

How to Monitor Interventions Effectively: Lessons from PRISMA's Intervention in the Mungbean Sector in Indonesia

Monitoring is the 'unsung hero' of results measurement. Planned carefully, and implemented wisely, it can provide a wealth of benefits for programs at modest cost.



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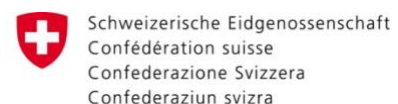
Synopsis:

Monitoring provides invaluable information to program teams to manage and adjust interventions, improve sector strategies and design post-intervention assessments. The understanding gained from monitoring helps to improve results and report regularly to donors on program progress. Yet, monitoring is often taken for granted leading to insufficient information for decision-making and/or expending resources unnecessarily. This paper illustrates how to monitor both effectively and efficiently using the case of an intervention from the PRISMA program in Indonesia. The paper provides practical tips for addressing eight common monitoring challenges the PRISMA team encountered. It also highlights useful practices the team developed during the COVID-19 pandemic restrictions which can increase monitoring efficiency in the future. The paper outlines how the PRISMA team used monitoring information in management and closes with broadly applicable lessons learned.

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This material has been prepared for discussion purposes only. As such, the material should not be regarded as incorporating legal or investment advice, or providing any recommendation regarding its suitability for your purposes. Please note that while this case is based on a real intervention, some details have been adjusted slightly for learning purposes. The views expressed in this publication are those of the authors and do not necessarily represent the views of the DCED, MoFA, SDC or any of the programs represented at the workshop.



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Acronyms

EJ	East Java
FFD	Farmer Field Day
GAP	Good Agricultural Practices
IAARD	Indonesian Agency for Agricultural Research and Development
IDR	Indonesian Rupee (currency of Indonesia)
ISP	Intermediate Service Provider
NTT	Nusa Tenggara Timur
PRISMA	Australia-Indonesia Partnership for Promoting Rural Incomes through Support for Markets in Agriculture

1 Introduction

Monitoring helps a program team understand to what extent, why and how changes related to an intervention are happening. This understanding is essential to adjust the intervention and the overall sector strategy, identify what works, share useful information with market actors, and determine how to assess impacts. It helps to avoid surprises later, improve results and report regularly to program donors. Yet, monitoring changes during interventions is often taken for granted. Program teams may assume it's happening without taking the time to plan it carefully. Consequently, monitoring may be inefficient, misleading or not even happen at all.

This case examines how to monitor an intervention efficiently, gaining sufficient information to manage the intervention and shape later assessment, without expending resources unnecessarily. It is purposely a tricky case, chosen to provide practitioners with practical tips on how to deal with common, but rarely discussed, monitoring challenges.¹ It also highlights useful practices, developed during the COVID-19 pandemic restrictions, to increase efficiency in monitoring.

2 The Context

2.1 Introduction to PRISMA

The Australia-Indonesia Partnership for Promoting Rural Incomes through Support for Markets in Agriculture (PRISMA) is a multi-year development program working to accelerate poverty reduction through inclusive economic growth.² PRISMA is a partnership between the Government of Australia (The Department of Foreign Affairs and Trade) and the Government of Indonesia (Bappenas). PRISMA uses a market systems development approach, partnering with key stakeholders to improve agricultural market efficiency and sustainably benefit poor women and men. The program aims to achieve an income increase for 1,000,000 smallholder farming households by 2023. It operates in six Indonesian provinces.

2.2 PRISMA's Mungbean Sector Strategy

Mungbeans are a drought-resistant and nutritious crop grown by some smallholder farmers in Indonesia.³ There is a market opportunity to expand Indonesia's mungbean production to meet national demand. Imports account for 25% of national consumption in Indonesia. Enabling smallholder mungbean farmers to supply home-based food processors would increase the profits of both. While home-based food processors do not require as high quality mungbeans as industrial food processors, they will pay higher prices for better quality, domestically grown mungbeans.

PRISMA's aim is to increase farmers' access to better seed varieties, and better information and extension services on good agricultural practices (GAP) related to mungbeans, so that farmers can produce more and higher quality mungbeans that enable them to make higher profits. As demand for mungbeans is high and buyers are looking for domestic sources, there is no need for the program to link farmers to buyers. PRISMA works with private seed companies and nurseries to introduce quality mungbean seeds and embedded extension services into the market. Local government also

¹ For more tips on monitoring, see [Monitoring](#) in the Practitioners' Notes on Monitoring and Results Measurement Series (2018) and [Monitoring Program Progress: The case of Making Markets Work for the Jamuna, Padma and Teesta Chars \(M4C\) in Bangladesh](#) (2015). Donor Committee for Enterprise Development.

² For more information, see the [PRISMA website](#).

³ See Annex 1 for more background on the mungbean crop globally and in Indonesia.

takes part in distributing quality seed through its existing inputs subsidy program. To boost the expansion of mungbean nurseries in Indonesia, PRISMA collaborates with the government's Indonesian Agency for Agricultural Research and Development (IAARD) to commercialise appropriate varieties of mungbean foundation seed.

3 The Intervention on Mungbean Seeds and Good Agricultural Practices in East Java

Mungbean farmers in East Java (EJ) experience low yields, typically less than one tonne per hectare per season, because they cultivate retained mungbean seeds or non-certified seeds from local markets. No private sector companies produce and sell high yielding, certified mungbean seeds in EJ.⁴ IAARD, in their research role, does produce a mungbean seed variety called 'VIMA' which has higher yields and a shorter growing time than local varieties, as well as being drought resistant. However, this variety is not sold commercially.

In February 2018, PRISMA signed a partnership agreement with Sinta,⁵ a commercial seed nursery based in EJ that was interested in producing and selling a certified and high yielding mungbean seed. PRISMA supported Sinta to:

- conduct some market research to better understand market demand for mungbean seeds
- source 'VIMA' variety foundation seed from IAARD
- set up a multiplication system to produce certified seeds
- develop a distribution network through local retailers and provincial governments' existing inputs subsidy scheme
- design GAP information services in cooperation with local retailers and lead farmers in EJ

Sinta's business model is presented in Figure 1.

