

AIP-Rural

Australia-Indonesia Partnership
for Rural Economic Development



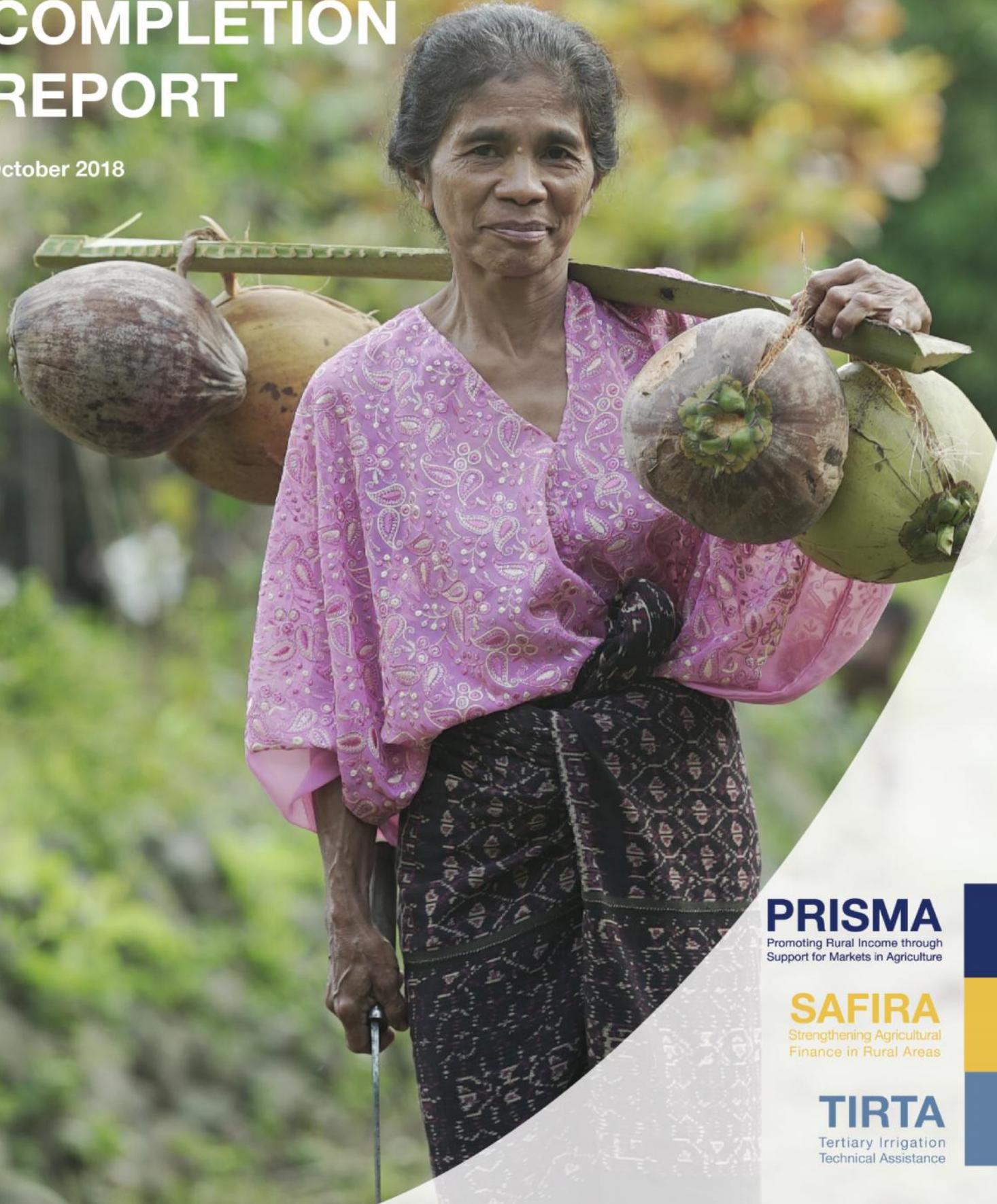
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Australian Government

ACTIVITY COMPLETION REPORT

October 2018



PRISMA

Promoting Rural Income through
Support for Markets in Agriculture

SAFIRA

Strengthening Agricultural
Finance in Rural Areas

TIRTA

Tertiary Irrigation
Technical Assistance



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List of Abbreviations

PT AHSTI	Asian Hybrid Seed Technologies Indonesia
AIP-Rural	Australian-Indonesia Partnership for Rural Economic Development
ARISA	Applied Research and Innovation Systems in Agriculture
BAPPENAS	Badan Perencanaan Pembangunan Nasional – National Development Planning Agency
BC	Business Consultant
BPS	Statistics Indonesia
BULOG	State Logistics Agency
BUMDes	Village Business Council
CMT	Core management team
DCED	Donor Committee for Enterprise Development
DFAT	(Australian) Department of Foreign Affairs and Trade
EMS	Environmental Management Strategy
EJ	East Java
EWINDO	East West Indonesia Ltd (company)
FSP	Financial service provider
GAP	Good agricultural practices
GoA	Government of Australia
Gol	Government of Indonesia
HH	Household
HoP	Head of Program
IP	Intervention plan
INGO	International non-governmental organisation
ISD	Intervention steering document
KPI	Key performance indicator
KUR	Kredit Usaha Rakyat – People’s Business Credit – fund for financing small enterprises
M4P	Making markets work for the poor
MIS	Management information system
MRM	Monitoring and Results Measurement
MOMF	Ministry of Marine and Fisheries
NAIC	Net attributable income change
NTB	Nusa Tenggara Barat – West Nusa Tenggara province
NTT	Nusa Tenggara Timur – East Nusa Tenggara province
PBC	Principal business consultant
PPI	Progress out of poverty index
PPP	Purchasing power parity
PRISMA	Promoting Rural Income through Support for Markets in Agriculture
PRIP	Progress Report and Implementation Plan
PT	Perseroan Terbatas (limited liability company)
RML	Results measurement and learning
SAFIRA	Strengthening Access to Finance in Rural Agriculture
SBC	Senior Business Consultant
SOP	Standard operating procedure
TIRTA	Tertiary Irrigation Technical Assistance
ToR	Terms of Reference
UPSUS	Upaya Khusus (Special Efforts program of Ministry of Agriculture)
VCF	Value chain finance

1 Purpose of the report

This Activity Completion Report has been prepared for the Promoting Rural Income through Support for Markets in Agriculture (PRISMA), Strengthening Agricultural Finance in Rural Areas (SAFIRA) and Tertiary Irrigation Technical Assistance (TIRTA) programs, which together make up three of four components of DFAT's overarching AUD 112 million Australia-Indonesia Partnership for Rural Economic Development investment (AIP-Rural), implemented by Palladium (formerly GRM International), with technical support from Swisscontact. The fourth investment under AIP-Rural is the Applied Research and Innovation Systems in Agriculture (ARISA) program, managed by CSIRO, which is not described in this report. The AIP-Rural investment ran for five years, from November 2013 – December 2018.

The purpose of this report is to provide a succinct summary of the three programs in terms of their background, results, and the evolution of their technical and operational approaches, including achievements, challenges, key lessons, and finally a summary conclusion with considerations for the upcoming PRISMA-2 investment (AUD 88m, Oct 2018 – Dec 2023).

This report aims to provide a concise account of the program's history and overall performance, it does not include a detailed update of all program interventions or approaches. Should such an account be sought, it is recommended that readers consult other more relevant program reporting, namely Project Design Document, Progress Report and Implementation Plans (PRIPs), Transition Plan, Mid-Term Review, and Proof-of-Concepts. Independent studies examining specific aspects of the programs technical and operational delivery approach have also been commissioned for AIP-Rural. Please refer to Annex 4 for a list of relevant reports, many of which are directly referenced throughout this report.

PRISMA, SAFIRA and TIRTA have been managed by unified AIP-Rural systems in several key areas (including operations, finance, results measurement, and MIS). To avoid unnecessary overlap, only those features/reporting distinct to a particular program have been segregated, whereas those sections common to all programs have been titled 'AIP-Rural'. The structure of this report is presented in Box 1 below.

This report has been prepared by Palladium in line with the requirements of Schedule 1, Clause 16.14 under contract number 65795 for PRISMA and SAFIRA, and Schedule 1, Clause 10.10, contract number 70204 for TIRTA.

BOX 1: READING THIS REPORT

Chapter 1 (the current chapter) sets out the purpose of this report.

Chapter 2 provides the background and headline details of the program, including funding basis, duration, aid modality, geographical focus, and other relevant areas. It also presents a timeline of key events and the various phases and structural changes to the three programs.

Chapter 3 describes the program's results monitoring and results measurement systems, including approach to adaptive portfolio management and the principles for calculating value for money.

Chapter 4 sets out the approach of each program in terms of both the technical approach and the operational/delivery modalities that enable it. It provides an overview and assessment of how this has evolved over time and why. Key lessons learned specific to each component are provided here.

Chapter 5 presents the program's results, including the activities, outputs and outcomes it achieved. This section also contains value for money analysis for each of the three programs.

Chapter 6 looks at key cross-cutting themes, including poverty, gender (including Women's Economic Empowerment), environment, disability and other broader inclusion factors.

Chapter 7 contains a record of the operational, financial and administrative management of the program, including an analysis of how this has evolved over time, and the key staffing structures that have enabled AIP-Rural.

Chapter 8 concludes with a summary assessment of the programs with closing remarks, key lessons and considerations for the next phase of the program – PRISMA 2.

2 Background and Context

AIP-RURAL

Acknowledging the significant but somewhat uneven economic growth in Indonesia over the past 15-20 years¹, the Government of Indonesia has partnered with the Government of Australia on the **AUD 112 million Australia-Indonesia Partnership for Rural Economic Development investment (AIP-Rural)**, a suite of programs focused on boosting the incomes of smallholder farmers by improving their access to new markets, better inputs, knowhow, technology, irrigation and small loans. It aims to achieve a sustainable 30% increase in the net incomes of one million smallholder farming households in eastern Indonesia by 2023.

AIP-Rural works in eastern Indonesia (in East Java, West Nusa Tenggara, East Nusa Tenggara, West Papua and Papua provinces), in less economically developed areas, where 60-80% of farmers are poor or near poor², and where agriculture remains critical to the livelihoods of the rural poor and is crucial to significant poverty reduction, but where incomes are still hampered by numerous factors, from poor cultivation techniques to lack of quality inputs, right through to poor infrastructure and long supply chains. Competitiveness and the enterprise needs of farmers in this region are very diverse.

AIP-Rural's four investments have a unified purpose, but distinct goals and approaches: PRISMA (AUD 77 million) aims to remove growth constraints in particular agricultural commodities important to smallholder farming households (e.g. beef, cocoa, coffee, maize); SAFIRA (AUD 4 million, as part of PRISMA) supports existing financial institutions to expand their portfolios of agricultural finance to smallholders; TIRTA (AUD 9.5 million) aims to increase farmer access to tertiary irrigation by facilitating private investment in this sector, and ARISA (AUD 8 million) concentrates on the commercialisation and dissemination of agricultural innovations which will have an impact on smallholder agriculture (co-funded by DFAT and CSIRO, and implemented by CSIRO). PRISMA and SAFIRA directly support the Government of Indonesia's Development Planning Agency (BAPPENAS), TIRTA the Ministry of Public Works, and ARISA the Ministry of Research, Technology and Higher Education (Kemenristekdikti), and provincial and district Governments, as well as the Australian aid program's strategic goal of sustainable economic development through improving incomes, employment and enterprise opportunities.

2.1 PRISMA Background & Context

As the largest component of AIP-Rural, the AUD 77 million PRISMA investment supports the Government of Australia and Government of Indonesia's shared development strategy of accelerating poverty reduction through inclusive economic growth.

While conventionally, rural development programs have tended to be public sector focused, **PRISMA adopts a market systems development approach** (see Section 3, Box 1), designed to improve agricultural competitiveness and achieve increased economic returns in selected value chains. By addressing the root causes of agriculture underperformance, it works to create systemic change that is sustained beyond the lifetime of the program. PRISMA's solutions are therefore tailor-made for specific groups of beneficiaries, achieved via interventions (i.e. partnerships formed around an innovative business case) with the private sector, local and national government agencies, business associations, non-profit associations and research institutes³.

PRISMA focuses on agriculture sectors that have strong growth potential and which are also a major source of income for a large number of eastern Indonesia's smallholder farming households. It delivers change at the farm level via private enterprises that have a stake in rural growth and competitiveness. It supports the private sector and other actors to better reach poorer rural farmers in more cost-effective ways. PRISMA's

¹ World Development Indicators: Poverty headcount ratio at USD 2 a day (PPP) (% of population)

² AIP-Rural measures poverty using the World Bank \$2.50PPP and \$2.00PPP income line.

³ Australia-Indonesia Partnership – Rural Economic Development Program Mid-Term Review, John Fargher & Associates Pty Limited, 22 December 2016.

goal is to achieve at least a 30% increase to the net incomes of 300,000 smallholder farming households in eastern Indonesia by December 2018.

TABLE 1– PRISMA SUMMARY

PROGRAM DETAILS	
Name	Australian-Indonesia Partnership: (AIP) Promoting Rural Income through Support for Markets in Agriculture (PRISMA)
Duration	Five years from Nov 2013 – Dec 2018 (with further five-year program, PRISMA 2, confirmed)
Funding value	AUD 77 million
Funding source	Australian Department of Foreign Affairs and Trade (DFAT)
GOI counterpart	BAPPENAS
Location	<p>Five core provinces with a specific focus on 20 districts*⁴:</p> <ul style="list-style-type: none">) East Java: Pacitan, Ponorogo, Trenggalek, Tulungagung, Blitar, Kediri, Malang, Lumajang, Jember, Banyuwangi, Situbondo, Probolinggo, Pasuruan, Mojokerto, Nganjuk, Madiun, Magetan, Ngawi, Brojonegoro, Tuban, Lamongan, Gresik, Bangkalan, Sampang, Pamekasan, Sumenep) West Nusa Tenggara: Lombok Barat, Lombok Tengah, Lombok Timur, Lombok Utara, Sumbawa) East Nusa Tenggara: Sumba Barat, Sumba Timur, Sumba Tengah, Sumba Barat Daya, Kupang, Timor Tengah Selatan, Timor Tengah Utara, Malaka, Belu, Lembata, Flores Timur, Sikka, Ngada, Nageko, Manggarai, Manggarai Barat, Manggarai Timur,) West Papua: Fakfak, Sorong, Tambrau, Sorong Selatan, Manokwari, Pegunungan Arfak,) Papua: Jayapura, Mimika, Sarmi, , Keerom, <p>The program may add additional districts or phase out interventions in others in line with its sub-sector and portfolio strategies.</p>
Goal	A 30% increase in income ⁵ for more than 1,000,000 male and female smallholder farmers by 2022, 300,000 of which will be reached by December 2018
Objective(s)	<ul style="list-style-type: none">) Increased competitiveness of poor male and female farmers:) Increased productivity and quality) Improved business performance) A growing share of an expanding market) The continuous adoption of innovations which contribute to productivity, performance and market growth
Outcomes	<ol style="list-style-type: none"> 1. Improved farmer practices 2. Increased access to input and output markets 3. Improved business enabling environment at the sub-national level
Strategy	To address the systemic growth constraints in rural agricultural sectors that are most relevant to smallholder farmers in the districts in which the program operates
Approach	A market-led approach of working with on- and off-farm market stakeholders (in the public and private sector) to stimulate (1) increased access to and (2) the sustained delivery of public and private inputs and services that are likely to increase the incomes of poor farmers

⁴ PRISMA has now worked in 78 districts in total across the five core provinces.

⁵ That is, a 30% increase in the farmer income derived from the selected agricultural commodity.

2.2 SAFIRA Background & Context

As part of the AIP-Rural suite of programs and working closely alongside PRISMA, the AUD 4 million SAFIRA investment was designed on the basis that if more farmers understand the impact of and have access to finance, this can lead to improvements in their level of competitiveness and an increase in incomes. Yet for many smallholder farmers, access to finance from the more formal institutions can be difficult for a range of reasons (from scarcity of assets to low financial education and limited risk mitigation options such as insurance). Being a component of AIP-Rural, SAFIRA also works in eastern Indonesia, where farmers face a range of additional constraints⁶. Here, the core rationale of the program is to use the value chain financing approach of leveraging the intangible assets of the value chain (that is, long-term relationships between suppliers, producers and buyers) to enable them to access credit that would increase productivity through the entire value chain. As with PRISMA, SAFIRA adopts a market systems development approach, designed to improve market efficiency and achieve increase of economic returns in selected value chains by working with financial institutions to build sustainable, tailor-made solutions to expand their portfolios of agricultural finance.

SAFIRA's main goals are to facilitate access to finance for 12,000 farmers, and achieve income increases of at least 30% for 6,000 of them, by improving smallholder access to credit facilitated through value chain actors and financial institutions in eastern Indonesia.

Table 2– SAFIRA Summary

Name	Australian-Indonesian Partnership: (AIP) Strengthening Agricultural Finance in Rural Areas (SAFIRA)
Duration	Three years six months from June 2015 and finishing in December 2018
Funding value	AUD 4 million
Funding source	Australian Department of Foreign Affairs and Trade (DFAT)
GOI counterpart	BAPPENAS
Location	Three core provinces with a specific focus on 13 districts: <ul style="list-style-type: none"> ▪ East Java: Sumenep, Nganjuk, Tuban, Malang, Lumajang, Jember ▪ West Nusa Tenggara: Lombok Utara, Lombok Barat, Lombok Timur, Lombok Tengah ▪ East Nusa Tenggara: Kupang, Sumba Timur, Manggarai
Goal	SAFIRA's goal is to increase the net incomes of 6,000 farmers with a 30% income increase by increasing access to financial services, primarily credit, through internal and external value chain finance for 12,000 farmers, with end goal is to strengthen the concept of VCF within the financial ecosystem of Indonesia.
Objective(s)	SAFIRA aims to improve the overall value chain finance (VCF) market by enhancing supporting market functions and Institutional Development (I.D) of financial institutions (FIs). These activities intend to formalise agriculture VCF with partner FIs as one way to scale up cost effective and sustainable lending to smallholder farmers.
Outcomes	<ol style="list-style-type: none"> 1. Increased VCF knowledge for FIs 2. Increased buy-in from FIs to implement VCF 3. Increased buy-in of consulting services to provides VCF consulting 4. Increased access to finance for smallholder farmers
Strategy	SAFIRA focus on VCF through institutional development to elevate the interventions to the level of supporting the entire organizations to understand, operationalize and implement VCF.

⁶ Having small plots of land, being unfamiliar with the banking system, low access to land with legal titles, under-utilization of technology applied to their farms, and limited market opportunities. Combined with high transaction cost for lending in small amounts, make small-scale farmers very unattractive clients for the more formal financial institutions. The reluctance of banks to lend to the agriculture sector can be seen in the proportion of lending portfolio going to this sector, which for the past ten years has hovered around 2-6% for the private and regional banks, and 6-9% for the state and rural banks⁶.

	SAFIRA further supports the FIs (if applicable) to apply that knowledge to a specific sub-sector. Key to the sustainability of this is the involvement of consulting firms to build on the process alongside SAFIRA and eventually, on their own.
Approach	<ol style="list-style-type: none"> 1. Institutional development of financial institutions in term of core business practices and systems 2. Developing the VCF consulting and support services market through institutional development of consulting firms and other actors 3. Facilitating knowledge sharing among stakeholders

2.3 TIRTA Background & Context

The Tertiary Irrigation Technical Assistance Program (TIRTA) aims to improve smallholder farmers' access to irrigation. It supports the creation of tertiary irrigation schemes that are managed by water users associations (HIPPAs) and local investors (lead farmers or local entrepreneurs), among others. The program's goal is to increase the net income of 7,579 smallholder rural female and male farmers by 60% through the improvement of the efficiency, technical and economic viability of tertiary irrigation projects.

Within the agriculture sector, irrigation has a significant impact on farmer incomes. Irrigated agricultural land produces 85% of national rice production and 95% of Indonesian people consume rice as a staple. Irrigation has been shown to have three times more impact on farm productivity compared to other agricultural inputs such as seed varieties and fertiliser⁷. Irrigation also offers the potential to 1) increase production and profitability per hectare per crop, 2) increase cropping intensity, and 3) reduce the risk of crop failure, which can be catastrophic for smallholders whose resources and reserves are already limited.

Given this strong rationale, support in irrigation sector development is compelling. Both the governments of Indonesia and Australia regard irrigation as a priority for rural economic development; the TIRTA program is designed to contribute to the goals of AIP-Rural by increasing access to quality irrigation services for farmers.

In Indonesia irrigation is managed at three levels: the national and provincial levels which handles large schemes and primary canal systems (from 1,000 to 3,000 ha), and the district level which manages smaller schemes (<1,000 ha). Even smaller schemes at the village level are called "tertiary" and are managed by farmers. **TIRTA focuses exclusively at the tertiary irrigation level (including village systems), where some of the systemic failures are most evident.**

The original farmer benefit outreach target of 10,000 smallholder rural female and male farmers was revised (and approved by DFAT in 2017) to 7,579 rural female and male farmers with the following change in clause 2.3 in the TIRTA Head Contract (and other related passages): *"Farmer impact - Contribute to a 60% increase in net incomes for 7,579 smallholder rural female and male farmers in selected districts of eastern Indonesia by December 2018."*⁸

The main reasons for lowering the target were:

- J The initial project design envisaged Water User Associations (HIPPAs) and finance institutions as key entry points for interventions, in addition to local private investors. TIRTA found that the former had significantly less capacity and fewer incentives than was thought during the design phase, subsequent delays in revising the program's overall strategy, and type of interventions to be developed were experienced.
- J The Strategic Review Panel (SRP) recommended (SRP-7, September 2017) to not develop any new interventions beyond December 2017 as the portfolio and pipeline are considered sufficiently diverse to learn lessons from the pilot project and prove – or disprove – the concept;

⁷ TIRTA Project Design Document.

⁸ It is worth noting that PRISMA's original target also related to individual rural female and male farmers, but was subsequently understood to relate to households and revised in a contract amendment. Whilst for TIRTA this change was not made, the programme has reported against the figure as relating to HHs rather than individuals.

- J) TIRTA's commencement was delayed by 6 months than originally estimated, which had a significant impact on outreach target;
- J) In the PPD, average land size per farm HH was estimated at 0.3 Ha but during implementation, the baseline survey showed average land size per HH to be 0.5 Ha. This is critical as the capability for irrigation providers to expand per irrigation scheme is around 100 Ha per year;
- J) The MTR recommendation was to focus only in two districts in East Java province as opposed to three provinces (East Java, Nusa Tenggara Barat and Nusa Tenggara Timur) originally outlined in the PDD.

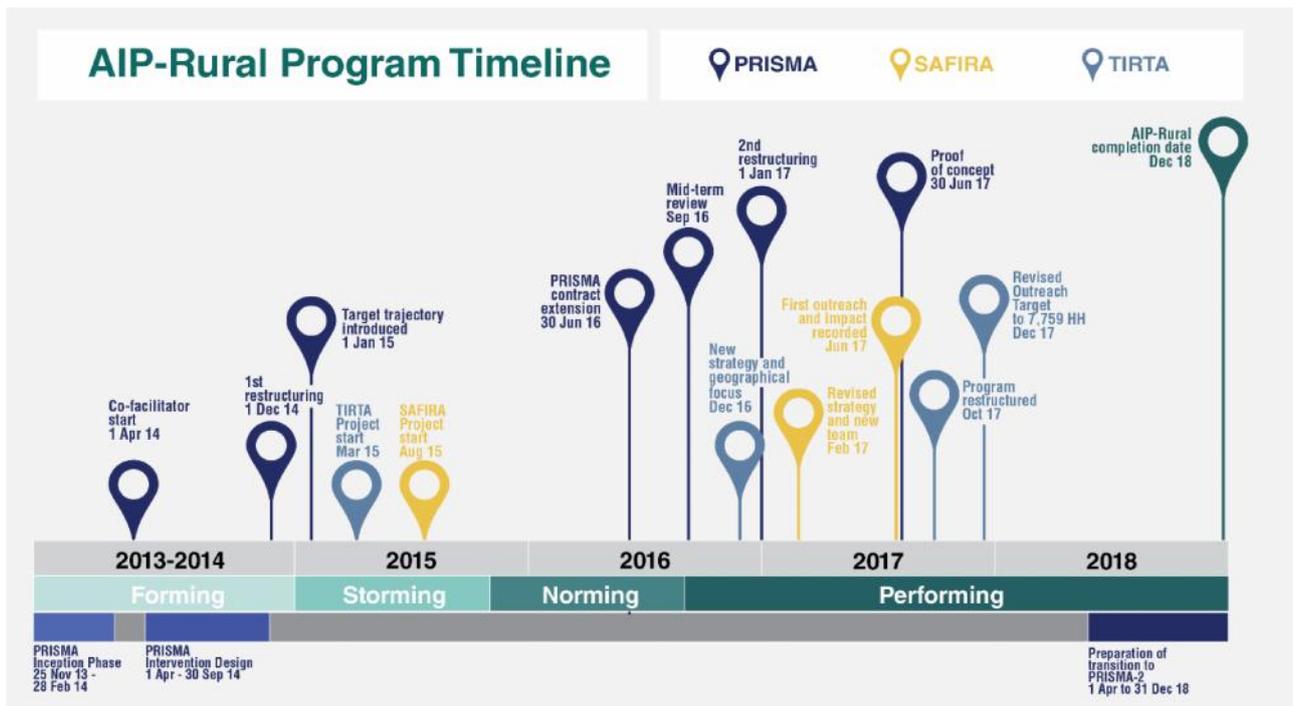
TABLE 3– TIRTA SUMMARY

Name	Australian-Indonesian Partnership: (AIP) Tertiary Irrigation Technical Assistance Program (TIRTA)
Duration	Three years 2 months from 6 October 2015 to 31 December 2018.
Funding value	AUD 9.5 million
Funding source	Australian Department of Foreign Affairs and Trade (DFAT)
GOI counterpart	Ministry of Public Works and Public Housing
Location	Bojonegoro and Tuban - two districts in East Java,
Goal	A 60% increase in income for 7,579 rural female and male farmers by end of 2018
Strategy:	TIRTA's strategy to catalyse private sector investments in tertiary irrigation and facilitate improvements to the efficiency, technical and economic viability and scale of irrigation schemes is achieved by addressing key systemic constraints to irrigation provision.
Approach	TIRTA will achieve this strategy by applying a market systems approach, that is, improving through systemic change the efficiency of underperforming services in the irrigation market that are likely to increase the incomes of small farmer household.

2.4 Key Dates

The following timeline provides an overview of contractual milestones and a chronology of key changes to the program's structures and approach.

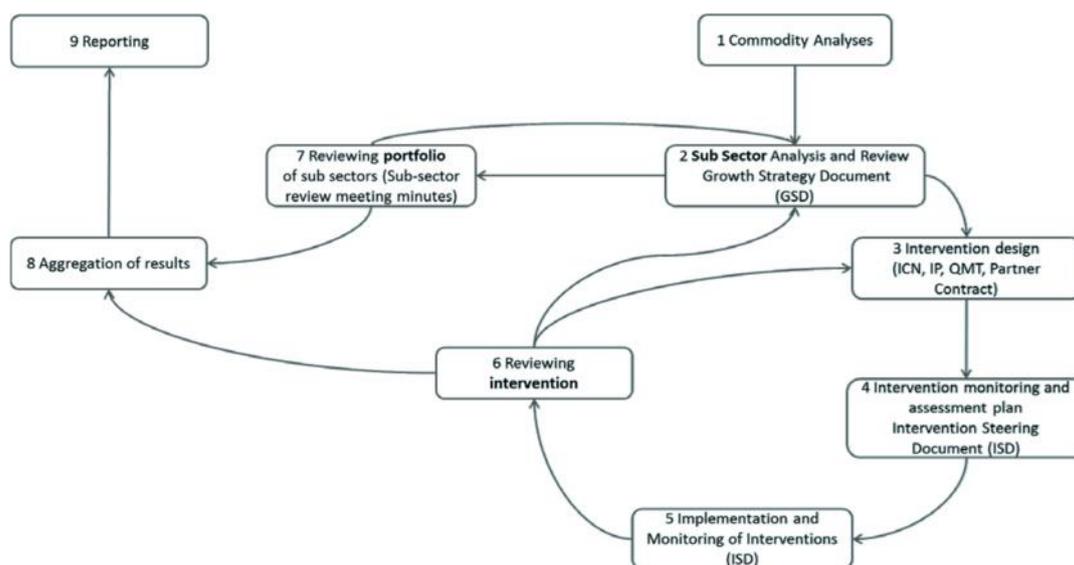
FIGURE 1– TIMELINE OF KEY DATES FOR AIP-RURAL PROGRAMS



3 Monitoring and Results Measurement

AIP-Rural is a data-driven program. It uses the results measurement standard of the Donor Committee for Enterprise Development (DCED) as the foundation for its monitoring and results measurement (MRM) system, which is consistent with DFAT M&E Standards 1, 2 and 3, and enables consistent use of a common set of performance and management indicators across all interventions⁹. The system is based on a learning cycle (see Fig. 2) which enables an adaptive management approach by ensuring that results are used to improve project implementation and portfolio management. It is supported by a Management Information System (MIS) which automates consolidation and presentation of intervention data for reporting, benchmarking and analysis. The data generated through the system is used extensively to inform AIP-Rural’s management strategy, including decisions to expand or drop key sectors (see section 4.1.1 below).

FIGURE 2– AIP-RURAL PROGRAM MANAGEMENT AND REVIEW CYCLE



The result measurement system is integrated into the program management cycle. Integrating data into the intervention development process begins right from the start, when staff are inducted to AIP-Rural. Results measurement and learning (RML) staff must understand each step in the intervention development and implementation process, from commodity analysis, sector analysis, through to intervention design, monitoring, aggregation and reporting of impact. At the same time, portfolio staff also learn about the principles and functions of the MRM system, including the process for developing result chains, monitoring results, conducting good quality surveys, and importantly - use of MRM data to inform decision-making.

Throughout the implementation and monitoring of interventions, portfolio staff are responsible for maintaining and updating the intervention steering document (ISD), which is a ‘live’ document that captures key intervention data, while RML staff provide technical assistance, guidance and feedback. RML staff are also encouraged to join non-monitoring activities in the field to better understand interventions. At the management level, Heads of Portfolio (HoPs) and the Head of RML work closely to manage and adapt interventions, based on MRM data.

AIP-Rural’s portfolio review process (step 7, above) uses a practical range of quantitative and qualitative indicators to rank intervention quality and performance. The indicators are: outreach, benefit, rationale, value for money, quality of deal, quality of collaboration, systemic change potential, poverty, gender and environment. Interventions are assessed on a bi-annual basis, during the semester strategy retreat – and are distilled into a document known as the ‘Quality Monitoring Tool’, or QMT (see section 4.1.1 for more detail).

⁹ A detailed breakdown of AIP-Rural’s MRM system and KPI indicators can be found in the AIP-Rural Results Measurement Manual.

Value of money (VfM) indicators are assessed to ascertain the effectiveness and efficiency of the interventions, as well as providing information on overall program performance that can be used for benchmarking purposes. For AIP-Rural, VfM is measured according to three different indicators:

- 1) **Investment leverage** (amount of partner co-investment per dollar of AIP-Rural investment). This indicator provides an insight about partners' commitment and willingness to invest in the program's innovations – which is also a strong indicator for long-term sustainability.
- 2) **Social Return on Investment (SROI)**, (amount of net income change per household achieved per dollar of AIP-Rural investment made). This is a modification from return on investment (ROI), commonly used in business and provides a robust indicator for DFAT's return on investment;
- 3) **Investment per household** (AIP-Rural costs divided by total program beneficiaries). This provides the value of DFAT's investment per farm household, a good indicator for comparing and benchmarking against comparable programs.

