Total Harvested Area 2018 (Ha) : 2,931,786
- ✓ Total Farmers HH 2018 : 3,438,175
- ✓ Potential Demand of Fertiliser 2018 (ton) : 2,917,835
- ✓ Subsidize Fertiliser Allocation from Government 2020 : 1,385,458
- ✓ Subsidize Fertiliser Realization from Government 2019 (97%) : 1,502,341
- ✓ Shortage demand vs realisation 2019 : 1,415,494

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	-
Cumulative Outreach Projected to Dec 2023 (HHs)	22,400
Total NAIC up to Y20S1 (IDR)	-
Total NAIC to Y20S1 (%)	0.00%
Total projected NAIC to Dec 2023 (IDR)	25,603,200,000

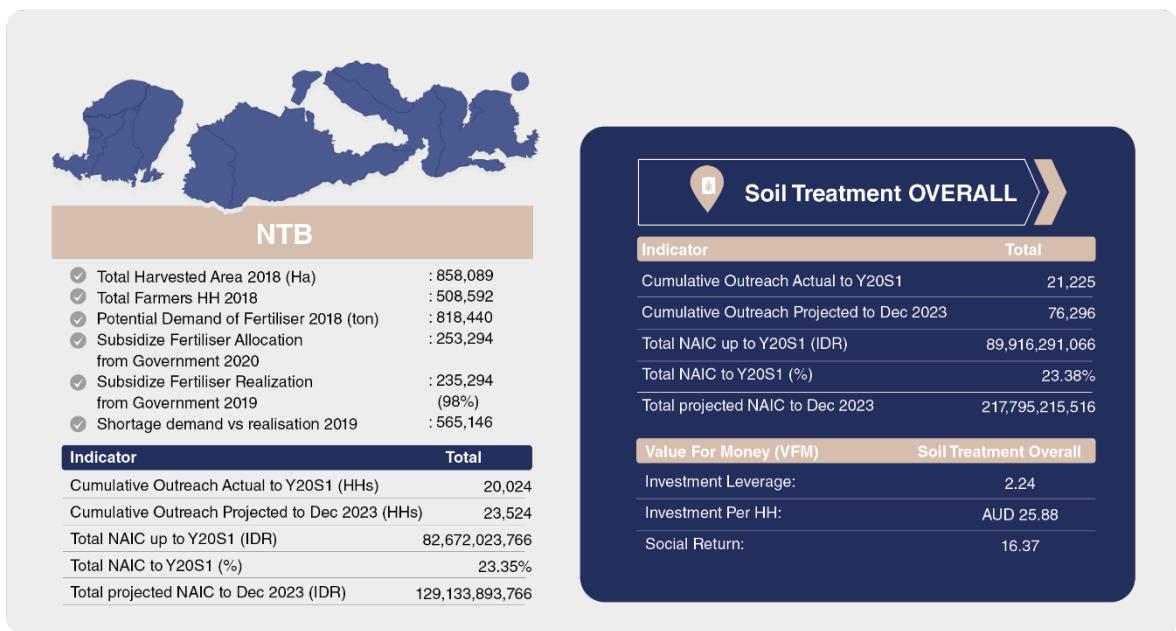


**NTT**

- ✓ Total Harvested Area 2018 (Ha) : 932,722
- ✓ Total Farmers HH 2018 : 692,364
- ✓ Potential Demand of Fertiliser 2018 (ton) : 701,566
- ✓ Subsidize Fertiliser Allocation from Government 2020 : 48,547
- ✓ Subsidize Fertiliser Realization from Government 2019 (96%) : 48,547
- ✓ Shortage demand vs realisation 2019 : 653,019

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	76
Cumulative Outreach Projected to Dec 2023 (HHs)	4,006
Total NAIC up to Y20S1 (IDR)	271,138,444
Total NAIC to Y20S1 (%)	50.73%
Total projected NAIC to Dec 2023 (IDR)	7,359,699,094

<sup>24</sup> Also referred to as Fertiliser



## 16.1 Soil treatment East Java and Central Java

There is a high degree of similarity in the context, challenges and opportunities between the East Java and Central Java fertiliser sectors. They are both very dynamic, with large numbers of market actors and farmers who are far more informed and have better access to market information than provinces such as NTT and NTB. High consumption of fertiliser in both provinces, especially urea, is due to increased agricultural activity and large harvest areas driving overall demand. Potential fertiliser demand in East Java is 4.032 million MTs and in Central Java 2.92 million MTs. However, actual demand is less than the potential demand, as farmers are generally unaware of the availability of quality fertiliser (which contains macro and micronutrients) and appropriate dosages (with the exception of urea fertiliser which is often overapplied), and consequently tend to buy or demand less.

The main difference between the two geographic markets is the farmer purchasing power of fertiliser product. Farmers in Central Java have lower price floor than farmers in East Java in terms of purchasing power capacity. Based on the fertiliser market study, the affordable price of commercial fertiliser in East Java is IDR11,601 per kg compared to only IDR6,274 per kg in Central Java.

### Challenges and constraints

The major constraints in the fertiliser sector remain mostly the same across all PRISMA provinces; only the extent and gravity of the challenges vary from province to province. To address these market conditions, PRISMA is prioritising the following key constraints:

- Farmers lack access to fertiliser (both subsidised and commercial). Subsidy from the government has declined over the last few years.** Furthermore, the Farmers Group Definitive Requirement Plan (Rencana Definitif Kebutuhan Kelompoktani or RDKK) process through which subsidy is allocated and distributed is inefficient, resulting in a large number of farmers remaining outside the boundaries of subsidy. Many commercial fertiliser companies do not invest in expanding and developing the capacity of their distribution network due to (1) prevalence of high subsidies in fertiliser, and (2) broader focus on plantation crops through their business-to-business portfolio. Companies also lack market intelligence regarding opportunities in the supply-demand gap.

- **Farmers lack awareness of how to apply fertiliser properly.** Commercial fertiliser companies do not invest in extension services due to the competition from subsidised fertiliser and focus on more matured plantation sectors. They also lack the skill to target smallholder farmers with appropriate marketing and communication strategies, such as the cost-benefit analysis of proper fertiliser application.
- **Government imposed mobility restrictions have hindered promotional activities in the field and distribution chain, especially in the early pandemic.** In several areas, where there are stricter local restrictions at the sub-district or village level, a [PRISMA study](#) on Impact of COVID-19 on Agriculture: Farmers Perspective found that access to fertiliser (especially to subsidised fertiliser) was among the main challenges for farmers during COVID-19. However, in general, the supply chain for fertiliser has remained largely unimpacted.
- **Possible price increase of commercial fertiliser due to a combination of rising logistical costs and exchange rate fluctuation.** The price increase may take effect during early 2021.

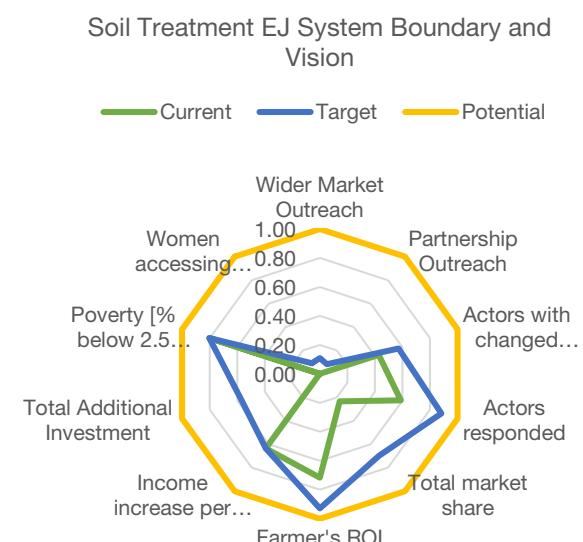
## Intervention areas

To address these challenges and constraints, PRISMA collaborates with PT Pupuk Kalimantan Timur (PKT) and CV Saprota Utama (SU) in these two provinces to:

- Promote wide range of high-quality commercial fertiliser.
- Promote good agriculture and fertilising practice at the farmer level.

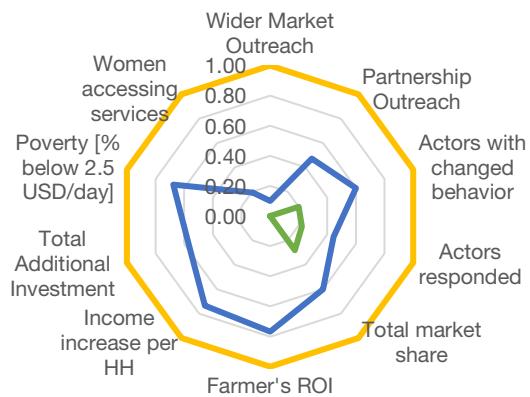
## Sub-sector vision for systemic change

PRISMA aims to achieve greater systemic change in East Java and Central Java fertiliser sectors. It is envisioned that by 2023, both East Java and Central Java's commercial fertiliser sectors will have increased their market size (in terms of both overall market size and percentage of commercial fertiliser market share) and will be more competitive through increased product offering. This will be achieved through on-time availability of fertiliser, an expanded distribution and retail network, provision of embedded extension information, and collaboration with other market players including non-fertiliser input companies and off-takers. All these initiatives by the fertiliser companies will be driven by growing, unmet demand for fertiliser. It is expected that 76,126 farmers in East Java and 31,400 farmers in Central Java will have benefited by new and improved services offered by fertiliser companies.



## Soil Treatment CJ System Boundary and Vision

— Current — Target — Potential



## **Progress towards sub-sector vision**

### **Adopt**

- PKT conducted a Training of Trainers (ToT) Master Workshop to develop master trainers, who can train PKT's Account Executives across Indonesia. They will train distributors and large retailers in product knowledge, sales and marketing to promote the use of commercial fertiliser to farmers.
- PKT established 16 main demo plots and over 400 satellite demo plots in four districts (Madiun, Magetan, Nganjuk, and Ponorogo) in East Java. The aim of the plots was to demonstrate GAP including proper fertiliser application for rice, maize and shallot crops.
- PKT has conducted 12 farmer meetings, with a total of over 400 participants.
- PKT conducted a retailer workshop to inform participants of PKT commercial fertiliser and good fertiliser practices. The workshop delivered training to kiosk owners, distributors, and BUMDes personnel on product knowledge, and marketing and sales skill.
- PKT conducted six farmer harvest days in Madiun, Madura and Ponorogo. Half of the farmer harvest days were implemented during COVID-19 by following the necessary safety protocols.
- PKT's distributor has hired sales agents to monitor and boost fertiliser sales.
- PKT has initiated collaboration with other market actors for the promotion of quality inputs and GAP at the farmer level. PKT is continuing partnerships with other agri-business such as Corteva, BNI, CrowdE and PT Seger Agro Nusantara for East Java activities.
- PKT has also formed new partnership with Bayer and conducted joint activities for the promotion of quality inputs and GAP at the farmer level.
- In both East and Central Java, Saprotan Utama is conducting activities such as demo plots, farmer meetings, one day promotions and three-day promotions of its products at the retailer level to create awareness of good fertilising practice.

### **Adapt**

- PKT initiated activities to trial a specific fertiliser formulation for maize, paddy and coffee which, if successful, will result in more cost-effective and efficient fertiliser application. With PRISMA support, it has already launched specific fertiliser for the cacao sector.
- As a form of multi-partnership collaboration, PKT has piloted the setting-up of aggregators who will act as agents for input producers, financial institutions and off-takers.
- As COVID-19 response, Saprotan Utama has adapted its marketing activities by developing and implementing digital marketing strategies including SMS-blasting. The company conducted three such SMS blasts in early July.
- Through a partnership with the Bank of Central Java, PKT expanded its multi-partnership scheme to Central Java. PKT continues to seek other market actors such as seed and crop protection companies, off-takers and insurers to join the collaboration.

### **Expand**

- Crowding-in from other market actors is yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

### **Respond**

- MOA has engaged PKT in pilot projects in East Java to ensure that farmers in the project areas have timely access to fertiliser (both subsidised and commercial).
- Following the advice of the Bupati of Madiun, PKT has engaged five BUMDes and two female farmer groups in their retail network to promote and sell commercial fertiliser.

- As part of the COVID-19 response, PKT collaborated with its distributor to socialise good fertilising practices to the extension agents (PPL). The aim of this collaboration is to transfer product knowledge to the farmers during their regular field activities through PPL assistance. PKT has held three such socialisation events with PPLs in East Java.

## 16.2 Soil treatment NTB and NTT

The government has made significant strides in the push for domestic maize cultivation in NTB, especially in the previously under-utilised dryland areas of the province. This has resulted in farmers who have traditionally planted coffee and coconut, now either expanding cultivation into dryland areas or reducing cultivation of other crops (such as maize, a large consumer of fertiliser). However, this push has not impacted the government allocation of subsidies, which has remained flat for some time and is persistently in short supply. This has created an opportunity for the use and supply of commercial fertiliser, despite awareness and acceptance among farmers being relatively low. There is an estimated annual demand for 0.82 million MTs of fertiliser, only 45 per cent of which is covered by subsidised fertiliser, meaning that 55 per cent of demand (equivalent to 0.45 million MTs) is yet to be realised.

The three main islands of NTT are Flores, Timor and Sumba. Flores leads in term of NTT's production (especially in the vegetable sector), supplying 28 per cent of the province's total production. NTT is also one of Indonesia's driest regions, with an average of eight rain-free months each year. The agriculture sector is developing in NTT and there is much potential to grow further. This has created an opportunity for the use and supply of commercial fertiliser, despite awareness and acceptance among farmers being relatively low. There is an estimated annual demand for 0.7 million MTs of fertiliser, only 17 per cent of which is covered by subsidised fertiliser.

### Challenges and constraints

The major constraints in the fertiliser sector remain mostly the same across all PRISMA provinces; only the extent and gravity of the challenges vary from province to province. As such, PRISMA focuses on addressing the following major constraints:

- **Farmers lack access to fertiliser (both subsidised and commercial).** Government subsidies have declined over the last few years. Furthermore, the RDKK process through which subsidies are allocated and distributed is also inefficient, so many farmers do not have access to them. Many commercial fertiliser producers do not invest in expanding and developing the capacity of their distribution network due to (1) prevalence of high subsidies in fertiliser, and (2) a broader focus on plantation crops through their business-to-business portfolio. Companies also lack market intelligence regarding the potential of filling the demand gap even with the prevalence of subsidised fertiliser.
- **Farmers do not know how to apply fertiliser properly.** Commercial fertiliser companies do not invest in extension services due to the competition from subsidised fertiliser and focus on more matured plantation sectors. They also lack skill in targeting smallholder farmers with appropriate marketing and communication strategies, such as cost-benefit analysis of proper fertiliser application.
- **Government imposed mobility restrictions have hindered promotional activities in the field and distribution chain, especially in the early pandemic.** In several areas, where there are stricter local restrictions at the sub-district or village level, a [PRISMA study](#) on Impact of COVID-19 on Agriculture: Farmers Perspective found that access to fertiliser (especially to subsidised fertiliser) was among the main challenges for farmers during COVID-19. However, in general, the supply chain for fertiliser has remained largely unimpacted.
- **Possible price increase of commercial fertiliser due to a combination of rising logistical costs and exchange rate fluctuation.** The price increase may take effect during early 2021.