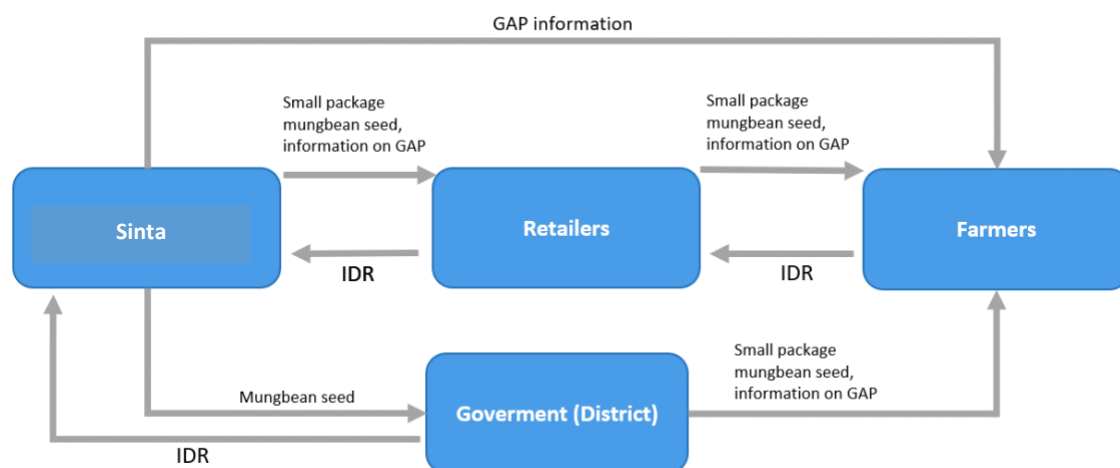


Figure 1: Sinta's business model⁶

During 2018, Sinta planned to grow its first crop of quality mungbean seeds for sale and to develop a commercial distribution network in five districts of East Java. Sinta planned to start marketing and

⁴ PRISMA market research on mungbeans (2018)

⁵ The name of the company has been changed to protect commercial information.

⁶ Note: IDR stand for Indonesian Rupiah, the currency used in Indonesia.

selling mungbean seeds through the commercial distribution network and to the provincial governments of EJ and Nusa Tenggara Timur (NTT) for their subsidy programs in 2019. If the first year went well, Sinta planned to scale up production and sales in 2020. Sales for 2020 were roughly 8% higher than 2019. In 2021, the Seroja Storm impacted production and the sales figures are not yet known. Annex 1 provides more detail on the intervention. A simple results chain for the intervention is shown in Figure 2, with the more detailed version in Annex 2.

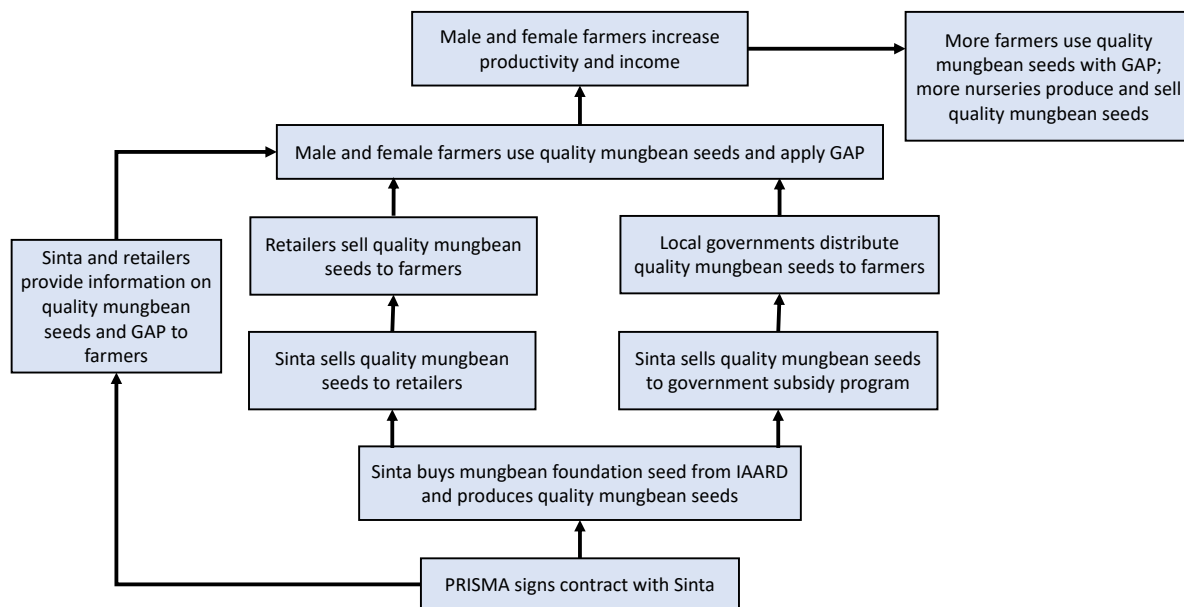


Figure 2: Simple intervention results chain

4 Monitoring the Intervention

PRISMA developed a list of indicators to monitor and measure the expected changes from the intervention. These are provided in Annex 3. The indicators covered a mix of quantitative and qualitative information that enabled PRISMA to understand to what extent changes were happening, how and why. The indicators also provided information on the likely sustainability of new behaviours as well as how behaviours and benefits may have differed for women and men farmers. While the indicators and PRISMA's actual monitoring and results measurement plan covered both monitoring and post-intervention impact assessment of the intervention, the discussion below and the detailed plan in Annex 4 focus only on the monitoring.