All three indicators are calculated at both intervention level and at program level. At intervention level – costs included are only those incurred specifically for individual interventions, whereas program level costs are calculated using total cost inclusive of **all** program expenditure (e.g. office and facility costs, travel costs, staff costs, overheads and operational costs), but this does not include DFAT costs from administering the program. Specific VfM results for PRISMA, SAFIRA and TIRTA are presented below in Section 4.

AIP-Rural's approach to poverty measurement started by initially using Progress out of Poverty Index (PPI) scorecards for the whole of Indonesia. However, the program found that this was far too generic and did not reflect the reality on the ground for most cases in eastern Indonesia. In response, AIP-Rural hired the Grameen Foundation to develop PPI scorecards specific to each of AIP-Rural's 5 target provinces, which were used from semester 2, 2016 onwards for all impact studies. The program now focuses on the \$2.5 poverty line as the most relevant measure of poverty.

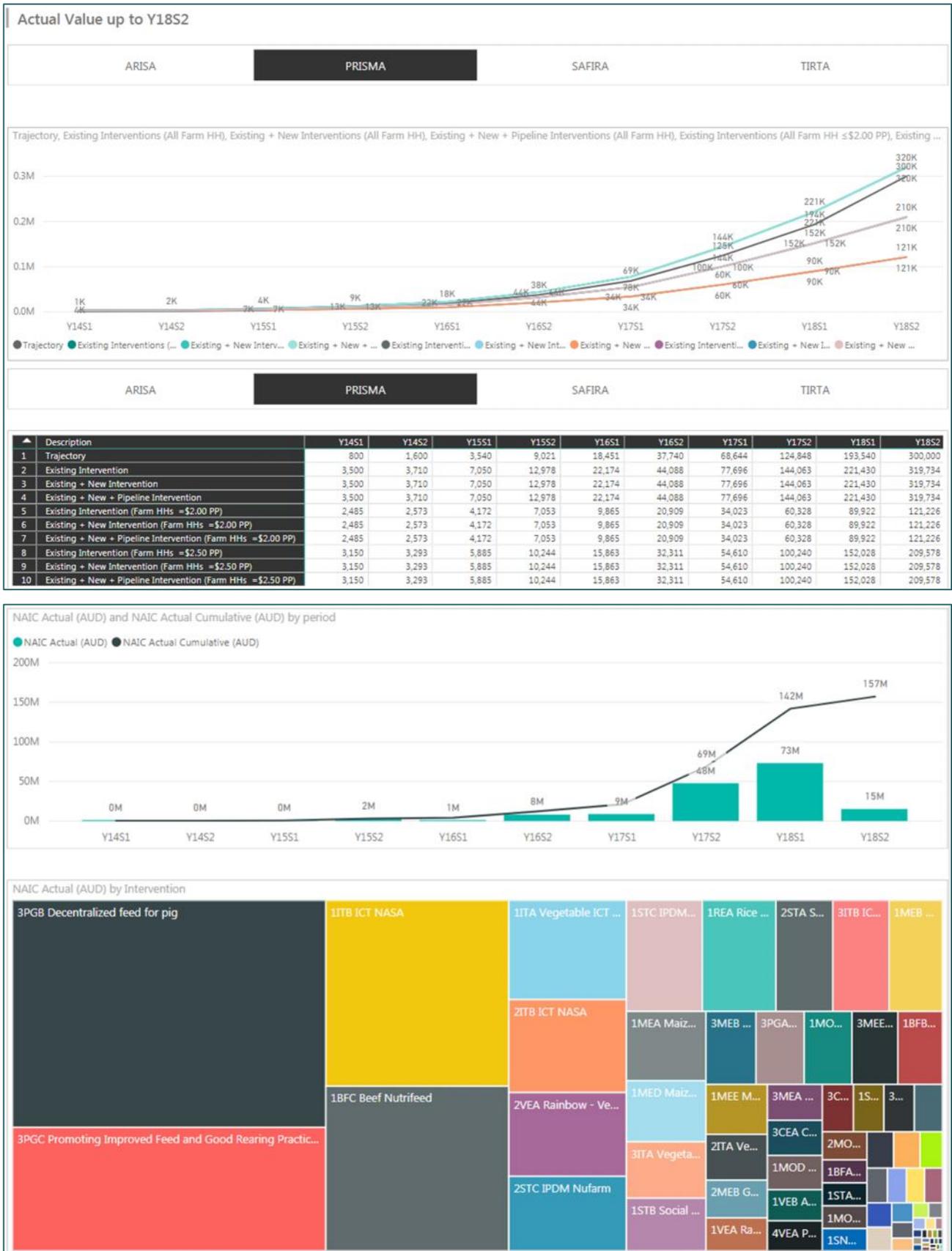
AIP-Rural's MRM System not only supported flexible and adaptive portfolio management, but also the donor reporting process. AIP-Rural reports results and achievements into 3 different reports which consist of: the Aid Quality Check (AQC), Aggregated Development Result (ADR), and Performance Assessment Framework (PAF). A noteworthy achievement for AIP-Rural's reporting system has been winning the DFAT award for best AQC four times in a row.

The MRM system as a whole ensures that results generated are attributable, credible, and sufficiently robust to support DFAT and BAPPENAS in informing national policy dialogue. The system was externally audited by DCED in 2016; it was found to be 89% compliant with all mandatory control points and 69% compliant with all recommended control points. At the time of writing, only five other programs globally have achieved a higher score.

AIP-Rural's substantial portfolio of interventions requires a comprehensive Management Information System (MIS) to accommodate the large datasets generated from baseline studies and impact assessments. The MIS, based on the Power BI platform provides the sophisticated data-management tools necessary to process, aggregate and present the data in a way that is useful for program management, and reporting for stakeholders. It combines financial, HR and MRM information allowing for sophisticated value for money analysis.

PRISMA's RML system is unique among MSD programs because of its sheer volume of data it has produced. More than 200 impact assessments completed to date with 26,000 respondents, producing over 10 million data points. From 2016 onwards, the RML team has improved the system to accommodate higher-level analysis, including outreach conversion ratios, aggregated results, and impact projections. The combination of a robust RM system and a culture that promotes use of data for improving and proving impact and leadership from top management made RM a dynamic and useful function across the program.

FIGURE 3 – AIP-RURAL MANAGEMENT INFORMATION SYSTEM (MIS) SNAPSHOT



Although the MSD approach, enabled by the DCED standard for results measurement, was not new and had been in operation as part of a number of leading programs before AIP-Rural commenced¹⁰, it was certainly new to the Indonesian context. Adapting and applying the approach to stimulate greater private sector provision of tertiary irrigation services, and catalysing widespread adoption of value chain financing in Indonesia was also breaking new ground. In the following sections (4.1-4.3) we provide a succinct synopsis of AIP-Rural's approach, including challenges, successes and key lessons learned from adapting MSD to achieve system change in order to benefit poor smallholder farmers in eastern Indonesia.

4 Approach

AIP-Rural's approach to achieving impact marked a significant strategic shift in modality for Australia's rural development program in Indonesia. Building on lessons learned from prior AusAid rural development investments, including the Smallholder Agribusiness Enterprise Initiative (SADI) in eastern Indonesia, and drawing on a growing international body of experience in applying effective market-led agricultural development, AIP-Rural was designed with a market systems development (MSD) approach from the outset.

BOX 1: MARKET SYSTEMS DEVELOPMENT (MSD) IN A NUTSHELL

The MSD approach differs significantly from established 'direct delivery' models, in which a donor or government funds an implementing agency to 'fix a problem' with a pre-defined number of enterprises or farmer beneficiaries. Typically, the latter results in a burst of activities that may have short-term impact, but little long-term sustainability because they do not address the root causes of market failures that result in low agricultural productivity, poor coordination and poverty for smallholders. In contrast, MSD focuses on the 'how-to' of development, regardless of 'who' it is done with. The approach focuses on how aid interventions can promote more sustainable outcomes by engaging, and partnering with market actors who can influence the way markets work for the poor by addressing systemic weaknesses. The model is otherwise known as the 'making markets work for the poor', or the 'M4P' approach.

MSD offers guidance on how to diagnose market-wide problems affecting poor women and men, and how to intervene to address these problems. Typically, MSD interventions aim to influence the business models of firms (or public sector bodies) that buy from, sell to and advise poor women and men; interventions can also influence rules, laws, government policies and public service delivery. MSD programs have the flexibility to partner with any businesses or institution whose behaviour or rules the program wants to change. MSD interventions put sustainability as the primary focus, aiming to facilitate temporary assistance that catalyses long-lasting impacts at the largest possible scale.

Sources: The Springfield Centre (2015) *The Operational Guide for the Making Markets Work for the Poor (M4P) Approach*, 2nd edition funded by SDC & DFID, and Nugraha, D. (2018) *Partnering with the public sector to improve market systems: experiences and lessons from AIP-Rural*.

AIP-Rural utilised a number of key systems and processes that enabled the flexible and adaptive MSD approach. The monitoring and results measurement processes described above provides the backbone of the adaptive management approach, ensuring that data collected is robust, timely, consistent, and fully integrated into the program management cycle. More detail on how data is used through the QMT to inform and determine the bi-annual portfolio management and review process is provided in section 4.1.1 below, including the resulting impacts on program structure and sector focus particularly pertinent to PRISMA. While SAFIRA and TIRTA were designed to follow the MSD approach, the two programs began to use and benefit from the QMT process after deeper integration of shared systems following the recommendations of the MTR.

4.1 PRISMA

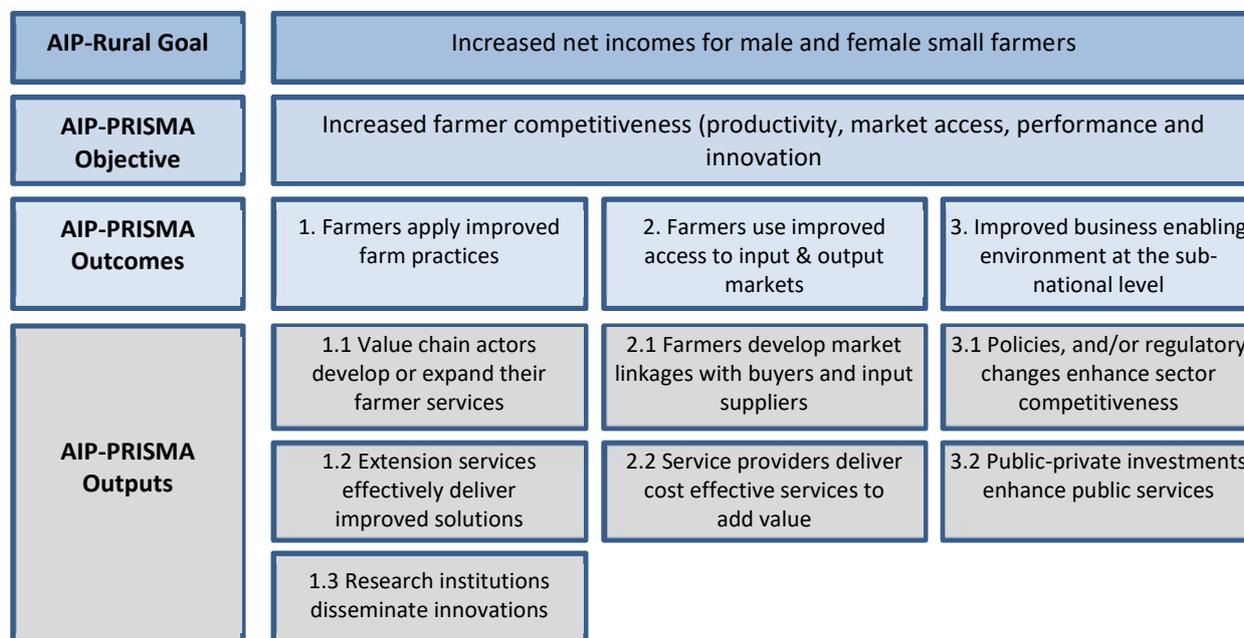
While PRISMA's core approach as defined in the Program Design Document (PDD) was closely aligned to international MSD best practice, it also pioneered some unique and innovative features, described below. PRISMA's specific intervention activities were not prescribed, but were based on provincial and district strategies developed through thorough analysis, engagement with market players, and the identification of

¹⁰ Notably including the DFID- and SDC-funded Catalyst program in Bangladesh, DFAT's CAVAC in Cambodia, the DFAT Market Development Facility (MDF) in Fiji, and the DFID Nigeria PropCom Mai-Karfi program.

opportunities and constraints to market development. To achieve improved competitiveness of poor farmers, all of PRISMA's activities were designed to deliver the following three key program outcomes:

-) Outcome 1: Farmers apply improved farm practice
-) Outcome 2: Farmers utilise improved access to inputs and output markets
-) Outcome 3: Improved business enabling environment at sub-national level

FIGURE 4– PRISMA'S OBJECTIVE HIERARCHY



4.1.1 Adaptive 'Ways of Working'

The degree of flexibility outlined in the PDD to assess and determine which commodities and geographical areas (defined as 'sub-sectors') for PRISMA to focus on was highly effective for achieving results. In contrast to other programs where target sectors are often pre-selected, the PDD identified five initial Tier-1 sectors and seven Tier-2 sectors¹¹ but gave PRISMA the time, budget and flexibility to add new target sub-sectors during implementation, in response to better and deeper understanding of the markets as the interventions progressed. This understanding was continuously refined as PRISMA learnt from interventions and adapted its approach accordingly. As of Oct 2018, the original Tier-1 sectors account for just under half (42%) of PRISMA's total outreach, with new sectors accounting for the remaining majority¹²; a strong validation of the flexible design.

The ability to adapt to changing market dynamics, combined a built-in tolerance for experimentation and failure has been instrumental to PRISMA's success. Maize and Pigs for instance, PRISMA's two largest sectors contributing the most impact, were identified as Tier-1 and 2 sectors and expected to be high performers from early on - while other sectors that initially were deemed to be equally promising, have not met with the same success. Mango and Soybean were initially 'star sectors', but changes in market dynamics and a refined understanding of the key underlying constraints respectively have affected the commercial viability of business models supporting those commodities, curtailing the potential for successful intervention¹³.

¹¹ **Tier-1** sectors identified in the PDD were maize, beef, mangoes, vegetables and pulses (peanuts, soya beans and mung beans).

Tier-2 sectors were cashew, cassava, coconut, coffee, marine fisheries, pig and seaweed.

¹² See section 5, Results for a detailed breakdown of impact by sector and geography.

¹³ A full account of the successes and failures of each of PRISMA's sectors is contained within the six-monthly Progress Reports and Implementation Plans (PRIPs) from 2013-18.

BOX 2: ADAPTING TO CHANGING MARKET DYNAMICS

Soybean was initially assessed as a Tier-1 sector with high potential for PRISMA. Following the introduction of a zero-import policy on maize, which is a key crop under the Government of Indonesia's self-sufficiency (food sovereignty) targets, domestic prices for maize rose considerably. This incentivised farmers to switch from planting soybean to planting maize *en-masse*. PRISMA was not able to identify a single quality soybean seed variety available at scale in Indonesia, and no large seed producers willing or interested in investing in seed development.

PRISMA has launched a total of 145 interventions across 23 different sectors. To support purposeful, adaptive management of a large portfolio, PRISMA needed a rigorous, transparent and objective process for reviewing the performance of interventions in its target sectors. 17 of PRISMA's 23 sectors have at some point been underperforming. To make best use of its resources, PRISMA needed a process for reviewing performance in each of its target sectors, this also mitigates against potential problems with staff becoming 'too attached' to interventions, investing excessive time or resources into ideas that should be dropped. The process needs to equip managers with the data to decide when to exit a sector and when to continue or increase investing, whilst minimising any internal disagreement.

The **Quality Monitoring Tool (QMT)** was developed to support this process and ensure that the programs' resources were spent efficiently and effectively. Each sector receives a score against the same criteria, allowing managers to objectively compare costs and results between sectors. Combined with the portfolio mentor system (see section 7.1.1), the outcome of this process determined which sectors and interventions to continue, which to invest more resources into and which to drop. Specifically, all interventions assessed were grouped into five categories:

BOX 3: QMT: FIVE CATEGORIES

1. **Push:** Good market analysis, results and impact, and signs of systemic change.
2. **Let flow:** Interventions are well-designed and based on good market analysis – allow to continue.
3. **Change or improve:** Sufficient market analysis but mediocre impact. Interventions need modifying or replacing.
4. **Under observation or innovate:** Interventions need further market analysis and/or major revisions. Intervention activities, results chains and/or choice of partners may need revising.
5. **Drop or end:** Interventions have failed. No further investment of resources.

PRISMA has dropped a total of 20 interventions to date through adhering to this process, which is estimated to have benefited an additional 55,000 households over the life of the program through reallocation of resources.¹⁴ Assessing all interventions against pre-defined indicators in an open, transparent manner also had the benefit of clearly defining the criteria that interventions had to meet to be considered high quality, equipping portfolio teams with a clear and consistent framework to design and adapt their interventions within. The specific indicators recorded in the QMT are presented in Annex 5, and have evolved over time to reflect new priorities, including a greater emphasis on systemic change and Women's Economic Empowerment (WEE).

FIGURE 5 – ADDITIONAL IMPACT FROM SCORING INTERVENTIONS USING THE QMT



¹⁴ Khan, K., Seely, K. & Ridwan, M. (2018). "Using data to manage a program: lessons learned from PRISMA"

PRISMA’s approach to measuring and incentivising program performance was supportive of a flexible and adaptive management approach. PRISMA does not have (or need) a log frame, which is rare among MSD programs. The program is guided by a theory of change, and while the overall program target has remained the same, PRISMA has been able to collaboratively set key performance indicators (KPIs) that are designed to be the most appropriate for each stage of the program. First-year targets encouraged the program to train staff and analyse sub-sectors, adding far greater detail to the program’s understanding of key constraints in target sectors. From the second year onwards, DFAT pioneered a new approach with PRISMA and focused performance targets on outcome and impact indicators.

BOX 4: SETTING KPI TARGETS – BALANCING ACCOUNTABILITY WITH FLEXIBILITY

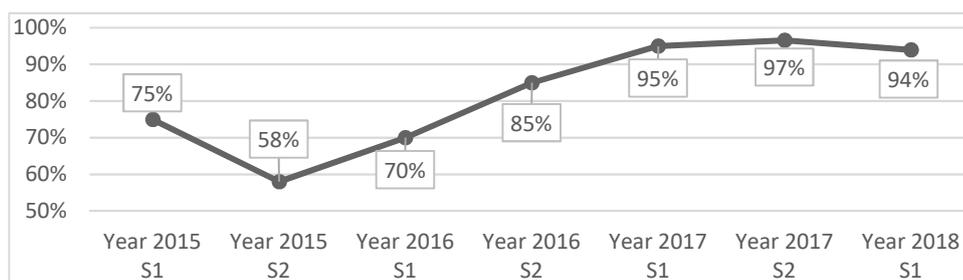
PRISMA’s overall goal is to increase the incomes of poor women and men in rural Indonesia. To measure progress towards achieving this goal, PRISMA focused on one indicator: the number of rural households increasing their incomes as a result of its interventions, otherwise known as ‘outreach’. This indicator is a straightforward way to present, explain and measure PRISMA’s overall progress. Yet outreach only captures one aspect of PRISMA’s overall goal. A second element of PRISMA’s overall goal is sustainability – that is, the likelihood of rural household income increases lasting in the long term. The third element is PRISMA’s future impact. While the outreach KPIs measures current impact, it is also important to understand the changes PRISMA has begun to trigger in markets that could lead far larger numbers of farmers to increase their income in future. This systemic change – which lasts long after the program ends – is at the heart of the MSD approach.

Many implementers wish their funders would give them greater flexibility to adapt strategy and tactics. Yet for funders, giving implementers maximum flexibility poses a risk: implementers may drift from achieving the funder’s objectives. To boost accountability at PRISMA, DFAT hired two full-time MSD experts to oversee the program in its first two years. Directly accountable to DFAT (not the managing contractors), they gave DFAT extra oversight whilst building its trust in PRISMA’s newly-hired Core Management Team.

Source: Seely, K. (2018) *Managing and adapting a development program – lessons from PRISMA*

To improve collaboration between DFAT and Palladium and incentivise the adaptive prioritisation, design and delivery of modified outputs needed to achieve better outcomes, two tools were used. One measures **outputs** and deliverables which are then fed into the regular Semester/Annual Program Performance Assessments (PPAs), while the second measures progress towards **outcomes** which are used to score an additional OPA. These two instruments (PPA and OPA) rewarded the managing contractor for their thoughtful and timely responses to the inherent uncertainty involved in implementing an MSD program. To date, PRISMA has achieved an average OPA score of 82%.

FIGURE 6– PRISMA’S OUTCOME PERFORMANCE SCORES



A collaborative approach to setting key performance indicators has helped to set KPIs that were as relevant and appropriate as possible. While there are some downsides to flexible targets (including uncertainty from ever-shifting goalposts, an increased administrative burden from negotiating performance indicators on a six-monthly basis, and additional costs from using external MSD experts to evaluate progress and ensure impartiality), overall, this approach has supported an adaptive program and provided the flexibility continuously to update incentives to align activities with outcomes, as well as the potential to respond to new and emerging priorities (such as WEE or systemic change).

Key learnings from implementing a flexible and adaptive program:
1: Allowing an MSD program enough flexibility to learn, adapt and select its own sectors maximises impact and likelihood of success. While a sufficiently robust understanding of the local context is necessary to support the

investment design, long procurement processes in an environment with constantly changing market dynamics can result in detailed analysis being redundant by the time a program commences. This risk is mitigated by a flexible PDD.

2: Strong, consistent and transparent processes (such as QMT) underscore and enable the adaptive management of a large, complex portfolio of interventions across multiple sectors.

3: Setting performance targets that are relevant for each stage of the program can help to align incentives. Focusing PRISMA's KPIs on outcomes from Year 2 onwards has had both positive and negative impacts; a collaborative and flexible approach to setting future KPIs should allow PRISMA-2 to further enhance performance.

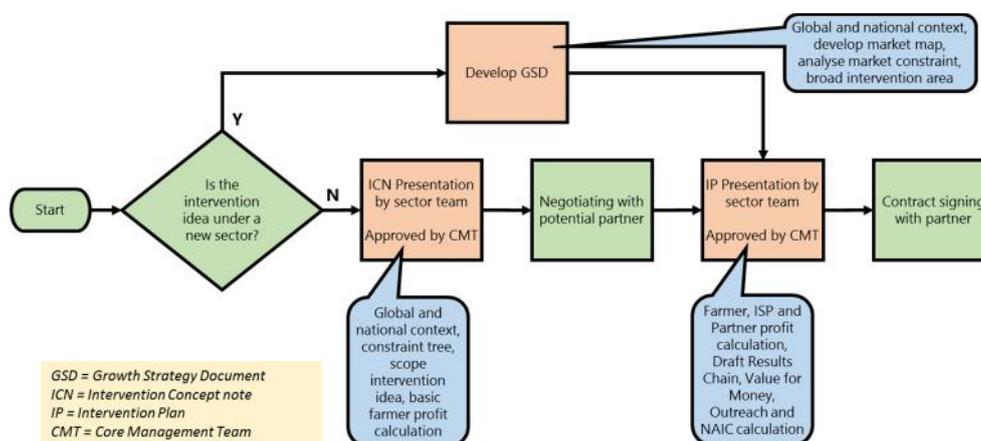
4.1.2 Building Effective Partnerships

At its core, delivering the MSD approach entails building effective partnerships with diverse actors in the system to influence behaviour change. As of October 2018, PRISMA has worked with 133 partners, of which 104 were private sector firms. While the processes for (1) analysing sub-sectors (growth strategy document (**GSD**)), (2) designing interventions (intervention concept note (**ICN**) and intervention plan (**IP**)), and (3) partnering (previously known as the **deal-making guidelines**) are the documented processes that still form the backbone of PRISMA's approach to effective partnerships, the structure and content detailed within them have evolved considerably over the past five years (see figure 5 below).

The ICN and IP processes, for instance, were adopted from the Katalyst program, but were adjusted early on in PRISMA to streamline the process and reduce the amount of time required by implementation teams to prepare. What started off as 20-page documents have been continuously updated and tailored to ensure they are fit-for-purpose. Today the ICN and IP are standardised PowerPoint presentations, which present a detailed business model, including an overall vision of change, the business case, the financial model and gender-disaggregated impacts, as well as the types of support PRISMA could give the partner to pilot the model. Although these documents are primarily intended for internal use – to support PRISMA's management team in decision-making on the business case for interventions – they are of sufficiently high quality that they have also been used externally to convince partners of the commercial opportunities provided by the program and PRISMA's understanding of the market.

PRISMA's practical guide to 'how-to' forge partnerships evolved from 'Deal-making Guidelines' to 'Building Partnerships for Impact'¹⁵. The program learned that by putting the onus on 'doing the deal' rather than on building a true partnership¹⁶, the quality of the relationship sometimes resembled little more than a subcontracting arrangement. Adopting the 'partnership principles'¹⁷ means building long-lasting relationships based on the principles of equity, diversity, openness and mutual benefit. Partnerships built on these principles tend to have a better chance at influencing behaviour change in the long term. PRISMA-2 intends to further integrate the partnership principles into its relationships with all its major stakeholders.

FIGURE 7– PRISMA'S INTERVENTION DESIGN PROCESS



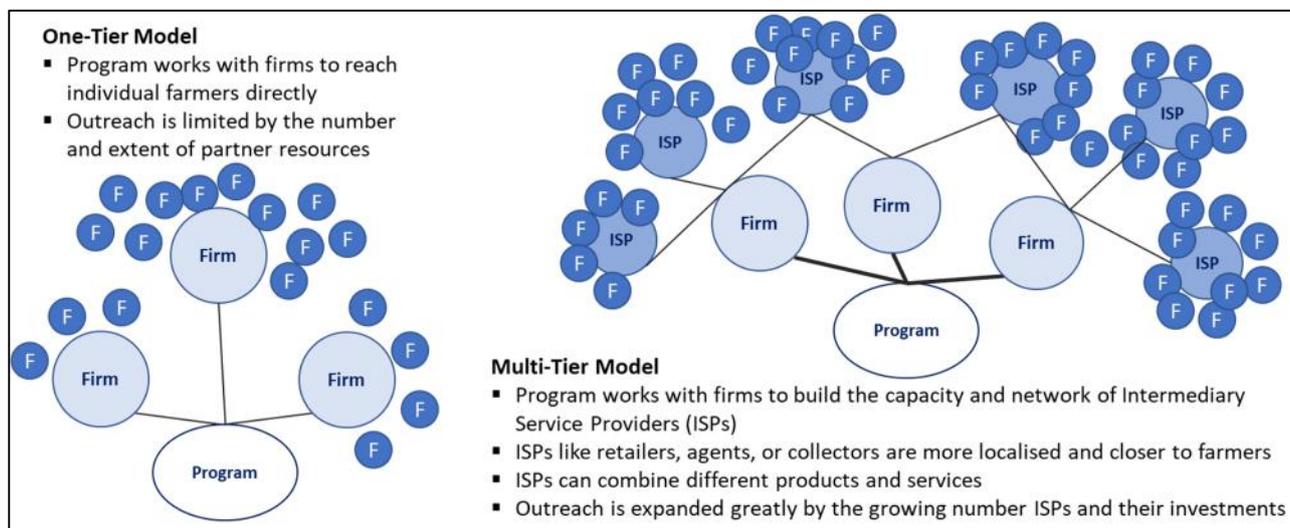
¹⁵ AIP-Rural, "Building Partnerships for Impact: Guidelines for Implementation Staff."

¹⁶ Defined as an ongoing relationship where contributions, risks and benefits are shared.

¹⁷ Partnership Brokers Association, "Shaping Sustainable Change: The role of partnership brokering in optimising collaborative action."

A multi-tier business model enabled PRISMA to improve the scale and sustainability of its interventions. By building relationships with partners that have existing relationships with multiple intermediary service providers (ISPs), rather than working with firms that work directly with farmers, PRISMA's interventions could achieve sector-wide change faster. In addition to increasing PRISMA's reach, a multi-tier approach also reduces the risks to the overall portfolio from one large intervention or business model failing. This approach also helped to mitigate against the risks of giving a monopolistic advantage to a single firm from the program's innovation.

FIGURE 8– ONE-TIER VS MULTI-TIER APPROACH



To better understand, promote and measure behaviour change in partners, PRISMA developed a tool for implementation staff, dubbed 'Kaizen'. The tool distilled PRISMA's experiences to date, and comprises a standard set of indicators and framework to measure and promote systemic change in partners¹⁸. Building on the well-established Adopt-Adapt-Expand-Respond (AAER) model, and the 'will vs skill' matrix, it provides a practical guide for formulating strategies depending on the unique characteristics of the partner, depending on their **dependence** (on PRISMA's support) and **incentives** (for the partner to sustainably change their behaviour). As 'Kaizen' firms with both high independence and high incentives are the most likely to sustainably adopt new innovations, the tool provides staff with guidance on how to shift partners into this category.

Avoid a big profile until the program has a sufficient evidence base to prove to GoI that the approach works. Many Indonesian policymakers see government intervention as what will drive the development of smallholder agriculture in the country. AIP-Rural therefore anticipated that its approach – raising smallholder farmers' incomes by partnering with businesses to overcome constraints to growth in agricultural markets – would attract scepticism from many within the public sector.

AIP-Rural decided, therefore, not to try to explain and advocate for more market-oriented solutions from a conceptual or intellectual standpoint. Instead the program maintained a low profile initially. It avoided 'big splash' public events, it refrained from in-depth policy debates, and it delayed substantive high-level collaborations. Most importantly, it did not promise too much too early. Only after tangible intervention results (such as significant numbers of farmers benefitting from productivity and income increases or demonstrated investment by private sector partners) were generated was it feasible to explain why, what, and how MSD works, and then to engage local governments in deeper discussions about potential collaborations. AIP-Rural's mantra was "we are selling evidence, not promises.

"Proportionally, policy influence has formed a relatively smaller part of PRISMA's outputs. All interventions are grounded in an in-depth analysis of the market, including regulatory constraints, and PRISMA has invested significantly in building and maintaining good relations with local government counterparts to influence intervention-specific policies at a local level.

¹⁸ See Shahi, P., Nasution, Z., & Tomecko, J. (2018). "Understanding, Promoting and Measuring Systemic Change in Partners".

In years 4-5, PRISMA began to leverage its increasingly trusted reputation and engage more actively with the public sector, deepening its understanding and diagnostics of key constraints to identify entry points for collaboration. Two main types of entry point emerged:

- a) **Entry points identified through AIP-Rural's sector diagnosis and interventions** revealing areas beyond a commercial business model innovation, where government has a role to play in developing the market system (this was the most common entry point for AIP-Rural). This can include promoting scale-up or replication of a successful model, changing a regulation, or performing a sector-wide function, such as disease control.
- b) **Entry points emerging from key government programs.** This includes subsidies, loans, free seed programs. Here the team – typically the provincial manager – conducts a systematic assessment of agriculture programs funded by district, provincial or national government, and identifies which government agencies and potential individual champions might be open to collaboration.

To date, PRISMA has launched 32 interventions with public sector partners, and provided MSD training to over 100 local government staff¹⁹, from which eleven interventions were launched, a few of which have delivered considerable results (see Box 5 below).

Interventions arising from government officials that attended the training and partially attended the training have achieved outreach ranging from 300 to 8,000 households to date. Pamekasan, one of the districts that attended the whole training has two interventions (maize and homestead gardening) with one intervention that increased the income of 1,950 farmer households. Other interventions with local governments that attended the training are still in their early stages, recording outreach of 120 – 1,100 households to date.

PRISMA has found that one key benefit from conducting the MSD training was that it does help local government to better understand both their role within the market system, as well as what PRISMA is attempting to do through its approach. With better understanding, it has been easier for PRISMA to build relationships and get support from local government to implement a wide-range of interventions. Local government has provided PRISMA with substantial access to their data and key information, as well as access to farmers' groups and other stakeholders.