## Intervention areas

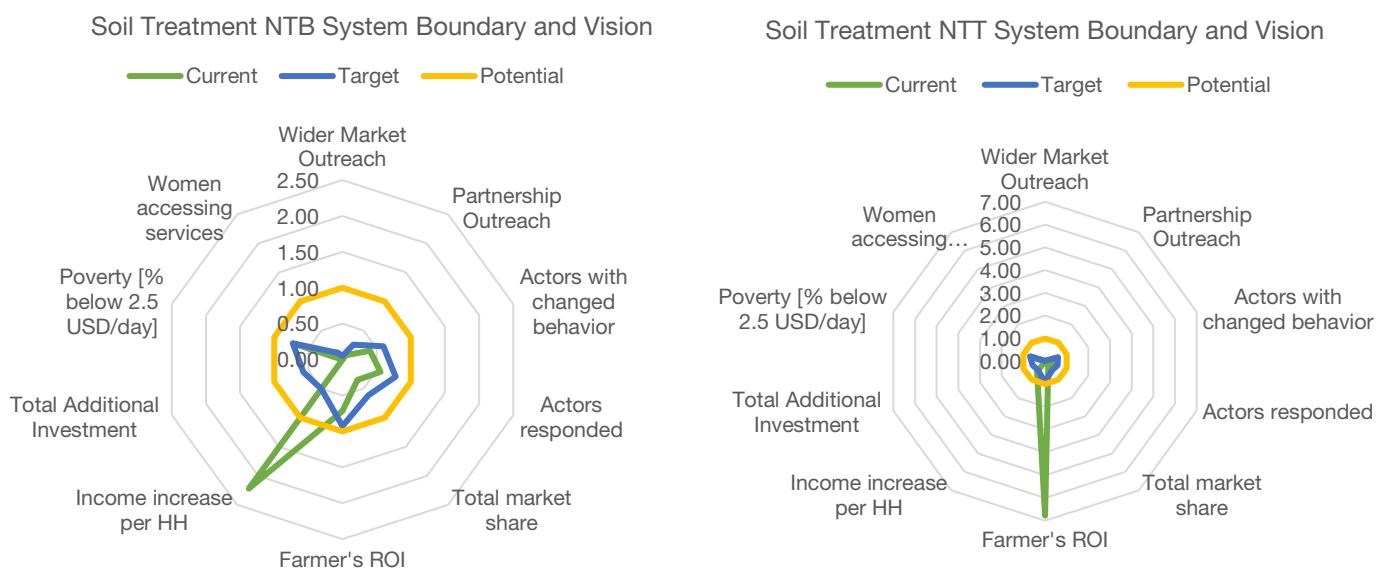
To address these challenges and constraints, PRISMA is collaborating with PKT in NTB and NTT to:

- Promote a wide range of high-quality commercial fertiliser.
- Promote good agriculture and fertilising practice at farmer level.

## Sub-sector vision for systemic change

In Phase 2, PRISMA aims to achieve a greater systemic change in the NTB and NTT fertiliser sector. It is envisioned that by 2023, NTB and NTTs commercial fertiliser sector will have increased their market size (in terms both of overall market size and percentage of commercial fertiliser market share)and will be more competitive through an increased product offering. This will be achieved through on-time availability of fertiliser, an expanded distribution and retail network, provision of embedded extension information, and collaboration with other market players including non-fertiliser input companies and off-takers. All these initiatives by the fertiliser companies will be driven by growing, unmet demand for fertiliser.

It is expected that the new and improved services offered by the fertiliser companies will benefit 66,520 farmers in NTB by the end of 2023. In NTT, it is expected that the new and improved services offered by the fertiliser companies will benefit 3,930 farmers by the end of 2023.



## Progress towards sub-sector vision NTB

### Adopt

- PKT established 31 main demo plots in five districts (Sumbawa, West Sumbawa, Bima, East Lombok, and Dompu) in NTB.
- Furthermore, PKT successfully established over 500 satellite demo plots in those areas. The aim was to demonstrate GAP including proper fertiliser application for rice and maize crops.
- PKT has conducted 12 farmer meetings with over 200 participants.
- PKT conducted 3 retailer gathering workshops (in Lombok, Bima and Sumbawa), at which over 250 distributors, retailers and key farmers learned about PKT commercial fertiliser and enhance skill on sales and marketing.

- PKT conducted 10 farmer harvest days, six of which were implemented during COVID-19 by applying social distancing and health protocols.
- PKT distributors have started providing information to retailers or kiosk owners and farmers about good fertilising practice and product knowledge.
- PKT piloted a partnership with BISI (maize seed) and Tanindo (crop protection).

#### **Adapt**

- PKT has responded to COVID-19 challenges by adapting COVID-19 safety protocols for all field activities.
- PKT has formed a new partnership with Bayer Indonesia and DNA farm (off-taker).
- In collaboration with Bayer, DNA, BNI and Jasindo (insurance), PKT has launched a new campaign named “Better Life Farming Alliance”.
- PKT has engaged eight new distribution agents to promote and sell its commercial fertiliser.
- It has also engaged two female farmer groups to promote commercial fertiliser.
- As part of a multi-partnership collaboration, PKT has successfully set up 10 aggregators who take the roles of input producers, financial institutions and off-takers.

#### **Expand**

- Crowding-in from other market actors is yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

#### **Respond**

- The GOI has responded to the initiative of PKT to trial and produce specialty fertiliser for the cocoa sector, by bringing it under the government’s subsidised fertiliser scheme (forecast to produce 17,000 MTs of cocoa-specific fertiliser in the year 2020).

### **Progress towards sub-sector vision NTT**

#### **Adopt**

- PKT conducted two farmer meetings to disseminate information to farmers about good fertilising practices.
- PKT has conducted one retailer workshop attended by over 100 participants, including distributors, retailers and key farmers, to provide product knowledge on PKT commercial fertiliser and sales and marketing skills.

#### **Adapt**

- PKT has assigned three distributors to sell commercial products.
- As a form of multi-partnership collaboration, PKT has successfully set up one aggregator.
- PKT has started communication with local government regarding alignment of company target with government goals.

#### **Expand and Response**

- Crowding-in and responses from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## 17. VEGETABLE

# Vegetable Sector Summary

Global vegetable production between 2004 and 2014 has increased by 25%, on average, and there is no sign of change in this trend. These production volumes are driven predominately by China and India, with high population numbers and large land sizes allocated to vegetable farmers. Despite these encouraging statistics, the yield (tonnes per hectare) or productivity figures do not quite paint the same picture. Indonesia vegetable production has increased by 1.38 percent per year since 2012 to 7.6 million tonnes in 2016. Despite being the largest vegetable producer in Southeast Asia, Indonesia is a net importer of vegetables although the quantity is below 5% of domestic production. The imports are typically for specialty vegetables such as paprika and the trend fluctuates. Within Indonesia, four provinces dominate vegetable production, with 65% of the market and West Java leading the pack.

### Quick facts:



**Total production**  
13,069,351 MT



**Total harvested area**  
1,162,422 Ha



**National Productivity**  
11.24 MT/Ha



Facts Source: Statistik Pertanian 2019, Sensus Pertanian 2013, Outlook TPHORTI 2017



#### East Java

- Total provincial production (Ton) : 1,647,028
- Total provincial harvested area (Ha) : 181,895
- Total farm households in the sector : 625,950

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	10,240
Cumulative Outreach Projected to Dec 2023 (HHs)	10,240
Total NAIC up to Y20S1 (IDR)	114,655,689,440
Total NAIC to Y20S1 (%)	57.10%
Total projected NAIC to Dec 2023 (IDR)	114,655,689,440



#### NTB

- Total provincial production (Ton) : 251,128
- Total provincial harvested area (Ha) : 8,286
- Total farm households in the sector : 58,398

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	6,163
Cumulative Outreach Projected to Dec 2023 (HHs)	6,163
Total NAIC up to Y20S1 (IDR)	69,484,900,000
Total NAIC to Y20S1 (%)	43.75%
Total projected NAIC to Dec 2023 (IDR)	69,484,900,000



#### NTT

- Total provincial production (Ton) : 60,032
- Total provincial harvested area (Ha) : 2,926
- Total farm households in the sector : 92,633

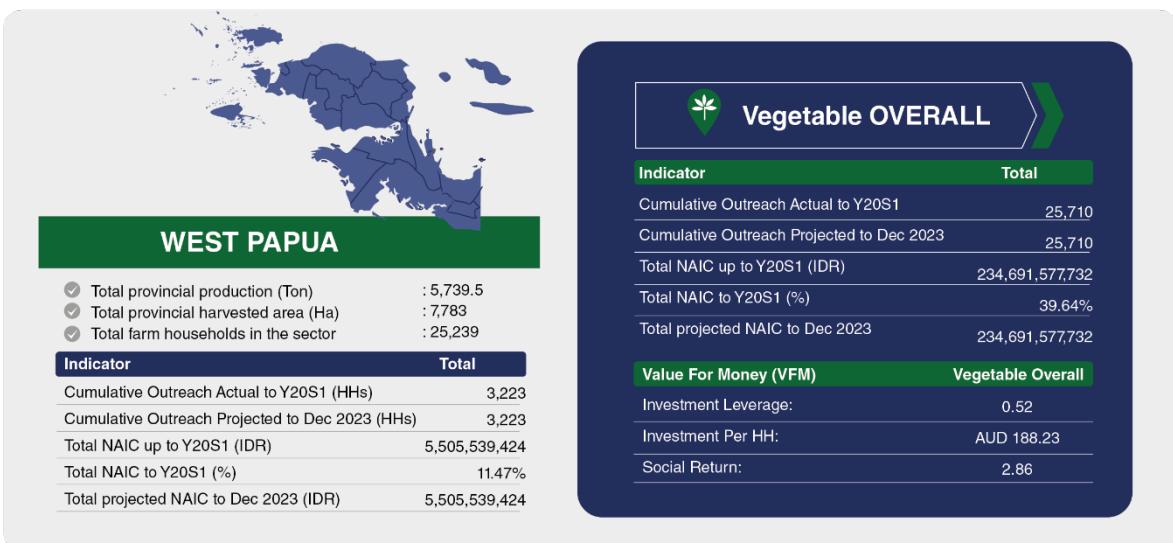
Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	2,424
Cumulative Outreach Projected to Dec 2023 (HHs)	2,424
Total NAIC up to Y20S1 (IDR)	34,268,197,568
Total NAIC to Y20S1 (%)	79.07%
Total projected NAIC to Dec 2023 (IDR)	34,268,197,568



#### PAPUA

- Total provincial production (Ton) : 62,804
- Total provincial harvested area (Ha) : 10,318
- Total farm households in the sector : 199,702

Indicator	Total
Cumulative Outreach Actual to Y20S1 (HHs)	3,660
Cumulative Outreach Projected to Dec 2023 (HHs)	3,660
Total NAIC up to Y20S1 (IDR)	10,777,251,300
Total NAIC to Y20S1 (%)	10.89%
Total projected NAIC to Dec 2023 (IDR)	10,777,251,300



## 17.1 Vegetable East Java, Central Java, NTB, NTT

Java comprises approximately 60 per cent of national vegetable production and consumption, while NTB and NTT together produce 1-2 per cent. Demand for vegetables has been stagnant since 2018<sup>25</sup>. Vegetables for household consumption (e.g. spinach, cassava leaf and long bean, which account for 53 per cent of consumption) are on a declining trajectory, except for the 10 per cent of the population with the highest spending<sup>26</sup>. The number of small food vendors is increasing and accounts for around 37 per cent of vegetable consumption. However, most of them use vegetables (e.g. small chilli, cabbage, cucumber, and tomato) as garnishes and not for the main menu. These vegetables prices are subject to seasonal fluctuation but tend to be stable or declining, except for small chilli.

### Challenges and Constraints

Analysis of the challenges faced by farmers include:

- **Access to GAP is only limited in non-vegetable production centres.** Although vegetable seeds for different market segments are available in retailers, they are not coupled with GAP assistance and result in harvest failure. In vegetable production centres, on the contrary, quality seeds and GAP assistance are promoted widely by seed companies through their field staff.
  - **Limited access to water during dry season hinders new areas from producing vegetables.** Vegetables need consistent water application and cannot survive in dry areas. Meanwhile, planting during rainy season poses a higher risk of harvest failure as well as more price competition from different areas.
- Commodity price fluctuation is the main challenge for all farmers.** Low access of information on crop planting and prices in main production centres prevent farmers from better planning their crop rotation to maximise profit.

<sup>25</sup> Reported by Hortindo (Horticulture Seed Producer Association) who covers 70-75% seed market in iHorti Magazine April 2019. Before 2018, vegetable seed absorption was reported to grow 5-6% annually.

<sup>26</sup> WFP. *Buletin Pemantauan Ketahanan Pangan Indonesia Vol 8. Nov 2017.* <https://docs.wfp.org/api/documents/WFP-0000024091/download/>. The trend is confirmed at South East Asia level as reported by Global Panel on Agriculture and Food Systems for Nutrition. 2016. Food System and Diets: Facing the Challenges of 21<sup>st</sup> Century. London, UK.

## Progress of key activities

Area of engagement	Market actor	Key findings
<b>Quality Seed and GAP</b>	EWINDO, BISI, OPV seed producers/nurseries	<ul style="list-style-type: none"> <li>Market expansion to non-production centres was piloted through government programs, but the adoption in non-production centres were low as their main constraint was limited access to water.</li> <li>In NTT, limited production scale hinders the ability of local producers to compete with other islands' produce, which can be transported quickly from NTB and South Sulawesi.</li> <li>For rural home gardening projects, the main reason for planting was to reduce household spending. Thus, the properties of quality seeds (large packaging) does not match what households need. This led to low translation to sales and low incentives for seed companies.</li> <li>For small chilli, most quality seeds are hybrid varieties and adoption is low as farmers consider price fluctuations too risky for them to invest in hybrid seeds. OPV varieties are available but mainly produced by small nurseries with limited scale for expansion.</li> </ul>
<b>Market planting and Information</b>	EWINDO (SIPINDO), TaniHub	<ul style="list-style-type: none"> <li>PRISMA supported the development of SIPINDO, however the uninstall rate was high as the expected key features – crop planning, crop mapping, price and market information – did not work.</li> <li>The development of linkages with online sales company was attempted, hoping that collaboration would improve crop mapping, crop planning, and price and market information features. However, facilitation did not come to a fruitful collaboration as there was mismatch of incentives.</li> </ul>

As income declines and movements are restricted due to COVID-19, vegetables consumption from household, hotel restaurant catering, and micro-small food vendors has also declined. Households are reducing market visits and shifting their consumption to processed foods which can be stored for a longer time. Vegetable value chains via traditional markets and inter island trading are also interrupted. Meanwhile, in urban areas, demand for vegetable home delivery has increased through digital sales but companies do not have links to vegetable supply. PRISMA's ICT team is currently partnering with aggregators of vegetable online sales in Central and East Java to link them to new vegetables traders.

## Lessons learned

- Vegetable farming is growing to serve urban markets (e.g.: urban farming, hydroponics, online sales, organic farming, drip irrigation, etc.). This requires substantial investment and products are targeted only at higher income households. The urban trend does not necessarily reflect the overall trend at traditional and/or rural market level.
- Lack of access to water during dry season is a major challenge which hinders areas from growing as vegetable production centres.
- The perishable nature of vegetables causes market price fluctuations, making it riskier for poor farmers to invest in the sector or get involved in value-added activities.

## QMT decision and reasoning

In Central Java and East Java, current opportunities are being followed up by the ICT team. Outside ICT however, there is no scalable pro-poor opportunity to increase farmers' income in NTB, NTT, CJ and EJ.

PRISMA has decided to focus on markets in Papua and West Papua, and will continue to monitor the situation in other provinces should new opportunities arise.

## 17.2 Vegetable Papua and West Papua

The quantity of vegetables produced in Papua and West Papua is insufficient to meet local market demand, obliging the import of large quantities of vegetables from Sulawesi and Java. As a result, there is strong potential to increase productivity in the vegetable sector in these provinces. In Phase 1, PRISMA worked with PT EWINDO to promote good quality vegetable seeds and GAP, benefitting 5,968 smallholder farming households of both migrant and indigenous farmers. Local vegetable production has increased, confirmed by farmers in Sulawesi (Palu) who state that the demand for vegetables from Papua and West Papua has decreased over the past two years. In Phase 2, PRISMA is focusing on ensuring that these changes will sustain, and that more private sector organisations enter the Papua and West Papua markets to promote good products and services to smallholder farming households.

### Challenges and constraints

The major challenges faced by the vegetable sector in Papua and West Papua are listed below. The first three challenges are more prevalent among indigenous farmers who comprise at least 38 per cent of the total vegetable farmers in the provinces.