4.1 The Monitoring Plan

PRISMA's intervention monitoring covered:

- the partner company
- the commercial distribution network and related farmers in EJ
- the government subsidy program and related farmers in EJ and NTT

The intervention team also considered what was vital to monitor during each phase of the intervention:

- Sinta multiplying the seeds for sale and setting up the distribution network in 2018
- the first year of selling seeds and providing information on GAP - 2019
- the second year of selling seeds and providing information on GAP -2020

4.1.1 The partner company

PRISMA planned to monitor the intervention activities with Sinta on a regular basis in 2018. Intervention managers planned to obtain company records from Sinta monthly, providing information on seed multiplication, the development of the distribution channel and planning for the marketing and GAP information activities. During the initial phase of implementation in 2018 PRISMA planned in-depth interviews with Sinta and selected retailers.

PRISMA and Sinta agreed that the company would then share information on production and sales throughout the next two years – 2019 and 2020.

4.1.2 The commercial distribution channel

In EJ farmers grow mungbeans during the dry season, June – October, because they produce rice in the rainy season. So Sinta management planned to market the seeds and provide information on GAP from February – May. During this period in 2019 the PRISMA intervention managers planned to observe some of the demonstrations and farmer field days (FFDs) as well as interview a few female and male retailers. During FFDs they also planned to interview a few female and male farmers about why they would or would not use certified seeds. This would allow for early adjustment of marketing and FFD plans.

The intervention managers planned to estimate the scale reached using Sinta's sales records and the average amount of seeds farmers use from pre-intervention research and Sinta's market research. The PRISMA team planned to verify the scale reached during the post-intervention impact assessment by checking the average amount of seeds used by Sinta's farmer customers.

During the production period from June – October 2019 the intervention managers planned to obtain information from both retailers and farmers (both male and female) on why and how farmers cultivate VIMA seeds, harvest and sell mungbeans. The PRISMA team planned to have in-depth interviews with a few sampled retailers and farmers based on sales records and across a few locations. These interviews were expected to provide insights on why and how retailers and farmers perform. The team also planned to interview a few farmers not using VIMA seeds during field visits to find out why they chose not to adopt the certified seeds. This information would help to plan expansion efforts.

Between the first and second seasons the intervention managers planned to have an in-depth discussion with Sinta as part of both implementation and monitoring. The discussion would cover Sinta's perspective on the first year of sales, which areas and activities worked well, which didn't and why, as well as adjustments to make for the second season. It would also cover Sinta's interest and capacity to expand mungbean production and sales in the coming years.

Provided progress was on track, monitoring of Sinta's activities was planned to be much less intense in 2020. However, the PRISMA team planned to maintain information gathering on behaviour change among retailers and farmers to understand changes in uptake and shape the post-intervention impact assessment planned at the end of the second season.

4.1.3 The government subsidy program channel

PRISMA planned to monitor the sales to the government subsidy program in a more indirect way. The intervention managers planned to collect sales data from Sinta, and distribution data from the provincial and district government agencies. The intervention managers also planned to have in-depth interviews with the heads of the Department of Agriculture in the two provinces and some of

the relevant districts to understand successes and challenges in seed distribution, such as damage during delivery, and farmers' uptake and satisfaction with the seeds.

Demos and FFDs were not planned. Therefore, intervention managers planned to focus monitoring on farmers' use of, and benefits from, the certified seed. The PRISMA team planned to monitor farmers' behaviour changes and benefits jointly with the government because the team assumed that the government had an interest in reporting impact from their seed subsidy program. They planned similar information gathering from farmers in the first and second seasons as they had with the commercial distribution channel.

While the timing of monitoring for both channels would be the same in EJ, it would be different in NTT because the mungbean season is different. In NTT, most farmers plant mungbeans in the rainy season (December - April) because there are no proper irrigation systems to produce in the dry season. Therefore, the PRISMA team adjusted the monitoring schedule in NTT to match seasonality there.

A detailed, time-based monitoring plan is provided in Annex 4.

4.2 Addressing Monitoring Challenges

As in all programs, the PRISMA team encountered various challenges in monitoring the intervention. These are outlined below with examples and tips on how PRISMA addressed them. The discussion highlights lessons learned from monitoring during the COVID-19 pandemic restrictions.

4.2.1 How to triangulate information while still monitoring efficiently

By starting information gathering early, PRISMA quickly identified the best sources for information on different questions and indicators. The team also learned how to cross-check responses by talking with different people about the same topic. For example, PRISMA staff talked with both the Sinta owner and the company field staff regularly. The owner provided an overview of company progress and sales while the field staff provided granular information on progress in the field such as farmers' reactions during demos, and challenges for farmers in applying GAP. This information could be cross-checked through interviews with a few farmers during demos. The PRISMA staff also talked with retailers to cross-check the sales figures and distribution areas provided by Sinta.

When the COVID-19 pandemic started, **PRISMA learned the best ways to communicate with different market actors, including farmers, remotely.** For example, they talked with the Sinta owner by phone and the company field staff using WhatsApp. They found that it worked best to call retailers and farmers as they rarely answered WhatsApp unless they had a close relationship with the relevant PRISMA team member. While PRISMA started using these remote monitoring methods because of the pandemic, they realised they could be efficiently used more generally to achieve wider coverage in monitoring. While field visits enabled the team to get a nuanced understanding of reactions to activities in the field, getting information using phone and WhatsApp enabled them to triangulate efficiently and gather information from more locations than was possible in person.

4.2.2 How to get enough information without monitoring becoming burdensome

PRISMA planned monitoring into regularly scheduled field visits. They ensured that each visit included monitoring with several different market actors and covered several different events. For example, during a field visit PRISMA staff would talk with the Sinta extension staff, retailers and a few female and male farmers. The PRISMA staff would schedule field visits to attend several FFDs in one trip.