Where PRISMA has engaged with government successfully it was as part of a wider program sector strategy, where it has conducted its routine analysis and established partnerships with the private sector. In the Maize intervention in Sumenep for instance, PRISMA worked with local government to target distribution of the UPSUS subsidy away from areas that already have access to quality seed, to areas that have no access to them. Officials from Sumenep did attend two out of four phases of the M4P training, and intervention has benefitted 8,666 households to date. In these cases, both understanding of and exposure to AIP-Rural's approach, and a clear opportunity for government to play a defined, business enabling, role to make a specific system work better came together to make a successful intervention. Such cases were opportunistic, limited, and relied on finding the right officials as entry points.

Results from other public sector interventions that have arisen not from the M4P training, but from identifying government as a relevant stakeholder have produced mixed results to date. Each has required extensive support from PRISMA to convert theory into practice, and practically deliver results from the partnerships. A more detailed analysis of the approaches and lessons-learned from these interventions is presented in the Public Sector Case study, referenced above. PRISMA will look to build on its growing portfolio of public sector interventions and, in PRISMA 2, further increase its efforts to influence public sector actors and achieve higher-level systemic change.

¹⁹ To ensure commitment, PRISMA required participants to contribute to the cost of training, and to complete each assignment in order to receive coaching and progress to the next stage. The number of participants declined from 100 at launch to 64 at the first stage, 36 at the second stage, 20 at the third stage, and 16 at the final stage, resulting in eight interventions being launched.

²⁰ Nugraha, D. (2018): Partnering with the public sector to improve market systems: experiences and lessons from AIP-Rural.

BOX 5: SUPPORTING THE PUBLIC SECTOR TO COMBAT HOG CHOLERA

An outbreak of hog cholera in NTT threatened the livelihoods of tens of thousands of smallholders. PRISMA intervened by coordinating meetings and a multi-stakeholder workshop between its partners (feed and pharmaceutical companies) and national, provincial and district level departments, chaired by the Director General of Livestock from the Ministry of Agriculture. The outcome was a five-year roadmap for hog cholera eradication, with agreements signed to supply vaccines, train vaccinators, and establish a biosecurity protocol to combat future outbreaks. Firms agreed to conduct regular training for government and private vaccinators, and to provide basic equipment as part of their promotion activities; one firm even invested in the development of new vaccines, using local strains to improve efficacy. The negative impacts on smallholders from the outbreak were substantially reduced due to PRISMA's intervention, and as of Oct 2018 feed producers and agents are seeing sales return to pre-crisis levels.

Further details of PRISMA's experiences of building effective partnerships with the private and public sectors can be found in the individually commissioned case studies listed in Annex 4. A brief summary of key learnings explored in this section is summarised here.

Key learnings for building effective partnerships

1: Internal processes should evolve continuously to meet the changing needs of the program and its partners. Striking the right balance between meeting risk management standards, donor reporting requirements and the needs of the private sector is a fine art, requiring constant refining and tuning of systems and processes.

2: Partnerships built on the principles of equity, diversity, openness and mutual benefit tend to yield better, more sustainable results in the long term. PRISMA has developed tools to support a move beyond straightforward subcontracting agreements, to build more relationships that are transformational and less transactional.

3: 'Sell evidence, not promises'. Allow time for MSD programs to build a credible evidence base and establish a trusted reputation in the market before engaging more strategically with the public sector and policy interventions.

4.1.3 Program Structure and Governance

PRISMA experienced the quickest start-up of all comparable MSD projects in terms of its portfolio, staff numbers, documentation and processes. Key successes from this phase include investing in building a strong monitoring and results (MRM) system from the outset and developing a sophisticated recruitment system, and launching its first interventions within three months of project start date. However, the rapid start-up phase also presented some challenges.

AIP-Rural's initial governance structure had a Program Director and a Senior Adviser (the Secretariat), and a Strategic Review Panel (SRP) who were appointed by DFAT, and a contractor-appointed Deputy Team Leader for PRISMA and separate Team Leaders for SAFIRA and TIRTA. While this additional layer of management between DFAT and Palladium was generally regarded to have added value in the early stages of AIP-Rural, supporting strategy and ensuring high quality initial interventions as well as providing mentoring to both DFAT and Palladium staff, it also blurred lines of responsibility and accountability for program management and performance²¹. Following the Mid-term Review (MTR), AIP-Rural switched to a classic governance structure between donor and implementer, with Palladium's Contractor Representative providing a single point of accountability to DFAT. This enabled the contractor to assume responsibility for key management decisions, including strategy and resourcing.

A second key challenge from the start-up period was a critical capacity shortage in senior MSD skills to train new staff and lead interventions. AIP-Rural's approach to developing and conducting internal training, induction programs and structured instruments to get new hires up to speed with the MSD approach has set standards for the sector. There is, however, no short-cut replacement for on-the-job coaching and mentoring. PRISMA's rapid start-up meant that senior staff experienced in MSD did not have the capacity to

²¹ See AIP-Rural Mid-term Review for a detailed breakdown of the issues and recommendations.

train and mentor local staff sufficiently, a critical factor that initially hampered the quality and quantity of interventions. To address this issue, after 1.5 years PRISMA added three more Heads of Portfolio and almost doubled the number of portfolio staff over the course of the program (see 6.1.1 for staffing structure).

The inclusion of local and international non-governmental organisations (INGOs) as sub-contracted implementing partners or ‘co-facilitators’ was originally intended to help build a community of capable MSD practitioners in Indonesia, and to support PRISMA’s rapid start-up by leveraging their existing reach²². Selected non-governmental organisations (NGOs) already active in the region were expected to contribute significantly to delivering PRISMA’s interventions in those areas. In total, interventions managed through co-facilitators account for 22% of PRISMA’s current portfolio and 41% of total outreach; however, 89% of this comes from just two co-facilitators working in the pig sector. The quality of delivery and performance, relative to cost, in most cases has not been satisfactory²³.

PRISMA has found that co-facilitators were either unwilling or unable to effectively understand and apply the principles of facilitation, resulting in low quality interventions that more closely resemble a ‘direct delivery’ approach than good practice MSD²⁴. Whilst PRISMA has achieved an organisational culture which admits failure and encourages learning, persuading PRISMA’s co-facilitators to do the same has been harder. Co-facilitator staff tended to have a different mindset and set of motivations. Many are used to being hired to ‘fix a problem’, leveraging their experience in the development or agriculture sector, rather than a systems approach of asking ‘why isn’t the system providing the solutions to this problem?’. Measuring success by how much work they have directly delivered runs counter to the MSD approach. Without strong understanding of the MSD approach, or adherence to the process - co-facilitators struggled to codify and coordinate dynamic, complex interventions. PRISMA responded by investing significantly in building co-facilitator capacity, and providing stronger management oversight and mentoring. These efforts however proved unfruitful, as of December 2018, PRISMA has dropped eight of its 13 co-facilitators and is in the process of assessing its options for further engagement in PRISMA-2.

Key learnings for program structure and governance

1: Clearly delineating advisory roles from management and reporting lines avoids issues with unclear responsibility and accountability. Ensuring the contractor is sufficiently empowered to make the necessary decisions regarding the performance it is accountable for improves effective management of the program for DFAT.

2: MSD is more than simply a set of processes to follow – it is a way of thinking and working that requires time and practice to master. Ensuring the program has sufficient senior experience to draw on from the outset is important to enable effective training and mentoring of staff new to the approach.

3: The co-facilitator model has delivered poor value-for-money overall. MSD programs select their staff based on a thorough analysis of capacity, business background and talent; the same approach should be applied for delivery partners.

4.2 SAFIRA

SAFIRA’s remit was initially to augment PRISMA interventions through facilitating access to value chain finance (VCF), specifically through input credit financing. This is a novel product, and PRISMA’s needs were wide-reaching and very diverse in terms of commodities and geographies. SAFIRA needed to find a means of covering these diverse needs with a solution that did not otherwise exist in the market. SAFIRA also had outreach targets to achieve within a relatively short amount of time, and financial institutions (FIs) tend to have a slow and risk-averse approach to change and to developing new products. This is particularly true for the agriculture sector, which is perceived by FIs to involve high risk and high transactional costs.

²² Building on DFAT’s small grant to Swisscontact for ‘Introducing Market Development in Indonesia’.

²³ See “AIP-Rural Mid-Term Review”, “PRISMA and SAFIRA Progress Report and Implementation Plans Y17S1 – Y18S2”.

²⁴ Seeley, K (2018), “Managing and adapting a development program: lessons from PRISMA” and p.13 Fargher, J. & Associates, (2016), “AIP-Rural Mid-Term Review”.

BOX 6: SAFIRA'S APPROACH TO VALUE CHAIN FINANCE

"Value chains in agriculture comprise a set of actors who conduct a linked sequence of value-adding activities involved in bringing a product from its raw material stage to the final consumer. Value chain finance..., refers to the financial flows to those actors from both within the value chain and financial flows to those actors from the outside as a result of their being linked within a value chain."

Using an MSD approach in VCF meant that SAFIRA supported market actors (including financial institutions and agribusinesses) to examine where the financial constraints are within the value chain and provided support to design products and services that reduce those constraints. SAFIRA also engaged consulting firms alongside these efforts to ensure there was a relevant support system within the market at the conclusion of the program.

Sources: Agricultural Value Chain Finance: Tools and Lessons By Calvin Miller and Linda Jones, 2010

SAFIRA's first 12 months were slower than anticipated and the program experienced challenges arising from a team with a low understanding of MSD and how it could or should be adapted to meet the approach outlined in the PDD. A restructuring and re-strategising exercise in 2017 provided the impetus for a fresh start, and following the recommendations from the MTR, four key fundamental changes were adopted to inform SAFIRA's structure and approach:

- i. The focus was broadened and diversified from purely focusing on financial institutions.** SAFIRA would begin to explore options more actively to work with other value chain actors like agribusiness SMEs, corporates, or ISPs. Partnering with corporates and SMEs was always part of the SAFIRA strategy.
- ii. Team skills and culture.** With the support of Palladium's Project Director, a strong focus was placed on team building, and developing a culture of entrepreneurialism and a familiarity with the MSD and DCED approach, enabling a more closely alignment between SAFIRA's process for analysing underlying constraints and developing interventions with that of PRISMA.
- iii. SAFIRA began to codify its own analysis and intervention design processes** to be able systematically to analyse systemic constraints and opportunities for VCF in Indonesia. This documented process should ultimately be adopted by external actors (including, firstly, SAFIRA's partner financial institutions and financial consultancies), enabling them to identify commercial opportunities themselves.
- iv. Deepening and strengthening collaboration** between SAFIRA and the other three AIP-Rural programs. Realising synergies meant far more than just systems and results measurement integration; SAFIRA would more proactively capitalise on PRISMA's and ARISA's wealth of sectoral analysis and information, lessons learned, as well as their existing relationships with agribusinesses.

Key learnings from SAFIRA's inception phase

1: Widening the lens to address systemic constraints in order for access to finance to yields far greater potential for systemic impact. Working with FIs and supporting PRISMA's interventions which experience an access to finance constraint was too narrow a scope.

2: Adapting the MSD approach to target constraints specific to access to finance requires a leadership team with a sound understanding of the MSD approach, including the DCED framework, diagnostic tools, and the systemised process for designing interventions.

3: Leveraging synergies between AIP-Rural programs means more than just systems integration. Sharing analysis, insights and business contacts, and building personal relationships between the teams yields the best results.

4.2.1 A Revised Strategy

SAFIRA's vision of change is that more financial institutions in eastern Indonesia are equipped with the skills and capability to engage in profitable applications of agricultural value chain financing (VCF) so that value chain actors have the access to finance they need to make the investments required to enhance productivity and increase their income. SAFIRA's revised strategy aimed to achieve this systemic change by formalising VCF within the financial ecosystem through three main pillars:

- 1) Supporting financial institutions and agribusinesses to develop VCF products;**

- 2) **Development of and linkages to VCF consulting services, and**
- 3) **Facilitating knowledge-sharing amongst stakeholders.**

Encouraging a FI to develop and roll out a VCF product requires holistic support from SAFIRA to understand the opportunity and develop or test new products for the market. To achieve this in a sustainable way, SAFIRA uses an **institutional development** approach of working with partners in order to embed knowledge of VCF, so that the FI can reach scale in a sustainable way through offering the VCF product. This includes the following major activities:

Technical assistance (TA) in VCF development. Areas for TA support include developing VCF products, change management, operations procedures, new product marketing and advice. SAFIRA has developed a toolkit which can be walked through as a training module or utilised as a TA tool to help socialised and embed the VCF approach. Through providing TA and using the toolkit, SAFIRA supported FIs in the following ways:

- J **Market assessment:** VCF requires a thorough understanding of the market value chain in order to observe the opportunities and barriers to accessing finance.
- J **Self-assessment:** each FI also undergoes a process of assessing itself as an organisation in terms of its readiness and ability to undertake a VCF product offering, as well as exploring existing products to determine if any would be suitable for adaptation.
- J **Product design:** VCF implementation requires intense discussion to design new (or adapt existing) products to meet the needs of the value chain, especially during the first course of the TA.
- J **Technical assistance to improve internal synergies:** VCF implementation requires adjustments to internal tools and processes of operation; often, it needs to develop new ones.

In addition to the toolkit, as part of the support provided under the Institutional development approach, SAFIRA has worked with the partner to carry out the following:

BOX 7: SAFIRA'S TYPES SUPPORT TO PARTNER FINANCIAL INSTITUTIONS

SAFIRA has supported partner FIs to achieve the following:

- **Develop and strengthen linkages with private partners.** VCF requires collaboration and coordination with third party actors in the agriculture value chain to formulate the business model.
- **Project/change management.** VCF implementation requires project/change management, as it affects company-wide functions and may transform several parts of it. In some instances, SAFIRA has developed a steering committee to support implementation where taking on additional staff is not possible.
- **Promotion and socialisation.** To acquire new borrowers for the new VCF products, SAFIRA showcased an alternative marketing strategy appropriate to reach and attract low-income groups.
- **Technical assistance to improve internal synergies.** VCF implementation requires adjustments to internal tools and processes of operation; often, it needs to develop new ones.

To maximise the chances of buy-in to the model at a management level, SAFIRA's focus was non-sector specific. A commodity-specific approach, while it would have supported PRISMAs interventions, would have provided only limited scope of experience for an FI, as compared to staff being sensitised from the beginning about the commercial value of VCF, the benefits to their bottom line, and a walk-through of how to assess, adapt and implement the approach. This was a reversal from the original approach, which was to develop sector products and build impact from these. SAFIRA switched to focusing on the process of supporting institutional change first, which would result in specific products and impact second. This approach has more potential for scale and sustainability and leaves the partners with the legacy to determine the best subsector and or value chain structure to best meet their needs in terms of their appetite for risk and desired outcomes.

To ensure sustainability, SAFIRA delivers the institutional development approach through a number of national and international consultants. Consulting services able to support FIs to adopt and embed VCF are an important supporting function of the agricultural finance market; to achieve genuine systemic change and assure sustainability of the model, the functions that SAFIRA is performing should not replace valid market functions. SAFIRA has therefore worked to transfer technical know-how to the market through working with and alongside local consultancies, ensuring that the relevant skills are not retained in the project team.

Finally, to embed VCF into the ecosystem in Indonesia, SAFIRA has proactively sought to share and disseminate knowledge and evidence of the model among relevant stakeholders (see results section, below).

Key learnings from SAFIRA's revised strategy

1: Supporting financial institutions and agribusinesses to develop and roll out a new product requires time, and holistic support from SAFIRA and often Agri-businesses are more interested in cash flow loans from FIs in order to on-lend rather than using their own capital.

2: Greater success can be found when engaging with FIs at an institutional level if the product is not sector-specific. Limiting the product to a handful of commodities or geographies is unlikely to gain buy-in at a strategic level.

3: The program needs to proactively ensure that the service it provides does not 'crowd-out' or replace existing service providers. SAFIRA has created a toolkit and sought to train and support local consultancies to deliver the intuitional strengthening approach themselves.

4.2.2 Proving the Concept

The recommendations from the MTR stated that SAFIRA could essentially be viewed as a research programme to answer simple questions, such as: Does VCF work in Indonesia? Are there conditions which mean it works better/worse/not at all? Is M4P an appropriate way to develop VCF? Ultimately, the aim of the pilot program is to test the case, and develop and release policy briefs and papers to inform government, donors, implementers and finance institutions.

As of October 2018, innovations tested by SAFIRA have shown positive results that support the case. The institutional development approach has been well received, and all 12 of SAFIRA's intuitional partnerships have yielded a VCF product being put out to market. The 12 VCF products developed encompass eight agricultural sectors, across eight districts in the pilot phase. Of the 12 VCF products developed thus far, nine have been commercialised.

The commercialised products are a result of partners having seen the economic value in the product and now offering it at a competitive market rate. Furthermore, in 10 FIs there are senior staff dedicated to upholding the change within their institutions. Five partners have further invested by hiring a new team or dedicating an entire team to managing VCF; they have also increased lending significantly in the agriculture sector. Six partners have extended VCF to other agriculture commodities; five of these have also increased geographic coverage.

The final proof of concept will likely be determined following results from the final impact assessments scheduled for late 2018. However, SAFIRA's results to date (section 4.3 below) show strong signs of being able to reach (if not exceed) the program's performance targets, and there are clear indications of strong buy-in of the VCF model on the part of partner FIs, which have invested further by modifying product structures for new products, expanding their ISP networks and marketing in new areas through their own initiatives after the initial intervention from SAFIRA. In a relatively short space of time, SAFIRA potentially has piloted a model with partners that have the scale and reach to achieve significant systemic impact across the whole of Indonesia.

4.2.3 Lessons Learned

A full analysis of SAFIRA's key lessons learned from implementing the three pillars of the revised strategy is provided in the SAFIRA Lessons Learned Report²⁵. These include practical findings on supporting institutions to adopt VCF, and how SAFIRA has worked to embed these skills into the system. SAFIRA's work to date has also elicited some interesting findings on the state of play for VCF in Indonesia, including the essential elements needing to be in place for successful widespread adoption of VCF. SAFIRA has found that these essential elements for VCF include: (1) a free market system, (2) risk-management support functions, and (3) a network of consultants available to support the adoption of VCF by FIs.

²⁵ SAFIRA Lessons Learned Report, Summary of Key Program Insights from 2017-2018.

1) A free market system:

Free market pricing for commodities receiving coverage by VCF is vital, as with other MSD programs, because when off-takers purchase the commodity, the agreed price must be comparable to pricing for other similar purchases in the market. This prevents side-selling, one of the largest risks in VCF and determinants of increasing incomes in market systems.

BOX 8: EFFECTS OF PRICE FIXING ON VCF

SAFIRA experienced the negative effects of price-fixing in an intervention with Bank BNI in Sumenep. BNI was embarking on an opportunity to lend KUR Kredit Usaha Rakyat Mikro (KUR) for maize financing and SAFIRA became involved in order to design a VCF-based model for the KUR product, thereby wrapping up the repayment into the value chain to ensure repayment for the KUR product outside of farmers own tendency to repay the loan. However, in this instance the loan stakeholders in the district strongly encouraged the off-taker at the time of the agreement to agree to a higher-than-market-rate price. When it came to harvest time, the off-taker was unwilling to pay this price; the farmers side-sold their maize and many refused to pay back the loan to the bank, understanding that it was the off-taker who was attempting to undercut the agreed price for the maize once harvested, and who was ultimately responsible for the repayment of the loan. If the off-taker, local stakeholders and farmers had agreed to market-based pricing for the maize at the point of harvest, the model would have more likely been a success.

SAFIRA's market assessment includes observing potential price differences for the commodity, so these risks can be managed. Agendas will often exist to provide access to finance in certain areas (including district authorities), motivated by competing agendas. It is imperative that there be a pull factor and market-rate pricing for the commodity, so that the model remained intact and increase income and/or improve productivity.

2) Risk-management support functions

The key areas of risk that affect the success of VCF are grouped into market risk, production risk, political risk and operational risk. Market risk relates to ensuring the prices for commodities are in line with market rates; production risk relates to agricultural risks which lead to failed harvests; and operational risk derives from implementing VCF at 1) field level, and 2) among SAFIRA's partners. It is important for finance programs to understand these risks and ensure, as financial institutions are well practiced in, incorporate the mitigation of these risks into the supported financial products.

With regard to these risk above, two key lessons learned for SAFIRA were that agricultural risks can be mitigated against effectively by ensuring close collaboration with PRISMA interventions. As SAFIRA saw part of the benefit in working alongside PRISMA interventions was that farmers that are already using GAP, have good access to up-to-date information, and are already connected to a value chain are, on average, far more likely to realise the need for a loan product, to scale-up or improve production. They are also more likely to have improved harvests, secure repayment and are resilient to external shocks. The second key lesson learned was around inherent risks from using the off-taker model to distribute and repay loans and the benefit of off-taker selection criteria when identifying new partners (see Box 8 below).

SAFIRA also benefited in terms of working with PRISMA interventions for their existing work on value chain development which provided a soft introduction to lending to agriculture for many financial institutions whereby the value chains were established, had existing links and access to market as well as improved production techniques (so were less risky and more profitable). SAFIRA found that additional off-taker selection criteria were needed in addition to PRISMAs due diligence process, due to the second key lesson learned around inherent risks from using the off-taker model to distribute and repay loans (see Box 8 below).

Another benefit from collaborating was as a way to promote PRISMA's innovations, providing greater incentives to farmers for adopting new practices. SAFIRA found several cases where taking a loan was the reason that farmers started using quality seeds or applying GAP, which was observed in the intervention with

BNI and Bank Sinarmas. However, working closely with PRISMA truly delivers positive results when access to finance is actually one of the key constraints faced by farmers. Otherwise, taking a loan from SAFIRA's partners will only result in switching the source of financing, which does not contribute to net income change. Targeting the right VCF beneficiaries can be done through rigorous and deeper preliminary analysis before the collaboration starts, where it can be identified clearly that accessing finance is the key constraint to achieving a higher level of productivity.

BOX 9: LEARNING BY DOING

One of the earliest of SAFIRA's partners to adopt the VCF approach, partnered with one of two off-takers in Tuban to recommend farmers to receive VCF to purchase fattened cattle from farmers, and repay the loan back to the bank, returning any surplus to the farmers. Farmers received the loan from the bank through the off-taker and reared the cattle as planned, transferring the fattened livestock to the off-taker at the end of the season. However, the off-taker failed to pay 19 of the farmers for the cattle and as a result the loans went unpaid, with the farmers receiving no income. An internal investigation revealed a case of fraud within the off-taker. With substantial support from SAFIRA, the bank has negotiated terms for collection of the unpaid loans with the off-taker, made revisions to the bank's due diligence and off-taker selection criteria, and planned additional training as well as an event to bring together additional off-takers. The bank has agreed to waive the automatic blacklisting internally within their bank, however the farmers will still be on a blacklist with the central bank until the loan is repaid. Despite the incident, the bank is still committed to engaging with VCF, and SAFIRA was able to support them in other regions and in more diverse commodities.

SAFIRA has worked with its partners and consultants to design and integrate standard operating procedures (SOPs) within the package of institutional development support offered to our partners.

This includes developing field practices for the customer segmentation and barrier-based analysis that needs to be conducted to address the constraints to accessing finance, the product design and specialisation that needs to take place when solutions are designed to address the constraints, the type of products and implementation of the FI, as well as record-keeping and repayment mechanisms.

3) Delivering VCF training through consultants

By building the capacity and exposure of existing consultancy firms to develop institutional capacity and experience in, SAFIRA ensured that if the VCF model was successful, and its interventions should be inherently self-sustaining. Targeting the supporting functions of the market and working at a strategic level with institutions that have the scale and reach to affect system change on their own takes longer, and a more concerted effort is needed to yield results compared to field-level activities, but the potential results are also far greater. SAFIRA initially trained 6 consulting companies in VCF and deemed that 4 were able to offer the service to potential partners. This included Hadidaya, KIRAN, SPIRE, and MicroSave (though MicroSave was previously offering a similar product). Since the training all have supported SAFIRA partners and collectively they have an additional 3 potential clients in their pipelines for VCF technical support. Within the partner financial institutions SAFIRA is finding that additional branches adopting VCF are utilizing the bank's staff to transfer the knowledge to new branches.

SAFIRA was encouraged by the will and skill of a few existing consulting companies to adopt VCF support products, although the program did not necessarily anticipate the degree to which these consultants would require complete and exhaustive support in delivering a service that they had already identified as an advantageous product to offer. Some key lessons learned for selecting and building the capacity of these firms are provided in Box 9 below.

BOX 10: IMPROVED METHODS FOR EMBEDDING VCF CONSULTING SERVICES

- Selecting local consultants carefully and based on their ability to work with FIs towards a common goal. Local consultants were prioritised, because they can be accessed by financial service providers and agribusinesses in Indonesia immediately and their presence in Indonesia is more likely to support sustainability of VCF consulting services.
- Adding international consultants to the knowledge-sharing element that is provided to these local consultants in terms of VCF operationalisation has facilitated faster, more effective knowledge dissemination.
- Ensure that, where international consultants are used, they are paired with local counterparts, and/or that appropriate means for knowledge transfer to other consultants (through reports or workshops) are incorporated into ToRs.
- Knowledge transfer has been improved through repeat exposure in terms of advice and support from program staff.
- Building the exposure of consultants to VCF through a range of clients, has developed their skills where necessary, as well as a more business-minded approach to what they do.

4.3 TIRTA

TIRTA's initial approach, as described in the PDD, contained a strong role of community water user groups (HIPPA²⁷) in the development, operation and maintenance of tertiary irrigation schemes. The analysis that TIRTA performed in the first six months therefore primarily focused on providing more detail on how irrigation schemes could be expanded, and identifying investors and HIPPA to work with to achieve this. This strategy was both time-consuming and resulted in limited success. The major problems encountered were the weak organisational structures and irrigation technical management capacity of HIPPA; tension and conflicts among HIPPA board members regarding the vision and strategic pathway for HIPPA; a culture of over-reliance on government support; slow decision-making process, and strong limitations for access to financial resources for the expansion or improvement of their irrigation schemes.

Thus, TIRTA's initial approach towards irrigation expansion started off with a relatively narrow scope and linear process. It essentially focused on 'hand-holding' entrepreneurs and investors through different steps of expanding irrigation systems, including developing inter-village agreements for irrigation schemes and developing technical designs. This approach assumed that the key constraints to expansion were to be found within existing actors in the system, and TIRTA's mandate was to play a rather direct role in supporting the expansion of individual irrigation schemes. Although the project team felt that they "followed the methodology" stated in the PDD, when it came to "doing the deal" on the selected irrigation schemes, TIRTA encountered significant challenges, with the financial and management capacity of HIPPA turning out to be far weaker than anticipated.

With few signs of successful interventions or impact, the program was forced re-evaluate the methodology and the underlying assumptions outlined in the PDD. To achieve the desired impact, how could the approach be adapted to the deeper understanding of the context, and how did the program's skills and team culture need to change to reflect this? TIRTA's analysis concluded that the constraints to irrigation expansion are more systemic in nature, and cannot be looked at in terms of stand-alone schemes. However, these wider systemic constraints in the irrigation market system were not yet identified and explored in sufficient detail to allow the program to take a nuanced, purposeful approach towards addressing the constraints.

²⁷ Village-level water users (farmers) associations, usually formed by the government.

Key learnings from the early implementation stage

1. Don't treat complex problems like simple ones: The initial approach was to short select potential irrigation schemes and then address the main direct barriers (e.g. upfront cost in investing into the water distribution system) to the expansion of irrigation areas. As TIRTA began to engage in the process, it realised the irrigation system was more complicated than originally thought, and there was a need to be more systemic, adaptive and analytical. This relates to keeping an open mind, and recognising and respecting the complexities in a market system.

2. Don't go straight into "investment": In relation to the "deal-making", there was a temptation on the part of the team to package everything in one neat "deal" which would lead directly to the expansion of irrigation schemes. There was a misconception that if they had a willing investor, all they had to do was get the offer right. However, this ignored the incentive, capacity and wider systemic issues constraining irrigation system improvement.

4.3.1 A Revised Strategy

After it became clear that TIRTA needed new ways of working if it was to deliver results, three major changes were brought about:

- J **A change of leadership.** A new team leader, with considerable working experience in Indonesia and in delivering MSD, joined the program in July 2016. They started applying a systemic lens and followed good MSD practice, with a plan of action to identify constraints and prioritise interventions.
- J **A shift in priorities.** TIRTA narrowed its geographical focus in East Java, from the wider geographical remit in the original PDD to focus more on context-specific irrigation challenges in the area. TIRTA also put increased emphasis on agricultural productivity to achieve quicker wins and build some momentum. In addition, other planned activities aimed at addressing finance and improvements to the business enabling environment were deprioritised to focus resources on delivering results.
- J **Overall, the most significant change was that TIRTA started working on the irrigation market by applying a systemic lens.** The tertiary irrigation market in east Java has the characteristics of a thin and fragmented market. The dominant market players – HIPPAAs – are structurally weak in governance, and have limited accountability and capacity to provide quality irrigation service; there are few private irrigation providers with limited or non-existing networks among themselves; there is no specific up-scale agent within the supply chain, and support service providers critical to the development of a sustainable and robust irrigation market system are either weak or non-existent. By adopting a more systemic approach, TIRTA started to work with existing market players to adapt their role into becoming providers of key support services including irrigation consulting and irrigation management training.

Following the recommendations of the MTR to focus on delivering a small pipeline of interventions to 'prove the concept', TIRTA refined its strategy to catalyse (mostly) private sector investment in tertiary irrigation and facilitate improvements to the efficiency, technical and economic viability, and scale of irrigation schemes. It would do this by addressing three key systemic constraints to irrigation provision:

- 1) **Irrigation technical consultancy** – because poor irrigation system design, and operation and maintenance are the main factors leading to sub-optimal performance and gaps in the operation of tertiary irrigation;
- 2) **Integrated productivity enhancement** (the integration of improved agricultural inputs and GAP promotion in the irrigation business model), because the profit and long-term sustainability of irrigation businesses is strictly dependent on yields, being irrigation paid for in-kind and as a share of the harvest;
- 3) **Irrigation management capacity development** – because the majority of HIPPAAs are poorly managed and often provide poor quality and unstable irrigation to farmers and/or serve only a limited number of farmers, significantly below that which the full irrigation system capacity would allow.

TIRTA also streamlined its organisational structure with clearer roles, focused responsibilities and specific targets for its team members to align with the new strategy. Shared systems for results measurement, and operations and administrative support were implanted across AIP-Rural to achieve greater efficiencies. This shift was supported by significant technical and management support from Palladium's Contractor Representative to course-correct TIRTA and ensure that the program was back on-track to be able to prove the concept.

4.3.2 Proving the Concept

Based on recommendations from the Mid Term Review, TIRTA aimed to test the notion that ‘the private sector is willing and able to invest in developing and managing efficient irrigation service provision in its working areas’. The Proof of Concept is therefore tested against three broad criteria – 1) whether market development approach works in addressing some of the key constraints prohibiting the growth of a sustainable tertiary irrigation market, 2) are the private sector investing in tertiary irrigation, and 3) does TIRTA provide good value for money?

Evidence till end of September 2018 shows that efficient provision of irrigation service provides a strong business case for the irrigation providers as they experience a good return on investment as well as the farmers benefit from increased production and earnings. Investing in irrigation service is profitable for the irrigation providers as their turnover within the first year is over AUD 2.23 million against initial capital and operational investment of AUD 2.43 million. While the farmers have made additional investment (for crop production and irrigation service fee for additional season of rice production) of AUD 3.97 million, they have experienced additional net income increase of AUD 4.28 million (or 72%) by accessing and using irrigation service. 8 out of 17 partner irrigation providers have already made additional investment of AUD 585,700 as they continue to experience higher return from irrigation service.