- **Low quality inputs and lack of GAP information mean productivity is low.** Certified seed options in the market are limited, supply is inconsistent and product sales are not accompanied by up-to-date GAP information. Lack of GAP application hinders farmers from seeing the benefits of using certified seed, and as a result, some continue with the traditional practice of using low quality retained seed, which reduces productivity. Some informal GAP learning exists among transmigrant farmers, who are mainly from Java and Sulawesi, as they have access to information from relatives back home; however, this information is not regularly updated.
- **Inefficient supply chains contribute to high vegetable distribution costs.** The role of aggregation is not yet functioning in the value chain. The limited number of collectors in remote areas forces most farmers to take their harvest directly to the market and sell it to big collectors.
- **For highland farmers, transportation can be a barrier.** Some highland areas can only be reached via air transport, while bad road conditions mean that others need four-wheeled vehicles. This results in high transportation costs, rendering farmers' vegetable prices uncompetitive in comparison to vegetables traded from other islands.
- **Indigenous farmers are scattered between locations, making operational costs higher for private extension services to reach them.** Providers of these services also experience a cultural barrier, which provides a challenge to developing an effective marketing strategy targeting indigenous farmers. The livelihood and social structure of indigenous communities is unique, and a lack of understanding of these aspects hinders the private sector from communicating effectively about product benefits as well as providing technical assistance.
- **For up-to-date information on GAP, indigenous framers currently rely heavily on public extension services.** However, the number of government officers providing these services is low compared to the population served, impeding regular and timely assistance to farmers. In addition, the assistance they do provide can be ineffective due to their limited capacity.
- **As they live farther away from demand centres, indigenous farmers also have less access to market information.** They usually sell their produce directly to consumers in the market, which take up to three days to travel to.

- **Female farmers are especially impacted by these challenges.** Traditionally, indigenous Papuan women are considered as food providers, giving them the integral responsibility of agriculture production, starting from selecting seeds to selling harvested products.
- **Some new challenges have arisen for farmers and market actors due to COVID-19.** The disruption of transport has affected vegetable shipments from other provinces or between districts, increasing vegetable prices. The closure and restriction of local market activities has also impacted farmer incomes, especially that of women farmers, who are more likely to engage in agriculture selling activities.

## Intervention areas

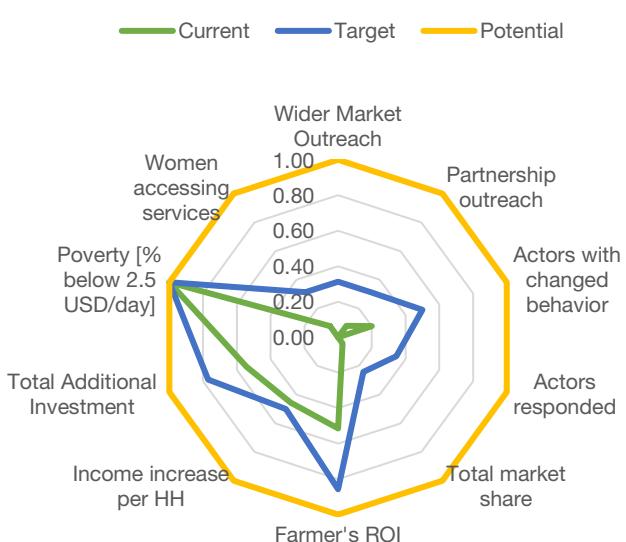
PRISMA is focusing on two intervention areas:

- **Promoting good quality inputs and GAP.** Building on our Phase 1 interventions, in Phase 2 PRISMA will scale up the intervention by working with other seed producers, facilitating them to identify areas with the best market potential and feasibility, allowing them to allocate resources to capacity building and demand creation more effectively, not only to transmigrant farmers but also to indigenous farmers.
- **Improving access to and quality of public extension services.** As indigenous farmers rely heavily on government public extension services, PRISMA aims to identify knowledge gaps of the public extension officers in order to develop a capacity building curriculum. This will also help to build an effective incentive system so that smallholder farmers have access to public extension service assistance. The program will also facilitate the formation of multi-stakeholder engagement with government and input companies to provide capacity building for public extension service officers.

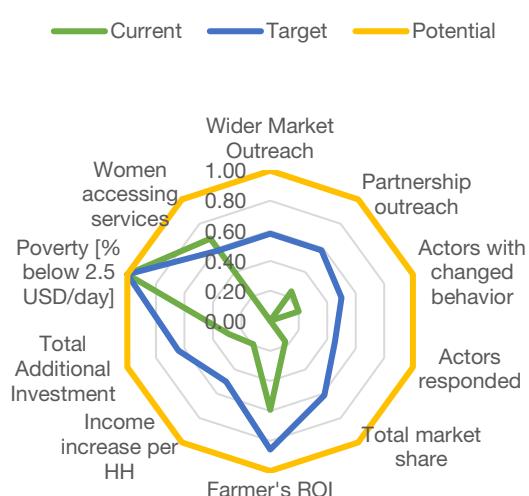
## Sub-sector vision for systemic change

By 2023, over 20,000 vegetable farmers in Papua and West Papua will improve their access to high quality vegetable seeds and GAP knowledge. This will be achieved through co-investing with seed producers in developing a territorial management strategy for Papua and West Papua which will help them identify those areas with the highest sales potential and feasibility of market entrance. The sector will also work with GOI to improve the government extension service capacity building curriculum and incentive system, facilitating the provision of more farmers with better GAP knowledge.

Vegetable Papua System Boundary and Vision



Vegetable West Papua System Boundary and Vision



## **Progress towards sub-sector vision**

### **Adopt**

- EWINDO adopted the PRISMA business model to promote quality seed and GAP in Papua and West Papua between 2016 and 2018.

### **Adapt**

- EWINDO continued to promote quality seed and GAP in Papua and West Papua after its contract with PRISMA.

### **Expand and Respond**

- Crowding-in and responses from other market actors are yet to be seen. Progress will be observed throughout the next semester and on an ongoing basis.

## **Annex 3 – PRISMA risk matrix**

In a separate sheet.

## Annex 4 – PRISMA QMT results June 2020

Change and Improve	Let Flow	Push	
Pig NTT (1) Marketing Communications*	Beef EJ (2) Beef CJ (1) Crop Protection EJ (1) Crop Protection CJ (1) Crop Protection NTB (1) Dairy CJ (1) Soil Treatment EJ (1) Innovative Finance EJ (2) Innovative Finance CJ (2) ICT EJ (1) ICT NTT (1) Irrigation EJ (1)	Mechanisation NTB (1) Maize EJ (1) Maize NTB (1) Maize NTT (1) Maize CJ (1) Mung bean EJ (1) Mung bean CJ (2) Pig NTT (3) Poultry NTT (1) Rice EJ (2) Rice CJ (1) Seaweed PA (1)	Beef CJ (2) Crop Protection EJ (2) Crop Protection CJ (2) Maize EJ (1) Maize NTT (1) Soil Treatment EJ (1) Soil Treatment CJ (1) Soil Treatment NTB (1) Soil Treatment NTT (1) Maize CJ - Distan (1)
Dropped	Ended	Innovate	
	Peanut EJ (1) Peanut CJ (1) Coffee*	Vegetable EJ* Vegetable NTT* Vegetable NTB*	Irrigation EJ (1) Pig NTT (1) Vegetable Papua*

\*inactive intervention (intervention in ideas or intervention plan stage)

## Annex 5 – PRISMA portfolio development plan

Sub-sector	Actual Cumulative			Plan 2020S1			Actual 2020S1			Plan 2020S2			Plan 2021S1		
	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract
Beef-CJ	-	3	3	1	2	2			1		2	2	1	2	1
Beef-EJ	-	2	2	1	3	2					2	2	1	2	1
Beef-NTB	-	-	-	1	3	1							1	1	
Beef-NTT	-	-	-												
Coconut-CJ	-	-	-												
Coffee-CJ	1	-	-		1										
Coffee-EJ	1	-	-												
Coffee-NTT	1	-	-												
Crop Protection-CJ	2	3	3	2	2	2		1	1	1		1	2	2	2
Crop Protection-EJ	1	3	3	2	2	2		1	1	1		1	2	2	2
Crop Protection-NTB	-	-	1		1	1							1	1	1
Crop Protection-NTT	-	-	-												
Dairy-CJ	1	2	1	1	2	3		1	1		2	1			
Dairy-EJ	1	1	-	1	2	3		1			1	1		2	1
ICT-CJ	3	3	-	1	1	1		2	2		1	3			1
ICT-EJ	3	4	1	1				2	2		1	2			1
ICT-NTB	3	2	-					2	1		1	1			1
ICT-NTT	2	2	1					1	1			1			
ICT-Papua	1	1	-												
ICT-West Papua	1	1	-												
Innovative Finance-CJ	2	2	2					1	1		1	1			1
Innovative Finance-EJ	1	3	3		1	1		1	1		1	2			
Innovative Finance-NTB	1	1	1		1	1		1			1	1			
Innovative Finance-NTT	-	-	1												
Irrigation-CJ	1	-	-			2									
Irrigation-EJ	3	3	2		2	5			1	1	3	3	1	1	1
Irrigation-NTB	1	-	-			1					1				
Irrigation-NTT	1	-	-			2				1			1	1	
Maize-CJ	1	1	1	1	1			1	1		1		2	1	1
Maize-EJ	2	1	3	1	2			1		1				1	1
Maize-NTT	-	1	2	1	1	1					1		1		
Maize-NTB	-	-	1												
Mechanisation-CJ	-	2	-					1			1	2			
Mechanisation-EJ	2	2	1		1	1		1	1		1	2			2
Mechanisation-NTB	-	2	1					1	1			1			
Mung bean-CJ	1	3	2		1	1		1	1		1			1	3

Sub-sector	Actual Cumulative			Plan 2020S1			Actual 2020S1			Plan 2020S2			Plan 2021S1		
	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract	ICN	IP	Intervention with Contract
Mung bean-EJ	-	1	1											1	1
Peanut-CJ	-	-	1												
Peanut-EJ	-	2	1												
Pig-NTT	1	1	6			5			2			4			
Pig-Papua	-	-	-	1											
Poultry-CJ	-	-	-												
Poultry-EJ	-	-	-												
Poultry-Papua	-	-	-												
Poultry-NTB	1	-	-												
Poultry-NTT	1	1	1	1											
Rice-CJ	-	2	1						1		1			1	1
Rice-EJ	1	2	2			2			1		1	1		1	
Rice-NTT	-	-	-	1	1					1				1	1
Seaweed-NTT	-	1	-												
Seaweed-Papua	-	-	1			1			1						
Soil Treatment-CJ	-	2	1	1	1	1			1		2	1	1	1	1
Soil Treatment-EJ	-	2	2	1	1	1			1		2	1	1	1	1
Soil Treatment-NTB	-	1	1												
Soil Treatment-NTT	-	-	1												
Vegetable-EJ	-	-	-	1											
Vegetable-Papua	1	1	-	1	1	1		1				1	3	4	3
Vegetable-West Papua	1	1	-		1	1		1				1	3	4	3
Marketing Communication-CJ	1	1	-			1						1			
Marketing Communication-EJ	1	1	-			1						1			
Marketing Communication-NTB	1	1	-			1						1			
Marketing Communication-NTT	1	1	-			1						1			
Marketing Communication-Papua	1	1	-			1						1			
Marketing Communication-West Papua	1	1	-			1						1			
Total	49	71	54	21	34	50	14	19	15	6	27	45	19	31	30

## Annex 6 – PRISMA projections up to Y21S1

Sub-sector	Y20S2								Y21S1							
	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP
ARISA-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anggur-Merah-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARISA-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beef-CJ	-	-	-	-	-	-	-	-	9,469	4,305	2,811	1,386	1,892	14,579,521,330	7,232,953,451	9,857,267,613
Beef-EJ	-	-	-	-	-	-	-	-	2,664	1,674	970	437	650	6,794,873,774	3,057,693,152	4,552,565,494
Beef-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beef-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cacao-PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cashew-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cashew-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassava-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassava-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cocoa-PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coconut-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coffee-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coffee-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crop-Protection-CJ	978	-	-	-	-	-	-	-	5,883	3,522	2,644	811	1,535	9,321,541,801	2,663,310,583	5,515,314,273
Crop-Protection-EJ	1,855	-	-	-	-	-	-	-	7,753	4,251	3,373	1,086	1,780	10,425,473,365	3,359,579,936	5,498,323,871
Crop-Protection-NTB	-	-	-	-	-	-	-	-	1,944	1,247	809	218	485	3,881,545,920	1,048,017,398	2,328,927,552
Crop-Protection-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dairy-CJ	-	-	-	-	-	-	-	-	3,363	2,186	1,530	551	842	18,554,845,057	6,679,744,221	10,205,164,781
Dairy-EJ	-	-	-	-	-	-	-	-	4,035	2,018	-	-	-	-	-	-
Extension Service-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extension Service-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feed Mill-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil Treatment-CJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil Treatment-EJ	-	-	-	-	-	-	-	-	8,888	3,333	3,333	1,075	1,757	10,243,795,518	3,303,623,957	5,399,504,890

Sub-sector	Y20S2								Y21S1							
	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP
Soil Treatment-NTB	-	-	-	-	-	-	-	-	5,833	3,500	3,500	1,532	2,158	46,461,870,000	20,341,006,230	28,653,034,932
Soil Treatment-NTT	-	-	-	-	-	-	-	-	1,667	1,000	1,000	438	617	1,803,705,000	789,662,031	1,112,344,862
Fish-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOI-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOI-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOI-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOI-PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOI-WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ICT-CJ	8,725	6,107	4,275	1,379	2,253	-	-	-	4,798	3,359	2,352	759	1,240	-	-	-
ICT-EJ	-	-	-	-	-	-	-	-	32,250	7,688	4,613	1,531	2,500	5,276,118,528	1,750,616,200	2,859,128,520
ICT-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ICT-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finance - CJ	2,640	989	519	189	286	1,857,323,428	676,065,723	1,021,899,342	17,912	6,745	4,556	1,702	2,486	1,936,241,142	425,364,567	642,954,900
Finance-EJ	754	283	117	38	62	748,465,714	241,380,193	394,516,278	2,212	842	327	83	135	916,241,000	151,072,223	246,915,251
Finance-NTB	4,000	1,500	1,035	453	638	1,345,500,000	589,059,887	829,769,841	6,000	2,250	1,553	680	957	1,883,700,000	824,683,841	1,161,677,778
Finance-NTT	240	90	62	27	40	429,000,000	188,373,899	276,662,110	400	150	104	46	67	184,600,000	81,057,859	119,048,544
Finance - PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigation-EJ	610	610	610	197	307	1,272,773,632	411,105,883	641,350,633	5,580	2,546	2,184	786	1,136	-	-	-
Maize-CJ	-	-	-	-	-	-	-	-	-	3,333	2,667	960	1,467	2,693,333,333	969,600,039	1,481,333,365
Maize-EJ	-	-	-	-	-	-	-	-	170,438	129,011	100,744	41,422	69,021	132,010,389,741	50,100,500,000	93,714,201,306
Maize-NTB	3,577	3,000	2,100	1,197	1,365	4,000,000,000	6,497,976,744	7,409,973,480	-	-	-	-	-	-	-	-
Maize-NTT	-	-	-	-	-	-	-	-	20,764	16,537	9,622	4,811	6,832	23,203,077,248	4,000,000,000	16,474,184,846
Mango-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mango-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mechanisation-EJ	960	960	672	215	356	134,400,000	43,008,000	71,232,000	1,067	1,067	853	307	444	-	-	-
Mechanisation-NTB	2,000	1,700	1,280	730	998	832,000,000	474,240,000	648,960,000	-	-	-	-	-	-	-	-
Mung Bean-CJ	7,500	4,200	3,396	1,596	2,275	1,788,768,288	840,721,095	1,198,474,753	5,302	5,302	3,181	1,145	1,845	1,744,579,734	628,048,729	1,011,856,217
Mung Bean-EJ	-	-	-	-	-	-	-	-	1,625	1,175	705	240	409	343,251,498	116,705,511	199,085,863
Mung Bean-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mung Bean-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peanut-CJ	-	-	-	-	-	-	-	-	1,200	1,200	600	194	316	1,029,564,600	332,034,584	542,683,501
Peanut-EJ	-	-	-	-	-	-	-	-	800	800	400	129	211	686,376,400	221,356,389	361,789,000
Peanut-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pig-NTT	18,766	1,345	1,246	598	860	934,846,154	448,726,154	645,043,846	18,959	5,545	4,934	2,368	3,404	3,700,846,154	1,776,406,154	2,553,583,846
Poultry-NTT	-	-	-	-	-	-	-	-	600	192	134	79	86	25,192,000	14,863,280	16,122,880
Rice-CJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice-EJ	-	-	-	-	-	-	-	-	8,960	2,988	2,988	964	1,575	7,455,891,667	2,404,525,063	3,930,000,498