The team only attended a few of each type of activity in the field, for example the establishment of a few demos and a handful of FFDs. This avoided spending too many resources on monitoring activities so that the team could also focus on monitoring the expected changes outlined in the higher-level boxes in the results chain.

PRISMA varied the intensity of monitoring based on the intervention activities and the progress of the intervention. During 2018 the PRISMA team only had to monitor the activities of Sinta. During 2019 the intensity of monitoring was highest since PRISMA was monitoring the activities of Sinta, the retailers, the government agencies and the reactions of farmers. Because the intervention was going well, PRISMA reduced the intensity of monitoring in the second year of seed sales, focusing more on the distribution of seeds and the behaviour changes among retailers and farmers and less on the activities of Sinta.

PRISMA's sampling during monitoring focused on getting useful information for decision making, rather than being statistically rigorous. For example, each season PRISMA interviewed a few retailers with the highest sales and a few with the lowest. Focusing on the extremes enabled PRISMA to understand the reasons for success and failure. Rather than gather information directly from the other retailers, PRISMA just got information on them from the Sinta staff.

The PRISMA team shared responsibilities for monitoring. The intervention managers and results measurement staff worked together during sector strategy development and intervention design. This enabled the whole team to develop their communication and teamwork. The intervention managers and results measurement staff developed a list of sources and key monitoring questions at the beginning of implementation. Then they divided up the information gathering requirements among the team members. While intervention managers more often conducted field visits, results measurement staff also gathered monitoring information in the field to share the load.

PRISMA also regularly employs area-based field researchers to help with monitoring across interventions and sectors. These field researchers are hired on a contractual basis. Intervention managers work together with them and mentor them during the first season of an intervention so that they can gather information independently during the second season.

Finally, **monitoring is not perceived as a burden when it is integrated with intervention management.** By regularly using monitoring information in decision-making, the staff gained a clear understanding of what information they needed and how they would use it. Getting the information then became just a part of managing the intervention.

4.2.3 How to get information from market actors

The PRISMA team ensured that **they included information sharing requirements in the signed agreement with the partner company.** This was not just a general statement but an Annex of the contract that included a detailed list of the information needed. Prior to developing the contract, the team discussed PRISMA's information needs with Sinta and also what information the company was able to collect and share. They provided Sinta with a format for delivering the information and went through it in detail to ensure the Sinta management understood the format and had systems in place to get the information.⁷

⁷ For more approaches and tips on getting information from businesses, see [Gathering Information from Businesses](#), in the Practitioners' Notes on Monitoring and Results Measurement Series (2018). Donor Committee for Enterprise Development.

When the pandemic hit, Sinta started using YouTube Live and Facebook Live to market seeds and provide information on GAP to farmers. Sinta's use of **online platforms also meant the PRISMA team could more easily monitor activities**. By attending some of the online events, the team was able to see how many people attended, how much engagement there was, what questions they asked, and how agronomists answered questions. Sinta will continue online marketing and information provision even as restrictions ease as it has proven a useful tool. Online monitoring will also be a regular part of PRISMA monitoring going forward. However, other approaches are needed in NTT where phone ownership is much lower than EJ.

Getting information from the government proved more challenging. Contrary to PRISMA's assumption, the government agencies involved did not put a priority on monitoring the seed subsidy program and had limited time to provide information. So, **the intervention managers prioritised the minimum information they needed from the government**. They then made very short agreements with the two provincial government agencies that would allow them to get information from district government agencies only on the seed distribution points, such as a village leader or farmers' group, and the volume of seeds for each distribution point. **The intervention managers then picked four to five of the highest volume distribution points for in-person information gathering**. They talked with the village leader or extension agent, and a few farmers in each of those villages, to verify the volumes and find out to whom the seeds were distributed. They found out, for example, that some villages passed on seeds to other villages, and, in one case, families cooked the seeds instead of planting them!

The PRISMA team also realised that **a good relationship and trust was a key motivation for government agencies to share information**. Throughout the intervention, PRISMA maintained positive relationships with the provincial government seed subsidy manager and other key government managers. For example, if PRISMA had an event in the area the team invited the relevant provincial or district government agencies to join the event.

4.2.4 How to balance quantitative and qualitative information

It can be easy to focus monitoring only on quantitative information – number of FFDs held, number of farmers attending, sales of seeds, etc. Quantitative information can often highlight if behaviour changes are not happening as expected. However, without qualitative information about how and why changes are, or are not, happening, it is difficult to revise an intervention strategy. In addition, opinions of market actors, such as farmers' opinions on quality mungbean seeds at an FFD or a retailer's opinion about trends in the mungbean sector, can provide early signals on the need for adjustment before relevant quantitative information is available.

The PRISMA team found that **a balance of quantitative and qualitative information from monitoring is most useful for decision making**. Most of the quantitative information came from Sinta management and the district governments involved in the subsidy program. The team gathered qualitative information directly from other market actors – Sinta field staff, retailers, farmers' group leaders, and farmers, during regular implementation-related field visits in EJ. In NTT, the team scheduled a couple of field visits to government subsidy areas during mungbean planting and harvesting. Because the PRISMA staff understood the mungbean sector and what they needed to know, they were able to gather market actors' opinions effectively, following up on useful leads as they arose in conversation.

When travel restrictions were initiated because of the pandemic, the PRISMA staff could no longer visit market actors in person. While they could still get quantitative information from Sinta and government agencies, the restrictions made it harder to get qualitative information on market

actors' opinions and how behaviours were or were not changing. As interaction was limited to calls or WhatsApp, the team learned to focus on key qualitative questions only. While this reduced triangulation of quantitative information, it did help to maintain the balance between quantitative and qualitative information.