There is also strong evidence that the tertiary irrigation market system is responding to novel support service provisions including irrigation consultancy service and GAP promotion. The irrigation consultancy service provider is adapting its business model by engaging intermediate service agents and offering different pricing packages suited to the financial capacity of their clients. The integrated business model of input companies - on collaboration with irrigation providers as leverage agents for input distribution or farmer event organisation – is gaining traction among other input companies.

TIRTA’s approach towards more systemic interventions, through facilitation in the wider irrigation market system, has started showing positive results towards proving the project’s overall concept in its specific context. Addressing the three specific questions posed by the proof of concept:

- 1. Does the approach work?** This criterion is assessed against the progress towards systemic change indicators. Overall, TIRTA has proven that facilitative approach works in tertiary irrigation market – it has successfully engaged with two levels of service providers - irrigation providers and support service market providers (technical consultancy, input and legal service providers) to introduce new service or improve existing services to better serve the need of the farmers. Evidence suggests that these service providers, including irrigation providers, are getting good returns on their investment while farmers benefit from increased income due to increased production and productivity through access to irrigation. Survey results show that the farmers are happy from using improved or new irrigation services and plan to continue using fee-based services. Irrigation providers are also expanding their operations exhibiting the potential of scale-up by existing irrigation providers. While sustainability of the services in TIRTA’s working area proven already, given the specific context driven and fragmented nature of tertiary irrigation market, autonomous scale up beyond the working areas remain challenging.
- 2. Are the private sector investing in tertiary irrigation?** TIRTA’s partners have invested 12% additional to their original commitment in partnership, and leverage planned in partnership agreement is already high at 2.04. Partners are also planning investment of AUD 136,000 during first semester of 2019. This planned investment sends a positive signal. Many of these irrigation providers still have not yet recovered their initial investment and hence, planned investment shows that they find irrigation has good returns and plan to continue. On the other side, farmers have invested an additional cumulative AUD 3.9m confirming that demand for irrigation service is high and essentially required for the farmers to produce additional season of crop. By the end of December 2018, TIRTA has stimulated an additional investment of AUD 6.5m in the tertiary irrigation sector.
- 3. Does TIRTA provide good value for money?** As presented in Section 4.3.2 below, partner investment leverage of TIRTA is significantly higher than both PRISMA and SAFIRA, showing high levels of commitment from partners. However, a high degree of investment from TIRTA for incentivising and de-

risking irrigation providers' activities in infrastructure development contributed to comparatively lower SROI (0.69) and high investment per HH (AUD 462).

Based on these results, TIRTA has significant evidence that demonstrates a proof of concept. TIRTA believes that there is merit to continuing to an irrigation component in PRISMA 2 if the issues presented above regarding reaching greater scale and high investment costs per HH can be appropriately addressed with adapted interventions that target a range of constraints for smallholder farmers. However, one key challenge that TIRTA faced which requires further investigation is scale-up. The programme was not able to find significant scale-agents with the incentives to take the approach to scale (either by enlargement or copying-in).

4.3.3 The Facilitation Approach

TIRTA's new facilitation approach more closely followed PRISMA's, with the level of support to partners adapted to the type of partners and novelty of the partnership or business model. TIRTA worked with service providers at two levels – the first one being primary level service providers, i.e., irrigation providers who provide service directly to the target beneficiaries or the farmers. The second level of service providers are in the interconnected market systems - the supporting market service providers including irrigation consulting service providers who support primary level service providers.

The key principle of TIRTA's facilitation approach has been co-investment in infrastructure and soft skill development support for its partners. For its engagement with the irrigation providers, TIRTA has provided co-investment in infrastructure and technical support for developing sustainable irrigation scheme through adopting proper irrigation design. For partnerships with support service providers, including technical irrigation consultancy providers and agriculture input companies, TIRTA provided only technical support in the form of capacity development of partner staff, potential client mapping, developing business plan and strategies, and mediating networking with irrigation providers and other market actors.

BOX 11: DEVELOPING AN IRRIGATION CONSULTING SERVICE

TIRTA worked with a larger pump retailer, CV Mesindo, to develop and promote an irrigation consulting service. This comprised an irrigation audit – that is, advising on the potential scope and cost of providing irrigation, a service previously absent in the market, as there was no demand for it from irrigation providers. By ensuring experienced consultants worked alongside Mesindo's staff, TIRTA developed Mesindo's skills, identified potential clients, and brokered deals with the initial batch of irrigation providers, after which the firm was able to expand the service itself and independently serve new clients. A program role was thus shifted to a market function by introducing a commercial, fee-based transacted service of irrigation consultancy.

Demystifying cost-sharing for infrastructure development in an MSD program

Market development projects conventionally avoid cost-sharing of physical assets (such as buildings, machines and infrastructure) for two main reasons: 1) the risk of distorting or providing an unfair advantage to the partner over its competitors, and 2) contractual complexities, such as a requirement to hand over 'assets' to the host country government after project completion. TIRTA assessed the risks and behavioural change 'blockers' for irrigation providers to improving or expanding services into new areas by investing in physical assets including pumps and distribution systems (a canal or pipes).

The program found that irrigation providers are usually willing to pay for equipment (such as pumps, motors and accessories) but are often reluctant to invest in the distribution infrastructure because of the prohibitive costs and risk (e.g. of losing their investment if the community decides to take it over). To recover their investment, they need to secure long-term contracts around the provision of water to villages. Typically, contracts with villages are between three and five years, with no guarantee that they will be renewed. This increases the risk for irrigation providers of take-over of the distribution system, and reduces their willingness to invest in distribution infrastructure.

In response to this constraint, TIRTA subsidised a one-time, non-recurring investment in pipes or canal infrastructure to off-set the initial risk of the partner and provide the big initial push needed to encourage partners to invest in overall irrigation service development – which was often more technically complex than

they were used to as it meant pumping further and higher. The result has been impressive. With TIRTA's co-investment into physical assets, program wide investment leverage of partners has been 2.04 and is expected to increase as partners continue to make capital investment till December 2018. To settle the issue of asset-handover to the host government, TIRTA has also reallocated the investment as intervention costs, allowing the partners to retain the ownership of the canals and pipes after the program ends.

4.3.4 Lessons Learned

There is no common formula for partner selection and facilitation techniques in a thin, local (regional) market. A thin and sub-regional market context such as private sector-led tertiary irrigation in Indonesia calls for a careful process of selecting and nurturing partners. Intensive effort is needed to choose from limited number of prospective partners (in this case, private irrigation providers) in an attempt to form meaningful partnerships. It also requires heavy facilitation support to guide partners through the initial phase of developing their capacity and implementing new business models. Withdrawal of facilitation support needs to be a gradual process, to start when the partner has overcome the 'behavioural block' to adopt and continue with the business model. This requires a team with strong facilitation and creative skills to respond to a variety of unanticipated challenges in the local context.

Working with individual entrepreneurs poses different set of challenges than partnering with commercial enterprises. In the context of a thin market, where there are a limited number of irrigation providers, it requires time to strike a partnership deal with individual entrepreneurs, and switching to a new entrepreneur is not always a viable option. The advantage of using a 'change agent' to influence an organization's strategy is absent when dealing with individuals. Other major challenges include small outreach coverage of an entrepreneur and limited financial capacity. In few instances, the irrigation providers failed to arrange the required investment in one go, and instead developed the planned irrigation system over two seasons – irrigating part of the planned expansion in one season and completing the system in the next. This also had implications for achieving the project's semester and overall outreach target. In such a context, a project needs to invest significant time to develop trust and relationships, be flexible in its deal-making approach and diligently plan its outreach and relevant targets.

Demonstrated evidence of success due to adoption of technical recommendations is the most effective tool for stimulating demand of a newly introduced technical service in a rural or semi-urban context. Market uptake for a newly introduced service such as an irrigation consultancy takes time, and acceptance gains momentum only when users of the service experience concrete evidence of success. In a semi-urban context where the process of change is sometimes slow, marketing of a novel service responds best through word-of-mouth and demonstrated evidence of "value addition". The irrigation consultant's offer started to resonate with irrigation providers when they observed other irrigation schemes experiencing success in terms of reduced operation costs, higher coverage, and ultimately higher returns.

The challenge of developing tertiary irrigation is complex and involves a combination of critical factors in addition to high capital investment. High capital investment is just one of many complex issues arising in tertiary irrigation. As irrigation fees are paid in-kind (as a percentage of crop fee) and social norms usually discourage explicit written agreements with water users. Complicated issues which frequently arise include understanding of village administration and farmers' needs from the service provision and irrigation fee structure; irregular field boundaries or uneven topography requiring a complex distribution system; crossing farmer's land; risk of take-over when a new village administration gets into power; water governance and availability from upstream sources and other political economic factors – trust, history, formal and informal norms. Each one of these constraints needed to be addressed separately but in coordination with the others.

Failing to recognise and address these socio-political factors may have significant implications for the success of a tertiary irrigation project. There have been instances where one irrigation provider could not reach a deal on laying irrigation pipes across the fields of two villagers, resulting in failure to complete the irrigation system and start service on time. Therefore, a project needs to develop 'master plans' around these kinds of challenges and recognise the need to deconstruct the constraints, using an adaptive and iterative approach to address them. All these factors require time and investment from the irrigation providers, resulting

in slow progress of irrigation system development by the providers which also prolonged the horizons for achievement of TIRTA's outreach and impact targets.

Programs for tertiary irrigation should not be looked at in isolation as it is an integral part of the overall irrigation system which includes primary and secondary systems. The sustainability of tertiary irrigation systems largely depends on upstream management of primary and secondary irrigation facilities. With several different 'layers' to the management of irrigation - overall management of performance at farm level becomes even more challenging. With the growth of tertiary irrigation, there is growing a mismatch between understanding of water demand at tertiary level and the management of water resources at primary and secondary level. While water flow mapping of the river authority in TIRTA's working area shows that the project poses no significant risk to downstream water for ecosystems and water users, TIRTA acknowledges that continued expansion of tertiary irrigation schemes needs better control and coordination with local authorities. TIRTA recommends future tertiary irrigation projects to include in-depth feasibility studies and thorough water management assessments during the project's design phase.

Successful facilitation is not all about 'grants or financial support'. Non-financial support provided by the project constitutes an indispensable component of MSD. While there is a heavy reliance on grants or financial support as an instrument to off-set the initial risks of the new business model and influence the behaviour of the partner, other facilitation support provided by the project is also critical in stimulating behaviour change of the partners and ensuring the partnership's success. TIRTA has supported irrigation providers to obtain access to irrigation consulting services, which are critical to designing or improving efficient, cost-saving irrigation systems. Learning events including exposure visits to successful irrigation sites have played a critical role in convincing partners to follow a proper design. TIRTA has facilitated match-making between irrigation providers and village heads to obtain official endorsement for the expansion of irrigation services. The introduction of local legal advisory services to the irrigation service providers has also allowed partners to secure their business legally against the risk of hostile takeover, as one irrigation provider testified *"with an inter-village agreement, (I) feel more confident and safe in my investment as there are clear description (in the agreement) regarding the right and obligation between the villages and me"*.

The nature of the tertiary irrigation market makes the task of autonomous scale-up of the TIRTA model challenging. TIRTA's strategy is to catalyse private sector investment in tertiary irrigation, and to facilitate improvements to the efficiency, technical and economic viability, and scale of irrigation schemes. While there are opportunities to promote the newly established consulting service or the input irrigation provider business model, scaling up of the core model by attracting investors from new areas into tertiary irrigation is challenging. The difficulty lies in the nature of the tertiary irrigation market, where irrigation providers work as individual entrepreneurs at local level with no strong vertical or horizontal network existing among other providers.

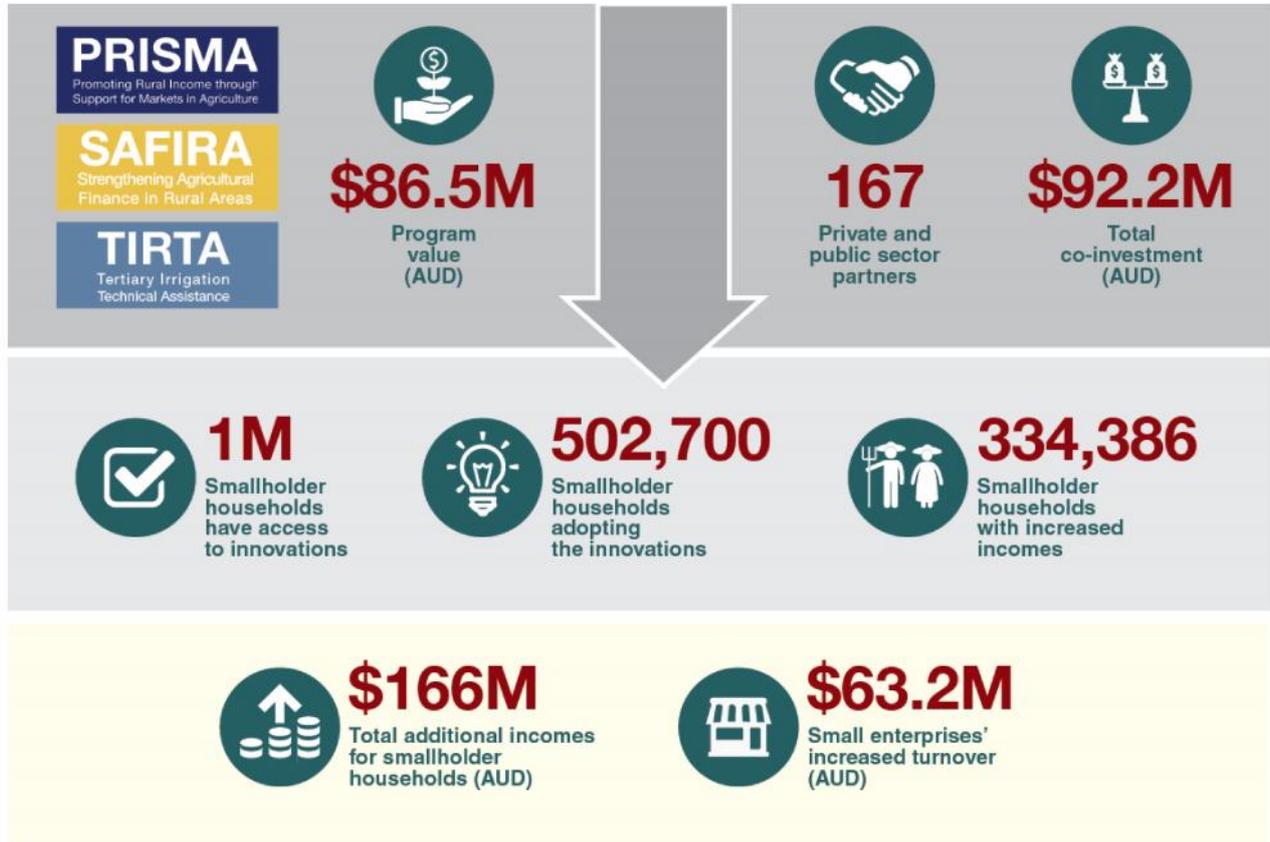
This type of disjointed and fragmented market makes the natural diffusion of a new model complicated; autonomous traction of the model in other districts thus could prove time-consuming and challenging.

The complexity in achieving scale has its implications on integrating an irrigation in PRISMA 2. While TIRTA's irrigation partners are continuing with their service and many of them have already started investing in further expansion, autonomous scale up in other regions is complex. Going forward, TIRTA (or, irrigation sector team in PRISMA 2) needs to revamp its strategy by working with scale agents (providers similar to Mesindo or other support service providers) who have the right incentives to engage with irrigation providers in improving or expanding their system in an efficient, cost-effective way. Opportunities also exist to deeply explore other actors in the value chain (e.g. vegetable seed nurseries, rice or maize off-takers) who are likely to have commercial interests in engaging or investing in irrigation. PRISMA 2 can leverage key learnings from TIRTA, including its experience of working with support service providers and move away from working with individual irrigation entrepreneurs

5 Results

AIP-Rural

PROGRAM IN NUMBERS



* OUTREACH: number of smallholder farming households with increased incomes
 NAIC: total additional incomes of smallholder farming households

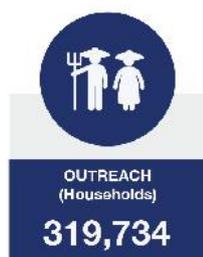
NB: Does not include impact numbers from ARISA – please refer to ARISA’s Activity Completion Report separately for ARISA’s impact. The numbers presented above include actuals up to November 2018, plus one month of projections for December 2018.

5.1 PRISMA



NB: Growth rate is calculated by using the common formula for annual compound growth rate (CAGR), per semester (see footnote below)

As of October 2018, PRISMA has developed 143 Intervention Concept Notes and 140 Intervention Plans, from which a total of 145 interventions were launched (67 currently active). PRISMA's approach has delivered a diverse portfolio of interventions that have achieved robust, credible results. Several partnerships are increasingly stimulating market-wide changes in key commodities, including Maize, Pigs, Vegetable and Shallot. By the end of 2018, PRISMA expects to exceed the overall program target of 300,000 households (HH) with a 30% income increase by 19,734 HH with an average income increase of 273.71%. A full list of PRISMA's KPI data can be found in Annex 1.



PRISMA expects to reach 319,734 HHs, of which 65.55% (209,578) are below the \$2.5 PPP poverty line, and 37.91% (121,226) are below the \$2.00 PPP line. The top 3 sectors contributing the most towards outreach are Pigs (32%) and Maize (26%), and Vegetables (18%). PRISMA's other 15 sectors collectively contribute the remaining 24% of outreach (breakdown provided in Figure 9 below). Vegetable is the currently the fastest growing sector, and we expect to see Beef and Mungbean, the 'promising' sectors with increasing signs of partner commitment and investment, begin to account for a more significant share of outreach in PRISMA 2. PRISMA's portfolio is sufficiently diversified, reducing the risks to the overall program from external shocks, including environmental, geographical, political, or other market factors.



PRISMA expects to achieve Net Attributable Income Change (NAIC) of IDR 1,571.2bn (AUD 157.1m) in total. NAIC increased at a compound semester growth rate (CSGR) of 98%²⁸. Average NAIC per HH is currently 273.71%, 243.71% higher than the program's target of 30%. This equates to an average of IDR4.91m (AUD 491) income increase per HH. Average HH size in the 5 provinces varies from 3.6 to 4.6 people, and Indonesia's national poverty line currently lies at IDR 383,908 per person per month. At the end of 2018, no significant difference in NAIC is observed at different poverty levels. Pigs NTT has contributed by far the largest share of NAIC (35%), at IDR 546bn (AUD 54.6 M) in total, or 537.2% per HH. Vegetable EJ is the second largest contributor (15%), at IDR 238.7bn (AUD 23.8m) in total or 57.4% per HH. Beef EJ (10.63%) and Maize EJ (6.13%) are the third and fourth largest contributors, achieving a total NAIC of IDR 166.9bn (AUD 16.6m) and IDR 96.3bn (AUD 9.6m) respectively.



PRISMA has worked with 104 private sector partners, including seed producers and retailers (e.g. BISI, EWINDO); agrochemical companies (e.g. Hextar, Rainbow, BASF), crop protection specialists (NuFarm), large multinational companies providing broad products and services inclusive of all the above (e.g. Syngenta, DuPont, Bayer), national and regional banks (Bank NTT, Bank Papua), and more recently strategic partners outside the traditional agriculture space, including Google. PRISMA's partners also include 29 public sector partners at national, provincial and district level. A full list of partners is provided in Annex 2. AIP-Rural's Stakeholder Engagement Perception Survey conducted in December 2017 with 38 external stakeholders showed strong positive perceptions of the program, with 89% of partners keen to continue and expand collaboration.

²⁸ Growth rate, or Compound Semester Growth Rate (CSGR) is calculated by using the common formula for annual compound growth rate (CAGR), the equation for which can be found at: <https://www.investopedia.com/terms/c/cagr.asp>



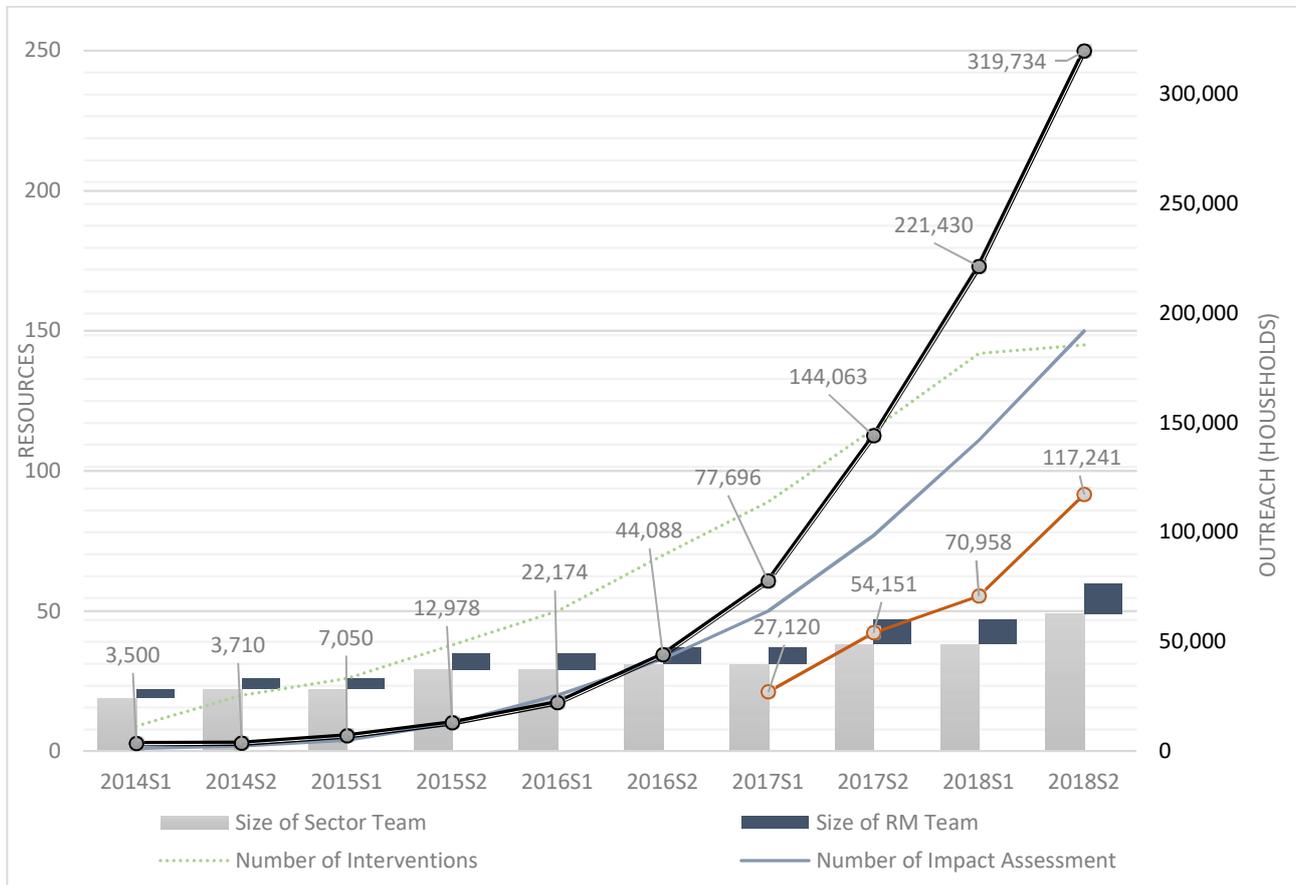
9,425 ISPs (comprising of small and micro enterprises) have cumulatively increased their turnover by IDR 563.8bn (AUD 56.38m), or an average IDR 59.8m (AUD 5.98k) per ISP as a result of PRISMA's interventions. PRISMA increased the number of ISPs reached by an average of 100% each semester from semester 1, 2017 onwards. The compound semester growth rate for ISP turnover was 139%, and continues to grow as partners expand successful business models - a strong indication of the strength and sustainability of PRISMA's interventions. Vegetable interventions added the most ISPs, with NASA and EWINDO adding 7,457 ISPs through distribution of their agriculture-based ICT applications. Pigs contributed the most towards total ISP turnover, with IDR 455bn (AUD 45.5m), or 81% of the cumulative total.



PRISMA's total co-investment from the private and public sector is IDR 851,4bn (AUD 85.1m), of which 9.44% or IDR 80.4bn (AUD 8m) is from public and private sector partners, and 90.56% or IDR 770.9bn (AUD 77m) is from additional on-farm investment by farm households. Co-investment grew at an average rate of 115% CSGR (60% CSGR for partners and 134% CSGR for farmers), reflecting the longer lead times necessary for private companies to invest significantly in new business models, compared to farm households. While Pigs and Maize have been the sectors consistently contributing the most towards partner co-investment over the 5 years of the program, in the final semester of 2018 farmer co-investment increased by 715% (compared to 15% in the previous semester), primarily driven by a sharp increase in growth for the vegetable sector with the NASA app intervention. By comparison, private partner co-investment grew by 15% in the same period. PRISMA's partner co-investment per year is shown in figure 11 below.

PRISMA's outreach trajectory has closely matched semester targets set by the impact trajectory (the curve). The outreach curve (see Fig 8 below) has been the main measure by which PRISMA's performance is assessed, and PRISMA has been able to reach or exceed the semester targets in each reporting period to date. Other indicators of performance, including outreach from systemic change, partner co-investment, type/modality of intervention (moving from field-level activities to partner engagement at a more strategic level), ISP turnover and NAIC also strongly indicate that PRISMA's interventions continue to be relevant to the context and have delivered, if not exceeded the expected results by the fifth year of the program.

FIGURE 9– PRISMA'S OUTREACH AND RESOURCES BY SEMESTER



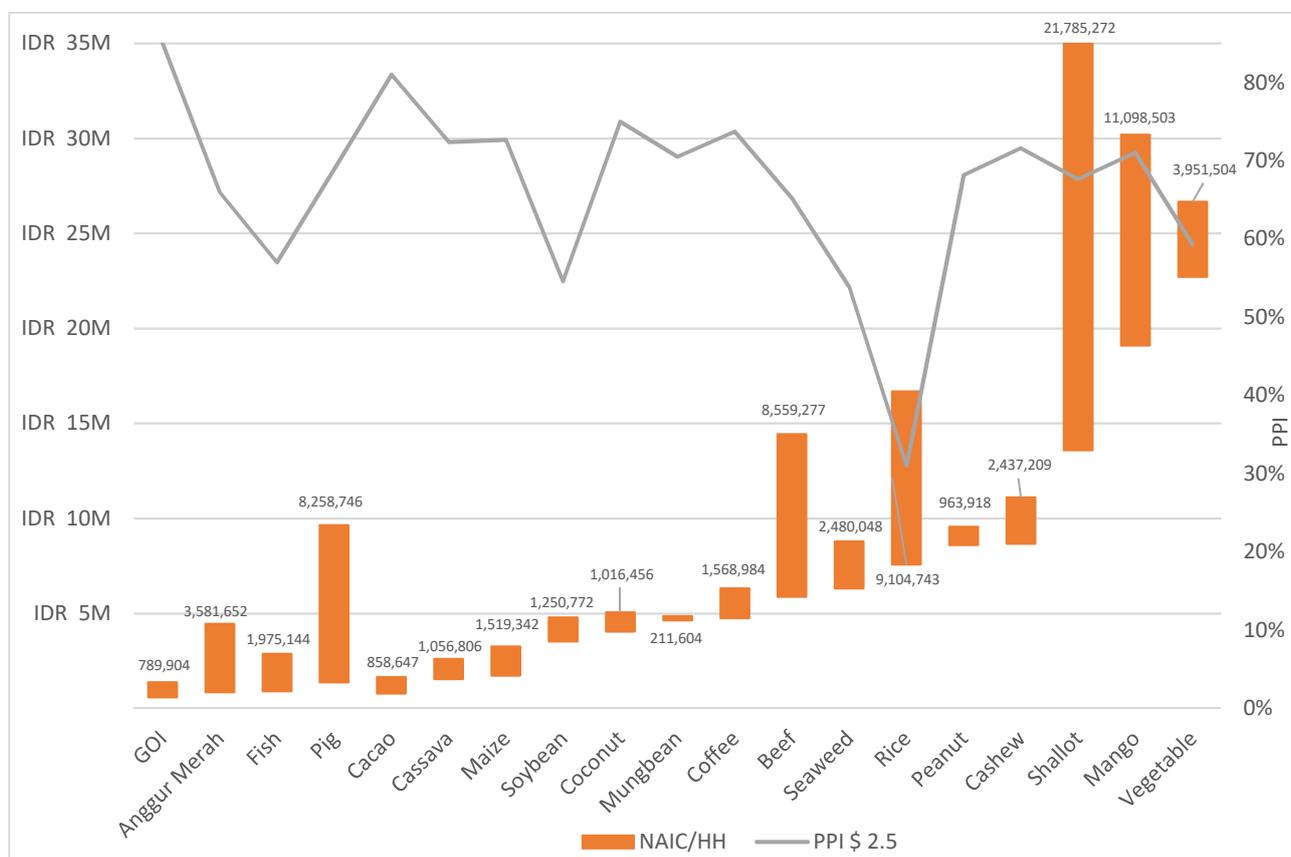
Supporting the delivery of these results, PRISMA's structure and level of resources has evolved considerably over time. Starting with an initial 19 staff in sector teams and 3 in RM, the program increased its headcount to address its critical capacity constraints in semester 2, 2015. This enabled a sharp increase in the number of interventions launched, from 26 to 38. Adding a further three cohorts, the number of staff in sector teams rose proportionally to number of interventions and outreach achieved until S1 2017. From 2017 onwards PRISMA's portfolio contained a sufficient volume of quality interventions to begin seeing outreach and indirect impact increase exponentially. Concurrently, to enable the data-driven adaptive approach, a proportional number of impact assessments were necessary to verify and attribute impact, and inform portfolio management. By the final semester of 2018, 151 impact assessments will be completed in total.

As of Oct 2018, PRISMA has 49 staff in sector teams and 12 in RM, down from 61 and 15 at the beginning of the year respectively. The latter has been an appropriate level of resourcing to establish the size and diversity of PRISMA's current portfolio, and as impact from successful interventions continues to scale up, PRISMA's efficiency - measured by the value for money indicators below shows a positive return on investment for DFAT.

PRISMA's proportion of outreach from systemic change has steadily increased from semester 1, 2017 to reach 47.08% of outreach recorded in the final semester of 2018. Outreach from systemic change accounts for 36.67% of the cumulative total, and is expected to continue to increase as successful business models begin to expand to new sectors and geographies on their own. Market responses are increasing as new companies begin to crowd-in (particularly in Maize and Pigs) – but also in Shallot where PRISMA's partner EWINDO has begun to promote True Shallot Seed (TSS) across Indonesia.

NAIC per farm household varies significantly between different sectors. As to be expected, the six sectors contributing the most to outreach are also the six contributing the most to total NAIC. Pigs achieved the highest income change in percentage terms, at 537.2% per HH, with Maize (203.53%) and Beef (177.78%) second and third respectively. Soybean (49.47%), Shallots (65.62%), and Beef (177.78%) are the 4th, 5th and 6th largest sectors by outreach respectively.