Sub-sector	Y20S2								Y21S1							
	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP	Access	User	Outreach	Outreach <\$2.5 PPP	Outreach <\$5.5 PPP	NAIC	NAIC <\$2.5 PPP	NAIC <\$5.5 PPP
Rice-PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice-WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAFIRA-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAFIRA-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAFIRA-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seaweed-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seaweed-PA	750	225	225	97	153	472,500,000	203,175,000	321,300,000	1,166	536	536	230	364	1,125,600,000	484,008,000	765,408,000
Seaweed-WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shallots-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shallots-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shallots-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shallots-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soybean-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soybean-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIRTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetable-EJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetable-NTB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetable-NTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetable-PA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetable-WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>44,743</b>	<b>18,147</b>	<b>13,804</b>	<b>6,008</b>	<b>8,568</b>	<b>16,835,247,274</b>	<b>8,918,952,876</b>	<b>10,936,334,712</b>	<b>302,737</b>	<b>196,960</b>	<b>146,007</b>	<b>59,602</b>	<b>96,497</b>	<b>233,530,480,350</b>	<b>98,103,227,417</b>	<b>156,351,627,154</b>

## Annex 7 – PRISMA semester outreach and NAIC breakdown (June 2020)

Program	Code	Sub-sector	Name	Actual Outreach Y20S1	Actual Cumulative Outreach up to Y20S1	Actual NAIC Y20S1	Actual NAIC Cumulative up to Y20S1
ARISA	2BZA	ARISA-NTB	Cattle Arisa	-	2,667	-	28,967,404,029
PRISMA	1MEA	Maize-EJ	Maize AHSTI	-	14,517	-	26,548,268,875
PRISMA	1CAA	Cassava-EJ	Access to GAP and Fertiliser	-	643	-	700,662,655
PRISMA	1SNB	Soybean-EJ	Certification and Nurseries	-	4,035	-	4,772,864,964
PRISMA	1SNA	Soybean-EJ	Developing Commercial Market	-	9,639	-	6,966,467,242
PRISMA	2CWA	Cashew-NTB	Pest Control and GAP Services	-	1,387	-	2,979,158,865
PRISMA	1CTA	Coconut-EJ	Organic Certif - Coconut Sugar	-	431	-	302,292,000
PRISMA	1FHA	Fish-EJ	Fish Cage Farming	-	6	-	11,850,863
PRISMA	1MOA	Mango-EJ	Mango EJ Syngenta	-	5,580	-	16,842,090,592
PRISMA	2MOA	Mango-NTB	Mango NTB Syngenta	-	1,372	-	6,018,445,126
PRISMA	3PGA	Pig-NTT	Pig Rearing	-	1,118	-	16,984,152,468
PRISMA	1PTA	Peanut-EJ	Good Quality Seed	-	101	-	111,555,563
PRISMA	3SDA	Seaweed-NTT	Seaweed UD Alga	-	630	-	159,906,600
PRISMA	3CEA	Coffee-NTT	Coffee GAP	-	4,598	-	9,292,704,699
PRISMA	3CEB	Coffee-NTT	Decentralised Processing	-	2,212	-	6,939,565,320
PRISMA	2STA	Shallots-NTB	Shallots EWINDO	-	8,028	-	30,450,552,840
PRISMA	2BFA	Beef-NTB	Commercial Feed	-	645	-	4,678,089,946
PRISMA	3CWA	Cashew-NTT	Cashew Peduli Kasih	-	423	-	1,630,802,052
PRISMA	1BFA	Beef-EJ	Beef Feed WU	-	834	-	4,965,548,700
PRISMA	1BFB	Beef-EJ	Beef Feed PKM	-	1,212	-	15,728,907,644
PRISMA	3PTA	Peanut-NTT	Good Quality Peanut Seeds	-	716	-	491,753,405
PRISMA	4COA	Cocoa-PA	Cocoa YPPWP	-	298	-	255,876,806
PRISMA	3MEC	Maize-NTT	Maize Storing	-	141	-	5,898,825
PRISMA	3MEB	Maize-NTT	Maize Nurseries	-	10,342	-	17,633,208,685
PRISMA	3MEA	Maize-NTT	Maize YMTM	-	7,298	-	9,488,606,923
PRISMA	1STA	Shallots-EJ	Shallots SPILT	-	1,540	-	4,928,000,000
PRISMA	2SNA	Soybean-NTB	BASF Soy Doctor Program	-	1,609	-	2,830,648,866
PRISMA	3MED	Maize-NTT	Stimulating market of OPV Seed	-	4,081	-	3,917,760,000
PRISMA	3BFA	Beef-NTT	Beef Lamtoro	-	65	-	212,240,015
PRISMA	1MEB	Maize-EJ	Expansion of Hybrid Market	-	5,106	-	38,505,556,857
PRISMA	3CWB	Cashew-NTT	Quality Inputs and Tools	-	5,412	-	7,087,533,396
TIRTA	1P1A	TIRTA	Pilanggede	-	703	-	11,536,413,012
ARISA	2MZA	ARISA-NTB	Maize NTB	-	2,735	-	26,545,385,326
ARISA	1CZA	ARISA-EJ	Cassava East Java	-	483	-	2,794,702,891
ARISA	1KZA	ARISA-EJ	Sheep East Java	-	6	-	11,920,356
ARISA	1SZA	ARISA-EJ	Sugarcane East Java	-	406	-	21,289,821,964
ARISA	1DZA	ARISA-EJ	Dairy East Java	-	2,571	-	71,427,301,464

<b>Program</b>	<b>Code</b>	<b>Sub-sector</b>	<b>Name</b>	<b>Actual Outreach Y20S1</b>	<b>Actual Cumulative Outreach up to Y20S1</b>	<b>Actual NAIC Y20S1</b>	<b>Actual NAIC Cumulative up to Y20S1</b>
ARISA	1IZA	ARISA-EJ	IPM East Java	-	-	-	67,965,295,613
PRISMA	5VEB	Vegetable-WP	Highland Vegetables	-	176	-	330,108,813
PRISMA	3PGB	Pig-NTT	Decentralized feed for pig	-	54,555	-	367,624,518,904
PRISMA	3AHB	Anggur Merah-NTT	Anggur Merah for Pig Sector	-	-	-	196,990,886
TIRTA	1K1A	TIRTA	Kliteh Malo	-	184	-	951,761,253
PRISMA	2SNC	Soybean-NTB	ACCESS	-	1,492	-	1,996,632,650
PRISMA	4VEA	Vegetable-P	Promotion of Good Quality Seed and GAP Provision	-	2,397	-	7,473,853,836
PRISMA	5VEC	Vegetable-WP	Promotion of Good Quality Seed and GAP Provision	-	2,839	-	4,725,141,349
PRISMA	1MEC	Maize-EJ	Maize Syngenta	-	2,502	-	4,737,466,054
PRISMA	1BFC	Beef-EJ	Beef Nutrifeed	-	8,534	-	149,882,015,225
PRISMA	1ITA	Vegetable-EJ	Vegetable ICT EWINDO (SIPINDO)	-	6,461	-	90,972,600,000
PRISMA	2ITA	Vegetable-NTB	Vegetable ICT EWINDO (SIPINDO)	-	1,566	-	22,056,400,000
PRISMA	3ITA	Vegetable-NTT	Vegetable ICT EWINDO (SIPINDO)	-	1,759	-	31,096,400,000
PRISMA	2ITB	Crop-Protection-	ICT NASA	-	7,904	-	56,277,660,537
PRISMA	3ITB	Crop-Protection-	ICT NASA	-	4,571	-	32,112,369,655
PRISMA	1ITB	Crop Protection-EJ	ICT NASA	-	38,774	-	181,305,539,083
PRISMA	1MED	Maize-EJ	Maize-DuPont	-	13,474	-	22,001,846,933
TIRTA	1P2A	TIRTA	Irrigation Management Improvement	-	112	-	46,467,792
TIRTA	1L2A	TIRTA	Irrigation Expansion-Leran 2	-	89	-	1,645,297,978
PRISMA	1MOB	Mango-EJ	Mango EJ Scale up Syngenta	-	1,094	-	4,867,969,680
TIRTA	1K2A	TIRTA	Kemiri - Malo	-	286	-	6,282,714,992
SAFIRA	12BB	SAFIRA-EJ	Institutional Strengthening (I.S.) - Bank Sinarmas	-	-	-	124,083,216
SAFIRA	21MD	SAFIRA-NTB	Maize VCF in NTB	-	-	-	4,893,672,098
SAFIRA	11GC	SAFIRA-EJ	Institutional Strengthening for BRI	-	3,903	-	33,861,487,176
SAFIRA	13PE	SAFIRA-EJ	Institutional Strengthening - CU Sawiran	-	3	-	55,440,500
SAFIRA	24MF	SAFIRA-NTB	Maize NTB - BISI / YARO	-	-	-	5,531,974,282
PRISMA	3PGC	Pig-NTT	Promoting Improved Feed and Good Rearing Practices in Timor	-	56,863	-	322,735,788,696
PRISMA	1MEE	Maize-EJ	Maize BISI	-	10,004	-	13,322,503,955
PRISMA	1VEA	Vegetable-EJ	Rainbow - Vegetable EJ	-	878	-	9,765,000,000
PRISMA	2VEA	Vegetable-NTB	Rainbow - Vegetable NTB	-	4,414	-	47,428,500,000
PRISMA	2MOB	Mango-NTB	Mango NTB Scale Up Syngenta	-	896	-	3,434,276,720
PRISMA	1MOD	Mango-EJ	Pazole EJ Rainbow	-	27	-	9,075,540,000
PRISMA	3VEA	Vegetable-NTT	Sumber Tani and Sahabat Tani - Vegetable NTT	-	516	-	3,171,797,568
PRISMA	2MEB	Maize-NTB	GAP and GHP with YARO	-	3,367	-	11,156,772,078

Program	Code	Sub-sector	Name	Actual Outreach Y20S1	Actual Cumulative Outreach up to Y20S1	Actual NAIC Y20S1	Actual NAIC Cumulative up to Y20S1
SAFIRA	31CG	SAFIRA-NTT	Institutional Strengthening (I.S.) Bank NTT	-	-	-	634,406,101
PRISMA	1STB	Shallots-EJ	Social Marketing CropLife	-	490	-	20,184,308,886
PRISMA	2STB	Shallots-NTB	Social Marketing CropLife	-	385	-	4,631,065,463
PRISMA	1STC	Shallots-EJ	IPDM Nufarm	-	771	-	40,664,134,640
PRISMA	2STC	Shallots-NTB	IPDM Nufarm	-	1,532	-	42,224,004,642
PRISMA	1MND	Mungbean-EJ	Promoting certified mung bean	-	4,920	-	2,545,355,814
PRISMA	3CEC	Coffee-NTT	Improving Market Access and Increasing the Productivity of Arabica Coffee in Filmores	-	3,126	-	1,070,761,245
TIRTA	1L3A	TIRTA	Irrigation Expansion and Productivity - Leran 3	-	363	-	1,417,520,882
TIRTA	1B2A	TIRTA	TIRTA	-	320	-	3,473,535,551
PRISMA	3PTB	Peanut-NTT	Promoting High Quality Peanut	-	271	-	1,145,500,315
PRISMA	3SDB	Seaweed-NTT	Seaweed RKN	-	30	-	209,570,877
PRISMA	3MEE	Maize-NTT	Maize OPV Nurseries	-	6,668	-	16,124,782,567
PRISMA	1VEB	Vegetable-EJ	Agrosid Soil Treatment GAP	-	2,447	-	13,918,089,440
PRISMA	1GIA	GOI-EJ	M4P Maize Pamekasan	-	1,950	-	6,406,408,244
TIRTA	1B1A	TIRTA	Irrigation Provision Through	-	162	-	752,615,482
PRISMA	3MEF	Maize-NTT	Promoting Hybrid Maize Cultivation	-	1,071	-	580,086,801
PRISMA	1BFD	Beef-EJ	Beef Japfa	-	328	-	1,131,173,962
TIRTA	1T1A	TIRTA	Testing the Role of Village Owned Enterprise in the development of Irrigation Provision in Tejo	-	181	-	1,142,979,467
PRISMA	1GIC	GOI-EJ	PPC Promoting Small Veg Seed Package to Rural Area of Pamekasan	-	499	-	401,530,059
PRISMA	2GIB	GOI-NTB	Promoting small package quality vegetable seed for rural home garden in Sumbawa	-	1,077	-	151,857,000
PRISMA	3GIA	GOI-NTT	Promoting small package quality vegetable seed for rural Home Garden in Kupang	-	62	-	41,958,000
PRISMA	3GIB	GOI-NTT	Promoting small package quality vegetable seed for rural Home Garden in TTS	-	22	-	58,671,000
PRISMA	1REA	Crop Protection-EJ	Rice EJ FMC	988	4,548	5,444,987,600	39,560,459,621
SAFIRA	11ML	SAFIRA-EJ	Institutional Strengthening for BNI	-	-	-	3,767,770,660
TIRTA	1K8A	TIRTA	Expansion Irrigation through Efficiency Irrigations and Co-Funding Infrastructures	-	799	-	2,804,990,504

Program	Code	Sub-sector	Name	Actual Outreach Y20S1	Actual Cumulative Outreach up to Y20S1	Actual NAIC Y20S1	Actual NAIC Cumulative up to Y20S1
TIRTA	1C1A	TIRTA	Expansion of Irrigation Though Efficiency Irrigations and Integrated Irrigation business sectors	-	563	-	3,943,401,699
PRISMA	3MNB	Mung bean-NTT	Provision of Foundation Seeds	-	761	-	400,840,008
TIRTA	1R1A	TIRTA	Development of Irrigation Consulting	-	1,531	-	8,897,954,932
PRISMA	1VED	Crop Protection-EJ	Danken-Pest and Disease	-	1,016	-	844,425,855
PRISMA	4VEB	Vegetable-P	Vegetable YBTS	-	111	-	128,548,878
PRISMA	1VEE	Crop Protection-EJ	Vegetable Agricon EJ	-	709	-	5,019,028,597
PRISMA	2MEC	Maize-NTB	Promoting Quality Maize Hybrid	-	3,231	-	9,767,556,735
SAFIRA	13IM	SAFIRA-EJ	Puskopdit Institutional Strengthening	-	16	-	76,184,533
PRISMA	5VED	Vegetable-WP	EWINDO Scale up West Papua	-	124	-	357,521,762
PRISMA	4VEC	Vegetable-P	EWINDO Scale up Papua	-	1,146	-	3,174,848,586
PRISMA	1PTC	Peanut-EJ	Peanut EJ Syngenta	-	790	-	1,791,451,304
PRISMA	3CTB	Coconut-NTT	Better Value Market for CCO	-	91	-	121,169,922
Integrating Productivity Enhancement with Irrigation business				-	5,844	-	6,356,223,787
TIRTA	1R1B	TIRTA	Irrigation Expansion Going Extra Mile	-	36	-	261,569,492
PRISMA	1PTD	Peanut-EJ	Promoting Quality Input to Peanut Farmers	-	173	-	460,110,293
PRISMA	3CWC	Cashew-NTT	Cashew GAP-Government ES	-	443	-	278,468,078
PRISMA	5VEE	Vegetable-WP	YBTS Fak-Fak	-	84	-	92,767,500
TIRTA	1P5A	TIRTA	Irrigation Provision in Padangan District Through Intervillage Agreement	-	346	-	2,266,442,691
TIRTA	1K1B	TIRTA	Upgrading Irrigation System for Expansion in Tinawun	-	81	-	714,113,901
TIRTA	1G2A	TIRTA	Technical Improvement for better irrigation access in Gayam 2	-	914	-	1,649,556,781
TIRTA	1L1A	TIRTA	Surface Irrigation to Remote Area in Leran 1	-	244	-	531,044,665
PRISMA	3SDD	Seaweed-NTT	Seaweed Mazu	-	850	-	170,534,303
PRISMA	1MNE	Mung bean-EJ	Mung Bean Ewindo Commercialisation of Mung Bean Seed	-	2,608	-	1,430,292,922
PRISMA	2CNA	Crop Protection-NTB	Crop Protection-NTB-Bina Guna Kimia	-	-	-	-
PRISMA	6CNA	Crop Protection-CJ	Crop Protection-NTB-Bina Guna Kimia	-	-	-	-
SAFIRA	11RH	Finance-EJ	Innovative Finance - EJ - Syngenta	-	-	-	-