4.2.5 How to understand if new behaviours are likely to be sustained

The PRISMA team has learned that asking market actors in Indonesia directly if they will continue with new behaviours will not yield accurate answers. The market actors invariably say they will. Instead, **the team asked indirect questions to assess the likelihood of sustainability**. For example:

Sinta: What proportion of your business is mungbean seeds? Do you expect that to increase or decrease? Why? What do you think about market trends for mungbeans? Do you plan to expand into a new area? Where?

Retailers: How are mungbean seed sales compared to the other products you sell? Do you expect to sell more or less of them next year? Have you made an agreement to sell VIMA mungbean seeds next year? Why or why not?

Farmers: How much land do you use for mungbeans compared to your other crops? Why? Are mungbeans profitable for you? Why or why not? Do you have plans to expand your VIMA mungbean plot? If so, why, where and how? If not, why not?

The team also found it useful to **triangulate information on sustainability**. For example, they talked with both the owner and field staff in Sinta. They found that while the owner provided a good overview of company capacity, the field staff were more likely to give realistic information on trends in the mungbean sector in various areas.

4.2.6 How to get information on gender and women's economic empowerment

As many of the farmers involved in mungbean production are women, PRISMA expected that women would represent a significant proportion of the farmers using the VIMA mungbean seeds and applying GAP. In addition, PRISMA expected that the shorter growth time for VIMA compared to local varieties would reduce workloads, which was particularly important for women. Earlier harvesting, compared to other crops, was expected to flatten harvesting peaks, making it easier for women to manage their workloads, and to provide income earlier in the season.

PRISMA agreed with Sinta that the **company's field staff would get attendance lists for all field events**. This allowed PRISMA to disaggregate attendance by women and men.

The PRISMA team **intentionally included women and men farmers in the monitoring interviews**, both during events and during production. This allowed the team to learn about differences in how women and men farmers were changing their behaviours and benefiting from using certified mungbean seeds. Preparing a few questions in advance of the FFDs and field visits during production ensured that the team got the information they needed to understand women's and men's experiences and, particularly, workloads.

4.2.7 How to address differences across the intervention areas

The PRISMA team found that **understanding local behaviours, culture and geographical context enabled them to choose appropriate respondents, and tailor monitoring questions and methods, making them more effective and efficient**. In addition to mungbeans being cultivated in different seasons in EJ and NTT, farmers' behaviour patterns are different as well. By talking with a few company and government extension workers early in the monitoring, the team learned that each

province had a different level of commercialisation for mungbeans. In EJ, farmers were more commercial. They tended to work independently, use more inputs and sell all of their harvest. In NTT, mungbean farming tended to be more communal, led by a community leader who made decisions that other farmers in the community copied. They used few, if any, inputs and kept part of the harvest for consumption and gifts.

This early information enabled the PRISMA team to customise monitoring in each province. In EJ, the PRISMA team interviewed a few farmers separately during monitoring visits. In NTT, the PRISMA team was able to get most of the information they needed from the community leaders, rather than individual farmers. **The team worked together before field visits to customise monitoring questions for each province to efficiently get the information they needed based on the context.**

4.2.8 When and how to start monitoring crowding-in

PRISMA found that they could **identify crowding-in by keeping in touch with a few key market actors**.⁸ After the first year of sales, the intervention managers started to look for signs that more nurseries were developing their own certified mungbean seeds. Because the government research agency, IAARD, was the only source of foundation seeds, keeping in touch with them was a good way to find out if any other nurseries were growing certified mungbean seeds. As PRISMA was also working with IAARD, any additional nurseries starting to grow certified mungbean seeds would likely be a result of both Sinta's and IAARD's behaviour changes. Retailers could also say whether they had been approached by other companies to sell certified mungbean seeds. The PRISMA team focused on the larger retailers as nurseries were likely to approach them first.

The intervention managers also asked these key actors if other businesses were entering or expanding their activities in the mungbean value chain, such as traders or food processing companies. **Asking a few broader questions to these key actors during monitoring also enabled PRISMA to find out about broader trends in the mungbean sector.** As part of the sector strategy, PRISMA was also conducting events for mungbean sector actors together with IAARD. These events were also useful for finding out about new private and public sector initiatives in the sector.

5 Benefits from Monitoring the Intervention

The information that the PRISMA team gained during monitoring was critical for adjusting the intervention, planning the intervention impact assessment, and adjusting the sector strategy. The PRISMA team has found that monitoring allows them to improve results and reduce costs for intervention impact assessment.

5.1 Adapting the Business Model and Intervention

The intervention managers supported Sinta to make a number of adjustments to their business model based on the monitoring information. For example, getting attendance lists from FFDs disaggregated by female and male quickly showed that many men attended FFDs but few women did. The PRISMA team followed up with women farmer leaders to find out why. They learned that women farmers did not want to attend male-dominated events on their own, but would attend in groups. So, PRISMA worked with Sinta and retailers to ensure that they invited women farmers'

⁸ For a more comprehensive description of how to assess crowding-in and other wider market changes, see [A pragmatic approach to assessing system change – how to put it into practice](#) (2020) MCL, Springfield Centre, HPC, DCED.

groups to the FFDs. This early change ensured that more women attended FFDs and increased Sinta's reach to potential customers.

During the pandemic, the distribution of seeds through retailers was disrupted and decreasing. Sinta alerted the PRISMA intervention managers to the problem during regular monitoring calls. PRISMA agreed to provide technical support to Sinta to sell seeds through online channels. It has proven successful, and the company plans to continue this approach even after the pandemic.

5.2 Planning the Post-Intervention Impact Assessment

The information from monitoring enabled the PRISMA team to plan an effective post-intervention impact assessment, informing the decisions below.

Whether to conduct an impact assessment: sometimes programs conduct a post-intervention impact assessment only to find out that few people were reached. PRISMA's monitoring information showed that this intervention was going well, likely reaching farmers at sufficient scale and depth that significant impact could be expected. If few seeds had been sold, then PRISMA would not have spent the resources to conduct an impact assessment.