FIGURE 10– INCOME CHANGE PER FARM HOUSEHOLD BY SECTOR



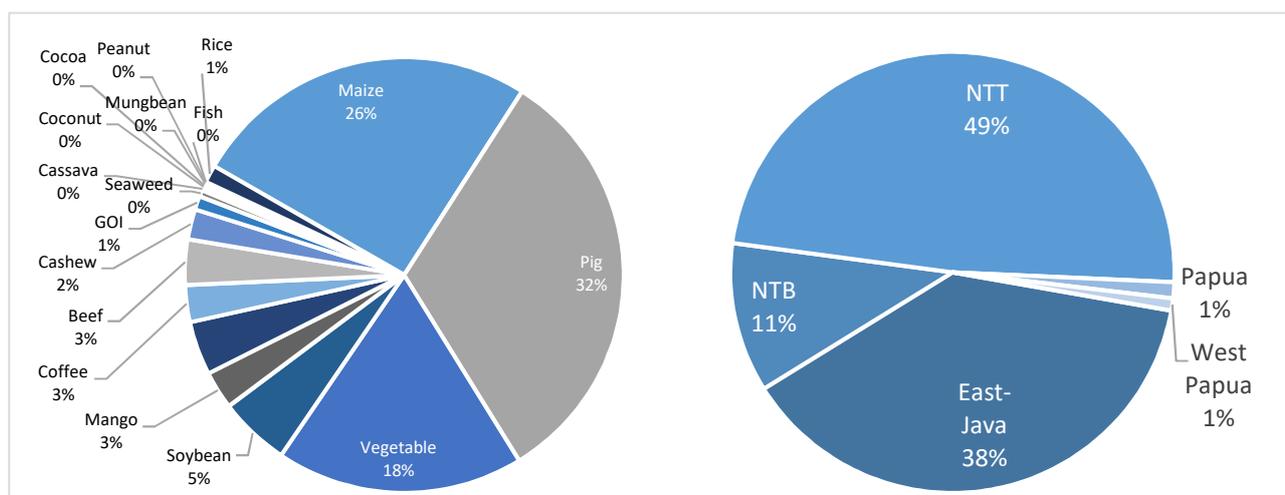
Across all sectors, only 3 sectors or 19,377 HH have increased their incomes by less than 30%. Sectors with the lowest NAIC are Seaweed (10.98%), reflecting the relatively new interventions in this sector and challenges involved with measuring income change which is currently measured only through market prices; Coconut (18.21%) which suffers from low value of the crop and all current interventions are due to cease at the end of this phase, and Cashew (22.64%) interventions, which currently focus on soil rejuvenation which have resulted in modest income increases to date. Removing sectors with NAIC of less than 30% has little impact on overall results. PRISMA's average NAIC% all sectors is 273.71%, including only interventions that have achieved over 30% NAIC gives an average NAIC of 272.99% per HH.

Looking at the percentage of impact accounted for by individual sectors, Pigs is by far the largest contributor to total NAIC, and average NAIC per HH. Removing results from Pigs interventions reduces PRISMA's average NAIC to 87.36% per HH, which although substantially lower than the current average 273.71%, is still considerably higher than the program's target of 30%. Taking Maize interventions out of the equation only reduces PRISMA's overall NAIC to 208.42% per HH. If a similar exercise is applied to the 15 most successful individual interventions (instead of sectors) by NAIC, PRISMA still achieves an average NAIC of 262.81% per HH. This shows that PRISMA's portfolio is sufficiently diversified that no single sector or intervention could jeopardise achievement of the program's overall targets. Nonetheless, going forward PRISMA 2 will need to continue to pay close attention to NAIC as well as outreach as a measure of impact, particularly in 'promising' sectors like Mungbean which are expected to account for an increasing share of outreach, but currently achieve relatively low income change per HH.

Sectors such as Shallot and Beef which achieved very high income change per HH benefitted from a high level of investment into the innovations, which typically only better off farmers could afford. PRISMA adjusted its interventions to better reach poorer farmers, and in other cases interventions were phased out. Maize, one of PRISMA's largest sectors appears here to have only achieved a small absolute income change from a low baseline, but NAIC per HH is 203.53%— a significant impact for maize farming households.

It should be noted that baseline' income is not always a good measure of the reality for farmers benefitting from PRISMA's interventions. Vegetable, for instance, is a highly diverse sector that includes advanced farmers who already use GAP and quality seeds. These farmers have a far higher income than the HHs PRISMA's partners are working with, which inflates the baseline income level for the sector overall. Going forward PRISMA will look to disaggregate baseline income to more accurately capture impact in sectors with highly diverse income levels from different groups of farmers.

FIGURE 11– PRISMA'S OUTREACH BY SECTOR AND GEOGRAPHY



Geographically, Papua and West Papua have been the most recent areas for intervention development and most interventions are still in their early stages. NTT and East Java account for the lions' share of impact due to several factors, including: ease of access, geographical proximity, existence of capable, willing partners, high numbers of farmers in each key commodity, factors that were important in determining the

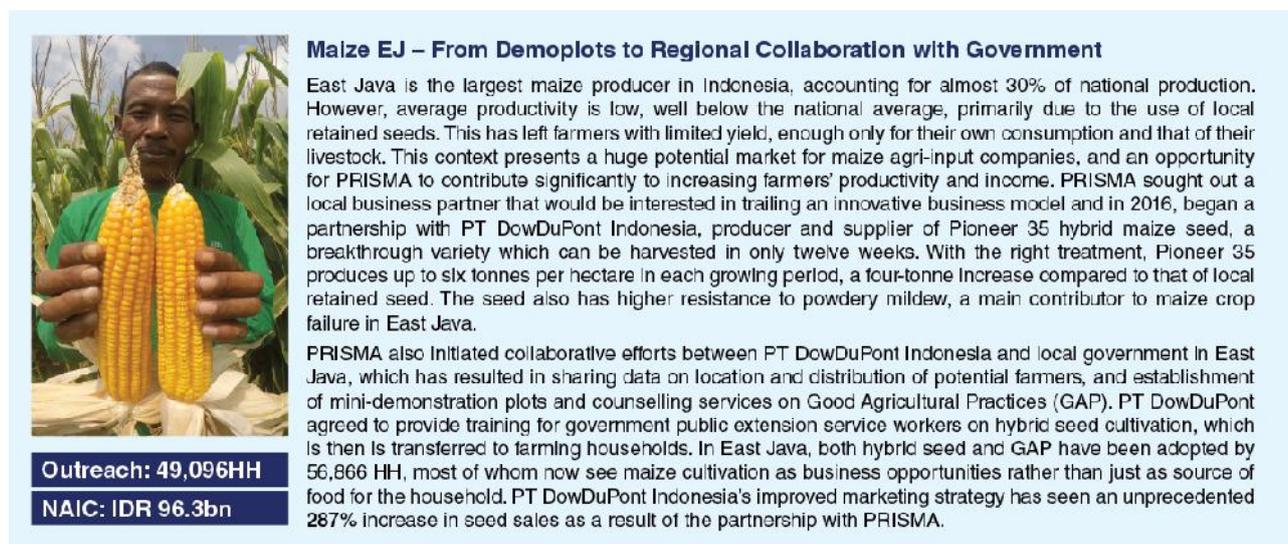
location for AIP-Rural in the original PDD. The relatively lower share of impact in NTB is worth analysing in further detail, as no single factor prevails as the key cause of interventions failing across multiple sectors.

Evidence from comparable programs internationally has shown that, in the earlier stages of an MSD program, the largest successes often come from a small handful of interventions. PRISMA's experience has conformed to this trend, with two major successes in the pig sector, four in maize and two in vegetables. However, mindful of the risks of being over-exposed to any single partner, geography or business model – the program has proactively sought to diversify partners and strategies. In pigs for instance, PRISMA adopted two main strategies or business model (both worked well in terms of income, one in terms of outreach and over a dozen partners; in maize PRISMA also launched two main strategies which both worked well, and interventions have been developed with more than a dozen partners across two provinces. In vegetable strategies are being implemented targeting seeds, information (extension and ICT), chemical inputs, and bio-inputs, and the program expects several of these to grow significantly in PRISMA 2.

PRISMA has built a portfolio that is diversified by geography, partner and intervention type - significantly reducing risks to the program from a single business model or partner failure, as well as external shocks. PRISMA now has six interventions per sector on average (for all sectors with more than 1 intervention), with the number of partners per sector at 16 for Pigs, 15 for Maize and 10 for Vegetable. While a sector & geography approach has been an effective structure for this phase, looking forward PRISMA 2 will increasingly look at cross-cutting areas such as fertilizer, soil treatment and pest management. Fertilizer as a new sector was added in semester 1, 2018 in response to demand from partners wanting to work in several commodities.

PRISMA's intervention activities have begun to graduate towards targeting higher-level systemic change. In the first years of the program, PRISMA relied on proven methods for promoting and marketing innovations to farmers and partners which achieve acceptable conversion rates from access to use to benefit, often through use of demonstration plots and farmer field schools. Other methods included SMS blasts, social marketing campaigns, and 'Market storms' which were a key innovation that has achieved considerable success in the Pigs sector (see figure 10 below). Once PRISMA's reputation was more established, recent interventions increasingly work directly with partners at a strategic level (e.g. EWINDO), or seek to expand existing models across Indonesia (e.g. NASA and Corteva (formerly Dow DuPont)). Ranking all of PRISMA's intervention activities on a scale from 1-10, where a score of 1 is given to field-level activities, and 10 to interventions working at a national or strategic level, 54% of all of PRISMA's active interventions achieve a score of 6 or higher, a substantial increase from 29% at the end of the second semester of 2016 (see Annex 3 for a full breakdown).

FIGURE 12– SECTOR HIGHLIGHTS – PROGRESS TOWARDS SYSTEMIC CHANGE





Pigs NTT – Innovative Marketing Tactics

NTT is the largest producer and consumer of pork in Indonesia, accounting for a quarter of national production. However, pig rearing practices were poor, often taking almost a year for piglets to reach market standard size – and the process for producing pig feed was highly labour intensive. From March 2014, PRISMA in collaboration with HIVOS developed interventions to facilitate pig breeders and smallholder farmers to invest in improved breeds and husbandry practices.

PRISMA supported partners to expand the use of better feed, which only required **1 hour** a day to produce, compared to **7+ hours** using traditional methods. Combined with better rearing practices, farmers are able to produce market-ready pigs in just two months. To encourage more farmers to adopt the innovation and facilitate systemic behaviour change, PRISMA developed the “market storm” approach. This is an intensive push marketing strategy that uses excitement and public spectacle to encourage producers or sellers to actively and directly reach potential customers. In addition to product marketing, the market storms also provide veterinarian services to improve farmers’ engagement and knowledge on animal health.

By December 2018, more than **120,315** pig farming households in NTT have purchased and apply pig feed and pharmaceutical products; and more feed companies are assessing or entering the market, such as Patriot, Menara, Chiel Jeddang, and Pharmaceutical companies (Romindo and Boehringer) have started to develop their distribution channel in NTT; and conducted vaccinator training to improve knowledge and skills of private and public vaccinators.

Outreach: 102,942HH

NAIC: IDR 546.4bn



EWINDO – Towards Greater Systemic Change

Building on the success of PRISMA’s partnership with Ewindo (East West Seed) to promote the use of True Seed Shallot (TSS) across Indonesia, PRISMA expanded the partnership to new commodities including soybean, and vegetable, and mungbean. PRISMA presented a business pitch to EWINDO to enter the Indonesian mungbean seed market, and assisted EWINDO to develop a comprehensive five-year business plan to achieve **38%** market share in Indonesia by **2023**. The model was subsequently approved by their global Board of Commissioners (BoC) in March 2018. This was only possible due to the strength of the partnership, and high level of trust established over 4+ years. The business plan consisted of market potentials, market entry strategy, investment requirements, and financial projections. EWINDO has since obtained a license from the Coordinating Ministry of Economic Affairs to expand their scope of business from horticulture to food crop production. Additionally, this expansion has influenced East West Seed Group to assess the potential for mung bean seed across South East Asia.

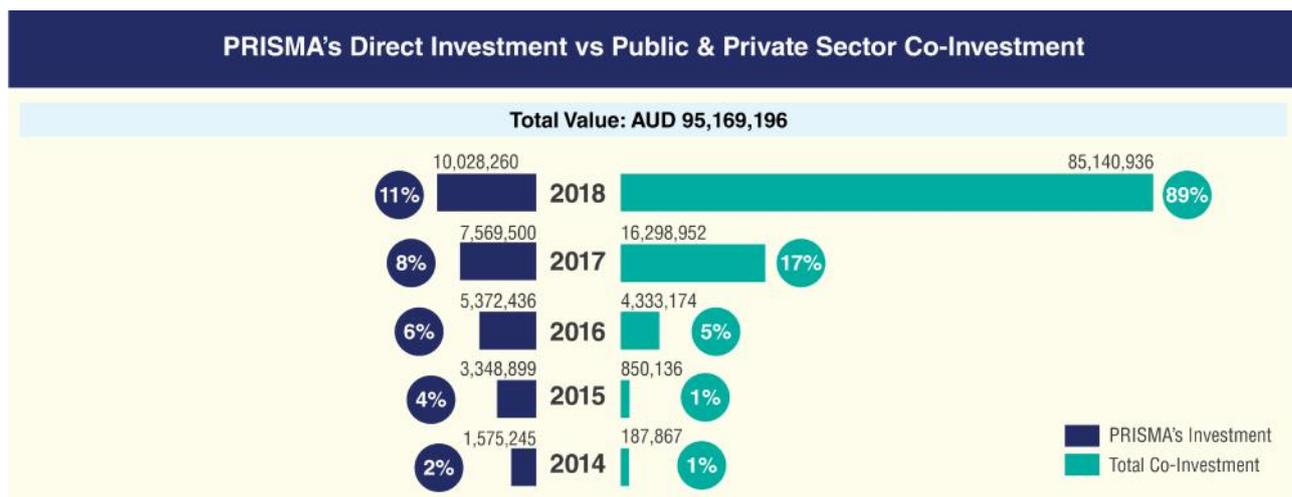
Outreach: 20,135HH

NAIC: IDR 133.49bn

5.1.1 Value for money

PRISMA monitors three Value for Money indicators at intervention level: investment leverage, social return on investment, and investment per farm household. Following from the MTR assessment, PRISMA continues to deliver good value for money against all three criteria. There are 8 interventions generating more than AUD 2.4m in net income increases for farm households, from direct intervention costs less than AUD81K based on estimated data up to December 2018. Spending AUD 10m on direct intervention costs, PRISMA expects to generate AUD 157m in increased incomes for poor farming households.

FIGURE 13– PRISMA’S PRIVATE AND PUBLIC SECTOR DIRECT INVESTMENT COSTS 2014-2018²⁹



PRISMA’s co-investment from the public and private sector at direct intervention cost level continues to improve in line with expected trends, with total co-investment increasing by 2,194% to AUD 85.1m in the final year of the program. PRISMA’s direct investment costs have risen at a linear rate, increasing by 25% over the same period. By the end of the project, PRISMA expects the leverage ratio of 8.49, with public and private

²⁹ Values for 2018 co-investment leverage are based on estimates as of October 2018.

sector investment accounting for 89% of total investments costs. PRISMA expects this to continue to rise as partners scale-up successful business models in PRISMA 2.

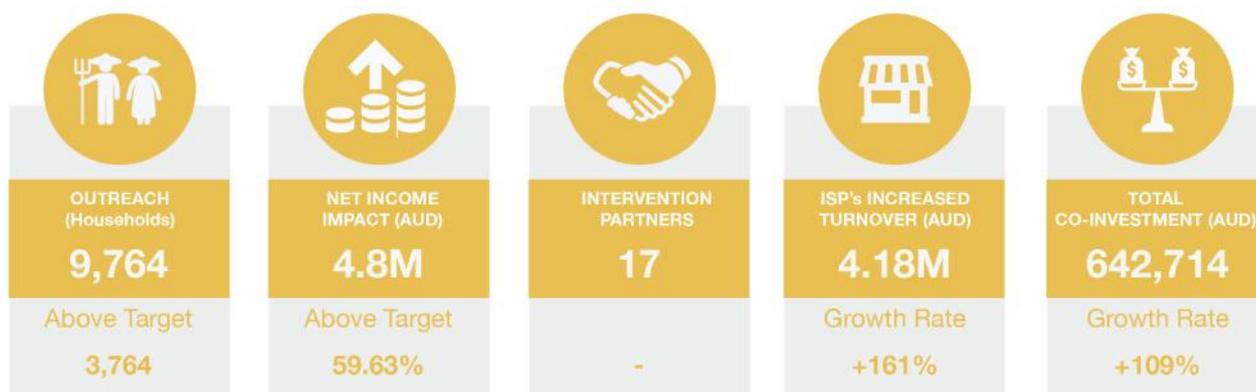
Figure 14– PRISMA SROI AND INVESTMENT PER FARM HOUSEHOLD



For every Australian dollar spent, PRISMA has generated AUD 3.39 in increased incomes for farm households. PRISMA’s Social Return on Investment (SROI) is calculated based on total intervention costs. PRISMA’s SROI has begun to show an exponential increase in line with the rate of increase in total NAIC, while program expenditure has remained relatively linear. PRISMA has confidence that this trend will continue to improve as successful interventions scale up, and promising sectors with high levels of NAIC such as Vegetable begin to record more outreach and indirect impact through systemic change.

PRISMA’s investment per HH (at total intervention costs level) has decreased at a linear rate over the past 5 years to the current level at AUD 144.78 per household by the end of December 2018, assuming 319,734 farm HHs are reached and the estimated total intervention costs of AUD 46m are expended. This compares favourably with other leading MSD programs with a similar size and ambition, and significantly exceeds the CGAP benchmark used in the mid-term review³⁰.

5.2 SAFIRA



After adopting the revised strategy, SAFIRA works with 17 partners to implement the institutional development approach, which has delivered considerable results in a short space of time. Each institutional partnership has yielded a VCF product, and several partners have begun to expand the product to multiple districts and agricultural sectors. The high level of buy-in from SAFIRA’s partners is demonstrated by rapidly growing co-investment, both financial and non-financial, 161% CSGR in ISP turnover, and a net attributable income change of AUD 4.88m to date. A full list of SAFIRA’s KPIs can be found in Annex 1.

³⁰ Australia-Indonesia Partnership – Rural Economic Development Program Mid-Term Review, John Fargher & Associates Pty Limited, 22 December 2016 (pp. 27).



OUTREACH
(Households)

9,764

SAFIRA reached 9,764 HH, exceeding the target of 6,000 HH by 63%, or 3,764 HH. 64% of HHS reached by SAFIRA are below the \$2.5PPP income line. The interventions contributing the most towards outreach are the institutional development partnerships with BRI (3,903 HHs), Bank NTT (2,177 HHs), and BISI with the YARO model (1,711 HHs). SAFIRA's remaining interventions have reported low outreach numbers so far due to the time it takes to go from socializing VCF, to products being developed and rolled out. Bank Sinarmas and CU Sawiran for instance have recorded 25 and 3 farm HH respectively, but SAFIRA expects this to increase significantly in the following semesters. 18,723 loans have been disbursed, resulting from SAFIRA's interventions to date, exceeding the target of 12,000 users by 56%. Deeper analysis of impact will be possible once repayment windows for the loans disbursed are completed.



NET INCOME
IMPACT (AUD)

4.8M

SAFIRA has recorded NAIC up to semester 2, 2018 of IDR 48bn (AUD 4.8m), which was achieved over four semesters with a CSGR of 268% (compared to 97% for PRISMA, and 135% for TIRTA). Average NAIC% increase per HH is 89.63%, exceeding the target of 30% by 59.63%. In absolute terms, NAIC per HH is IDR 5m (AUD 501) to date. The interventions contributing the most towards total NAIC are Institutional development for BRI Malang and Maize BISI/YARO, which have increased incomes by IDR 33.8bn (AUD 3.38m) and IDR 5bn (AUD 553.197) respectively. SAFIRA's Maize VCF intervention also achieved considerable NAIC with IDR 4.89 billion (AUD 489,367). SAFIRA's intervention with CU Sawiran achieved the highest average NAIC per HH, at IDR 18.4m or AUD 1,848 per HH.



INTERVENTION
PARTNERS

17

SAFIRA is working with 17 partners to deliver the institutional development approach, 14 of which are financial institutions, including state-owned commercial banks (Bank BRI and Bank BNI), regional banks (Bank NTT, Bank NTB), rural banks (BPR Pesisir Akbar, BPR Arta Kencana, BPR Central Pitoby), Credit Unions Sawiran, Tanaoba Lais Manekat (TLM) Financial Group, agribusinesses (BISI), and private banks (Bank Sinarmas). One is an input producer (BISI) and the remaining one is a District Government Office. Out of these partnerships, 11 VCF products have been developed so far, encompassing 8 agricultural sectors across 8 districts in 4 provinces. From the 11 VCF products, 8 have been commercialized. Post pilot, VCF is now available in 13 agriculture sectors across almost 30 districts in 5 provinces, a strong vindication of the relevance of the product to the market, and strong buy-in from partners after the initial nudge from SAFIRA.



ISP's INCREASED
TURNOVER (AUD)

4.18M

Implementing VCF relies on other market actors such as input providers or off-takers (ISPs) to source, secure, and distribute finances. Through SAFIRA's partner FI's, 83 ISPs have benefitted from SAFIRA's interventions to date. In the final semester of 2018, ISP turnover increased by IDR 24.6bn (AUD 2.46m), to a cumulative total of IDR 41 billion (AUD 4.18 million). This significant increase is due to enough time having passed for meaningful impact assessments to be completed. The intervention contributing the most towards ISP's turnover is SAFIRA's collaboration with Bank Sinarmas which recorded IDR 24bn (AUD 2.4m) in total. Other interventions contributing a significant amount are SAFIRA's the interventions with Bank NTT and CU Sawiran which achieved IDR 8.8bn (AUD 8.8m) and IDR 3.3bn (AUD 3.3m) respectively.



TOTAL
CO-INVESTMENT (AUD)

642,714

Co-investment from SAFIRA's partners increased significantly in the final semester of the program, growing by IDR 2.7bn (AUD 275,731), almost three-fold increase from the previous semester, which added IDR 1bn (AUD 109,827). Factoring in loans disbursed and farmer's investment, SAFIRA's total investment leveraged is IDR 188bn, (AUD 18.8m). Bank Sinarmas accounts for the majority of partner co-investment (48%) to date. For loans disbursed, cumulative value of loans disbursed is IDR 182 billion (AUD 18.2m), 67% of which is accounted for by BRI, which has lent IDR 123.bn (AUD 12.3m) through the VCF model. The remaining 29% of loans is spread evenly across 9 partners. Non-financial commitment from SAFIRA's partners has also been significant. 294 partner staff have participated in VCF training, from which 70 were directly involved in developing, marketing and disbursing VCF products.

The strength of up-take and buy-in to the VCF model by partner FIs is also supported by other non-KPI indicators. Six partners have invested further by modifying product structures for new VCF products, expanding their ISP networks and marketing in new areas on their own initiative. Two partners have further invested in ICT infrastructure (CU Sawiran has developed a consumer portal called 'SRIYA' to enable VCF loans, and Sinarmas has launched a transaction tracking application 'Simas Lead'). Both CU Sawiran and Sinarmas have also developed brand names for their VCF product lines. Three partners went beyond district expansion by going into new provinces (BRI, BNI and Sinarmas), two partners now have VCF schemes available for more than 2 commodities (Sinarmas and BRI), while three partners have diversified the VCF model into non-agriculture commodities.

SAFIRA currently has 18,723 loans extended by partners in its portfolio. The top contributors are BRI (9,000), BNI (3,245), BISI-YARO (2,939), and Bank NTT (2,177). 0.09% (17) of loans in the portfolio are currently in arrears or at risk, of which all are from Bank Sinarmas. SAFIRA had an initial issue with repayment of loans with partner BNI based on an inadequate quality of maize from the farmers and thus a below market price offered by the off-taker, however, after extensive work with developing the collection system for BNI in August 2018 the bank rescheduled these outstanding loans and claimed repayment from a GOI insurance mechanism with ASKRINDO.

Four consulting companies continue to work with SAFIRA to support partner institutions to integrate VCF: Hadidaya Jaya Abadi, Kiran, Spire Consulting and MicroSave. All four have already started using the SAFIRA-designed toolkit to support (institutional assessment, training + TA) SAFIRA's partner FIs and are promoting the toolkit to other FIs in their network. All four firms have extensive network and relationships with FIs, and provide services at different levels of the financial ecosystem: Spire - state-owned and commercial FIs; Kiran – Sharia banking units; Hadidaya - Rural banks and MFIs; MicroSave - Multilateral/bilateral donors and NGOs, all of which are critical for the enhancement of agriculture lending.

To implement the third pillar of SAFIRA's strategy, 'knowledge-sharing among stakeholders', SAFIRA has developed and distributed several reports (see table 4 below), and hosted two knowledge-sharing events, including the launch of the Digital Credit Scoring Guide in Jakarta at the end of May 2018 in collaboration with Grow Asia and a Market Data-Sharing Workshop held in early June 2018 in Jakarta where SAFIRA shared information about a) opportunities to market to women and in agriculture and b) a deep dive into the SOFIA dataset. The events were attended by over 100 individual FIs, FinTech and consulting companies, and were well received by the financial industry.

TABLE 4– SAFIRA'S KNOWLEDGE PRODUCTS

VCF TECHNICAL ASSISTANCE GUIDE	TOOLKIT
Digital credit scoring (DCS)	Report and workshop
VCF Implementation Guide	Toolkit
Gender focused target marketing	Roundtable
SOFIA additional introspection	Report and workshop
Systemic change report	Report
Learning series: poc / lessons	Report
Regulatory study	Report
KUR strategy	Report
MSME lending overview	Report
Crop insurance profile	Report
Lending with kartu tani	Report

5.2.1 Progress towards systemic change

In addition to the strong indications of buy-in and uptake of VCF by SAFIRA's partner FIs, SAFIRA has already begun to observe market responses and independent expansion of the VCF model that can be attributed to SAFIRA's activities. There is already evidence of "crowding-in" by non-partner FIs in response to the new pro-poor innovation available in the market. Through interviews with partners, the SAFIRA Systemic Change Review³¹ assessment has identified at least seven instances of expansion of VCF models by non-partners. Observed signs of crowding-in (application of VCF by non-partners, copies or variants):

4. VCF financing for vegetable farmers from the **BRI branch** of Kupang, NTT
5. VCF schemes in the cattle sector from **Arta Graha Bank**
6. **Bank Jateng** – VCF scheme for cattle farmers
7. **Bank Mandiri** – VCF scheme for cattle farmers
8. VCF in the palm oil sector by **CIMB**

³¹ Khadka, S. (2018). "Strengthening Agricultural Finance in Rural Areas (SAFIRA) Systemic Change Review".

9. VCF scheme for a variety of agriculture commodities from BJB

A further indicator that was observed after the success of the YARO scheme with BISI in Lombok, is that BISI will provide YARO to maize and paddy farmers across all of Indonesia, primarily due to the success and high repayment rates experienced in Lombok. Evidence of independent market response has also been observed through assessments from input suppliers. In Kupang, EWINDO and their distributor Duniatani approached Bank BRI to develop a VCF scheme for vegetable farmers, the product is now in development. DuPont has also engaged with Bank BRI in East Java for a VCF scheme in maize and is being piloted in 6 districts. Box 10 below provides an example of this with the Credit Union (CU) Puskopdit.

BOX 12: Institutional Development for Puskopdit

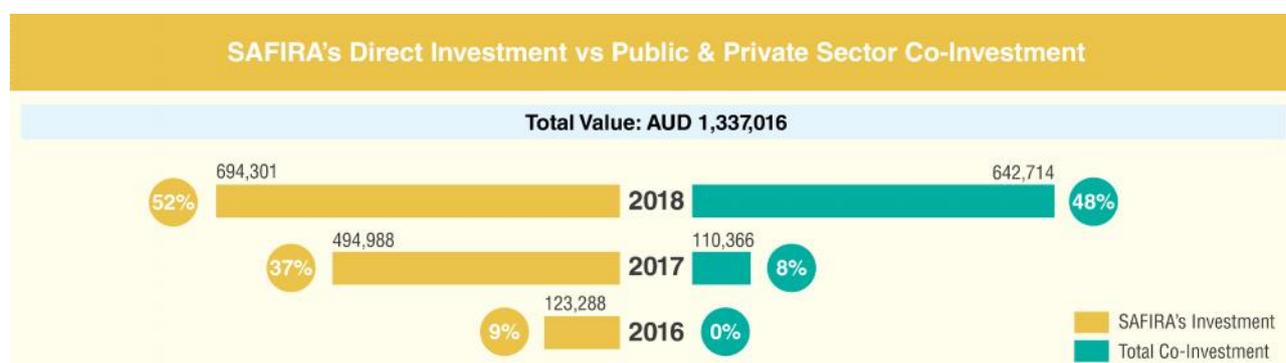
SAFIRA is supporting Puskopdit, an association for Credit Unions (CUs) in East Java with 43 active members, to develop the organisation into a centre for excellence for VCF. Once the IS of Puskopdit is complete, the association will add VCF training as one of the courses available/offered to its member CUs. To strengthen member CUs capacity to develop and implement VCF schemes, Puskopdit will either provide TA to CUs themselves or facilitate other consulting companies and/or other CUs already applying VCF models. Apart from this, Puskopdit will also link interested CUs with farmers and/or off-takers and has also made VCF loans/co-financing available to their member through their existing pooled funds. To date, 30 participants from Pusopdit and 12-member CUs have attended VCF trainings. The association has allocated dedicated staff for the development of the center for excellence and have selected two CUs; CU Gema Swadaya and CU Yos Sudarso to pilot VCF. CU Gema Swadaya is currently also in the process of developing a VCF product for potato farmers in Lumajang after completing the market assessment.

SAFIRA has also observed a new KUR scheme for cattle farming emerging after the government learned, through off-takers, about SAFIRA's VCF pilot conducted by Bank Sinarmas in Tuban. Those off-takers (large cattle companies) have good ties to the district government. SAFIRA understands that the Government was sufficiently inspired by the VCF model to extend Sinarmas additional KUR credit to further implement the model. The government is also promoting Sinarmas's cattle VCF model to other FIs as one of the benchmarks in micro lending and has also made the KUR scheme for cattle farming available to other banks. Importantly, this situation also highlights FIs ability to cope and compete with subsidised loan models from the government. Bank Sinarmas continues to promote its Simas Agri brand in the cattle sector, despite a similar product now available from the bank through KUR. The main reason for this is their own commercial product is able to generate more revenue for the bank than the subsidised government loan.

5.2.2 Value for money

SAFIRA measures value for money along the same three indicators as PRISMA of investment leverage, social return on investment, and investment per farm household. With only three semesters recording impact from farmers benefitting from SAFIRA's interventions however, value for money analysis is limited by a small dataset. SAFIRA has 3 interventions that currently generate more than AUD 97K of net income for farm HHs, with direct intervention costs less than AUD17K. By the end of the project, SAFIRA interventions generate AUD4.88m of net income for farm HHs with the direct intervention costs of AUD694k.

FIGURE 15– SAFIRA's PRIVATE AND PUBLIC SECTOR DIRECT INVESTMENT COSTS 2016-2018

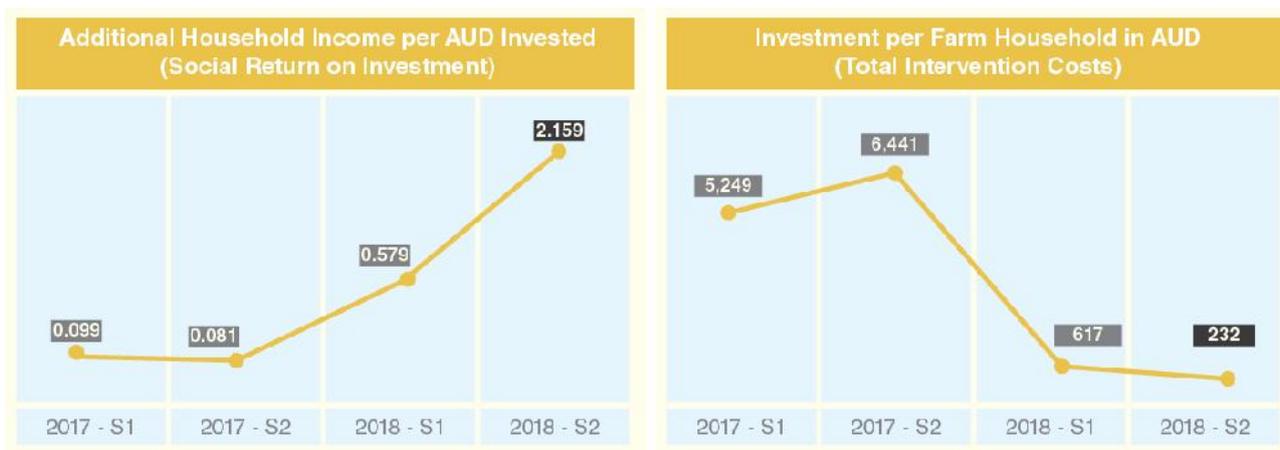


Counting only partner co-investment, SAFIRA's leverage ratio has grown at a slower rate than PRISMA and TIRTA. This is primarily due to the novelty of the approach, but more significantly – due to the fact that SAFIRA's strategy of influencing financial institutions to adopt VCF takes longer to deliver initial results.