Program	Code	Sub-sector	Name	Actual Outreach Y20S1	Actual Cumulative Outreach up to Y20S1	Actual NAIC Y20S1	Actual NAIC Cumulative up to Y20S1
SAFIRA	13II	Finance-EJ	Innovative Finance - EJ - BPR Arta Kencana	-	-	-	-
PRISMA	1BFE	Beef-EJ	Beef - EJ - KJUB Puspetasari	-	-	-	-
PRISMA	1BFF	Beef-EJ	Beef-EJ-Fermen Hipro	-	-	-	-
PRISMA	1CAB	Cassava-EJ	Cassava-EJ - Cassava Supplier (Taman Organic and Pak Amir)	-	-	-	-
PRISMA	1CAC	Cassava-EJ	Cassava-EJ - PT Natural Nusantara Yogyakarta (NASA)	-	-	-	-
PRISMA	1CEA	Coffee-EJ	Coffee - EJ - PT Hextar Fertilizer Indonesia	-	-	-	-
PRISMA	1CNA	Crop Protection-EJ	Crop Protection-EJ-FMC	-	-	-	-
PRISMA	1CNB	Crop Protection-EJ	Crop Protection-EJ-Agricon	-	-	-	-
PRISMA	1CNC	Crop Protection-EJ	Crop Protection-EJ-UPL	-	-	-	-
PRISMA	1CTB	Coconut-EJ	Coconut-EJ - CV Sekar Arum, Dinas Pertanian Kabupaten Pacitan	-	-	-	-
PRISMA	1ESA	Extension Service-	Extension Service-EJ-BASF	-	-	-	-
PRISMA	1FHB	Fish-EJ	Fish - EJ - Bank Jatim, PT Trimitra Anurah Segara	-	-	-	-
PRISMA	1FRA	Soil Treatment-EJ	Fertiliser - EJ - PT Behn Meyer Agricare	855	855	6,973,128,856	6,973,128,856
PRISMA	1FRB	Soil Treatment-EJ	Fertiliser - EJ - PT Pupuk Kaltim	-	-	-	-
PRISMA	1FRC	Soil Treatment-EJ	Soil Treatment EJ-Saprotan	-	-	-	-
PRISMA	1GIB	GOI-EJ	GOI - EJ - PT East West Seed Indonesia (EWINDO)	-	-	-	-
PRISMA	1GID	GOI-EJ	GOI - EJ - Dinas Tanaman Pangan, Hortikultura dan Perkebunan Kabupaten Situbondo	-	-	-	-
PRISMA	1IFA	Finance-EJ	Innovative Finance-EJ - PT Rekan Usaha Mikro Anda	-	-	-	-
PRISMA	1IFB	Finance-EJ	Innovative Finance-EJ-Tanijoy	-	-	-	-
PRISMA	1IFC	Finance -EJ	Innovative Finance-EJ-Crowde	-	-	-	-
PRISMA	1INA	Irrigation-EJ	Irrigation - EJ - PT Vasham Kosa Sejahtera	-	-	-	-
PRISMA	1INB	Irrigation-EJ	Irrigation-EJ-EWINDO	-	-	-	-
PRISMA	1INC	Irrigation-EJ	Irrigation-EJ-Syngenta	-	-	-	-
PRISMA	1ITC	ICT-EJ	ICT - EJ - PT Agri Tekno Karya (HARA)	-	-	-	-
TIRTA	1K3A	Irrigation-EJ	Irrigation - EJ - BUMDes Kedung Primen	-	-	-	-
TIRTA	1K9A	Irrigation-EJ	Irrigation - EJ - UD Rosa Abadi	-	-	-	-
PRISMA	1MCA	Mechanisation-EJ	Mechanisation - EJ - PT Rutan	-	-	-	-
PRISMA	1MEF	Maize-EJ	Maize - EJ - PT Dupont Indonesia	-	-	-	-

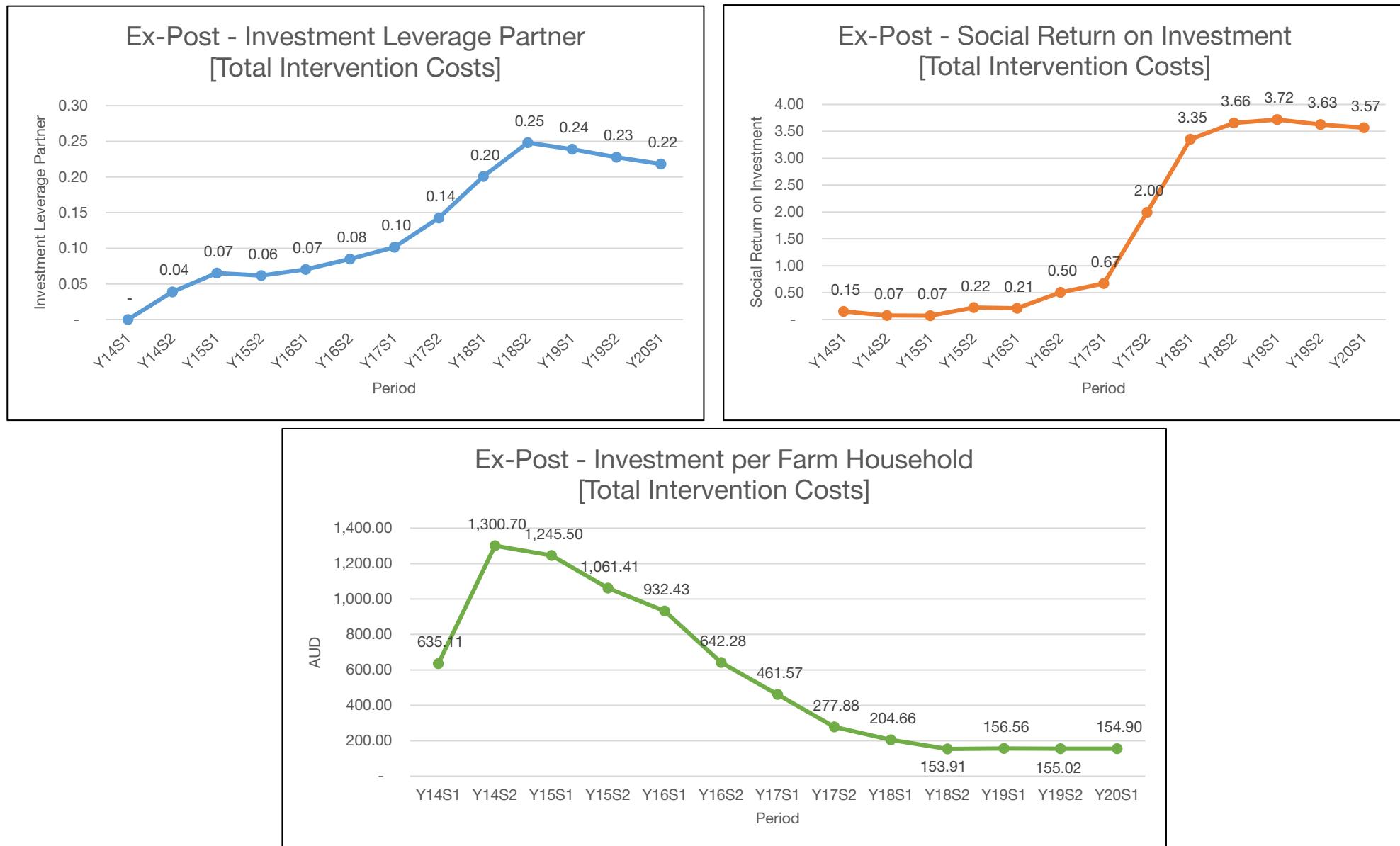
Program	Code	Sub-sector	Name	Actual Outreach Y20S1	Actual Cumulative Outreach up to Y20S1	Actual NAIC Y20S1	Actual NAIC Cumulative up to Y20S1
PRISMA	1MEG	Maize-EJ	Maize - EJ - Syngenta	-	-	-	-
PRISMA	1MEH	Maize-EJ	Maize-EJ-Corteva	-	-	-	-
PRISMA	1MNA	Mung bean-EJ	Mung bean - EJ - PT Indoacitama	-	-	-	-
PRISMA	1MNB	Mung bean-EJ	Mung bean- EJ - UD Sumber Tani	-	-	-	-
PRISMA	1MNC	Mung bean-EJ	Mung bean - EJ - PT East West	-	-	-	-
PRISMA	1MOC	Mango-EJ	Mango - EJ - PT Rainbow	-	-	-	-
PRISMA	1PTB	Peanut-EJ	Peanut - EJ - Balai Penelitian	-	-	-	-
PRISMA	1PTE	Peanut-EJ	Peanut - EJ - Garuda Food, PT	-	-	-	-
PRISMA	1REB	Rice-EJ	Rice - EJ - PT Bayer Indonesia	-	-	-	-
PRISMA	1REC	Rice-EJ	Rice - EJ - PT Primasid Andalan Utama, PT Agrosid Manunggal Sentosa	-	-	-	-
PRISMA	1RED	Rice-EJ	Rice-EJ-Corteva	-	-	-	-
TIRTA	1S1A	Irrigation-EJ	Irrigation - EJ - Sudjono	-	-	-	-
PRISMA	1SNC	Soybean-EJ	Soybean - EJ - BASF	-	-	-	-
PRISMA	1 SND	Soybean-EJ	Soybean - EJ - PT East West Seed	-	-	-	-
PRISMA	1SNE	Soybean-EJ	Soybean - EJ - PT Karisma Indoagro	-	-	-	-
PRISMA	1SNF	Soybean-EJ	Soybean - EJ - PT Rainbow	-	-	-	-
PRISMA	1STD	Shallot-EJ	Shallot - EJ - PT East West Seed	-	-	-	-
PRISMA	1STE	Shallot-EJ	Shallot - EJ - Bejo Zaden BV	-	-	-	-
SAFIRA	22MA	Finance-NTB	Innovative Finance - NTB - Bank	-	-	-	-
PRISMA	2BFB	Beef-NTB	Beef - NTB - KJUB Puspetasari, PT	-	-	-	-
PRISMA	2CTA	Coconut-NTB	Coconut - NTB - PT Aria Supra	-	-	-	-
PRISMA	2CWB	Cashew-NTB	Cashew - NTB - PT Comextra	-	-	-	-
PRISMA	2ESA	Extension Service-NTB	EXTENSION SERVICE - NTB - PT 8Villages, BAPELUH (District level Extension Services Implementation Unit for Farming) Bima, BAPELUH Lombok Timur, BAPELUH Sumbawa Besar	-	-	-	-
PRISMA	2FRA	Soil Treatment-NTB	Fertiliser - NTB - PT Behn Meyer	330	330	5,418,194,695	5,418,194,695
PRISMA	2FRB	Soil Treatment-NTB	Fertiliser - NTB - CV Saprotan Utama	-	-	-	-
PRISMA	2FRC	Soil Treatment-NTB	Fertiliser - NTB - PT Pupuk Kaltim	-	-	-	-
PRISMA	2FRD	Soil Treatment-NTB	Fertiliser - NTB - PT Pupuk Kaltim	13,346	13,346	77,253,829,071	77,253,829,071
PRISMA	2GIA	GOI-NTB	GOI - NTB - PT BISI International TBK, Badan Perencanaan Pembangunan Daerah Kabupaten Lombok Utara	-	-	-	-
PRISMA	2IFA	Finance-NTB	Innovative Finance - NTB - PT Bisi	-	-	-	-
PRISMA	2MCA	Mechanisation-NTB	Mechanisation-NTB-TERRA	-	-	-	-
PRISMA	2MEA	Maize-EJ-NTB	MAIZE - NTB - PT Sarottama	-	-	-	-

<b>Program</b>	<b>Code</b>	<b>Sub-sector</b>	<b>Name</b>	<b>Actual Outreach Y20S1</b>	<b>Actual Cumulative Outreach up to Y20S1</b>	<b>Actual NAIC Y20S1</b>	<b>Actual NAIC Cumulative up to Y20S1</b>
PRISMA	2MED	Maize-EJ-NTB	Maize - NTB - PT Dupont Indonesia	-	-	-	-
PRISMA	2MNA	Mung bean-NTB	Mung bean - NTB - PT East West Seed Indonesia (EWINDO)	-	-	-	-
PRISMA	2MOC	Mango-NTB	Mango - NTB - PT Rainbow Agrosciences, PT Syngenta	-	-	-	-
PRISMA	2SNB	Soybean-NTB	Soybean - NTB - PT East West Seed Indonesia (EWINDO)	-	-	-	-
PRISMA	2SND	Soybean-NTB	Soybean - NTB - PT BISI International TBK	-	-	-	-
PRISMA	2SNE	Soybean-NTB	Soybean - NTB - CV Bintang Tani Sejahtera	-	-	-	-
PRISMA	2STD	Shallot-NTB	Shallot - NTB - Bejo Zaden BV	-	-	-	-
PRISMA	2VEB	Vegetable-NTB	Vegetable - NTB - PT Agricon Indonesia	-	-	-	-
SAFIRA	33VJ	Finance-NTT	Innovative Finance - NTT - Tanaoba Lais Manekat	-	-	-	-
SAFIRA	33VK	Finance-NTT	Innovative Finance - NTT - BPR Central Pitoby	-	-	-	-
SAFIRA	33VO	Finance-NTT	Innovative Finance - NTT - Koperasi Simpan Pinjam Tanaoba Lais Manekat	-	-	-	-
PRISMA	3AHA	Anggur Merah-NTT	Anggur Merah - NTT - PUSKUD, Bappeda NTT	-	-	-	-
PRISMA	3AHC	Anggur Merah-NTT	Anggur Merah-NTT - CV Tiga Putri Mandiri, Bappeda NTT	-	-	-	-
PRISMA	3CAA	Cassava-NTT	Cassava - NTT - PSE Unit (Unit on Diocese for Social Economic Development), PT Singkong Timor Jaya	-	-	-	-
PRISMA	3CTA	Coconut-NTT	Coconut - NTT - CV. Nusa Permai	-	-	-	-
PRISMA	3CWD	Cashew-NTT	Cashew - NTT - PT Comextra Majora	-	-	-	-
PRISMA	3FDA	Feed Mill-NTT	Feed Mill - NTT - PT Garda Wahana Perkasa	-	-	-	-
PRISMA	3FRA	Soil Treatment-NTT	Fertiliser - NTT - PT Behn Meyer Agricare	55	55	271,138,444	271,138,444
PRISMA	3FRB	Soil Treatment-NTT	Fertiliser - NTT - PT Pupuk Kaltim	-	-	-	-
PRISMA	3GIC	GOI-NTT	GOI - NTT - PT BISI International TBK, Dinas Pertanian Manggarai Timur	569	569	445,138,373	445,138,373
PRISMA	3GID	GOI-NTT	GOI - NTT - PT BISI International TBK, Dinas Pertanian Manggarai Barat	261	261	21,512,925	21,512,925
PRISMA	3IFA	Finance-NTT	Innovative Finance - NTT - PT Bisi International	-	-	-	-