How to design the impact assessment: the monitoring information enabled PRISMA to decide when to conduct an impact assessment and what information to gather from whom. For example, information on sales by geographical location, retailer and, in some cases, community or farmers' group enabled PRISMA to outline an efficient, yet representative sample, of farmers for the impact assessment survey. PRISMA's understanding of the commercial retailer network and distribution points for the government subsidy program also allowed them to determine a representative sample of those market actors. Finally, the PRISMA team's relationships not only with Sinta but also with other market actors enabled them to get assistance in laying the groundwork for the enumerator teams to gather information.

How to design the questionnaire: getting accurate information during an impact assessment depends on shaping and phrasing questions in such a way that people understand and can respond accurately. PRISMA's monitoring information on how mungbean farmers in EJ and NTT operate differently allowed them to customise questions in the impact assessment to gather accurate data on behaviour changes and benefits in these different contexts. If exactly the same questions had been used in each province, either the impact assessment would have been less efficient by asking unnecessary questions or some impacts, for example on consumption in NTT, would have been missed.

Choosing the most suitable attribution method: agricultural interventions that aim to influence yields often use a comparison among users and non-users in the same area to understand impacts since weather, among other factors, significantly affects yields. Based on monitoring information, the PRISMA team could see that this method would work in EJ where some farmers bought certified seeds and others bought uncertified seeds or used retained seeds. However, during monitoring, PRISMA learned that all the farmers growing mungbeans in NTT used the subsidised seeds from the government. So they chose to use a "before and after comparison with opinion (BACO)" method for the impact assessment in NTT as other methods were not suitable. If they had tried to use a

comparison method in NTT, they would have wasted a lot of time trying to find non-user farmers and might not have included all needed questions for users to understand attribution.⁹

The PRISMA team has found that if monitoring does not provide some information on all the boxes in the results chain, then they have to gather that information prior to designing the impact assessment. At that point, it's hard, and more time consuming, to get that information. The PRISMA team estimated that monitoring resulted in a cost-reduction for impact assessment of approximately 30%. **By getting a preliminary understanding of results through monitoring, the team is able to design an effective impact assessment on time and at reduced cost.**

5.3 Adjusting the Sector Strategy

The information from monitoring this and other interventions informed the adjustments to PRISMA's mungbean sector strategy. The team adjusted the strategy to increase focus on systemic change on a wider scale. As a result of the adjustments, the PRISMA team has increased their projections for the number of people that will benefit from the sector strategy by 47%. Specifically, PRISMA decided to:

Expand the work with IAARD. The scope focuses on IAARD's capacity to commercialise foundation seed in the market; advocate for improved regulations on the procedure for procuring parent-seed; inform a wider range of market actors on GAP; and reach other areas in Indonesia with pockets of mungbean farmers. The expanded scope of work with IAARD aims to attract various actors to enter the mungbean sector, from small-scale nurseries to large-scale seed producers.

Engage more systemically with national and sub-national government agencies to support the mungbean seed subsidy program. This intervention showed that sourcing good quality seed is critical to a successful subsidy program. Receiving quality seeds opens opportunities for poor farmers to increase their incomes and continue planting mungbeans for consumption and sale.

Encourage more buyers, such as food processors, to purchase domestically-grown mungbeans. Maintaining high demand for mungbeans will help the sector grow and encourage more farmers to cultivate mungbeans as a priority crop in the dry season.

6 Lessons Learned

There are key lessons learned from this case on monitoring both efficiently and thoroughly enough to support decision making.

Plan monitoring carefully: take the time to plan monitoring so that the team can gather needed information efficiently. Understand the intervention and business model so that monitoring takes place when information is available and avoids times when getting new information is unlikely. Don't assume that all team members will know how to gather information. Discuss sources and questions before going to the field or getting information remotely.

Customise monitoring: it's tempting to cut/paste the monitoring plan, but this leads to inefficiency. Take the time to tailor monitoring to the situation on the ground, considering aspects such as seasonality, local behaviours and geography. Tailoring will make information gathering more effective and efficient.

⁹ For more information on choosing an appropriate attribution method, see the [DCED Results Measurement Standard Guidelines for Measuring Attributable Change](#) (2021) and [Measuring Attribution: a practical framework to select appropriate attribution methods](#) (2015). Donor Committee for Enterprise Development.

Be creative: don't always revert to the same tools. Thinking creatively can make monitoring more efficient. Consider if tools that have proven useful during travel restrictions may be useful compliments to field visits when restrictions are eased.

Adjust monitoring during implementation: monitoring doesn't have to always follow a pre-determined plan. Make adjustments to monitoring as the team discovers the best sources of information and understands the context of market actors better. These adjustments can save time and improve the quality of information gathered.

Gather both quantitative and qualitative information: some teams get stuck on the numbers. Discuss what qualitative information will be useful in advance so that teams get information they will use. Other teams get stuck on opinions. Ensure quantitative information is gathered to help provide an unbiased picture of progress. Actively balance the two.

Get information from users and non-users: actively seek out the opinions of a few non-users, as well as users, when in the field. Getting information from both users and non-users can quickly highlight gaps in a business model or intervention approach.

Get information from women and men: many programs only consider disaggregating data for impact assessment. This is too late to adjust implementation. Intentionally get information from women and men, as well as other groups of interest. Don't aim for statistically rigorous sampling; a few is sufficient. If those few highlight a concern, then follow-up with more if needed.

Watch for wider changes in the market: it's easier to spot wider changes in markets as they happen. Integrate a few questions about wider market changes in monitoring. If these questions identify an interesting development, then gather more information if needed.

Monitoring is the 'unsung hero' of results measurement. Planned carefully, and implemented wisely, it can provide a wealth of benefits for programs at modest cost.