Factoring in the value of loans disbursed however, paints a very different picture, where SAFIRA expects a 48% contribution from the partners or equal to 0.93 co-investment leverage ratio. However, when loans disbursed is added the ratio jumps to 27.15 in just three years, a significantly higher proportion and achievement in absolute terms than its sister programs.

Additionally, most of SAFIRA’s partner FI’s have the scale and resources to be able to very rapidly expand the VCF model. SAFIRA has observed early signs of partners on the cusp of significant expansion. Assuming that current trends continue, the programs leverage ratio will also improve dramatically. Partner co-investment alone (without loans) increased threefold in the final semester of 2018, a promising indicator of increasing investment into, and adoption of, the VCF model.

FIGURE 16– SAFIRA SROI AND INVESTMENT PER FARM HOUSEHOLD



After three years of implementation with four semesters of recorded impact, SAFIRA’s SROI is at 2.16. Contribution towards this has been achieved almost entirely in 2018, when SAFIRA’s outreach increased from just 211 HH in semester 2, 2017 to 9,764 HH, and NAIC increased by 4,457% from IDR 1bn (AUD 10k) to IDR 48.8bn (AUD 4.8m) over the same period. If the current signs of partner investment and up-take of the VCF model are converted into loan products, SAFIRA would expect SROI to increase exponentially.

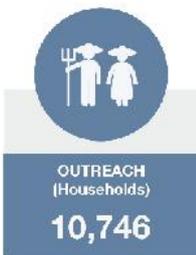
Similarly for investment per farm household, with outreach only being recorded in the last two semesters of the program, SAFIRA’s investment per HH of AUD 231.86 would be expected to fall significantly. As a point of comparison, PRISMA’s investment per HH only fell below AUD 250 by the fourth year of implementation. If current trends were to continue and VCF products begin to be more widely used by farmers, SAFIRA could achieve investment per household at a fraction of the current cost. This of course would only be observed after the completion of the program.

5.3 TIRTA



TIRTA’s main impact has been to develop the technical irrigation consulting service within the tertiary irrigation market, which enables the provision of new or improved irrigation services to farm

households. TIRTA has developed 21 interventions, 19 of which focus on irrigation provision, one on integrated productivity enhancement, and the final intervention on irrigation management capacity. To promote the new business model, TIRTA has worked simultaneously with irrigation providers and supporting functions within the tertiary irrigation market, such as technical consulting services and agrochemical input companies. Implementing this approach.



TIRTA's first intervention commenced in early 2016, and within 2.5 years of implementation, the program has benefitted 5,079 farm HHs with average NAIC of 152% through new or improved irrigation services, and 5,667 farm HHs with average NAIC of 15% benefitted from increased productivity, which is a key pre-requisite for irrigation providers to expand and sustain their service. TIRTA's outreach grew at a high rate of 135% CSGR over 5 semesters, by December 2018, the combination of these two outreach indicators will be higher than the program's target by 3,167 HH. An additional 1,100 HH are expected to benefit from irrigation services as they complete their harvest during the first semester of 2019.



TIRTA's cumulative NAIC by December 2018 is AUD 4,284,747, which is generated from access to irrigation (AUD 3,373,333) and use of productivity enhancement products (AUD 911,413). Access to irrigation generated considerably higher cumulative NAIC of AUD 664 per farm HH (or 152.4%), compared to productivity enhancement with cumulative NAIC of AUD 160.8 per farm HH (or 14.78%). NAIC generated due to access to irrigation is significantly higher because access to irrigation has increased farmers' annual cropping intensity, minimised risk of failed crops and increased productivity per hectare. In TIRTA's case, the impact is even greater as farmers are planting rice, a commodity that is highly dependent on right amount of water. TIRTA's cumulative NAIC is highly likely to continue to increase significantly if the irrigation providers continue to deliver irrigation service over the coming years, as expected.



TIRTA has achieved its results in a sustainable way through development of technical irrigation consulting services. TIRTA has facilitated 18 irrigation providers to receive sound technical consultation and use recommendations from the irrigation consultancy service provider. TIRTA's partner Mesindo has supported irrigation providers to improve and expand irrigation schemes across Bojonegoro and Tuban. With an average size of 125 Ha for each irrigation scheme, the technical consulting service has enabled a total 4,175 farm HHs to receive new or improved irrigation service during the dry season. Benefitting from the new business model, Mesindo itself has increased their turnover by AUD 136,050 from selling pumps and technical consultation services. The turnover is projected to be increased by at least another AUD 15,000 as two irrigation providers are currently in the process of negotiating a deal on improving and developing the new irrigation schemes in 2018.



Up to December 2018, 87 ISPs have increased their turnover, with total cumulative ISP turnover at AUD 2,469,286. 79% of this growth in turnover is generated through the core transaction in the irrigation market system – delivering irrigation to farmers. Within 2.5 years of implementation, the compound semester growth rate of the ISP turnover has been 151%, confirming that business incentive for the service provider is strong and the commercial model is sound. TIRTA's ISP turnover includes additional turnover from other supporting functions within the tertiary irrigation market, such as Mesindo's technical consulting service, local law firm that provide legal advice to irrigation schemes, and related input retailers TIRTA has collaborated with.



TIRTA worked with 23 partners including 17 irrigation providers. TIRTA's partners have delivered AUD 2,483,047 or 114% against their commitment in the partnership agreements. Specifically for investment in irrigation service, TIRTA has found a high correlation between the irrigation consultation firm's Mesindo's turnover and the partner's' level of investment in irrigation, which indicates that technical consultation provided by Mesindo has enabled further investment in tertiary irrigation services. Responding to the availability of irrigation services, farmers have invested an additional cumulative AUD 3,971,098, confirming that demand for irrigation service is high and essentially required for the farmers to produce a high-value additional season of crops. By the end of December 2018, TIRTA has stimulated an additional investment of AUD 6,454,145 in the tertiary irrigation sector in its target regions.

TIRTA has identified and measured additional impact in two areas directly attributable to new access to irrigation: on farm employment and increased land value. In addition to NAIC, new irrigation services have

increased production activity between 0.25 to 0.50 full time equivalent (FTE) per hectare, per annum. This additional labour therefore can be counted as new on-farm labour employment. Extrapolating the current irrigated area of 2,124 Ha - **TIRTA has created ~1,062 FTE jobs in the last two years**. New access to irrigation has also increased the value of farm land, as it has increased the farm-land production intensity and capacity. A perspective survey has conservatively **shown an increase of 54% or AUD 18,400 per hectare of new irrigated land**. This impact confirms that access to irrigation has generated significant increases in the net-worth of farming enterprises, by both increasing volume of production, and the value of productive assets.

Input companies are conducting promotional and marketing activities in collaboration with 10 irrigation providers, and further expanded their distribution network for quality inputs through 53 retailers across Bojonegoro and Tuban. The new business model of collaboration between irrigation providers and input companies has facilitated two input companies, Hextar and DGW, to introduce and market their new agrochemical products. Together they have conducted 193 marketing and promotional events, and increased their sales by AUD 418,057 by September 2018. TIRTA has observed BASF replicating the business model and introduce new agrochemical products through collaboration with three irrigation providers.

5.3.1 Progress towards systemic change

TIRTA's intervention model aimed to facilitate private irrigation providers to make behaviour changes in the way they set up and manage irrigation services. Specifically to:

1. Invest more to increase the operational efficiency of the irrigation system in order to increase profitability, thus making the business of irrigation provision more attractive, and
2. Invest more to increase the area covered by irrigation services

Given the risks associated with high capital investment required for increasing pump capacity and building distribution networks; complex arrangements with village heads and villagers on establishing an irrigation service fee; and distribution facilities and seasonality issues, these behaviour changes were not at all straightforward for irrigation providers to adopt. After two and half years of intensive implementation, TIRTA has observed signs of progress towards achieving systemic change in its intervention locations:

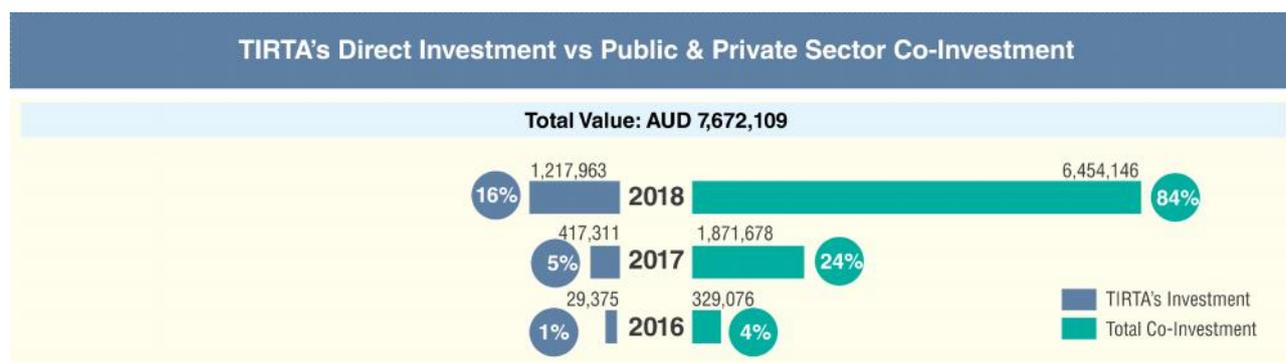
There are positive signs that the tertiary irrigation market is responding to the concept of a fee-based irrigation consulting service. Irrigation providers have started to pay for technical recommendations to improve, design and/or set up their irrigation systems, which is good evidence of behavioural change. After observing the benefits experienced by the first batch of irrigation providers, who have adopted recommendations of technical audits - four irrigation providers have paid for Mesindo's technical services. Mesindo has also received service orders from two independent irrigation providers to set up improved irrigation systems. Irrigation providers have made additional investment of AUD 306,653 beyond the contractual commitment with TIRTA, as a sign of their strong willingness to continue to invest in improving tertiary irrigation services.

There are early signs of 'copying' of technical recommendations provided by the irrigation consulting service provider - Mesindo. Two irrigation providers (non-partners of TIRTA), have copied practices from Mesindo's clients by building new pump stations, installing suction pipes and upgrading pumps. The new business model of collaborating with leverage agents for promoting quality agri-inputs has generated substantial returns for two input companies – Hextar and DGW. By collaborating with 5 irrigation providers and expanding their distribution network, Hextar has achieved additional turnover of IDR 200.27 million (a 100% increase from the year before) and DGW has experienced additional turnover of IDR 1.33 billion (a 150% increase from the previous year) during the first six months of 2018 only.

The success of the business model by Hextar-DGW has influenced another input company BASF, which has started collaboration with 3 irrigation providers as a means of promoting its products in areas currently not serviced by DGW.

5.3.2 Value for money

FIGURE 17– TIRTA's PRIVATE AND PUBLIC SECTOR DIRECT INVESTMENT COSTS 2016-2018



TIRTA's investment leverage shows a stable trend and gradual increase in total co-investment, reaching a ratio of 5.3 by September 2018. For direct investment costs compared to partners' direct investment, the leverage is 2.04. This is expected to increase as partners continue capital investment until December 2018. Through its partnership with irrigation service providers, TIRTA has contributed to developing efficient irrigation systems, in which the majority (~70%) of the investment is in physical irrigation equipment (pumps, accessories), and infrastructure (pump houses and distribution systems). Co-investment from TIRTA has been essential to trigger partner's investment in the sector, starting from investment in infrastructure to supporting operational costs for providing irrigation service to farmers. The investment made on quality irrigation infrastructure is conservatively estimated to last at least 5 years without need for major repair work, which provides a guarantee for continued delivery of quality irrigation.

Partners continue to make additional investments to expand irrigation service, including through existing system improvement and regular maintenance. Four of TIRTA's partners have planned to invest additional AUD 136,185 to increase the capacity of the irrigation system by upgrading the infrastructure and equipment.

FIGURE 18– TIRTA'S SROI AND INVESTMENT PER FARM HOUSEHOLD



As TIRTA has benefitted 10,746 farm HHs, the Social Return of Investment (SROI) is at 0.69 by the end of December 2018. This figure will continue to rise as beneficiaries' net income increases over the coming semesters. As majority of the farmers have only just received new irrigation services in the second semester of 2018, using a conservatively estimated five-year time horizon until 2023 provides a more realistic measure of TIRTA's impact at beneficiary level³². Assuming that farmers will continue benefit through access to quality irrigation services and are able to capture one additional harvest during the dry season, TIRTA's estimated average NAIC is AUD 509.63 per farm HH. After 5 years of implementation, TIRTA's SROI against total intervention cost therefore, will reach 4.16 by the end of 2023, a comparable figure to PRISMA.

³² Conservative estimation by industry expert suggests an irrigation system to continue operating efficiently with only regular O&M cost and without any major capital investment for at least five years"

The investment per farm HH is at AUD 455.20 per farm HH (including total intervention costs). Specific to the irrigation portfolio, from 17 operational irrigation systems, the total investment to irrigate one hectare of rice paddy ranges from AUD 542 to AUD 2,019, depending on the topographical constraints of the area. The value of investment in irrigation systems is much higher compared to other agricultural inputs, as water is an essential requirement for planting rice paddies and has no substitute with other inputs. TIRTA and its partners have built irrigation systems that are considered as cost-efficient compared to other type of irrigation investment across the world in similar context, which ranges from AUD 333 to AUD 6,213 per hectare³³.

6 Cross-cutting Issues

This chapter provides an overview of how the programs have come to integrate key cross-cutting themes, including gender (including Women's Economic Empowerment specifically), environment, disability and other broader inclusion factors.

6.1 Gender

Recognising the critical importance of women as key actors in the agricultural economy in Indonesia, and in support of Australia and Indonesia's strong commitment towards facilitating gender equality, AIP-Rural has since its inception placed a high level of emphasis on including gender effectively at the heart of its programming. AIP-Rural's approach to gender has evolved considerably over its four-year lifespan, echoing the broader MSD industry trend, whereby gender has emerged as one of the fastest progressing areas of design in the MSD field in recent years.³⁴

PRISMA's approach to gender and social inclusion is based on the recognition that women, poorer men, the young or elderly, people with disabilities and ethnic minority groups in the community often lack access to opportunities and resources, and that this impacts negatively on their lives. Although women often play primary roles in on-farm production, they are generally excluded from membership of key decision-making forums. Women are also involved in many value chains, and there is therefore a clear need to improve access to information (especially with issues such as technologies, quality standards and pricing) for all players in the supply chain, based on the differing needs and opportunities available to men and women.

Inefficiencies in both agricultural development and women's involvement can often be linked to weak understanding and communication among different market actors, which ultimately result in inappropriate and ineffective linkages. It is therefore critical for each intervention to be based on an understanding of the specific factors affecting women and the role they play in the production of different commodities, value chains and practices.

Increasingly, AIP-R has come to appreciate the importance of focusing in on the specific aspects of working towards gender equality an MSD program can best contribute to, namely via women's economic empowerment (WEE), which has emerged as a specialist discipline in its own right.

BOX 13: The evolution of AIP-Rural's approach to WEE

In its first year, AIP-Rural's focus was to get interventions up and running. WEE considerations primarily took a '**do no harm**' approach, where the program tried to monitor and minimise any potential negative impact for women arising from AIP-Rural interventions. Later, the program worked closely with Linda Jones, a lead voice in WEE, to shift the program's strategy towards a more 'gender aware' approach. From years three to four onwards, AIP-Rural worked closely with WEE adviser Holly Krueger to 'take stock' of how implementation teams were using gender-disaggregated data. The focus was heavily on using the data to explore opportunities and the business case for segmenting customer groups, as well as methods for communicating these business cases, and brokering deals with partners.

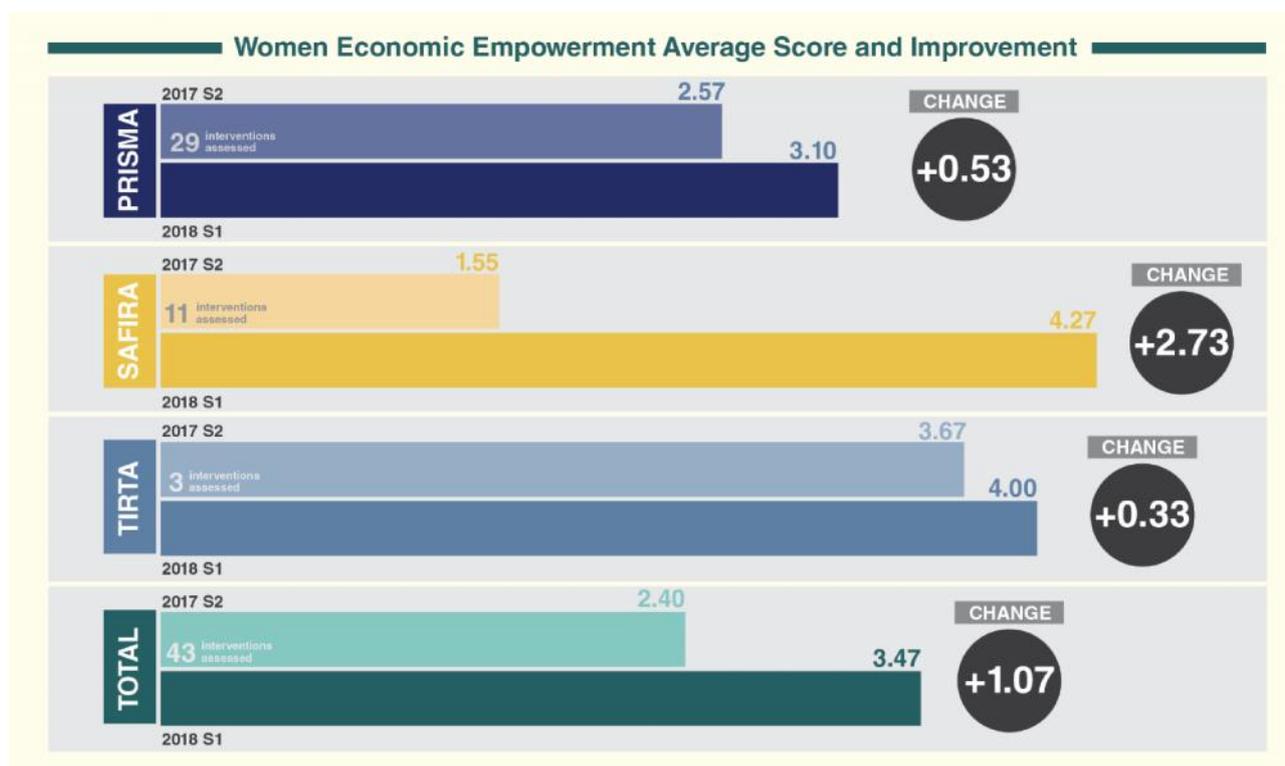
³³ In the PPA paper: Value for Money Analysis in Tertiary Irrigation Sector, described that pump-lift irrigation system built through facilitation of TIRTA are reasonably competitive with other type of irrigation system worldwide. Compared with pump-surface irrigation at 20-acre trial which costs of AUD 1,293 per Hectare, the average pump-lift irrigation system is lower at AUD 1,029 per Hectare.

³⁴ Gender in MSD (or more specifically WEE) has seen the emergence of a wide range of practical new frameworks and grounded international experience such as Linda Jones's papers, the USAID LEO framework, the CARE approach, and the writing to emerge from BEAM, DCED, SEEP, UN and others.

AIP-Rural’s approach and strategy has evolved upon the basis of recognising that women, poor households, the young or elderly, people with disabilities, and ethnic minority groups represent different consumer segments with different characteristics and needs. Understanding this, AIP-Rural has supported companies to implement inclusive marketing strategies into their core business models. PRISMA 2 will expand upon this approach by mapping the behaviours of these groups through more detailed consumer research. This information will be applied throughout the intervention design process, and communicated to partners as a potential market entry strategy. Subsequently, equitable use of agricultural inputs by different consumer groups will be achieved by PRISMA 2 through the provision of strategic advisory services to the programs’ partners. This service will promote inclusive and universal design of products and services which will be implemented by the partners, leading to greater scale and sustainability.

A WEE stock-take was conducted in semester two, 2017 to assess how well AIP-Rural interventions were using and integrate gender data into intervention design, monitoring and learning. Each intervention was scored 1 to 5 according to the level of depth in their strategic use of gender data. This format also allows staff to identify specific action points and goals to better incorporate gender analysis into interventions. As of June 2018, 96 interventions were assessed and despite the variations in depth, 76% were found to have utilised their gender information to inform their intervention design and implementation.

FIGURE 19– AIP-RURAL WEE STOCKTAKE



Responding to the stock-take, a second major focus for AIP-Rural has been building internal understanding and awareness of WEE principles. WEE analysis and monitoring tools were mainstreamed into each step of the intervention development process. This has been vital to support better use of gendered data, and tools to help guide staff to analyse commercial opportunities that can arise from mapping women’s involvement in the sector were developed. Staff were encouraged to integrate their gender information and partners’ inclusive marketing activities into intervention monitoring tools, such as result chains and intervention steering documents (ISDs). Activities leading to WEE objectives can then be documented and monitored. As of the first semester of 2018, nine result chains have integrated gender inclusive initiatives.

AIP Rural is increasingly able to broker deals that target or benefit from a WEE focus through a commercial perspective. Private sector players have an essential role in leveraging women’s inclusion in the market system and will continue to do so as long as they have interest. These interests, or the business case,

must be proven and strengthened in changing their behaviour to be more inclusive to marginalised groups, especially women, and benefit from it. In later stages, we expect this inclusiveness will be translated internally by the partners, by recruiting more women agents and having more women in their corporate structure. As of October 2018, 65% of PRISMA interventions have at least 50% participation of women, and have exhibited some strategic use of gender data in the intervention analysis and implementation with partners. Meanwhile, the remaining 35% still require support in designing gender inclusive business cases for partners.

After initial difficulties to integrate gender information in its interventions and following a pure do-no harm approach, SAFIRA has eventually exceeded all other portfolios in the last semester in terms of progress on gender. Initially the SAFIRA used a do-no-harm approach, but in 2017 it followed the other two programs in using information from SOFIA more strategically. Since 2018, it utilised the I.S. approach to have a broader, more systemic change at the institutional level. To achieve this, SAFIRA utilised WEE adviser, Holly Krueger to develop a commercial case for lending to agricultural women in Indonesia, starting with international metrics and relating them to the Indonesian context. This was followed up with a paper and a session to explore in detail with our partners, SAFIRA also incorporated addressing specific constraints faced by women within the VCF toolkit and therefore, the implementation of VCF across all partners and consulting companies. Finally, SAFIRA updated all its ISDs and internal documentation related to addressing the constraints in women accessing finance, and in technical assistance to partners, worked with them on incorporating the additional consumer market into their approach.

As a result of SAFIRA's work on gender, five partners conducted promotional events to 1,021 women and five partners disbursed loans to 1,316 women in the semester following (Bank Sinarmas, BRI, YARO, Arta Kencana, BPR Central Pitoby, and BNI). Three partners considered the number of female clients and female agents as their institutional KPI target (including TLM, Puskopdit-CU Gema Swadaya and PT BISI). Two SAFIRA partners adopted more secured lending through an in-kind loan scheme that focused on female clients (TLM and PT BISI). Finally, three of SAFIRA's partners involved female agents in their lending scheme. Consequently, 26 female agents were hired (PT BISI, Puskopdit-CU Gema Swadaya, and BNI as collection agents).

For TIRTA, the WEE stocktake shows that the program has continued to improve how gender information is collected, analysed, and used in intervention development. In the second semester of 2017, TIRTA has piloted an inclusive business case on integrated productivity enhancement with Hextar. Using gender analysis, TIRTA identified that 35% of female farmers also take part in deciding what fertilizer to buy. As such, TIRTA convinced Hextar to involve female farmers in its marketing activities (farmers training and expo). It is estimated this approach has increased their direct sales by 5%. Although the business case for inclusion in the fertilizer market is limited, the opportunity cost to involve female farmers is practically inexpensive. During the pilot, TIRTA has learned that collecting and analysing gender information at the design stage is critical to identify potential inclusive business cases, and to give adequate recommendations to partners. Consistent monitoring and support to the partners is also required to increase awareness and ensure that the inclusive business practices are sustained without programs support.

Key learnings on gender from AIP-Rural

- 1. Gender analysis tools should be built and improved iteratively as internal staff capacity evolves.** For instance, the intervention stock-take might be necessary at the start of a program; however, as WEE analysis becomes internalised, the stock-take tool will no longer be required.
- 3. Achieving behavioural change within the organisation requires a wide consensus.** This involves management staff championing WEE principles and practice, as well as familiarising supporting functions (HR and operations) on basic WEE knowledge and strategy. Appointing 'WEE focal-points' within intervention teams, and having an influential member of the senior management lead the direction of gender inclusion strategy, also supports the shift in thinking.
- 4. Integrating gender analysis as an overarching marketing strategy.** Understanding that commercial opportunities can be derived from gender-related constraints, such as appropriate marketing for products, is an important step in supporting teams to use gender analysis and data to suggest relevant marketing mix strategies to partners.
- 5. Having an evidence-based approach by increased utilisation of available data.** Baseline research and impact assessment yields many commercial data that is useful for partners. Nevertheless, the feedback loop from these studies to partners, to prove and improve the gender business case, needs to be strengthened.

FIGURE 20– COMMERCIAL OPPORTUNITIES FOR WOMEN’S ECONOMIC EMPOWERMENT



6.2 Disability and Broader Inclusions Factors

Addressing disability and other broader inclusion factors (such as ethnicity and geographical isolation) remains more of an emerging area of work for MSD. Unlike WEE, international best practice and guidance is very limited, and AIP-Rural has thus had to work hard to bridge the theoretical gap with bespoke internal design solutions.

Work on an initial AIP-Rural disability strategy began in August 2016; however, this failed to define the intersection between disability and MSD clearly, delivering limited utility in practice. The experience did, however, make two points clear: (1) far greater understanding of disability characteristics, constraints and opportunities specific to AIP-Rural's beneficiary profiles (rural, poor, eastern Indonesia) was needed; more fundamentally, far more robust methods for identifying this particularly beneficiary group were also required; and, (2) the potential for MSD to intersect with these constraints and opportunities needed to be explored from a commercial feasibility perspective.

In response, the teams trialled a number of different disability identification methods. The most success was with the World Health Organisation's (WHO) ability-based question frame which, echoing the research, was found to immediately improve the program's ability to match expected disability prevalence rates with beneficiary profiles than direct disability- or health condition-driven enquiry frames (% increase in tested sectors).

Building on this, an AIP-Rural-focused disability study was undertaken in 2018, with a strategy to follow which addressed the need to explore the specific characteristics of disability profiles found within AIP-Rural's sectors. Some of the major points of learning to emerge from this new study and draft strategy were:

Key learnings on disability from AIP-Rural

- 1. Defining and capturing disability definitions in a consistent way is a critical first step towards better targeting.**
- 2. Simple inclusive design improvements often result in advances to multiple inclusion factors.** Effective interventions will work to understand the clients in general, to assess where the most potential for improved business models exist. Elderly farmers for instance, are a potential source of 'lost capture' that could be explored further in PRISMA-2.

6.3 Environment

Being agriculturally focused, AIP-Rural inevitably faces various kinds of environmental risks, both to (activity design), as well as from (impact from environmental change), the environment. Although AIP-Rural does not focus directly on environmental markets, it has nonetheless been important for the program understand the environmental context, both to maximise and capitalise upon any possible positive environmental benefits, and to minimise potential risks.

In response, **PRISMA and SAFIRA's Environment Management Strategy (EMS) was developed in line with DFAT's 2014 Environment Protection Policy for the Aid Program,** and follows the six main environmental principles, ranging from 'do no harm' through to promoting improved environmental outcomes. The strategy was more recently updated in the first semester of 2018 to expand beyond a predominantly compliance-focused approach towards more actively incorporating environmental issues into existing and future intervention design, incorporating an Environmental Life Cycle Impact Assessment, moral and environmental hazards, and an Environmental Smart Checklist.

Based on the EMS Environmental Desk Assessment evaluations, the PRISMA-SAFIRA portfolio has posed acceptable levels of risk to the environmental and has a relatively high but largely unavoidable risk of exposure from the environment (see Table 5 below). Further details of the methods used for these assessments can be found in AIP-Rural's EMS report.

TABLE 5– SUMMARY VIEW OF ENVIRONMENTAL ASSESSMENT ACROSS THE AIP-RURAL PORTFOLIO (SAFIRA AND TIRTA)

Environmental Desk Assessments conducted across interventions

	# Intervention	# Assessments conducted	# Assessments on-going	# New this semester
PRISMA	146	76	0	8
SAFIRA	16	3	0	0
TIRTA	21	18	0	0

Risk of negative impact to environment

	Low	Low-Moderate	Moderate	Moderate-High	High
PRISMA	47	2	27	0	0
SAFIRA	2	0	1	0	0
TIRTA	18	0	0	0	0

Exposure to environmental risk

	Low	Low-Moderate	Moderate	Moderate-High	High
PRISMA	15	8	51	0	2
SAFIRA	2	0	1	0	0
TIRTA	18	0	0	0	0

Combined, the moderate risks cluster noted above (accounting for roughly 17% of the combined PRISMA-SAFIRA portfolio) largely relates to PRISMA-SAFIRA’s chemical input interventions (working with pesticides and fertilisers), where there is potential for product side effects and leakage/run-off to the environment, given the risk that farmers do not always follow the proper dosing or usage instruction as indicated by partner companies (such as Syngenta, BASF, Rainbow and others). Aside from these, other interventions in the moderate category include interventions in sectors already posing environmental risks that might be further triggered by intensification (e.g. livestock and marine fishery).

To reduce this risk, the program has actively adjusted the intervention design to include a focus on raising farmers’ awareness of health, safety and environment (HSE) issues, encouraging, for example, good agricultural practices. The program has also devised a roadmap to assess the environmental impact of its interventions, particularly those which play a significant part in contributing towards the project’s portfolio.

As of the end of this phase, a more recent initiative by the program has been a stock-take of the chemical/input-related products in collaboration with CSIRO. The initiative aims to generate a complete list of input products endorsed by the project, have it reviewed thoroughly by competent bodies, and decide which products to carry over into the second phase. The initiative is currently in progress and waiting for CSIRO’s input before it can be further escalated to the next planning stage.

TIRTA has implemented an environmental management system that complies with both Indonesian and Australian law. As per Indonesian law, TIRTA conducted both Environmental Management Measure (UKL) and Environmental Monitoring Measure (UPL) assessments under the Indonesian environment assessment system, through the Bojenogoro public works department.

TIRTA also developed and applied its Environment and Social Safeguards Strategy (2018) and other guidelines including a self-assessment tool, and mitigation and management of issues. Significant risk screening conducted for all activities according to Indonesian and Australian law detected no medium-to-high environmental risks from TIRTA activities; there was therefore no requirement by law to conduct formal

assessments. TIRTA commissioned independent environmental assessment found no adverse impact to environment caused directly or indirectly by activities undertaken by TIRTA. In addition, CSIRO provided some advice and modelling early on which was invaluable. However, concerns remain about the cumulative water extraction from the Solo river.