<b>Program</b>	<b>Code</b>	<b>Sub-sector</b>	<b>Name</b>	<b>Actual Outreach Y20S1</b>	<b>Actual Cumulative Outreach up to Y20S1</b>	<b>Actual NAIC Y20S1</b>	<b>Actual NAIC Cumulative up to Y20S1</b>
PRISMA	3ITC	ICT-NTT	ICT-NTT-Ditant	-	-	-	-
PRISMA	3MEG	Maize-NTT	Maize - NTT - Dinas Pertanian NTT	-	-	-	-
PRISMA	3MEH	Maize-NTT	Maize - NTT - PT Dupont Indonesia	-	-	-	-
PRISMA	3MNA	Mung bean-NTT	Mung bean - NTT - EWINDO	-	-	-	-
PRISMA	3PGD	Pig-NTT	Pig-NTT-Sierad	-	-	-	-
PRISMA	3PGE	Pig-NTT	Pig-NTT-STM	-	-	-	-
PRISMA	3PGF	Pig-NTT	Pig-NTT-Indochem	-	-	-	-
PRISMA	3PGG	Pig-NTT	Pig-NTT-Panca Patriot	-	-	-	-
PRISMA	3PGH	Pig-NTT	Pig-NTT-Sinta Prima	-	-	-	-
PRISMA	3PYA	Poultry-NTT	Poultry - NTT - PT Sumber Unggas Indonesia, PT Sumber Unggas Indonesia	-	-	-	-
PRISMA	3SDC	Seaweed-NTT	Seaweed - NTT - CV. Sentinel Pratama	-	-	-	-
PRISMA	3VEB	Vegetable-NTT	Vegetable - NTT - PT Rainbow Agrosciences	-	-	-	-
SAFIRA	41IN	Finance-PA	Innovative Finance - Papua - Bank Papua	-	-	-	-
PRISMA	4COB	Cacao-PA	Cacao - Papua - PT Tanah Mas Celebes Indah	-	-	-	-
PRISMA	4GIA	GOI-PA	GOI - Papua - Dinas Ketahanan Pangan, Peternakan, dan Kesehatan Hewan Kabupaten Merauke	-	-	-	-
PRISMA	4REA	Rice-PA	Rice - Papua - BASF	-	-	-	-
PRISMA	4SDA	Seaweed-PA	SEAWEED - Papua - Badan Usaha Milik Daerah Yapen Mandiri Sejahtera, Bank Papua Cabang Biak Numfor, Bank Papua Cabang Kepulauan Yapen, Yayasan Rumsram, Pemerintah Daerah Kabupaten Biak Numfor	-	-	-	-
PRISMA	4SDB	Seaweed-PA	Seaweed-MMAF	-	-	-	-
PRISMA	4VED	Vegetable-PA	Vegetable - Papua - Yayasan Bina Tani Sejahtera	-	-	-	-
PRISMA	5GIA	GOI-WP	GOI - West Papua - Dinas Pertanian dan Ketahanan Pangan Kabupaten Manokwari	-	-	-	-
PRISMA	5REA	Rice-WP	Rice - West Papua - BASF	-	-	-	-
PRISMA	5SDA	Seaweed-WP	Seaweed - West Papua - Bank Papua Cabang Fakfak	-	-	-	-
PRISMA	5VEA	Vegetable-WP	Vegetable - West Papua - UD. Konco Tani, Yayasan Bina Tani Sejahtera	-	-	-	-

<b>Program</b>	<b>Code</b>	<b>Sub-sector</b>	<b>Name</b>	<b>Actual Outreach Y20S1</b>	<b>Actual Cumulative Outreach up to Y20S1</b>	<b>Actual NAIC Y20S1</b>	<b>Actual NAIC Cumulative up to Y20S1</b>
PRISMA	5VEF	Vegetable-WP	Vegetable - West Papua - Yayasan Bina Tani Sejahtera	-	-	-	-
PRISMA	6BFA	Beef-CJ	Beef - CJ - KJUB Puspetasari	-	-	-	-
PRISMA	6BFB	Beef-CJ	Beef-CJ-Fermen Hipro	-	-	-	-
PRISMA	6BFC	Beef-CJ	Beef - CJ - SR Feedmills	-	-	-	-
PRISMA	6CNB	Crop Protection-CJ	Crop Protection -CJ-Agricon	-	-	-	-
PRISMA	6CNC	Crop Protection -	Crop Protection -CJ-UPL	-	-	-	-
PRISMA	6DYA	Dairy-CJ	Dairy-CJ-Nufeed	-	-	-	-
PRISMA	6FRA	Soil Treatment-CJ	Soil Treatment-CJ-Saprotan	-	-	-	-
PRISMA	6IFA	Finance-CJ	Innovative Finance - CJ - PT Crowd Membanqun Bangsa	-	-	-	-
PRISMA	6IFB	Finance -CJ	Innovative Finance-CJ-Tanijoy	-	-	-	-
PRISMA	6MEA	Maize-CJ	Mung bean-CJ- PT Dupont Indonesia	-	-	-	-
PRISMA	6MNA	Mung bean-CJ	Mung bean-CJ - CV Semi	8,477	8,477	4,465,306,917	4,465,306,917
PRISMA	6MNB	Mung bean-CJ	Mung bean-CJ- EWINDO	-	-	-	-
PRISMA	6PTA	Peanut-CJ	PEANUT - CJ - Garuda Food, PT Garudafood Putra Putri Jaya	-	-	-	-
PRISMA	6REA	Rice-CJ	Rice-EJ-Corteva	-	-	-	-
<b>TOTAL</b>				<b>24,882</b>	<b>410,858</b>	<b>100,293,236,882</b>	<b>2,271,745,651,084</b>

## Annex 8 – PRISMA Value for Money ex-post Y20S1



## Annex 9 – PRISMA Capacity Building Plan 2020

PRISMA Capacity Development Plan 2020													
No. of staff stated in the cell	2020												
Revised Plan after COVID-19	Complete						In Progress						
Webinars after COVID -19													
CB activities	Provider & location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Technical Skills</b>													
Cohort: Induction training	PRISMA staff, Surabaya	20											
Cohort: Basics of Results Measurement	PRISMA staff, Surabaya				21								
MSD	Springfield Centre – Bangkok											6	
Gender Bias Training	STA, Surabaya												all staff
Partnership Brokering Training	Julie Mundy, Surabaya												40
Political Economy Analysis (PEA) Training	Training PRISMA Policy Team, Surabaya												all staff
Contextual Leadership Training	DDI, Jakarta												7
Workflow Audit workshop	PRISMA staff, STA, TBD												33
ODI-TPP Political Economy Analysis online course	ODI, online				1								
<b>Refresher Training</b>													
RM Refresher	Refresher Training PRISMA RM-Team, Surabaya										all staff		
GESI for all staff	Refresher training – HoP/ STA, Surabaya				all staff			C6 & C7	RM		all staff		all staff
Business Viability and Planning	Refresher Training –Staff PRISMA, Surabaya	25				C6 & C7			25				
Deal making and Negotiation	Refresher training – HoP/MT, Surabaya							C6 & C7			all staff		
Operational management	Refresher training COO/Consultant, Surabaya		all staff			all staff			all staff				all staff

PRISMA Capacity Development Plan 2020													
No. of staff stated in the cell	2020												
Revised Plan after COVID-19	Complete							In Progress					
Webinars after COVID -19													
CB activities	Provider & location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Data for Decision Making (D4D)	Refresher training – HoP/MT, Surabaya						C6 & C7						
Market Analysis & Dynamic	Refresher training – HoP/MT, Surabaya						C6 & C7						
101 Basic Development economics	Refresher training – HoP/MT, Surabaya							C6 & C8					
Digital marketing/management online course	Online course, ICT Task force							41					
<b>Soft skills</b>													
English training	IALF, Surabaya		37	2	1								
Writing policy brief training	Tempo Institute, Jakarta		2										
Report/Story Writing workshop	British council, EF, Surabaya							80					
<b>Seminars and Workshop</b>													
2020 Australasian AID Conference	Crawford School of Public Policy at The Australian National University, Canberra		1										
Market Systems Symposium 2020	Eco Ventures International						1						

# Annex 10 – Operations Workflow Achievements

During the semester a number of operations audits were undertaken including:

- An audit of procurement processes of laptops and the generator for the office
- A process and due diligence audit of all outsource vendors (drivers, security and cleaning services)
- A program asset audit
- A due diligence audit of the Corteva MOU as a follow-up to the Risk Assessment on the use of cash advances noted in the previous PRIP report.

These audit reports were sent to DFAT for their record. The audit follow-up actions are noted in Table 4.

TABLE 4: OPERATIONS AUDIT FINDINGS AND FOLLOW-UP ACTIONS

Audit	Findings	Follow-up actions
Procurement process for laptops and generator	No issues of non-conformance found	No follow-up required
Due diligence of outsource vendors	<ul style="list-style-type: none"><li>• In Provincial office non-standard contracts used for casual staff</li><li>• Car insurance not verifiable</li><li>• Expired security certification</li></ul>	<ul style="list-style-type: none"><li>• Correct contracts provided – moved to outsourcing</li><li>• Insurance certificates secured from vendor</li><li>• Renewed certification requested</li></ul>
Program asset audit	No major non-conformance. However, it was found some numbering and recording errors	<ul style="list-style-type: none"><li>• New bar code system to be introduced</li><li>• Arrange better storage of unused assets in provinces</li><li>• Instigate monthly internal checks with PIC</li></ul>
Corteva follow-up	This audit was to follow-up on actions from a previous audit to identify relevant vendors in the field that could be used for catering and car hire	<ul style="list-style-type: none"><li>• A number of suitable vendors were found, and a panel re-fresher was undertaken</li></ul>

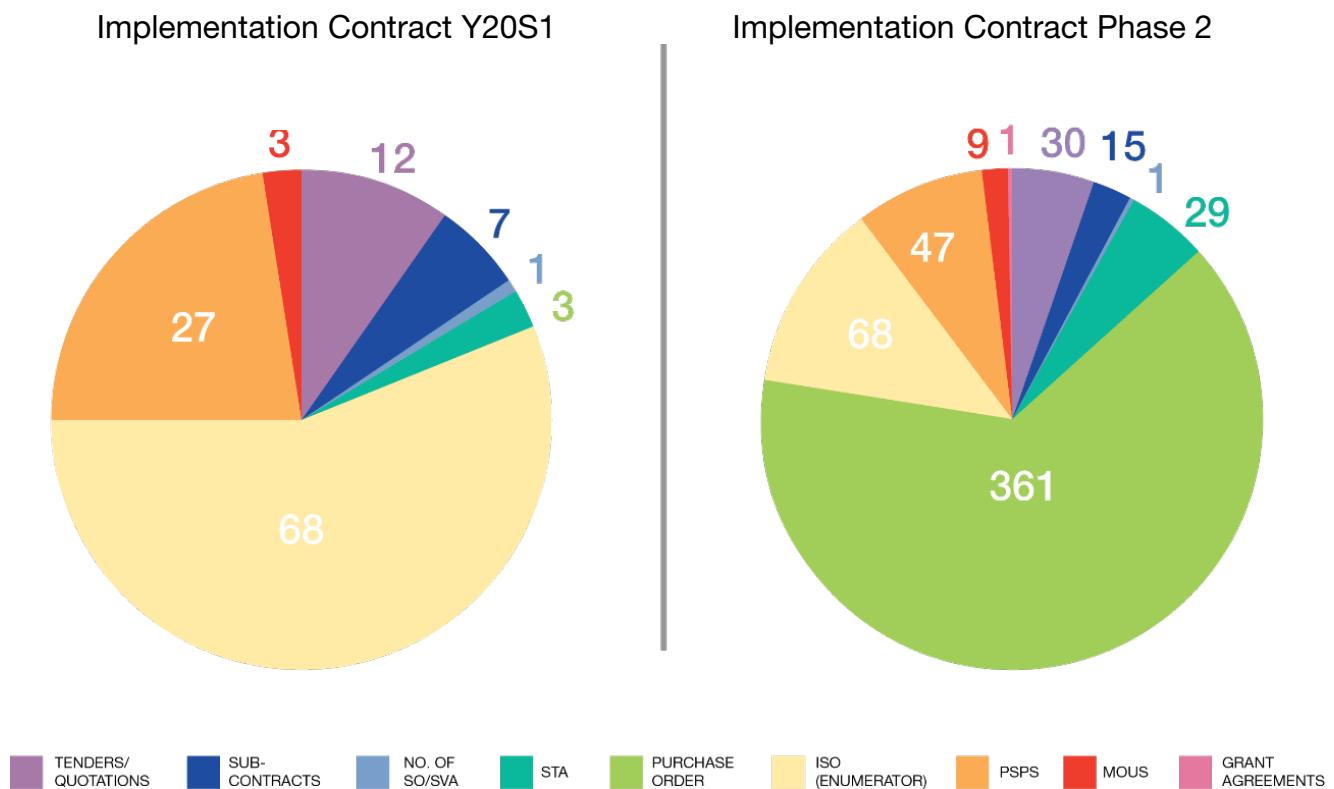
**During this semester, work continued on revising and producing new guidelines in areas not previously recorded** as noted in Table 5. Refresher training on all new and revised guidelines and SOP was provided to all staff remotely using online Town Hall meetings.

TABLE 5: GUIDELINE PRODUCED DURING Y20S1

Area	Document	Status
Human resources	Training Agreement Tool	Updated
Human resources	Training Application Tool	Updated
Human resources	How to Apply for Training SOP	New
Operations	COVID-19 Business Continuity Plan	New
Operations	COVID-19 Office Re-opening Protocol	New
Operations	Asset Management Guidelines	Updated
Operations	Support to GOI Guidelines	Updated
Contract and Compliance	PSEAH Guideline	Updated: submitted to DFAT
Procurement	Procurement Guidelines	New
Procurement	Procurement SOP	New
Procurement	Use of Panels for Procurement Guideline	New

**During the reporting period, 12 Requests for Tender (RFT) were undertaken as part of implementation** (to enable research, GAP module development, feasibility studies (feed factory and feed trial), animal health study, coconut scoping study research firm panel refresh) and **five for operation procurement.**

FIGURE 4: IMPLEMENTATION CONTRACT Y20S1 AND TOTAL PHASE 2



**Implementation contracting this reporting period and total implementation contracting to date are outlined in Figure 4.** Purchase orders are down this reporting period as a result of a slow-down in MOUs

and the inability of staff to travel to the field. In addition, ISO's replaced purchase orders at the end of the last reporting period for the contracting of enumerators. The reason for this is the legal requirement for the withholding of tax, which could not be managed through a PO process.

**The next semester will focus on completing the task of changing contracts to the standard Palladium contracts.** New Umbrella Agreements consistent with Palladium Contracts have been drawn up for Partners working on more than one intervention and for Panel arrangements. The next move will be revising the Request for Tender templates to make it more user friendly as Indonesian vendors are not used to the complicated tender document used during the previous phase. This may also increase participation and overall value for money.

# Annex 11 – PRISMA partner details

## PRIVATE SECTOR PARTNER



Name of partner :	<b>PT Agri Tekno Karya (HARA)</b>
Core business	HARA is a blockchain-based data exchange for the food and agriculture sector
Sector	ICT
Intervention	Location : East Java
Intervention	Improvement of credit disbursement process and proof of concept of input and off-taking business case through digital data exchange
Partner objectives:	<ul style="list-style-type: none"> <li>Connect farmers with other players (financial institutions, off-takers and input producers) in the agriculture sector through digital data exchange using HARA agriculture application</li> </ul>
	<b>PRISMA facilitation :</b> <ul style="list-style-type: none"> <li>Develop and improve the business model</li> <li>Prove the business case (piloting, connect with relevant stakeholders and socialisation)</li> </ul>



Name of partner :	<b>PT Agricon Indonesia</b>
Core business	Agrochemical production, formulation and distribution. Greenhouse manufacture
Sector	Crop Protection
Intervention	Location : CJ, EJ
Intervention	Improving marketing strategy for soil treatment product and good crop protection practices (GCP) through farmers education
Partner objectives:	<ul style="list-style-type: none"> <li>National level sales strategy restructuring. Agricon is using a customer-centric strategy that focuses on increasing its service in order to gain loyalty</li> <li>Provide farmers with newly launched soil treatment/catalyst products</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>Provide consultancy for managerial issues related to KPI and incentives in order to successfully adopt the new business model</li> <li>Facilitate promotion of new technologies by enhancing promotion targeting</li> </ul>



Name of partner :	<b>PT Agrosid Manunggal Sentosa (Agrosid)/PT Primasid Andalan Utama (Primasid).</b>
Core business	Agrosid and Primasid are sister companies of seed importer and producer in Indonesia. They produce, import, and sell seeds (horticulture and food crop), bio fertilisers, and bio pesticides in Indonesia.
Sector	Rice
Intervention	Location : EJ, CJ, NTT, NTB
Intervention	Promoting and increasing the availability of rice hybrid seeds
Partner objectives:	<ul style="list-style-type: none"> <li>Increase production capacity</li> <li>Increase product penetration in the market</li> <li>Improving monitoring and management system</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>Support seed trial production for best production method</li> <li>Support monitoring system to increase staff performance</li> <li>Staff capacity building</li> <li>Product promotion to educate and change the behaviour of the farmers</li> </ul>