Annex 1: More Information on the Mungbean Sector Strategy and Intervention

Background on the Mungbean Sector Strategy

Mungbean (*Vigna radiata*) is a grain legume common to South and Southeast Asia. The crop is popular among farmers as it fits well into the regions' rice-based farming system because of its short duration, low fertiliser requirement, and good performance under heat and drought stresses. Globally farmers produce about 5.4 million tonnes of mungbeans each year (2015-2017), with India and Myanmar being the leading producers. The global mungbean market is growing, driven by population growth, recognition of mungbeans' health benefits and consumers switching from animal to plant protein. Indeed, mungbeans have good potential to feed future populations as they are a good source of protein and iron for human nutrition.¹⁰

However, mungbean is not a priority crop in Indonesia. Its harvested area is relatively small when compared to other legumes, and both mungbean production and harvested area have been trending downwards. Similar to peanuts and soybeans, mungbean is an interval cash crop which is often grown in the dry season between the rice paddy and maize seasons. Because mungbean is drought-resistant, it is appropriate for poor farmers who have limited access to irrigation and live in dry regions in Indonesia.

To increase yields and quality, smallholder farmers in Indonesia need to use better quality seeds and GAP appropriate to mungbeans. Productivity will increase more when farmers use certified seeds and GAP together rather than only one or the other. IAARD, in its research role, produces a mungbean seed variety called 'VIMA' which is not available commercially. The VIMA seed variety outperforms local varieties, yielding approximately 1.5 tonnes/hectare compared to 1 tonne/hectare for other seed varieties. It can be grown in 60 days as compared to 70-90 days for other seed varieties. It is also drought-resistant. These characteristics make it appropriate for smallholder farmers in Indonesia.

Details of the Seeds and GAP Intervention

It was expected that Sinta would produce approximately 24 tonnes of VIMA mungbean seeds by the end of 2018. Sinta management planned to sell half of that through its commercial distribution network in EJ and half to the government subsidy programs in the provinces of EJ and NTT.

Supported by PRISMA, Sinta management made a plan for commercial sales based on their market assessment. The company planned to sell through five Intermediate Service Providers (ISPs) in each target district of EJ (25 ISPs in total). These were a mix of conventional agricultural inputs retailers, farmers group leaders and female farmers cooperatives. Selection was based on capacity, interest and potential reach. Sinta aimed to engage 50% women-managed ISPs because research showed that female farmers were underserved, while women represented approximately one-third of farmers in terms of decision-making and involvement in mungbean production. As part of developing relationships, Sinta planned to provide all ISPs with information on GAP for mungbeans.

During their first year of sales, the company management planned to organise four demonstrations in each district (20 in total) in EJ to market the seeds. They planned to engage the local ISPs in the selection of the lead farmers and in the implementation of the demos. Sinta management planned

¹⁰ International Mungbean Improvement Network (2022) <https://avrdc.org/intl-mungbean-network/>

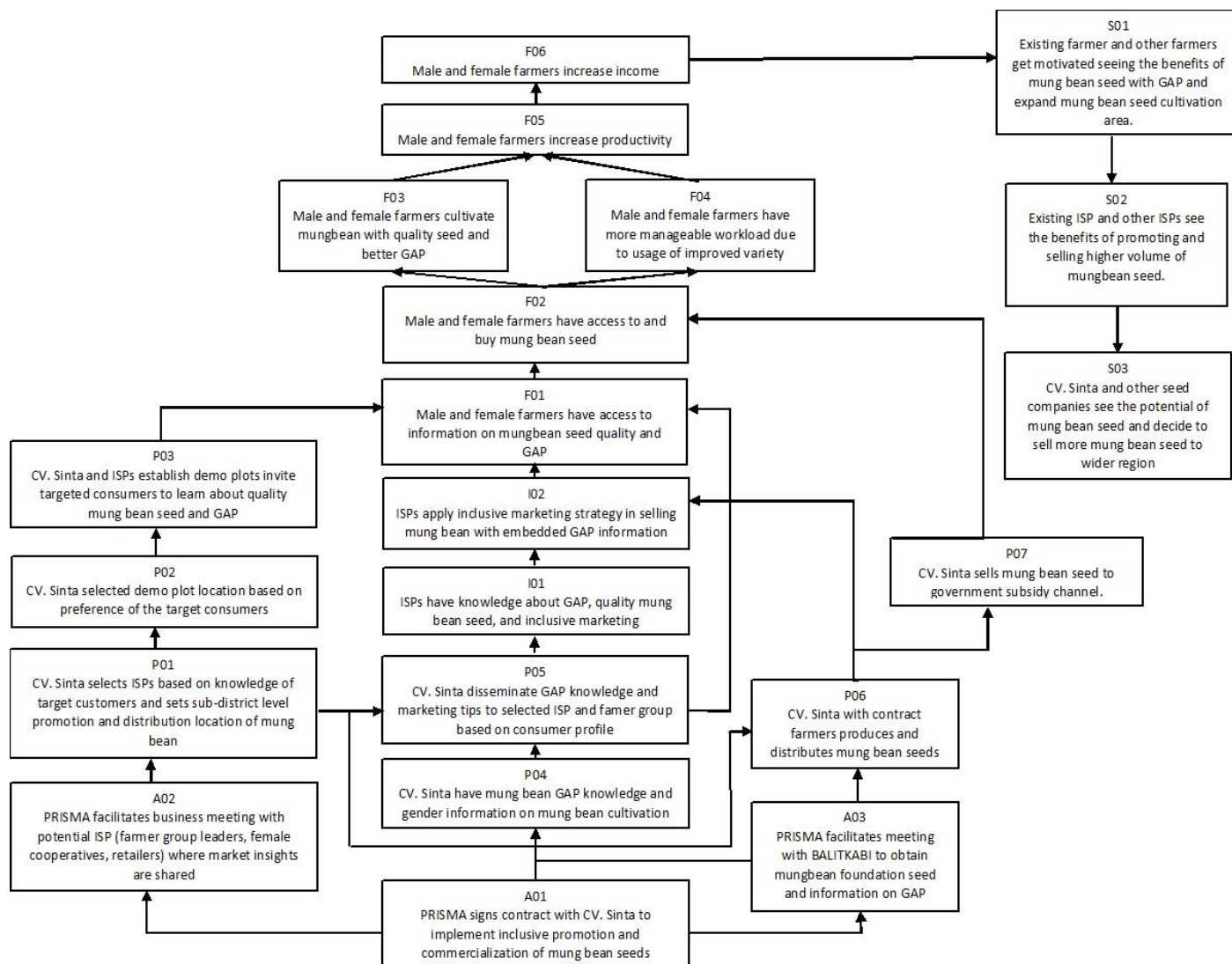
to establish the demos in the off-season (February - May) in EJ. At that time, company extension staff, retailers and lead farmers would inform farmers about the VIMA variety and demonstrate appropriate GAP. Sinta management then expected farmers to buy the certified seeds before the planting seasons started in July/August. Sinta planned to organise two to three farmer field days (FFDs) per demo and expected approximately 75 farmers to attend each field day. The company planned to invite at least 40% female farmers. In total, Sinta expected to sell to approximately 1,600 farmers by the end of the first year, each using 7 kg of seeds on 0.25 hectare of land on average.