7 Operations, Finance and Administration

AIP-Rural has evolved considerably over the years, and its operation, finance and administrative systems have naturally also had to evolve to meet these changes. This chapter sets out a record of the operational, financial and administrative approach and history of the programs, including an analysis of how this has evolved over time, and the interplay between these systems and technical implementation.

7.1 Staffing and Human Resources

7.1.1 Staffing Structure

AIP-Rural's staffing structure has evolved considerably since the start of the program. Overall key structural changes for the three programs are discussed in the approach section above, with the most significant milestone for all programs being the mid-term review (MTR), where common operations and MRM systems were unified into one platform to realise synergies and reduce duplication. The integration of those systems had begun in practice before the MTR, but when official endorsement was given, accelerated with fuller integration. The integration process has been a success by almost all accounts, significantly simplifying operational and administrative support to the three programs; however, areas of duplication remained as performance and financial reporting were still needed to be done separately for the three programs against two head contracts.

A key accomplishment for achieving a 'one team' culture has been the mentor scheme, where managers in all three programs cross-mentor other sectors that they don't directly manage. This system has helped to foster a sharing of lessons learned and approaches across portfolios as well as programs, to increase a sense of solidarity among the different teams, as well as providing fresh perspectives and ideas for interventions. The scheme was expanded from semester 2 of 2017 from primarily being conducted by Heads of Portfolio and Team Leaders, to include Principle Business Consultants (PBCs) as mentors. This had the benefit of increasing interaction between portfolio teams, as well as equipping PBCs with more of the skills necessary to graduate eventually into a HoP position.

Operations, finance and administrative staff are just as integral to delivering MSD successfully. An explicit policy to ensure that staff bonuses are shared equally among all staff and not just intervention teams has been a well-liked, effective policy to strengthen a 'one team' culture at AIP-Rural. To mentor and build capacity in the Operations, Finance and Admin teams, the Head of Operations has provided mentoring and coaching in the following areas:

BOX 14: Building program management skills

Managing a program of the scale and complexity of PRISMA requires a set of skills that are not commonly found in the local market. AIP-Rural was the first MSD program to operate in Indonesia, operational and financial systems, processes and SoPs needed to be adapted to the unique context, including evolving performance indicators and reporting requirements from the donor. Training and mentoring was provided in the following areas:

1. General Management

The HOF has worked closely as mentor to the operations managers on general management of teams. This has been done bi-laterally and on a regular basis. The focus has been on pragmatic decision making, and the motivation of teams to produce results.

2. Budget Management

The HOF has worked closely with the Office and HR Managers to develop and manage their budgets. Separate tools and processes were developed due to the different nature of the two budgets.

4. Procurement and Contracting

General training in procurement and contracting was provided to the broader operations team with advanced training provided to Admin and Procurement. When a specific issue was identified, the HOF would meet with the relevant staff and go through the issue using it as a case study. This was conducted on a regular basis and has, over time, reduced in regularity as capacity improved. Since the start of 2018, further training has been provided by Operations and Finance specialist who has had oversight of the procurement process.

5. General Administration

The HOF provided group training in more specific areas however the majority of general training was done first with the Office Manager, and then the Office Manger held group training with her team. The Office Manager used 'all staff' gatherings as an opportunity to bring her provincial office assistants to Surabaya and conduct training. Much of the training was provided by the Office Manger however, in a bid to engage all admin staff and ensure multi-skilling across the team, different staff were appointed to provide training in their specific area – e.g. travel, asset management etc. This has built the capacity of the team, particularly those staff in the provinces, and allowed AIP-Rural to increase the number of tasks performed in the provincial offices. Staff feedback indicates that this resulted in more interesting work and greater job satisfaction.

6. Human Resources Management

Until relatively recently the HR team consisted only the HR Manger and an HR Consultant. The HOF worked closely with the HR Manager, providing mentoring and coaching to build capacity. The HR Manger has shown a large and marked increase in capacity as a result.

Integrating the Results Measurement team into each portfolio team also had significant impact on AIP-Rural's staff structure and culture. Each sector team has an RM focal point, and the sector teams themselves (as opposed to measurement specialists) are expected to gather data sourced from the businesses and government agencies PRISMA works with. The program's results measurement manual mentions this explicitly.

PRISMA's experience recruiting, training and retaining key staff are captured in section 6.1.2 below.

For **SAFIRA**, initial recruitment was more traditionally focused in terms of fulfilling skill and experience sets. The review of the program in 2016 led to significant changes in the team make-up and structure, which account for the high turnover rate in 2016 when both local staff were replaced. In 2017, SAFIRA staff were recruited under the cohort system (cohort 5) and followed the same intensive induction process as PRISMA.

TIRTA went through a restructuring process in early 2017. It streamlined its structure with clearer roles, focused responsibilities and specific targets for its team members to align with its strategic shift. It also replaced staff with a core belief in a traditional approach with new recruits who had a more analytical and business-oriented attitude. TIRTA maintained a good balance of experience and skills, with a combination of seasoned staff and fresh graduates (with one to two years of experience) with an open mindset, staff with irrigation knowledge, and people with business experience.

AIP-RURAL STAFF SNAPSHOT AT OCTOBER 2018

AIP-Rural's Finance and Operations group promoted 4 staff, and today consists of Finance (5), Operations team - comprised of Admin (11), Procurement (3), HR (3) and IT (2). MIS (4), and Communications (4) teams, as well as one Liaison Officer – to a total of 33 staff.

PRISMA has successfully promoted four Indonesian staff to Head of Portfolio, seven to Principle Business Consultants (PBCs), and 17 staff to Senior Business Consultant level (SBCs). As of 31 October 2018, PRISMA has 6 PBCs, 25 SBCs, and 22 staff at Business Consultant level and four Provincial Managers (total 57).

TIRTA has one Principle Business Consultant, three Senior Business Consultants, four Business Consultants and one Irrigation Specialist (total nine).

SAFIRA has one Principle Business Consultant, four Rural Finance Specialists and two Business Consultants (total seven).

7.1.2 Recruitment, Capacity Building, and Performance Management

Organisational culture and performance management

Creating and nurturing a culture of learning is fundamental to successfully implementing the MSD approach. Staff need to learn to accept failure as part of the process of learning and continuously improving both their own understanding of market dynamics and the program's approach to addressing key constraints. Building a culture that rewards and incentivises the sharing of knowledge and mutual accountability for results, while avoiding pitfalls (including 'over-attachment' to interventions, unhealthy competition and perceived status tied to achievement of outreach) is in many ways the 'magic ingredient' for a successful market development program.

Staff are the program's most valuable asset, and one of its most potentially impactful legacies for Indonesia. AIP-Rural has worked proactively to build up the capacity of local talent and mentor staff identified as having the potential to be future managers within the program. Palladium adapted its Talent Management Policy and associated performance management tools for the program to support the achievement of this goal and equip managers with a system that effectively recognises talent and enables succession planning to manage overall program resourcing.

Key learnings from inducting staff to AIP-Rural

- 1. Lead by example.** Senior staff should admit failure and encourage others to do the same.
- 2. Anticipate failure.** When projecting results of MSD interventions, programs should assume that a proportion of interventions will fail.
- 3. Avoid attachment.** Remind staff that their responsibility is to work towards impact (for MSD programs, this means benefiting poor women and men). Achieving impact requires building relationships with others, but these relationships should adapt or end if they no longer contribute to impact.
- 4. Make it easier administratively to test new ideas.** Pre-approved budgets for action research can reduce the bureaucracy that often deters staff from testing new ideas.
- 5. Reward adaptive behavior in staff appraisal.** Reward staff who act flexibly when the program or the market system changes, and who think critically and use evidence for decision-making.
- 6. Get a third-eye view.** Staff who are still tempted to hide failure will be deterred if the program's quality control processes are likely to uncover it.

Recruitment

AIP-Rural is one of the largest MSD programs in the world in terms of both contract value and number of staff. When the program commenced in 2013, it was the first time the MSD approach had been applied in Indonesia. There was no local capacity to deliver the approach, so resourcing the program and building the capacity of the staff once recruited was core to the program's success. The PDD for AIP-Rural recognised the lack of local capacity for M4P skills, and saw AIP-Rural's recruitment strategy as highly important, given the lack of domestic capacity.

Leading an MSD program is by no means a straightforward task. Each MSD program needs to adapt nearly every aspect of its operation and strategy to the specific local context, and no two interventions are the same. A deep understanding of the technical approach, and a different set of skills is required to guide the program throughout its analysis and capacity building phase, the intervention development phase, all the way through to scale-up and targeting greater systemic change in the later stages of the program. Championing a culture of learning, and accepted tolerance for mistakes and failed ideas is essential. AIP-Rural found that having technical experts who were familiar with the private sector development space, but less experienced in leading MSD programs produced challenges when following the Design brief wasn't producing results, and required a bold change of strategy.

PRISMA encountered challenges recruiting its first cohort of intervention managers. Many of the 1,400 applicants had expertise in PRISMA's initial target agricultural sub-sectors, and experience working for development programs. Despite applying MSD-focused selection criteria, many of those hired were accustomed to directly training farmers, and unable or unwilling to persuade agribusinesses to take on this role instead. Within 18 months, 56% of the first cohort had left, often because their contracts were not

extended. Out of the remaining 10 staff however, there were successful individuals who are still with the program. Learning from this, the program revised the recruitment process for the second cohort of business consultants. With less time pressure, and some initial traction and 'brand awareness', PRISMA was able to attract candidates other than development practitioners. Instead, PRISMA looked for excellent, business-related university degrees, interesting extracurricular activities, and the ability to work in teams.

PRISMA's second and subsequent cohorts of intervention managers have on average performed better and stayed at PRISMA for longer. Whereas just 44% of cohort 1 intervention managers worked for two or more years at PRISMA, 77% from the next two cohorts have done so. At the end of Sept 2018, cumulative turnover for the period 2014-2018 averaged 12.16%. AIP-Rural's recruitment strategy was further refined over five years and five cohorts of new staff to target leading universities in a more structured approach, and the assessment process (outlined below) was fine-tuned to identify the candidates with the right skills and potential.

Key challenges for AIP-Rural in retaining talented staff include (1) 'running before walking': very high expectations of the role and level of strategic engagement from very early on for new staff, and a reluctance to do some of the more mundane aspects of managing field interventions, (2) office location: many young, ambitious staff have social lives revolving around Jakarta and are forced to make not insignificant social sacrifices to move to Surabaya, (3) providing enough opportunities for career advancement, while balancing the needs of the overall program with modern expectations that graduates only stay two years or so with one employer.

There were two main reasons for the high turnover experienced for cohort 5. When staff were hired, they joined PRISMA thinking that the program would end after little more than one year. They also joined with the expectation that they would do strategic work and act as consultants to their private sector partners. In reality however, most interventions were in a mature stage of implementation and not much strategizing was needed.

AIP-Rural experienced challenges in recruiting senior staff to lead the Operations and Finance teams. Notably, recruiting for a local deputy head of Operations and Finance proved to be unsuccessful after several attempts, including after using a professional head-hunter. Key reasons for this included: the unique nature of operations and financial management of an MSD program - no other firm or program in Indonesia has the same demands and requirement for constant problem-solving, innovation and adaptation to meet the evolving nature of complex partners, partnerships, and risks, while complying fully with Commonwealth Procurement Rules. Finding individuals that had broad-based experience across the areas of operations, financial management, human resource management, and general administration also proved to be futile, all candidates had expertise in one or more areas only, and finally – recruiting from the traditional development practitioners pool also produced no candidates with the sufficient skills or experience. In response to this, Palladium will put a greater emphasis on building internal capacity to be able to take on senior roles in this team for PRISMA 2.

From 2014-2017 there were five major recruitment cohorts. Table 6 summarises the number of staff recruited during each cohort. It should be noted that cohort recruitment focused primarily on implementation staff. The short-listed recruits were tested over a two-day period; this testing comprised case studies, individual and team presentations, roleplay, interviews and supporting psychometric testing. Assessors looked for confidence, interpersonal skills, leadership potential, presentation skills and analytical skills. Operations and finance staff were recruited separately and undertook more traditional induction training. AIP-Rural had an average of 30% staff turnover throughout the life of the program. Operations and finance staff by comparison had a 9.94% average turnover for the period 2013-18.

TABLE 6– AIP-RURAL STAFF RECRUITMENT

Cohort	Hiring date	# of implementation staff recruited	# of leavers
1	April 2014	18	10
2	March 2015	15	2
3	January 2016	16	8
4	October 2016	14	3

5	September 2017	28	7
Total cohort recruitment		91	30
Total operations and finance		33	11
Total MIS and communications		14	5
Grand total		138	46

Key learning from recruiting high-performing staff for AIP-Rural

- 1. Recruitment based on competencies and potential, rather than proven experience is an effective method for identifying candidates who can master the MSD approach.** Extensive skills-testing and rigorous vetting during the recruitment process enables those with the right attributes to be identified.
- 2. Recruiting staff in large cohorts enables efficiencies and effectiveness gains from streamlined training, peer-learning and internal allocation of resources.**
- 3. Anticipate initial high failure rates, recruit larger numbers than needed to compensate, and use a robust personnel management system to early exit poor performance in a fair and consistent manner.**
- 4. An extensive induction program that focuses on core M4P theory needs to be complemented with practical application of the theory through on-the-job coaching and mentoring.**
- 3. Leading an MSD program requires a particular set of skills and experience which are more important than technical know-how such as finance or irrigation knowledge.**

Capacity Development

One of the foundational components of the Capacity Building Plans was the development of an induction program that focused on building the capacity of staff in M4P technical skills from the ground upwards. The difference between this and more traditional induction programs is the duration and the comprehensiveness of the training. PRISMA undertook five inductions over the lifetime of the program (refer to Table 7). The first program was the most comprehensive and took four months, due to the lack of M4P experience in Indonesia and the fact that interventions needed to be developed from scratch. Subsequent inductions used an ‘internship’ approach where the basics were learned during a four-week induction followed by on-the-job training.

TABLE 7– TIME TAKEN TO INDUCT STAFF INTO THE M4P APPROACH

Induction	Total M4P days	Total admin days	Field days	Total weeks
1	80	5	20	22
2	7.5	3	2	3
3	6	7	2	3
4	4	9	2	3
5	14.5	1.5	6	4

In preparation for the final induction training for cohort 5, an assessment of the previous induction programs was undertaken and found a gradual dilution and fragmentation of the M4P theory and key messages, and a focus towards internal processes and procedures (as shown in the table above). The assessment determined that to ensure learning outcomes and to give a good grounding in M4P theory, with a sufficient level of competence for staff to be able to further gather the necessary on-the-job skills, at least 60 sessions (equivalent to 14.5 days’ training) needed to be dedicated to the M4P cycle. This was undertaken during the final cohort induction and received excellent participant feedback.

Key learnings for capacity development from AIP-Rural

- 1. Sufficient resources need to be made available to allow for the focused M4P induction of new staff.**
- 2. The training needs to be integrated using a building-block, or step-wise approach, and is best delivered by a dedicated, experienced MSD facilitator.** Not all managers make good mentors. Good mentors need to be identified and mentoring being identified formally as a key part of their role.
- 3. Induction is just a starting point and further skills development needs to be implemented through a structured capacity building program.** Performance management should not a one-off annual process, but should be an ongoing conversation between the manager and the new staff member.

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8 Conclusions

AIP-Rural has played a meaningful role in supporting the governments of Australia and Indonesia to achieve positive and sustainable, pro-poor outcomes for farming households in eastern Indonesia.

The suite of programs under Palladium's management have met or exceeded all major performance indicators, delivering credible results that can be confidently attributed to the program's activities, and verified through a robust, proven results measurement system.

PRISMA, SAFIRA and TIRTA have proven that the MSD approach can be successfully adapted to the Indonesian context, and can be used to achieve results in very different sectors and commodities. PRISMA has shown that results can be achieved at scale in traditional agricultural commodities that are important to Indonesian smallholders, with value for money indicators that compare favourably with other MSD programs globally at this stage of maturity. The individual experiences and lessons-learned from applying the MSD approach to achieve results in the tertiary irrigation market and VCF market in eastern Indonesia (which are summarised section 4.2, 4.3 and 8.2 and 8.3 below) have pushed the boundaries of how MSD can be meaningfully applied to achieve results in the areas of rural finance and irrigation infrastructure.

The size of the program in terms of number of staff has been an important factor in enabling AIP-Rural to build a portfolio of diversified interventions, establish its reputation in the market, and build and maintain the key systems that together form the backbone of the adaptive management approach. Key lessons have been learned in how to attract, retain and build the capacity of the next cadre of Indonesian leaders to take on senior leadership roles. While maintaining a sizeable pool of highly capable staff has numerous challenges, AIP-Rural's reputation has helped significantly to reach out to a broader pool of qualified candidates.

MSD is a skills-intensive approach requiring time, effort and a culture of learning to convert theory into practice. No two interventions are the same. The ability to analyse market constraints, diagnose problems, find partners, and then influence them to change their behaviour, all the while staying conscious of the program's own role in the market system - to avoid inadvertently crowding out or replacing legitimate market functions – is a skillset that takes time and practice to nurture. There is no short-cut to experience, and the program has benefitted enormously from a cadre of highly experienced advisors, mentors, and leaders to build the capacity of the team, and support both donor and implementer to achieve the results recorded to date.

³⁸ Palladium raised this matter with DFAT's Child Protection Unit during a training session led by DFAT.

Integrating the three programs to the maximum extent possible under current contractual conditions has paid significant dividends, both in terms of delivering operational efficiencies and ensuring skills, experience and knowledge are shared across AIP-Rural. The mentoring system has helped to ensure a consistent approach to designing and delivering quality interventions; fostered a culture learning and open discussion on the merits and challenges of AIP-Rural's diverse interventions across its 63 sub-sectors, and helped to build mentoring skills and capacity in senior portfolio staff to prepare them for HoP positions. For the operations and finance team, efforts to invest more dedicated resources to build staff capacity to take on senior roles will take a step-up in the next phase.

Ensuring that portfolio staff are equipped with the necessary skills and information to be able to better forecast expenditure and manage budgets will also be an area of focus in PRISMA 2. Although MSD programs by nature are far harder to accurately forecast for as activities are delivered through third parties that often are experimenting with innovative, new models (see section 7.2.1) – the program has identified a capacity gap in traditional program management skills (including financial management) which will be addressed through a structured package of training and mentoring in the next phase.

On the technical side, the program has invested significantly in building and refining its knowledge, skills and capacity to influence behaviour change in a wide range of partners. The program's results to date have been achieved by working with national, provincial and district government stakeholders, and with businesses large and small to deliver products and services that benefit the poor. The increasing amount of indirect impact recorded, partner investment, and observed signs of systemic change indicate that AIP-Rural's deep understanding and analysis of the market context is highly valued by the market. Adapting the MSD approach to Indonesia has required committed and adaptive management to implement several major shifts in strategy, structures and resources to deliver results in a dynamic and rapidly changing context.

The team is AIP-Rural's greatest asset, and potentially one of its greatest legacies once the program comes to a conclusion. The program now has 50% of its HoPs represented by Indonesian staff, two of whom have come up through the program. The team have built a diverse portfolio of interventions that provide a strong platform to expand and scale-up impact in PRISMA 2, and will benefit from the guidance and mentorship of highly experienced MSD practitioners as the program looks to think and work in new ways to design interventions that target higher-level systemic change in the next phase.

8.1 PRISMA

PRISMA had been the 'engine room' of AIP-Rural, delivering the greatest share of impact and driving the program's reach and influence in the agricultural market system in eastern Indonesia. From one of the most rapid start-ups for any project of this size and complexity, PRISMA has evolved and adapted its core processes and structures to exceed its targets, delivering a diverse portfolio of high quality interventions.

The program has established a reputation for itself as being a trusted partner, providing quality market analysis and well-designed support, while minimising inherent risks associated with the development model. Several of PRISMA's key partners now look to expand collaboration to multiple sectors and regions, with some adopting new national-level strategies as a direct result of PRISMA's activities. The more recent shift in emphasis towards equitable, trust-based, mutually beneficial relationships is captured in PRISMA's new 'building partnerships for impact' field guide for implementation staff.

Successfully delivering MSD requires adaptive management and systems that are fit-for-purpose. PRISMA's leading intervention design process, QMT, RM system, MIS as well as a raft of operational and finance procedures, processes and templates that form the backbone of the program have evolved

considerably in response to continuously changing internal and external dynamics. Operations and finance tools and processes, such as contracting templates, may be less exciting than the portfolio management tools, but are no-less critical for practically implementing the MSD approach. PRISMA's tools and processes support and enable the volume and complexity of the programs' diverse partnerships, while minimising risks and complying with DFAT's Commonwealth Procurement Guidelines. Looking forward to PRISMA 2, where larger, even more complex partnerships are envisaged – PRISMA's culture of continuous learning and improvement will be essential for reaching the ambitions for the next phase.

A key lesson-learned across the three programs has been that interventions targeting only one key constraint in a silo are less likely to be successful, compared to structured interventions that target several key constraints that are most relevant for smallholder HHs. SAFIRA's interventions for example were more impactful when working with farmers that were already looking to invest in new seeds, GAP, or applying other agricultural innovations introduced by PRISMA. Similarly, for TIRTA, while targeting irrigation alone delivered results - combining this with a broader initiative to support farmers yielded strong results. PRISMA 2 will remove any remaining constraints to fully integrating these thematic areas under one program. This will allow the program to increase the number of options in its box of tools, and deliver comprehensive interventions that target a number of key constraints – depending on the need. Similarly, working with partners in cross-cutting areas, moving away from a focus on individual commodities should also yield greater results, and further improved efficiency.

8.2 SAFIRA

SAFIRA has successfully piloted an innovative model in Indonesia. It has demonstrated that the MSD approach can be adapted to stimulate meaningful behaviour change in the agricultural finance market in a new context. After a change of strategy, SAFIRA has also generated substantial evidence that VCF is a relevant product to Indonesia, with significant potential to reach impact and system change at a national level.

From a practical implementation perspective, valuable lessons have been learned about the risks and opportunities involved in delivering VCF. Small but significant changes to due-diligence processes to select off-takers, practical tips on building capacity in partner consultancies to deliver VCF themselves, and key documents including the VCF toolkit are notable legacies from SAFIRA's efforts to facilitate widespread adoption of VCF. The Institutional development strategy was effective because it created large gains in terms of:

-)] **Institutional and systemic change:** Sector projects then arise through this process as a means of testing, learning and developing core business practices, systems and human resources.
-)] **Staged and interactive interventions which sometimes start with lighter engagement (such as a PRISMA intervention in need of finance) and build upon it by working alongside the partner**, rather than attempting to lay out a complete plan from the outset. This re-emphasises careful facilitation which is centred around behaviour change, ensuring that activities are adapted accordingly.
-)] **Institutional development of consulting services** as legacy-supporting functions to the VCF market system.

Overall SAFIRA was able to have a larger than expected impact in a short amount of time due to its systemic approach and work in supporting partners across multiple subsectors. The program has been able to support a number of diverse partners to adopt and integrate a new product, as well facilitate consulting companies to take up the product offering. In addition, SAFIRA's knowledge sharing has been paramount to the role of the program as one geared towards learning and generating information about successful VCF.

8.3 TIRTA

As one of the few tertiary irrigation projects applying market systems development approach, TIRTA consolidated its efforts to adapt, learn and achieve systemic change in the specific, thin-market context of east Java. Notwithstanding the challenges the project has faced in pioneering the MSD approach in a new market and technical area, it has been able to build a critical mass of irrigation service providers with improved capacity

and links to critical supporting functions. This is expected to foster the expansion of private sector-led tertiary irrigation, at a minimum in the locations that TIRTA has worked in.

With an effective 2.5 years of implementation, TIRTA's activities show initial signs of systemic change through changed behaviour from irrigation providers, actors in the supporting service market and from farmers with newly irrigated rice fields. In terms of the facilitation approach, TIRTA has successfully demonstrated an innovative model of co-investing in physical assets within a market systems framework. TIRTA's model has worked well in its specific context, but the nature of the thin, disconnected tertiary irrigation market system in eastern Indonesia makes autonomous scale up of the model in other areas challenging.

There are considerable opportunities to use the learning generated by the program, and adapt the overall concept in other contexts for tertiary irrigation however, including working on improving efficiency and expansion of ground water irrigation services for instance. There is also compelling case for intervening in tertiary irrigation markets using the MSD approach from a value for money perspective, as it is able to achieve high, sustained income increases for farmers and very high partner investment leverage ratios at a cost-efficient level, compared to 'regular' MSD interventions, and other comparable tertiary irrigation projects aiming to achieve a similar objective.

Annexes

Annex 1 – PRISMA, SAFIRA, TIRTA KPI Tables

PRISMA KPIs		
KPI	Cum. Y18S2	Inc. Y18S2
1 # Outreach (all farming HHs)	319,734	98,304
1b # Outreach (< USD 2.50 PPP)	209,578	57,550
2 Net income impact in IDR (all farming HHs)	1,571,269,167,046	151,705,265,899
2b Net income impact in IDR (< USD 2.50 PPP)	1,025,962,242,760	68,548,153,957
3 # SMEs with increased turnover	9,425	4,530
4 Increased turnover SMEs in IDR	563,812,435,269	214,793,597,893
5 # Innovations/interventions	145	3
6 # Initiatives by government to improve BEE	30	3
7 # Intervention partners (public and private sectors)	133	11
8 Private partner co-investment in IDR	80,415,548,037	23,193,088,759
- Farmers investment	770,993,816,459	574,645,632,836
- Total private sector investment in IDR (private partner inv. + loan disbursed + farmers inv.)	851,409,364,497	597,838,721,595

SAFIRA KPIs		
KPI	Cum. Y18S2	Inc. Y18S2
1 # Outreach (all farming HHs)	9,764	7,034
1b # Outreach (< USD 2.50 PPP)	6,276	4,511
2 Net income impact in IDR (all farming HHs)	48,868,834,033	39,125,751,876
2b Net income impact in IDR (< USD 2.50 PPP)	29,755,508,833	23,441,931,497
3 # SMEs with increased turnover	83	25
4 Increased turnover SMEs in IDR	41,897,842,786	24,636,700,903
5 # Innovations/interventions	15	-
6 # Initiatives by government to improve BEE	3	-
7 # Intervention partners (public and private sectors)	17	-
8 Private partner co-investment in IDR	2,757,311,687	1,659,038,707
- Loan disbursed by private partner in IDR	182,064,804,559	13,713,885,340
- Farmers investment	3,669,831,305	455,909,500
- Total private sector investment in IDR (private partner inv. + loan disbursed + farmers inv.)	188,491,947,551	15,828,833,547

SAFIRA - SPECIFIC KPIs		
SKPI	Cum. Y18S2	Inc. Y18S2
1 # HHs who have received finance based on our intervention(s) (directly and indirectly)	18,723	2,245
2 # farmers with increased income	9,764	7,034
3 # farmers who benefit from inputs purchased	7,872	4,898
4 # SMEs/ISPs which receive finance and on-lend	83	25
5 # financial institutions which increase agricultural lending by a significant amount	9	4
6 Percentage of non-performing loans in partner Fis*	0.09%	0.09%

*number of non-performing loans compared to total number of disbursed loan by partner PFIs

TIRTA KPIs		
KPI	Cum. Y18S2	Inc. Y18S2
1 # Outreach (all farming HHs)	10,746	6,061
1b # Outreach (< USD 2.50 PPP)	7,142	3,983
2 Net income impact in IDR (all farming HHs)	42,847,470,970	26,987,944,887
2b Net income impact in IDR (< USD 2.50 PPP)	26,893,858,400	15,462,071,533
3 # ISPs with increased turnover	87	26
4 Increased turnover ISPs in IDR	26,492,855,890	17,767,823,534
5 # Innovations/interventions	21	-
6 # Initiatives by government to improve BEE	1	-
7 # Intervention partners (public and private sectors)	23	-
8 Private partner co-investment in IDR	24,830,474,731	6,848,342,789
9 Farmer's Investment in IDR	39,710,981,667	27,272,066,697
Total Co-Investment in IDR	64,541,456,398	34,120,409,486

Annex 2 – PRISMA’s Public and Private Sector Partners

PRIVATE PARTNERS			
No	Partner Name	Interventions Related	Programs Related
1	Badan Usaha Milik Daerah Yapen Mandiri Sejahtera	4SDA	PRISMA
2	Bank Jatim	1FHA, 1FHB	PRISMA
3	Bank NTT	31CG, 3CEB	PRISMA, SAFIRA
4	Bank Papua Cabang Biak Numfor	4SDA	PRISMA
5	Bank Papua Cabang Fakfak	5SDA	PRISMA
6	Bank Papua Cabang Kepulauan Yapen	4SDA	PRISMA
7	BASF	1ESA, 1PTD, 1SNC, 2SNA, 4REA, 5REA	PRISMA
8	Bejo Zaden BV	1STE, 2STD	PRISMA
9	Biara Susteran Kompanionis Pelayan Maria	3PGA	PRISMA
10	Cassava Supplier (Taman Organic and Pak Amir)	1CAB	PRISMA
11	Central Ternak Bajawa Flores	3PGA	PRISMA
12	CropLife Indonesia	1STB, 2STB	PRISMA
13	CV. Agro Makmur Mandiri	2SNC	PRISMA
14	CV. Anjas	3PTA	PRISMA
15	CV. Bintang Tani Sejahtera	2SNE	PRISMA
16	CV. Dirgajaya Teknik	3PTB	PRISMA
17	CV. Evadian	3SDA	PRISMA
18	CV. Intan	3MEB, 3MED	PRISMA
19	CV. Kakao Kita	4COA	PRISMA
20	CV. Mazu Seaweed	3SDD	PRISMA
21	CV. Nusa Permai	3CTA	PRISMA
22	CV. Peduli Kasih	3CWA	PRISMA
23	CV. Rembu Tedeng	3PGB	PRISMA
24	CV. Saprotan Utama	2FRB	PRISMA
25	CV. Sekar Arum	1CTB	PRISMA
26	CV. Semi	1MND	PRISMA
27	CV. Sentinel Pratama	3SDC	PRISMA
28	CV. Tiga Putri Mandiri	3AHC, 3MEB, 3PTA	PRISMA
29	CV. Trubus Gumelar	1PTA	PRISMA
30	Domenggus Benggu	3MEE	PRISMA
31	Gaspar Bao	3MEE, 3PTB	PRISMA
32	ICCRI	3CEA	PRISMA
33	Kebun Misi Boanawa	3PGA	PRISMA
34	KJUB Puspetasari	1BFC, 2BFB	PRISMA
35	Kokdale	3MEB, 3MED	PRISMA
36	Koperasi Sekunder MPIG Ngada	3CEA, 3CEB	PRISMA
37	Koperasi Serba Usaha Asnikom	3CEA	PRISMA
38	Misi Patiahu Seminari Tinggi St. Paulus Ledalero	3PGA	PRISMA
39	Pancratius Vitalis Padji	3MEE	PRISMA
40	Pig Breeding Farm Gerinus Sanda	3PGA	PRISMA
41	Pius Botu	3PTB	PRISMA
42	PSE Unit (Unit on Diocese for Social Economic Development)	3CAA	PRISMA