Name of partner :	<b>CV Aroma Duta Boga</b>
Core business	Breeding Production
Sector	Pig
Intervention	Location : NTT
Intervention	Improving Breed Stock and Breeding Management
Partner objectives :	<ul style="list-style-type: none"> <li>Increase the quantity and the quality of pigs breed to supply good quality pig stock in NTT among limited number of commercial breeding farms in NTT</li> <li>Improve breeding management by SOP development, training and software to record the information in farm.</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>Procure fresh semen of good quality boar and inseminate selected sow to increase breed quality on-farm</li> <li>Provide technical assistance to evaluate breeding farm management and apply the strategy to achieve the target</li> <li>Develop SOP for breeding management in improving breeding stock and farm management</li> </ul>

<ul style="list-style-type: none"> <li>Help other breeders to improve breed stock on-farm with training and socialisation</li> </ul>	<ul style="list-style-type: none"> <li>Develop software pig recording system for better farm information recording</li> <li>Develop video promotion, brochures and flyers to assist in promoting ASF prevention and biosecurity practices</li> <li>Build capacity building for the stock keeper to conduct trainings, including on GHP (good husbandry practice) and GFP (good feeding practice)</li> </ul>
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<p>Name of partner : <b>PT Bina Guna Kimia</b></p> <p>Core business : Agrochemical manufacturing company focuses on pesticides and soil treatment products</p> <p>Sector : Crop Protection</p> <p>Intervention : Innovative marketing strategies to increase adoption of selective safer pesticides and good crop protection practices</p>	<p>Location : CJ, EJ, NTB</p>
<p>Partner objectives:</p> <ul style="list-style-type: none"> <li>Follow FMC global initiatives to move away from broad spectrum (highly toxic) pesticides</li> <li>Market expansion of selective safer pesticides</li> <li>Improve farmers' adoption of Good Crop Protection Practices (as part of product stewardship)</li> </ul>	<p>PRISMA facilitation:</p> <ul style="list-style-type: none"> <li>Support partner to replace broad spectrum pesticides with safer ones</li> <li>Support market research and rural communication experts to understand farmers' rationale for use of broad-spectrum pesticides and improper crop protection practices</li> <li>Support partner to tailor effective communication approaches for selective pesticides and Good Crop Protection Practices</li> </ul>



### **PT BISI International Tbk**

<p>Name of partner : <b>PT BISI International Tbk</b></p> <p>Core business : BISI is Indonesia's largest producer of hybrid seeds for maize, rice, and fruits and vegetables</p> <p>Sector : 1. Finance 2. ICT</p>	<p>Location : 1. NTB, NTT 2. NTT</p>
<p>Intervention :</p> <ol style="list-style-type: none"> <li>1. Expanding access to agri-input financing for farmers through BISI-YARO</li> <li>2. Improving the flow of information of maize farming through multi-stakeholder partnership</li> </ol>	
<p>Partner objectives 1:</p> <ul style="list-style-type: none"> <li>Grow market sales by utilising agri-input financing as one of its promotional tools</li> <li>Expand maize seed market to NTT</li> <li>Improve effectiveness of current market database management and analysis</li> </ul>	<p>PRISMA facilitation 1:</p> <ul style="list-style-type: none"> <li>Improve partner's capacity in managing agri-input financing through YARO and developing credit history for their farmers</li> <li>Facilitate more engagement with other financing providers to offer more agri-input financing products to farmers</li> <li>Support promotional activities through YARO distribution channel</li> <li>Support improvement of market database management and analysis</li> </ul>
<p>Partner objectives 2:</p> <ul style="list-style-type: none"> <li>Increase its target sales by expanding its business to wider region and create more product distribution channel</li> </ul>	<p>PRISMA facilitation 2:</p> <ul style="list-style-type: none"> <li>Connect all the stakeholders (Ditant, PT BISI, and Swasti Sari) and improve the business model</li> <li>Provide consultation and support to PT Ditant, PT BISI, and Swasti Sari as needed</li> <li>Oversee and monitor project implementation</li> </ul>



<p>Name of partner : <b>Corteva Agriscience (PT DuPont Indonesia)</b></p> <p>Core business : Balanced and diverse seed, crop protection technology and products</p> <p>Sector : 1. Maize 2. Rice</p>	<p>Location : 1. CJ, EJ, NTB, NTT 2. CJ, EJ</p>
<p>Intervention :</p> <ol style="list-style-type: none"> <li>1. Maize: Promoting better farming practices and technology for increasing yield</li> <li>2. Rice: Promoting and increasing the availability of rice hybrid seed</li> </ol>	
<p>Partner objectives intervention 1:</p> <ul style="list-style-type: none"> <li>Improve strategies and inclusive business models</li> <li>Expand hybrid maize seed market</li> </ul>	<p>PRISMA facilitation intervention 1:</p> <ul style="list-style-type: none"> <li>Conduct research (market research, gender study) related to business case and inclusive marketing</li> </ul>

	<ul style="list-style-type: none"> <li>Develop partner's promotional program and activities including facilitation to multi-stakeholder partnerships</li> <li>Support capacity building and frameworks of marketing research and analysis</li> <li>Support new seed business</li> </ul>
Partner objectives intervention 2: <ul style="list-style-type: none"> <li>Increase hybrid rice seed production</li> <li>Expand hybrid rice seed market</li> </ul>	PRISMA facilitation intervention 2: <ul style="list-style-type: none"> <li>Conduct research (market research for grower's selection and agent database)</li> <li>Support partner's production and promotional strategy</li> </ul>



Name of partner : <b>PT Crowd Membangun Bangsa</b> Core business : An agri-tech financing platform working using crowdfunding schemes to provide financial services to the agricultural sector Sector : Finance Intervention : Expanding innovative agri-financing	Location : CJ
Partner objectives: <ul style="list-style-type: none"> <li>Increase portfolio by expanding to other areas or commodities</li> <li>Leverage other business opportunities or financing</li> <li>Confirm partner's position as market leader in the agri-tech financing industry</li> </ul>	PRISMA facilitation : <ul style="list-style-type: none"> <li>Improve marketing strategy (including setting-up kiosk agent system)</li> <li>Improve credit scoring system and collection system</li> <li>Conduct stakeholder gatherings to support market actors (insurance companies, banks)</li> <li>Speed up technical development of farmers' marketplace</li> <li>Speed up IOT support for monitoring</li> <li>Support TONI app (a kiosk app) improvement and promotion</li> </ul>



#### PT. DITANT BRINANTA JAYA

Name of partner : <b>PT Ditant Brinanta Jaya</b> Core business : An agri-product off-taking company which currently focuses its business in maize off-taking Sector : ICT Intervention : Improving the flow of information of maize farming through multi-stakeholder partnership	Location : NTT
Partner objectives: <ul style="list-style-type: none"> <li>Expand their business to other areas, especially in East Nusa Tenggara</li> <li>Need to be connected to complementary product and service such as agri-input and access to loan to ensure the yields quality and support the business process</li> </ul>	PRISMA facilitation: <ul style="list-style-type: none"> <li>Connect all stakeholders (Ditant, PT BISI and Swasti Sari) and develop the business model</li> <li>Provide consultation and support to PT Ditant, PT BISI and Swasti Sari as needed</li> <li>Oversee and monitor project implementation</li> </ul>



Name of partner : <b>PT East West Indonesia (EWINDO)</b> Core business : Headquartered in the Netherlands, East West Indonesia focuses its business on horticulture seeds through the Panah Merah brand Sector : 1. Mung bean 2. Irrigation	Location : 1. CJ, EJ 2. EJ
Intervention : 1. Mung bean: Commercialisation of mung bean seed 2. Irrigation: Promotion of new improved irrigation provision for seed nursery farmers	
Partner objectives intervention 1: <ul style="list-style-type: none"> <li>Develop its business portfolio to include staple crop (mung bean) in addition to horticulture</li> </ul>	PRISMA facilitation intervention 1: Phase 1: business plan and consumer research Phase 2: marketing activities and mung bean consumption mapping through research and mung bean industry FGD
Partner objectives intervention 2: <ul style="list-style-type: none"> <li>To secure partner's seed supply which came from its seed nursery farmers in EJ</li> </ul>	PRISMA facilitation intervention 2: <ul style="list-style-type: none"> <li>Support irrigation market research within production area to identify farmer behaviours and profile of irrigation service providers</li> <li>Linkage with competent irrigation contractors to execute the project on the ground</li> <li>Support in quality control of irrigation design through technical expert.</li> </ul>



Name of partner	:	<b>CV Fermen Hipro Feed</b>
Core business	:	An agri-business company producing organic concentrate feed for ruminants formulated from agricultural and agroindustry wastes.
Sector	:	Beef
Intervention	:	Promoting cattle specific concentrate feed for improving cattle productivity
Partner objectives:		PRISMA facilitation:
<ul style="list-style-type: none"><li>• Increase production and sales of concentrate feed through expansion of distribution network to new areas</li><li>• Target untapped market of concentrate feed for post-partum cows through product diversification</li></ul>		<ul style="list-style-type: none"><li>• Conduct research on market segmentation for new areas, potential agent assessment for distribution network expansion, and new product development study to facilitate product diversification</li><li>• Provide support in promotional activities and capacity building for staff as well as agents</li><li>• Facilitate multi-stakeholder partnership especially establishing relationships with government</li></ul>



Name of Partner	:	<b>PT GarudaFood Putra Putri Jaya, Tbk</b>
Core business	:	GarudaFood is the largest peanut snack manufacturer in Indonesia with three business divisions: food, beverage and distribution.
Sector	:	Peanut
Intervention	:	Promoting peanut off-taker
Partner objectives:		PRISMA facilitation:
<ul style="list-style-type: none"><li>• Promote off-takers for wet pod and local kernel peanut through direct partnership with farmers groups/entities</li></ul>		<ul style="list-style-type: none"><li>• Provide research on potential partnership, facilitation with stakeholders, and pilot partnership event</li></ul>



Name of partner	:	<b>PT Panca Patriot Prima</b>
Core business	:	Animal feed producer (for pigs, cattle, fish and poultry) and day-old chickens (DOC) based in Surabaya
Sector	:	Pig
Intervention	:	Expanding Patriot feed in NTT to promote quality feed and good feeding practices
Partner objectives:		PRISMA facilitation:
<ul style="list-style-type: none"><li>• Improve feed distribution network to secure supply of feed in NTT</li><li>• Increase feed sales in NTT by implementing effective marketing strategies, recruitment of technical staff, and introducing feed for other livestock (poultry).</li><li>• Establish feed depot to support marketing and sales in NTT</li></ul>		<ul style="list-style-type: none"><li>• Link partner with potential distributors and market actors to strengthen and expand its distribution channel</li><li>• Provide market insights and develop marketing strategies (e.g. information on market potential of livestock (poultry) feed, smaller feed packaging) and more effective marketing materials (e.g. banners, leaflets, jingles) design</li><li>• Support marketing consultant to help partner develop training module for marketing and field staff, related to various topics (business management, agri-business analysis, marketing technique, warehousing, inventory management and record keeping)</li></ul>



Name of partner	: PT NUFEED International Indonesia
Core business	: Feed and supplement producer
Sector	: Dairy
Intervention	: Promote good quality feed for dairy cow
Partner objectives:	<ul style="list-style-type: none"> <li>• Become a market leader and provide various nutrition products for livestock</li> <li>• Provide and develop high quality products suitable for farmers</li> <li>• Expand market to new areas</li> <li>• Increase sales by providing a good product experience and technical services to customers</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>• Support product development or feed formulation based on market segmentation and farmer needs</li> <li>• Provide consultancy on business model and opportunity</li> <li>• Facilitate new channel opening and develop marketing strategy</li> <li>• Support promotional tools to effectively reach costumers</li> <li>• Develop distribution channels</li> </ul>



Name of partner	: KJUB (Koperasi Jasa Usaha Bersama) Puspetasari
Core business	: Feed company specialising in producing cattle fattening and dairy concentrate feed
Sector	: Beef
Intervention	: Promoting cattle specific concentrate feed for improving cattle productivity
Partner objectives:	<ul style="list-style-type: none"> <li>• Increase high quality feed selling through product diversification and expansion of distribution network to new areas using research-based marketing strategy.</li> </ul>
	<b>PRISMA facilitation :</b> <ul style="list-style-type: none"> <li>• Expand and improve capacity of distribution channel or agents</li> <li>• Conduct formula development study and market research for new product and area</li> <li>• Develop improved offline and online marketing strategy based on market research</li> <li>• Provide capacity building to farmers, staff and agents</li> </ul>



Name of partner	: PT Pupuk Kalimantan Timur
Core business	: A producer of fertiliser and other agri-chemical products. It is the subsidiary of PT Pupuk Indonesia Holding Company (a state-owned company)
Sector	: Soil Treatment
Intervention	: Promoting high quality commercial fertiliser and best fertilising practice
Partner objectives:	<ul style="list-style-type: none"> <li>• Increase commercial fertiliser selling through expanding collaboration with other stakeholders (through multi-stakeholder partnership)</li> <li>• Become a growing and sustainable world-class company in the fertiliser, chemical and agrobusiness industry</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>• Strengthen retailers' marketing/ sales skills through TOT</li> <li>• Facilitate multi-stakeholder partnerships to leverage farmers producing products for institutional buyers</li> <li>• Market segmentation analysis</li> <li>• Improve distribution channels and work with more retailers</li> <li>• Develop new side business for retailers</li> <li>• Develop an R&amp;D station aimed at developing organic products which target women in NTB</li> <li>• Improve the PKT field activity reporting system</li> </ul>



Name of partner	: PT Rekan Usaha Mikro Anda
Core business	: PT RUMA (Gojek Group)'s flagship service, Arisan Mapan, provides innovative products for consumers in rural Indonesia through digitally-supported rotating savings group (Arisan).
Sector	: Finance
Intervention	: Improving access to high-quality input through women led rotating savings groups
Partner objectives:	<ul style="list-style-type: none"> <li>• Reach more rural market segments by including agriculture products into partner's product catalogue</li> </ul>
	<b>PRISMA facilitation:</b> <ul style="list-style-type: none"> <li>• Facilitate agriculture product marketing strategy, including support in promotional activities and market</li> </ul>

	research to identify customer segmentation, product types, and focus areas
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## PT RUTAN

Name of partner :	<b>PT Rutan</b>
Core business :	Agricultural machinery importer that provide pre to post harvest machinery
Sector :	Mechanisation
Intervention :	Location : EJ, CJ
Partner objectives:	<ul style="list-style-type: none"> <li>Shifting the focus from government market to commercial market</li> <li>Increasing its shares in the open market for its new products</li> <li>Integrating market insights into their customer centric marketing strategy</li> </ul>
	PRISMA facilitation: <ul style="list-style-type: none"> <li>Integrating market research into their marketing strategy development</li> <li>Developing internal business development capacity building</li> </ul>

## Saprotn utama

FERTILIZERS • PESTICIDES • SEEDS

Name of partner :	<b>CV Saprotn Utama</b>
Core business :	Saprotn Utama offer many kinds of fertilisers, pesticides, and high-quality seeds
Sector :	Soil Treatment
Intervention :	Location : CJ, EJ
Partner objectives:	<ul style="list-style-type: none"> <li>Promoting high quality commercial fertiliser (macro and micronutrients) and introduce peat moss as an innovative planting media</li> </ul>
	PRISMA facilitation : <ul style="list-style-type: none"> <li>Provide consultancy for managerial issues as well as marketing and sales strategy</li> <li>Facilitate promotion of new planting material by developing market entry strategy for new product</li> <li>Introduce online marketing as an alternative media for marketing and promotion strategy</li> </ul>



Name of partner :	<b>CV Semi</b>
Core business :	Mung bean seed nursery, producing certified mung bean seed (Vima variety) which currently is serving both market and government programs. It is also a distributor of agriculture input products for some agri-input companies
Sector :	Mung bean
Intervention :	Location : Central Java
Partner objectives:	<ul style="list-style-type: none"> <li>Promoting certified mung bean seed and GAP</li> </ul>
	PRISMA facilitation: <ul style="list-style-type: none"> <li>Provide business analysis and solutions to facilitate partner's development of better strategy in regard to the mung bean seed market (e.g. improve distribution channels, linkage with government, linkage with potential off-season contract farmers to produce more mung bean seed)</li> </ul>

## SieradProduce

Name of partner :	<b>PT Sierad Produce, Tbk</b>
Core business :	The company focuses on its core competencies of feeds production, production of day-old chicken (DOC), broiler commercial farm, contract growing, chicken slaughtering and production of processed (frozen food) and value-added chicken products. The company produces poultry feed, swine feed, duck feed and quail feed
Sector :	Pig
Intervention :	Location : NTT
Partner objectives:	PRISMA facilitation:

<ul style="list-style-type: none"> <li>• Increase feed sales in NTT through strengthening and expanding feed channel distribution and promoting high quality pig feed</li> </ul>	<ul style="list-style-type: none"> <li>• Support the development of training materials and conduct the capacity building for field staff, marketing and outsourcing staff</li> <li>• Support partner to strengthen and expand their distribution channel through market survey in new areas</li> <li>• Support the development of marketing strategy (e.g. design of marketing materials, branding, communication platform, media coverage, etc.)</li> <li>• Link partner with other market actors (e.g. pig collectors, input retailers, government agencies, farmers groups, church communities, etc.)</li> </ul>
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Name of partner	: PT Sinar Indochem
Core business	: PT Sinar Indochem is a feed producer of poultry feed and pig feed
Sector	: Pig
Intervention	: Expanding Star feed products in NTT to promote quality feed and good feeding practices
Partner objective is to make the best of the market opportunity and solve specific limitation in Promoting High Quality Pig Feed that will be impactful for poor farmers in Nusa Tenggara Timur (NTT).	<p>PRISMA facilitation:</p> <ul style="list-style-type: none"> <li>• Provision of consultant for development of marketing strategies, farm business analysis, inventory management, training and promotional materials</li> <li>• Facilitate partners with local market actors including government to promote feed products and conduct training for potential agent, sub agents and farmer leaders</li> </ul>
To achieve the objective, partner will:	
<ul style="list-style-type: none"> <li>• Strengthen and expand its distribution channels (distributors and retailers) through business gathering and regular meetings</li> <li>• Develop and implement its market strategy (promotional materials, demo-plots, coaching clinic, market storm and pig farming competition.</li> </ul>	



Name of partner	: CV Sinar Terang Madani
Core business	: Animal feed producer for pig feed, poultry feed and produce day old chicken (DOC) in Indonesia
Sector	: Pig
Intervention	: Expanding Perkasa feed in NTT to promote quality feed and good feeding practices
Partner objectives:	<p>PRISMA facilitation:</p> <ul style="list-style-type: none"> <li>• Link partner with potential distributors and market actors to strengthen and expand its distribution channel. Support recruitment of STM</li> <li>• Provide market insights and develop marketing strategies, such as information on market potential of livestock (poultry) feed, smaller feed packaging, and more effective marketing materials</li> <li>• Support marketing consultant to support STM in developing module and train STM staff (marketing and field) related to topic: business management, agri-business analysis, marketing technique, warehousing, inventory management, and record keeping</li> </ul>
<ul style="list-style-type: none"> <li>• Improve its feed distribution network to secure supply of feed in NTT</li> <li>• Increase feed sales in NTT by implementing effective marketing strategies, recruitment of technical staff, and introduce feed for other livestock (poultry)</li> </ul>	



Name of partner	: PT Sinta Prima Feedmill
Core business	: Animal feed producer for pig feed, fish feed and poultry feed
Sector	: Feed
Intervention	: Expanding Sinta Feed products in NTT to promote quality feed and good feeding practice
Partner objectives:	<p>PRISMA facilitation:</p> <ul style="list-style-type: none"> <li>• Introduce Sinta Feed in NTT (new market)</li> <li>• Increase sales of Sinta Feed</li> <li>• Increase farmer's access to high quality feed and information on GRP and GHP in NTT</li> </ul>

- Increase farmers' income in NTT through the use of pig feed, good rearing practice (GRP) and good husbandry practice (GFP)

## **SRFeed Group**

Name of partner	:	UD Sumber Rejeki (SR)	
Core business	:	A ruminant feed producer under SR Feedmills Group with 3 product brands - SR Feed (UD SR Feed), AD Feed (CV AD Feed), and Indo Java (UD Indo Java)	
Sector	:	Beef	Location : CJ
Intervention	:	Promoting cattle specific concentrate feed for improving cattle productivity	
Partner objectives		PRISMA facilitation :	
<ul style="list-style-type: none"> <li>• Business development of SR Feedmills Group as quality feed producer in the commercial market</li> <li>• Increase production and sales of concentrate feed through distribution network expansion and product branding</li> </ul>		<ul style="list-style-type: none"> <li>• Strengthen company and product branding by developing offline and online marketing strategies.</li> <li>• Improve distribution channel by developing agent system and rewarding mechanism.</li> <li>• Support for capacity building and market insights to partner about smallholder farmers and potential agents</li> <li>• Conduct capacity building for PSP, ISP, and farmers</li> </ul>	



Name of partner	:	<b>PT Sumber Unggas Indonesia</b>	
Core business	:	Local chicken farm, hatchery, and fresh meat & egg production	
Sector	:	Poultry	Location : NTT
Intervention	:	Promoting and producing KUB (kampung unggas Balitnak) chicken breed in NTT	
Partner objectives:		PRISMA facilitation:	
<ul style="list-style-type: none"> <li>• Introduce and promote KUB chicken in NTT</li> <li>• Expand distribution channel by acquiring DOC agents in NTT to increase sales</li> </ul>		<ul style="list-style-type: none"> <li>• Develop business models and provide market insights for better marketing strategy</li> <li>• Facilitate permit for partner to transport and sell DOC in NTT</li> <li>• Connect partner to crucial stakeholders and existing market actors to promote KUB chicken from input to output market</li> <li>• Facilitate training for potential farmers and agents</li> <li>• Develop marketing campaign strategy for boosting chicken demand</li> </ul>	



Name of partner	:	<b>Credit Union Swasti Sari</b>	
Core business	:	A National Level Primary Credit Cooperative that is originated in NTT and considered one of the largest CU in NTT	
Sector	:	ICT	Location : NTT
Intervention	:	Improving the flow of information of maize farming through multi-stakeholder partnership	
Partner objectives:		PRISMA facilitation :	
<ul style="list-style-type: none"> <li>• Reduce the risk in providing credit to farmers by connecting to complementary products and service</li> <li>• Ensure good quality products to avoid harvest failure and access to buyers to ensure farmers can sell their products at a fair price</li> </ul>		<ul style="list-style-type: none"> <li>• Connect all the stakeholders (Ditant, PT BISI, and Swasti Sari) and develop the business model</li> <li>• Provide consultation and support to PT Ditant, PT BISI, and Swasti Sari as needed</li> <li>• Oversee and monitor project implementation</li> </ul>	

## **syngenta**

Name of partner	:	<b>PT Syngenta Indonesia</b>	
Core business	:	PT Syngenta Indonesia is a multi-national company focusing on improved seeds and crop protection technology and products	
Sector	:	1. Maize 2. Irrigation	Location : 1. EJ 2. EJ

<p><b>Intervention</b> : 1. Hybrid maize seed market development 2. Promotion of new and improved irrigation provision for maize seed growers</p> <p><b>Partner objectives intervention 1:</b></p> <ul style="list-style-type: none"> <li>• Improve business strategies and inclusive business models</li> <li>• Expand their hybrid maize seed market</li> </ul>	<p><b>PRISMA facilitation intervention 1:</b></p> <ul style="list-style-type: none"> <li>• Provide information about market condition and farmers' behaviours</li> <li>• Support promotional strategies and activities</li> <li>• Support the optimisation of subsidy program to promote hybrid maize seed</li> </ul>
<p><b>Partner objectives intervention 2:</b></p> <ul style="list-style-type: none"> <li>• Secure seeds supply which from maize seed growers in East Java</li> </ul>	<p><b>PRISMA facilitation intervention 2:</b></p> <ul style="list-style-type: none"> <li>• Support in irrigation market assessment within production area to identify farmers behaviour and profile of irrigation service providers</li> <li>• Linkage with competent irrigation contractors to execute the project on the ground</li> <li>• Capacity building for partner on technical irrigation through irrigation expert.</li> </ul>



Name of partner : <b>PT Tanijoy Agriteknologi Nusantara</b>	
Core business : Fintech Peer to Peer (P2P)	
Sector : Finance	Location : CJ, EJ
Intervention : Expanding innovative agri-financing	
<p><b>Partner objectives :</b></p> <ul style="list-style-type: none"> <li>• Provide secure loan for crowd funder (P2P funder)</li> <li>• Help TTB on getting fund through P2P lending</li> <li>• Scale up their business by reaching more farmers to be funded and gain more funder</li> </ul>	<p><b>PRISMA facilitation:</b></p> <ul style="list-style-type: none"> <li>• Increase more farmers to be reached by utilising agent model</li> </ul>



Name of partner : <b>PT Terra Agro Digital</b>	
Core business : Terra provides digital platform for agricultural mechanisation service, manages an ecosystem of machine investors, local management agents, and supports actors with revenue-sharing mechanism	
Sector : Mechanisation	Location : NTB
Intervention : Introducing agricultural machinery management service	
<p><b>Partner objectives :</b></p> <ul style="list-style-type: none"> <li>• Create a complete package of mechanisation service portfolio for farmers</li> <li>• Develop local agents to provide agricultural machinery service efficiently and effectively for farmers</li> <li>• Connect machine investors to local agents and supporting actors</li> </ul>	<p><b>PRISMA facilitation:</b></p> <ul style="list-style-type: none"> <li>• Support the development, validation, and improvement of the business model through market research, capacity building and strategic consultancy</li> </ul>



Name of partner : <b>PT UPL Indonesia</b>	
Core business : Agrochemical production, formulation and distribution	
Sector : Crop Protection	Location : CJ, EJ
Intervention : Improving Marketing Audit and Strategy for Water Treatment and Multi-Active Ingredient Pesticide Products and Good Crop Protection Practices (GCP) Through Farmers Education	
<p><b>Partner objectives :</b></p> <ul style="list-style-type: none"> <li>• New sales-marketing strategy and approach based on farmers behaviour</li> <li>• Provide rice farmers with new multi active ingredients, pesticide products and water treatment</li> <li>• Promote audit and marketing data base collection for better decision making</li> <li>• Pilot new format of promotional activities embedded with farmers education</li> </ul>	<p><b>PRISMA facilitation:</b></p> <ul style="list-style-type: none"> <li>• Provide consultancy for new marketing strategy and marketing audit</li> <li>• Provide data and information on farmers behaviour survey and research</li> <li>• Facilitate the promotion of new format promotional activities embedded with farmers education, including good crop protection practices (GCP)</li> </ul>

## PUBLIC SECTOR PARTNER



Name of partner	<b>Balai Pengkajian Teknologi Pertanian NTT</b>
Core focus	Agency for Agricultural Technology Assessment of NTT Province
Sector	Maize
Intervention	Maize development strategy and roadmap
Partner objectives:	
To support Dinas Pertanian NTT program in increasing maize production by:	
<ul style="list-style-type: none"> <li>• Sharpening the planning contained in the Grand Design of the Development of Dry Land Agriculture in the East Nusa Tenggara Islands, particularly in encouraging the production and use of high-quality maize seeds of open pollinated varieties (OPV)</li> <li>• Increasing nursery capacity to become professional seed producers</li> <li>• Strengthening maize GAP practice by increasing the capacity of TJPS staff (upstream-downstream program)</li> <li>• Release second edition of GAP book with updated information on FAW and TJPS role</li> </ul>	PRISMA facilitation: <ul style="list-style-type: none"> <li>• Support in developing Maize Roadmap 2019 – 2023</li> <li>• Conduct nursery survey to identify potential nursery to be further developed as professional nurseries</li> <li>• Conduct market survey to provide analysis for partner decision-making</li> <li>• Support in capacity building for nurseries to enter open market</li> <li>• Provide GAP tools (flipchart and brochure) for TJPS field staff</li> </ul>



Name of partner	<b>Dinas Pertanian NTT</b>
Core focus	Agriculture Office of NTT Province
Sector	Maize
Intervention	Maize development strategy and roadmap
Partner objectives:	
<ul style="list-style-type: none"> <li>• Sharpen the planning contained in the Grand Design of the Development of Dry Land Agriculture in NTT, particularly to encourage the production and use of high-quality maize seeds of open pollinated varieties (OPV), and to promote the good application of maize cultivation practices for both farmers in NTT</li> <li>• Increase maize production in NTT in response to government's plan for self-sufficiency and feed mill development plan by encouraging the use of certified seed (OPV and Hybrid) and collaboration with off-takers</li> </ul>	PRISMA facilitation: <ul style="list-style-type: none"> <li>• Support in developing Maize Roadmap 2019 – 23</li> <li>• Conduct nursery survey to identify potential nursery to be further developed as professional nurseries</li> <li>• Conduct market survey to provide analysis for partner decision-making</li> <li>• Support in capacity building for nurseries to enter open market</li> <li>• Provide GAP tools for TJPS field staff</li> </ul>



Name of partner	<b>Kementerian Kelautan dan Perikanan Republik Indonesia – Directorate General of Aquaculture (DKoA)</b>
Core focus	Technical Government Unit for National Aquaculture of the Indonesian or Ministry of Marine and Fisheries (MMAF)
Sector	Seaweed Seedling
Intervention	Seaweed – MMAF, Partnerships for improved seedling production and provision
Partner objectives:	
Will be focused - though not limited - to DKoA as the centre of program activities:	PRISMA facilitation: 2 main roles - direct assistance and facilitation, as well as creating mediation and connecting:
Carry out routine activities:	Facilitating and enhancing existing activities: <ul style="list-style-type: none"> <li>• Revise grant plans backed up with valid and reliable data</li> <li>• Change / update policies on the flow and quality of nursery quality improvement programs</li> </ul>
<ul style="list-style-type: none"> <li>• Budgeting and program planning and grants</li> <li>• Create and revise SOPs and policies to regulate activities for the development of a resilient and responsive seaweed sector</li> </ul>	

<ul style="list-style-type: none"> <li>Collaborate and coordinate with teams between directorates, ministries and other stakeholders, to get feedback and information</li> </ul> <p>Piloting and applying the new framework and tools with the collaboration of PRISMA and Kalimajari:</p> <ul style="list-style-type: none"> <li>Implement an assessment framework to expand to other provinces to enrich the database for better decision making</li> <li>Use new modules to train internal human resources to improve technical and business knowledge</li> <li>Integrate private sector involvement in seaweed nursery activities; also integrated with planning</li> <li>Ensuring all policies and activities encourage a better business climate for sustainable nurseries</li> </ul> <p>Actively dealing with seaweed stakeholders, such as:</p> <ul style="list-style-type: none"> <li>Create new partnerships and harmonize cooperation with market players, research institutions, and government agencies for the development of seaweed</li> <li>Involved in G2G cross-directorate, ministry and institutional collaboration</li> </ul>	<ul style="list-style-type: none"> <li>Updated SOPs for seedling shipments, and seaweed seed vendor requirements</li> <li>Increase knowledge and share information between stakeholders</li> </ul> <p>Provide assistance in creating frameworks, tools, databases, such as:</p> <ul style="list-style-type: none"> <li>Design, test and implement an assessment framework to be integrated with the DGoA's monitoring and evaluation strategy.</li> <li>Make modules and provide technical and business training to stakeholders.</li> <li>Collecting and analysing data to complement the basis of policy making through providing input and findings</li> <li>Create SOPs for, and choose potential intermediaries who will run private nurseries</li> </ul> <p>Mediating and bridging seaweed stakeholders, such as:</p> <ul style="list-style-type: none"> <li>Connect to other market participants (upstream and downstream) for collaborative actions</li> <li>Connecting to other research institutions to encourage innovation</li> <li>Facilitating in realigning cross-directorate relations and institutional collaboration to work together in the development of seaweed</li> </ul>
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## CO-FACILITATOR



Name of partner :	<b>Yayasan Kalimajari</b>		
Core focus :	The foundation focuses on seaweed and cacao commodities by implementing projects on capacity building, research and technical assistance, funded by various private and public institutions		
Sector :	Seaweed	Location :	Papua
Intervention :	Seaweed improved seedlings		
PRISMA objectives :	<ul style="list-style-type: none"> <li>Induce partnerships for improving improved seedling research and production</li> <li>Improve MMAF strategy of improved seedling (and cultivation knowledge) provision and distribution system</li> </ul>	Co-facilitator roles :	<ul style="list-style-type: none"> <li>Substantial role in</li> <li>Mediating between and bridging seaweed seedling stakeholders</li> <li>Knowledge and information sharing</li> <li>Providing inputs and presenting findings on seedling development to all partners</li> </ul>