43	PT. 8Villages	2ESA	PRISMA
44	PT. Agricon Indonesia	1VEE, 2VEB	PRISMA
45	PT. Agrosid Manunggal Sentosa	1VEB	PRISMA
46	PT. Aria Supra Nugraha (ASN)	2CTA	PRISMA
47	PT. Asian Hybrid Seed Technologies (AHSTI)	1MEA	PRISMA
48	PT. Barco	3CTB	PRISMA
49	PT. Bayer Indonesia	1REB	PRISMA
50	PT. Behn Meyer Agricare	1FRA, 2FRA, 3FRA	PRISMA
51	PT. Bening Big Tree Farms	1CTA	PRISMA
52	PT. Bina Guna Kimia (FMC)	1REA	PRISMA
53	PT. Bintang Pribumi Tulen	2BFA	PRISMA
54	PT. BISI International TBK	1MEE, 24MF, 2GIA, 2GIB, 2MEB, 2MEC, 2SND, 3GIA, 3GIB, 3GIC, 3GID, 3MEF	PRISMA, SAFIRA
55	PT. Buana Ika Syahputra	3MEC	PRISMA
56	PT. Cargill Indonesia	3PGC	PRISMA
57	PT. Charoen Pokphand	3PGA	PRISMA
58	PT. Comextra Majora	2CWB, 3CWD	PRISMA
59	PT. Danken Indonesia	1VED	PRISMA
60	PT. DuPont Indonesia	1GIA, 1MED	PRISMA
61	PT. East West Seed Indonesia (EWINDO)	1GIB, 1GIC, 1ITA, 1MNC, 1SND, 1STD, 2ITA, 2MNA, 2SNB, 2STA, 3ITA, 3MNA, 4VEA, 4VEC, 5VEC, 5VED	PRISMA
62	PT. Garda Wahana Perkasa	3FDA	PRISMA
63	PT. Gerbang NTB Emas	2CWA	PRISMA
64	PT. Hextar Fertilizer Indonesia	1CEA, 1L3A, 1R1B	PRISMA, TIRTA
65	PT. Indoacitama	1MNA	PRISMA
66	PT. Indokom Citra Persada	3CEB, 3CEC	PRISMA
67	PT. Japfa Comfeed Indonesia	1BFD, 3PGB	PRISMA
68	PT. Kai Sun	2CTA	PRISMA
69	PT. Karisma Indoagro Universat	1SNE	PRISMA
70	PT. Malindo Feedmill	3PGB, 3PGC	PRISMA
71	PT. Medion Ardhika Bhakti	3PGB, 3PGC	PRISMA
72	PT. Natural Nusantara Yogyakarta (NASA)	1CAA, 1CAC, 1ITB, 2ITB, 3ITB	PRISMA
73	PT. Novelvar	3CWB	PRISMA
74	PT. Nufarm Indonesia	1IZA, 1STC, 2STC	ARISA, PRISMA
75	PT. Pupuk Kaltim	2FRC	PRISMA
76	PT. Rainbow Agrosiences	1MOC, 1MOD, 1SNF, 1VEA, 2MOC, 2VEA, 3VEB	PRISMA
77	PT. Rote Karaginan Nusantara	3SDB	PRISMA
78	PT. Sanbe Farma	2BFB	PRISMA

79	PT. Sarottama Dharma Kalpariksa	2MEA	PRISMA
80	PT. Sierad Produce	3AHB, 3PGB, 3PGC	PRISMA
81	PT. Sinar Terang Madani	3PGC	PRISMA
82	PT. Singkong Timor Jaya	3CAA	PRISMA
83	PT. Solusi Bioteknologi Indonesia (SOLBI)	1STA	PRISMA
84	PT. Syngenta	11RH, 1MEC, 1MOA, 1MOB, 1MOC, 1P1A, 1PTC, 2MOA, 2MOB, 2MOC, 2MZA	ARISA, PRISMA, SAFIRA, TIRTA
85	PT. Tanah Mas Celebes Indah	4COB	PRISMA
86	PT. Trimitra Anugrah Segara	1FHA, 1FHB	PRISMA
87	PT. Vasham Kosa Sejahtera	1INA	PRISMA
88	PUSKUD	3AHA, 3BFA	PRISMA
89	Seminari St. Yohanes Paulus II	3PGA	PRISMA
90	Toko Luwes	1MND	PRISMA
91	UD. Alga	3SDA	PRISMA
92	UD. Imama	2BFA	PRISMA
93	UD. Karya Tani	1SNA	PRISMA
94	UD. Konco Tani	5VEA	PRISMA
95	UD. Pangestune Utama (Wahyu Utama)	1BFA	PRISMA
96	UD. Pemuda Kreatif	2SNC	PRISMA
97	UD. Sinar Rejeki	2BFA	PRISMA
98	UD. Sumber Tani	1MNB, 3VEA	PRISMA
99	Yayasan Bina Tani Sejahtera	4VEB, 4VED, 5VEA, 5VEB, 5VEE, 5VEF	PRISMA
100	Yayasan Bintang Firdaus	3PGA	PRISMA
101	Yayasan Rumsram	4SDA	PRISMA
102	Yayasan Solidaritas Ruteng	3PGA	PRISMA
103	Yayayan PKM	1BFB	PRISMA
104	YMTM	3MEA, 3MED	PRISMA

PUBLIC PARTNERS			
No	Partner Name	Interventions Related	Programs Related
1	Badan Perencanaan Pembangunan Daerah Kabupaten Lombok Utara	2GIA	PRISMA
2	Balai Penelitian Tanaman Aneka Kacang dan Umbi	1PTB, 3MNB	PRISMA
3	BAPELUH (District level Extension Services Implementation Unit for Farming) in Bima	2ESA	PRISMA
4	BAPELUH (District level Extension Services Implementation Unit for Farming) in Lombok Timur	2ESA	PRISMA
5	BAPELUH (District level Extension Services Implementation Unit for Farming) in Sumbawa Besar	2ESA	PRISMA
6	BAPPEDA NTT	3AHA, 3AHB, 3AHC	PRISMA
7	BATAN	1SND	PRISMA
8	DAGRIO Kabupaten Sumenep	11ML, 1MEB	PRISMA, SAFIRA
9	Dinas Ketahanan Pangan dan Peternakan Kabupaten Pamekasan	1GIC	PRISMA
10	Dinas Ketahanan Pangan Kabupaten Timor Tengah Selatan	3GIB	PRISMA
11	Dinas Ketahanan Pangan, Peternakan, dan Kesehatan Hewan Kabupaten Merauke	4GIA	PRISMA

12	Dinas Pangan Kabupaten Sumbawa	2GIB	PRISMA
13	Dinas Pertanian Alor	3CWC	PRISMA
14	Dinas Pertanian dan Ketahanan Pangan Kabupaten Manokwari	5GIA	PRISMA
15	Dinas Pertanian Flores Timur	3CWC	PRISMA
16	Dinas Pertanian Kabupaten Pacitan	1CTB	PRISMA
17	Dinas Pertanian Kabupaten Pamekasan	1GIA	PRISMA
18	Dinas Pertanian Manggarai Barat	3CWC, 3GID	PRISMA
19	Dinas Pertanian Manggarai Timur	3GIC	PRISMA
20	Dinas Pertanian Nagekeo	3CWC	PRISMA
21	Dinas Pertanian Provinsi NTT	3MEE	PRISMA
22	Dinas Pertanian Sumba Timur	3CWC	PRISMA
23	Dinas Pertanian Tanaman Pangan dan Hortikultura Kabupaten Kupang	3GIA	PRISMA
24	Dinas Tanaman Pangan, Hortikultura dan Perkebunan Kabupaten Situbondo	1GID	PRISMA
25	Local Government of Sampang	1SNB	PRISMA
26	Local Government of Trenggalek	1SNB	PRISMA
27	Pemerintah Daerah Kabupaten Biak Numfor	4SDA	PRISMA
28	Pemerintah Daerah Kabupaten Fakfak	5SDA	PRISMA
29	Pemerintah Daerah Kabupaten Kepulauan Yapen	4SDA	PRISMA

Annex 3 – Intervention List and Systemic Change Score

Sector	SID	Code	Intervention name	Start_date	End_date	Y14S1	Y14S2	Y15S1	Y15S2	Y16S1	Y16S2	Y17S1	Y17S2	Y18S1	Y18S2	Average
ME	4	1MEA	Maize AHSTI	1/10/2014	31/07/2017		5	5	5	5	5					5.0
CA	5	1CAA	Access to GAP and Fertilizer	1/08/2014	31/01/2016		1	2	3							2.0
ME	6	2MEA	Promoting GAP and GHP	16/10/2014	15/10/2016		5	5	5							5.0
SN	7	1SNB	Certification and Nurseries	1/11/2014	30/11/2015		4	4	4							4.0
SN	8	1SNA	Developing Commercial Market	1/01/2015	31/12/2016			3	3	3	3					3.0
CW	9	2CWA	Pest Control and GAP Services	1/11/2014	30/11/2016		3	3	3	3						3.0
CA	10	1CAB	Rewarding System and GAP	1/12/2014	31/01/2016		3	3	4							3.3
CA	11	3CAA	Supply for Animal Feed	1/12/2014	31/01/2016		5	5	6							5.3
CT	12	1CTA	Organic Certif - Coconut Sugar	1/05/2014	31/05/2016		7	7	7	7						7.0
CT	13	2CTA	Coconut Agreggation Point	1/12/2014	31/05/2016		7	7	7	4						6.3
FH	14	1FHA	Fish Cage Farming	1/05/2014	29/02/2016		2	2	2	2						2.0
MO	15	1MOA	Mango EJ Syngenta	1/01/2014	30/04/2016	2	2	2	2	3						2.2
MO	16	2MOA	Mango NTB Syngenta	1/01/2014	30/04/2016	2	2	2	2	3						2.2
PG	17	3PGA	Pig Rearing	1/03/2014	31/05/2015	3	3	6	6	6						4.8
PT	18	1PTA	Good Quality Seed	1/12/2014	31/12/2015		2	2	2							2.0
SD	19	3SDA	Seaweed UD Alga	1/09/2014	29/02/2016		4	4	4	6						4.5
CE	20	3CEA	Coffee GAP	1/04/2014	31/03/2016	2	2	2	2	2	2					2.0
CE	21	3CEB	Decentralized Processing	1/04/2014	31/03/2016	3	3	3	3	3	3					3.0
ST	22	2STA	Shallots EWINDO	1/10/2014	30/09/2016		4	4	6	6	8					5.6
BF	23	2BFA	Commercial Feed	1/08/2015	31/12/2017				1	2	3	3	4			2.6
CW	24	3CWA	Cashew Peduli Kasih	1/08/2015	31/08/2016				4	2	2					2.7
BF	25	1BFA	Beef Feed WU	1/06/2015	29/06/2016			4	4	5	8	4				5.0
BF	26	1BFB	Beef Feed PKM	22/06/2015	31/07/2018			3	3	3	4	4	4	5	5	3.9
PT	27	3PTA	Good Quality Peanut Seeds	1/08/2015	30/11/2018				1	1	1	1	1	3	3	1.6
CO	28	4COA	Cocoa YPPWP	1/08/2015	30/06/2017				4	2	2	2				2.5
CT	29	3CTA	Coconut VCO	1/08/2015	31/10/2018				6	6	6	7	7	7	7	6.6
ME	30	3MEC	Maize Storing	1/07/2015	30/06/2017				8	8	8					8.0
ME	31	3MEB	Maize Nurseries	1/08/2015	30/09/2018				5	5	6	6	7	7	8	6.3
ME	32	3MEA	Maize YMTM	18/08/2015	30/09/2018				3	3	4	4	6	6	6	4.6
ST	33	1STA	Shallots SPILT	1/10/2015	31/12/2016				4	4	5					4.3
SN	34	1SNC	Soydoctor	1/09/2015	31/08/2017				7	7	7	7	7			7.0
SN	35	2SNA	BASF Soy Doctor Program	1/09/2015	31/08/2017				7	7	7	7	7			7.0
SN	36	1SND	Soybean Ewindo	30/06/2015	31/12/2018			10	10	10	10	10	10	10		10.0
VE	37	5VEA	Lowland Vegetables	1/02/2016	31/01/2017					3	3	3				3.0
ME	38	3MED	Stimulating market of OPV Seed	1/04/2014	30/11/2014	2	2									2.0
BF	39	3BFA	Beef Lamtoro	18/02/2016	31/12/2017					1	3	3	4			2.8
ES	40	1ESA	BASF Call Centre	29/03/2016	30/06/2017					5	5	3				4.3
IN	41	1INA	Provision Irrigation Financing	23/11/2015	22/11/2016				7	7						7.0
AH	44	3AHA	Anggur Merah Beef	20/03/2015	31/12/2018			5	3	3						3.7
ES	45	2ESA	Dokter Tanaman	1/04/2016	31/07/2016					5	5					5.0
FH	47	1FHB	Fish Cage Finance	1/05/2014	29/02/2016		2	2	2	2						2.0

ME	49	1MEB	Expansion of Hybrid Market	5/04/2016	30/10/2018					9	9	9	9	9	9	9.0
CW	50	3CWB	Quality Inputs and Tools	19/05/2016	30/06/2018					7	7	7	7	7	7	7.0
MN	54	1MNA	Mung Bean Fertiliser	19/04/2016	19/03/2017					1	1	1	1			1.0
MN	56	1MNB	Use of Good Quality Seed	6/06/2016	31/03/2018					1	1	1				1.0
VE	67	5VEB	Highland Vegetables	10/06/2016	10/06/2018					2	2	2	4	3	5	3.0
PG	68	3PGB	Decentralized feed for pig	30/06/2016	30/06/2018					3	3	5	7	8	8	5.7
AH	69	3AHB	Anggur Merah for Pig Sector	22/04/2016	31/12/2018					5	3	3				3.7
CA	70	1CAC	Cassava Fertiliser	29/06/2016	29/06/2018					4	4	5				4.3
SN	74	1SNE	ACCESS	17/10/2016	30/11/2018						5	5				5.0
SN	75	1SNF	GAP through Laskar Pelangi Rainbow	1/10/2016	1/10/2018						5	5	5			5.0
FD	76	3FDA	Feed Mill	10/07/2016	31/10/2016						8					8.0
MN	77	1MNC	Commercializing Quality Mung Bean Seed	5/08/2016	1/12/2018						8	8	8	8	8	8.0
MN	78	2MNA	Commercializing Quality Mung Bean Seed	5/08/2016	1/12/2018						8	8	8	8	8	8.0
MN	79	3MNA	Commercializing Quality Mung Bean Seed	5/08/2016	1/12/2018						8	8	8	8	8	8.0
AH	80	3AHC	Anggur Merah Maize Composite or OPV Seed	1/07/2016	1/11/2016						3					3.0
SN	81	2SNC	ACCESS	1/10/2016	30/11/2018						5	6	6	6		5.8
VE	82	4VEA	Promotion of Good Quality Seed and GAP Provision	3/10/2016	1/12/2017						5	5	5			5.0
VE	83	5VEC	Promotion of Good Quality Seed and GAP Provision	3/10/2016	1/12/2017						5	5	5			5.0
ME	84	1MEC	Maize Syngenta	22/09/2016	31/07/2018						8	8				8.0
BF	85	1BFC	Beef Nutrifeed	1/11/2016	31/10/2018						2	5	4	4	4	3.8
IT	86	1ITA	Vegetable ICT EWINDO (SIPINDO)	1/07/2016	30/06/2017						5	5	6	6	5	5.4
IT	87	2ITA	Vegetable ICT EWINDO (SIPINDO)	1/07/2016	30/06/2017						5	5	6	6	5	5.4
IT	88	3ITA	Vegetable ICT EWINDO (SIPINDO)	1/07/2016	1/07/2017						5	5	6	6	5	5.4
IT	89	2ITB	ICT NASA	15/11/2016	31/10/2018						5	5	5	7	8	6.0
IT	90	3ITB	ICT NASA	15/11/2016	31/10/2018						5	5	5	7	8	6.0
IT	91	1ITB	ICT NASA	15/11/2016	31/10/2018						5	5	5	7	8	6.0
ME	92	1MED	Maize-DuPont	17/10/2016	31/10/2018						3	3	7	7	7	5.4
SN	96	2SNB	Soybean EWINDO	30/06/2015	30/06/2017			8	8							8.0
MO	97	1MOB	Mango EJ Scale up Syngenta	1/02/2017	31/01/2018						4	4				4.0
PG	1104	3PGC	Promoting Improved Feed and Good Rearing Practices in Timor	27/02/2017	30/09/2018							3	5	7	8	5.8
ME	1105	1MEE	Maize BISI	19/01/2017	31/10/2018							4	5	5	6	5.0
VE	1106	1VEA	Rainbow - Vegetable EJ	6/03/2017	5/03/2018							2	4			3.0
VE	1107	2VEA	Rainbow - Vegetable NTB	6/03/2017	5/03/2018							2	4			3.0
MO	1109	2MOB	Mango NTB Scale Up Syngenta	1/02/2017	31/01/2018							4	4			4.0
MO	1110	1MOC	Mango EJ Social Marketing	1/01/2017	28/02/2018							6				6.0
MO	1111	2MOC	Mango NTB Social Marketing	1/01/2017	28/02/2018							6				6.0
MO	1112	1MOD	Pazole EJ Rainbow	1/11/2016	28/02/2018							4	4			4.0
VE	1113	3VEA	Sumber Tani and Sahabat Tani - Vegetable NTT	13/01/2017	12/01/2018							4	7			5.5
VE	1114	3VEB	Rainbow - Vegetable NTT	6/03/2017	5/03/2018							1	1			1.0

ME	1115	2MEB	GAP and GHP with YARO	1/02/2017	31/01/2018							6	7	7	7	6.8
ST	1117	1STB	Social Marketing CropLife	1/12/2016	31/08/2018							3	3	5	5	4.0
ST	1118	2STB	Social Marketing CropLife	1/12/2016	31/08/2018							3	3	5	5	4.0
ST	1119	1STC	IPDM Nufarm	1/04/2017	31/10/2018							5	5	6	6	5.5
ST	1121	2STC	IPDM Nufarm	1/04/2017	31/10/2018							5	5	6	6	5.5
ST	1122	1STD	EWINDO TSS Trial Production	1/04/2017	30/09/2018							7	7	7	8	7.3
CO	1123	4COB	Cocoa ECOM	14/02/2017	30/11/2018							3	4	4	3	3.5
MN	1124	1MND	Promoting certified mung bean seeds	25/05/2017	30/11/2018							5	5	6	6	5.5
CE	1125	3CEC	Improving Market Access and Increasing the Productivity of Arabica Coffee in Fllmores	2/06/2017	31/12/2018							5	5	5	5	5.0
PT	1156	3PTB	Promoting High Quality Peanut Seeds	7/07/2017	30/09/2018								2	2	2	2.0
SD	1157	3SDB	Seaweed RKN	28/07/2017	30/07/2018								10			10.0
SD	1158	4SDA	Seaweed PPP	1/09/2017	1/09/2019								10	9	10	9.7
SD	1159	5SDA	Seaweed PPP	1/09/2017	1/09/2019								10	10	10	10.0
ME	1161	3MEE	Maize OPV Nurseries	1/08/2017	31/10/2018								5	5	6	5.3
VE	1162	1VEB	Agrosid Soil Treatment GAP	28/08/2017	28/08/2018								7	7	4	6.0
GI	1174	1GIA	M4P Maize Pamekasan	30/09/2017	31/12/2018								4	7	4	5.0
GI	1174	1GIB	Chili Sampang	18/02/2018	31/10/2018										6	6.0
ME	1176	3MEF	Promoting Hybrid Maize Cultivation	18/09/2017	30/09/2018								5	5	5	5.0
BF	1178	1BFD	Beef Japfa	1/09/2017	31/10/2018								4	4	4	4.0
GI	1184	1GIC	PPC Promoting Small Veg Seed Package to Rural Area of Pamekasan	4/09/2017	31/12/2018								7	3	7	5.7
CE	1186	1CEA	Promoting Commercial Fertilizer	16/11/2017	30/11/2018								5	5	5	5.0
SN	1187	2SND	Promoting GAP and Crop Protection through Extension Service Worker	1/11/2017	30/10/2018								7	7		7.0
SD	1188	3SDC	Seaweed Sentinel	28/07/2017	31/07/2018								8	6		7.0
RE	1189	4REA	Crop Protection in Papua with BASF	2/10/2017	30/09/2018								6	4	7	5.7
RE	1190	5REA	Crop Protection in West Papua with BASF	2/10/2017	30/09/2018								6	4	7	5.7
GI	1191	2GIA	Promoting small package quality vegetable seed for rural Home Garden in Lombok Utara	20/10/2017	30/09/2018								7	3	7	5.7
GI	1192	2GIB	Promoting small package quality vegetable seed for rural home garden in Sumbawa	20/10/2017	30/09/2018								7	3	7	5.7
GI	1194	3GIA	Promoting small package quality vegetable seed for rural Home Garden in Kupang	23/10/2017	30/09/2018								7	3	7	5.7
GI	1195	3GIB	Promoting small package quality vegetable seed for rural Home Garden in TTS	23/10/2017	30/09/2018								7	3	7	5.7
RE	1196	1REA	Rice EJ FMC	2/10/2017	31/10/2018								4	4	6	4.7
PT	1200	1PTB	Provision of Foundation Seeds	1/12/2017	31/12/2018								7	7	7	7.0
MN	1201	3MNB	Provision of Foundation Seeds	1/12/2017	31/12/2018								7	7	7	7.0
VE	1206	1VED	Danken-Pest and Disease Management	5/12/2017	31/10/2018								2	6	6	4.7
VE	1207	4VEB	Vegetable YBTS	15/12/2017	30/09/2018								4	4	7	5.0

VE	1208	1VEE	Vegetable Agricon EJ	14/12/2017	31/10/2018									3	3	3	3.0
VE	1209	2VEB	Vegetable Agricon NTB	14/12/2017	31/10/2018									2	2	1	1.7
ME	1211	2MEC	Promoting Quality Maize Hybrid Seed and Good Cultivation Practices	1/01/2018	30/11/2018										7	7	7.0
GI	1214	3GIC	PPC Maize MATIM	1/02/2018	30/11/2018										6	3	4.5
GI	1215	3GID	PPC Maize MABAR	1/02/2018	30/11/2018										6	3	4.5
VE	1217	5VED	Ewindo Scale up West Papua	1/01/2018	31/10/2018										6	6	6.0
VE	1218	4VEC	Ewindo Scale up Papua	1/01/2018	31/10/2018										6	6	6.0
PT	1220	1PTC	Peanut EJ Syngenta	21/02/2018	30/11/2018										7	7	7.0
CT	1221	3CTB	Better Value Market for CCO Farmers	1/01/2018	31/10/2018										3	3	3.0
CT	1223	1CTB	Promoting coconut parent trees registration in EJ	1/03/2018	30/11/2018										1	1	1.0
PT	1225	1PTD	Promoting Quality Input to Peanut Farmers	20/03/2018	30/11/2018										7	7	7.0
SN	1226	2SNE	Legume and Maize Planter	12/03/2018	30/11/2018										5		5.0
CW	1227	3CWC	Cashew GAP-Government ES	1/01/2018	31/10/2018										4		4.0
FR	1228	1FRA	PROMOTING BLAUKORN FERTILIZER TECHNOLOGY AND COMPREHENSIVE CROP PROTECTION	19/03/2018	31/10/2018										3	5	4.0
FR	1229	2FRA	PROMOTING BLAUKORN FERTILIZER TECHNOLOGY AND COMPREHENSIVE CROP PROTECTION	19/03/2018	31/10/2018										3	4	3.5
FR	1230	3FRA	PROMOTING BLAUKORN FERTILIZER TECHNOLOGY AND COMPREHENSIVE CROP PROTECTION	19/03/2018	31/10/2018										2	2	2.0
FR	1231	2FRB	Fertilizer (NTB)	4/04/2018	30/11/2018										4	4	4.0
VE	1232	5VEE	YBTS Fak-Fak	2/03/2018	31/10/2018										4	6	5.0
VE	1233	5VEF	YBTS Arfak-highland Vegetable	2/03/2018	31/10/2018										4	5	4.5
VE	1234	4VED	YBTS Biak	2/03/2018	31/10/2018										4	6	5.0
CW	1235	3CWD	Cashew GAP-Off Taker	9/04/2018	30/11/2018										3	3	3.0
CW	1237	2CWB	Cashew GAP-Off Taker	9/04/2018	30/11/2018										3	3	3.0
BF	1239	2BFB	Commercial Feed and Pharma Products	16/04/2018	31/10/2018										5	5	5.0
GI	1241	1GID	PPC- GAP TSS Shallot for farmers and local nurseries	1/04/2018	31/10/2018										5	3	4.0
RE	1244	1REB	Rice Bayer EJ	11/04/2018	31/12/2018										3	3	3.0
SD	1248	3SDD	Seaweed Mazu	1/01/2018	20/08/2018										4	8	6.0
FR	1249	2FRC	Promoting High Quality Fertilizers to Farmers	26/04/2018	30/11/2018										5	5	5.0
ST	1250	2STD	TSS Bejo Intervention	1/06/2018	31/10/2018										6	7	6.5
ST	1251	1STE	TSS Bejo Intervention	1/06/2018	31/10/2018										4	4	4.0
GI	1253	4GIA	Small Packs Veg Seed Merauke	7/06/2018	5/11/2018											3	3.0
GI	1254	5GIA	Small Packs Veg Seed Manokwari	7/06/2018	5/11/2018											3	3.0
						Average	2.3	3.4	4.1	4.4	4.2	4.8	4.7	5.6	5.3	5.6	4.9

Annex 4 – Key References and Reports

<pending finalisation and publication of case studies, progress reports and learning series by Dec 2018>



Annex 5 – Example QMT Scoring Criteria

AIP-Rural Australia-Indonesia Partnership for Rural Economic Development				QMT IP		Kementerian PPN/ Bappenas		Australian Government	
Summary of Indicator				Value	Rating	Weight	Total		
Sector Story & Market Map					3.9	1.0	3.9		
Gender & WEE					3.7	4.0	14.8		
Constraints					4.0	2.0	8.0		
Intervention					5.0	1.0	5.0		
Business Model					3.2	1.0	3.2		
Environment					4.8	2.0	9.6		
Who Does Who Pay					4.0	1.0	4.0		
Result Chain					3.8	1.0	3.8		
Systemic Change					4.7	1.0	4.7		
Calculation & Projection					4.3	0.4	1.7		
Risk					4.0	1.0	4.0		
Social Return on Investment				270%	2.0	1.0	2.0		
Project Investment/Beneficiary				166,700	1.0	1.0	1.0		
Partner Investment Leverage				0.75x	4.0	1.0	4.0		
Beneficiary/Population				12.0%	3.0	0.9	0.9		
NAIC Percentage				321%	5.0	0.3	1.5		
Access/Population				25.0%	2.0	0.3	0.6		
Beneficiary/User				92%	5.0	0.2	1.0		
User/Access				52%	4.0	0.2	0.8		
\$2.5 PPI Baseline				89%	5.0	0.3	1.5		
				Save to MIS	76				
Instruction - Fill in the green cells									
General Information									
Intervention Code		3PGB							
Intervention Short Name		PIG SNV							
Period		Y19S1							
Commodity Type		Livestock							
Assessor & Reviewer									
Assessor 1		KHALED KHAN							
Assessor 2		PRAJWAL SHAHI							
RC Reviewer		ZULKERNAEN							
AIP-RURAL Personnel									
HoP/Program Manager		MOHASIN KABIR							
Task Leader		TAYA KADHITA							
RM Focal		ANGGARA WIBISONO							
Intervention Leader		VINCENT LIMPUTRA							
		IKE SEPTI YASTARI							
		SATKAR ULAMA							
Co-Facilitator Personnel									
Co-Facilitator		YUNI CHAIRANI							
Program Manager		ATIKA LUTHFIYAH							
RM Focal		DITTA MONIKA							
Intervention Leader		WILLIAM SOE							
		BODHIYA WIJAYA MULYA							
		PUTU APRI PRIMA SWAJAYA							
		AGNES LAURENS							
		DEVIN MARCO							
Quantitative Indicator									
Sub-Sector Population (HH) ¹		20,000							
Intervention Duration (Semester) ¹		7							
Beneficiary (HH) ¹		2,400							
User (HH) ¹		2,600							
Access (HH) ¹		5,000							
NAIC/HH (IDR) ³		450,000							
User Net Income at Baseline (IDR) ²		140,000							
Total NAIC (IDR) ¹		1,080,000,000							
Partner Investment (IDR) ¹		300,000,000							
Project Investment (IDR) ¹		400,000,000							
\$2.5 PPI Baseline (%) ¹		89%							
Indicator & Sub-Indicator									
IP01 - Sector Story & Market Map									
		Assessor 1		Assessor 2					
Growth & access opportunities are identified & analyzed		▲		▲					
Link between international & national context is analyzed		▲▲		▲▲					
Link between national & regional context is analyzed		▲▲		▲▲					
Actors are backed with numbers to identify bottleneck		▲▲		▲					
Actors of core transaction & value added are portrayed		▲		▲▲					
Functions from business enabling environment are identified		▲		▲					
Supporting functions & interconnected markets are identified		▲		▲▲					
Linkages are described		▲		▲▲					
IP02 - Gender & WEE									
		Assessor 1		Assessor 2		Team			
Gender level of control & effort in the household is identified		▲		▲		▲▲			
Gender commercial case is elicited		▲		▲		▲▲			
Potential impact (positive & negative) on WEE is identified		▲		▲▲		▲▲			
IP03 - Constraints									
		Assessor 1		Assessor 2		Team			
Constraints are inquired to root causes		▲		▲▲		▲▲			
Strong causal links between constraints		▲▲		▲		▲			
Constraints of farmer are covered (incl. gender & disability)		▲▲		▲		▲			
Constraints of ISP are covered (incl. gender & disability)		▲		▲		▲			
Constraints of partner is covered		▲		▲▲		▲▲			
Constraints of interconnected markets & supporting functions are covered		▲		▲▲		▲▲			
IP04 - Intervention									
		Assessor 1		Assessor 2					
Intervention proposed is feasible & has scale-potential		▲▲		▲▲					
IP05 - Business Model									
		Assessor 1		Assessor 2		Team			
Incentive of male & female farmer is viable		▲		▲		▲			
Incentive of male & female ISP is viable		▲		▲		▲			
Incentive of partner is viable		▲		▲		▲			
IP06 - Environment									
		Assessor 1		Assessor 2		Team			
Reduction of harmful chemical usage		▲▲		▲		▲			
Prevention of deforestation		▲▲		▲		▲			
Promoting soil recovery practices		▲▲		▲		▲			
Promotion of better animal welfare		▲▲		▲		▲			
Promotion of healthier living		▲▲		▲		▲			
Reduction of non-degradable waste		▲▲		▲▲		▲▲			
Reduction of water usage		▲▲		▲▲		▲▲			
IP07 - Who Does Who Pay									
		Assessor 1		Assessor 2					
Project & partner have clear plan for exit strategy		▲		▲▲					
Project supports only facilitative functions		▲		▲▲					
IP08 - Result Chain									
						RC Reviewer			
Result chain covers actors (male & female) & transactions in business model						▲			
Result chain covers activities (incl. gender & disability if any)						▲			
Result chain box is well-defined (who does what to/for whom)						▲			
Result chain shows sensible causal relationship between boxes						▲			
Result chain captures wider systemic change						▲▲			
IP09 - Systemic Change									
		Assessor 1		Assessor 2		Team			
Probability to adapt is viable		▲		▲▲		▲▲			
Probability to expand is viable		▲		▲▲		▲▲			
Probability to respond is viable		▲▲		▲▲		▲▲			
Probability of gender/WEE systemic change is viable		▲▲		▲▲		▲▲			
IP10 - Calculation & Projection									
		Assessor 1		Assessor 2					
Calculation is based on a set of sound assumptions & generalized from sufficient evidence		▲		▲▲					
Calculation components are complete & sufficiently detailed		▲		▲▲					
Ideal scheme is provided as comparison		▲		▲▲					
Seasonality & risk are considered		▲▲		▲▲					
IP11 - Risk									
		Assessor 1		Assessor 2					
Threat to intervention is identified (incl. gender & disability)		▲▲		▲					
		Assessor 1		Assessor 2					
		KHALED KHAN		PRAJWAL SHAHI					

1 - Cumulative Projection
2 - Actual or Estimation
3 - Projection