Under the Indonesian government's agricultural inputs subsidy program, provincial governments support district-level government agencies to distribute seeds for free in areas where the majority of farmers are poor. In these areas, farmers are not used to buying any type of certified seeds, and there are no commercial distribution networks selling certified seeds. The district-level government agencies distribute free seeds typically through lead farmers to farmer groups. The provincial government sources the seeds from private sector companies, paying 5-10% below the commercial market price. The government aims to use good quality seeds and varieties but faces challenges procuring the seeds. Consequently, they often buy unqualified seeds from some nurseries, or they can't fulfil their quotas.

PRISMA linked Sinta to the provincial governments of EJ and NTT to supply VIMA mungbean seeds for the subsidy programs in those two provinces. Sinta signed contracts with the provincial agencies in EJ for 4 tonnes and NTT for 8 tonnes. Sinta did not plan any other activities in the subsidy program areas. The district governments in each province were expected to handle the distribution of seeds to farmers as well as any extension services on GAP.

IAARD had not actively marketed its VIMA mungbean foundation seed prior to the collaboration with PRISMA, and production was limited. The PRISMA team hoped that a successful intervention would motivate IAARD to develop a better system for foundation seed development, particularly production and marketing. IAARD could then serve and encourage more nurseries to produce better quality mungbean seed.

Annex 2: Intervention Results Chain



Notes:

- “CV.” precedes company names in Indonesia
- ISP: Intermediate Service Provider
- BALITKABI is the Indonesia language name for the IAARD

Annex 3: Intervention Indicators

Code	Result Chain Box Name	Indicator
A01	PRISMA signs contract with Sinta to implement inclusive promotion and commercialisation of mungbean seeds	<ul style="list-style-type: none"> Amount of partner investments (IDR)
A02	PRISMA facilitates business meetings with potential ISPs where market insights are shared	<ul style="list-style-type: none"> No. of meetings with ISPs Insights reported
A03	PRISMA facilitates meeting with IAARD to obtain mungbean foundation seed and information on GAP	<ul style="list-style-type: none"> Meeting between IAARD and Sinta is held
P01	Sinta selects ISPs based on knowledge of target customers, and sets sub-district level promotion and distribution location of mungbean	<ul style="list-style-type: none"> No. of female ISPs selected No. of male ISPs selected
P02	Sinta selects demo plot locations based on preferences of target consumers	<ul style="list-style-type: none"> No. of demo plot locations selected Locations of planned demo plots
P03	Partner and ISPs establish demo plots and invite male and female farmers to learn about quality mungbean seed and GAP	<ul style="list-style-type: none"> No. of demo plots established and their locations No. of ISPs working with partner to establish the demo plots No. of FFDs organised in total and by demo plot No. of ISPs that organise FFDs Reasons for ISPs to organise or not organise the FFDs No. of farmers attending the FFDs in total and by demo plot How the FFDs are conducted Satisfaction of the farmers with FFDs
P04	Sinta have mungbean GAP knowledge and gender information on mungbean cultivation	<ul style="list-style-type: none"> Sinta has mungbean GAP knowledge Sinta has gender information on mungbean cultivation
P05	Sinta disseminates GAP knowledge and marketing tips to selected ISPs and farmers groups based on consumer profile	<ul style="list-style-type: none"> No. of GAP knowledge dissemination events organised No. of ISPs attend GAP knowledge dissemination events No. of farmers groups and farmers attend GAP knowledge dissemination events No. of ISPs that received marketing tips
P06	Sinta with contract farmers produces and distributes mungbean seeds	<ul style="list-style-type: none"> Quantity of mungbean seed produced (Metric tonne) Additional sales revenue (IDR/annum) of partner from mungbean seeds sales Number of contract farmers (male/female) Satisfaction of contract farmers with producing mungbean seeds
P07	Sinta sells mungbean seeds to government for seed subsidy program	<ul style="list-style-type: none"> Quantity of seeds sold for government subsidy program (Metric tonne)
I01	ISPs have knowledge about GAP, quality mungbean seeds, and inclusive marketing strategy	<ul style="list-style-type: none"> No. of ISPs that have knowledge about GAP, quality mungbean seeds, and inclusive marketing strategy Reasons for changes in knowledge

Code	Result Chain Box Name	Indicator
I02	ISPs apply inclusive marketing strategy in selling mungbean seeds with embedded GAP information	<ul style="list-style-type: none"> Quantity of mungbean seeds sold by ISPs (Metric tonne/annum), male/female Total value of additional ISP turnover (IDR/annum) Number of ISPs with increased sales turnover (male/female) No. of ISPs that apply inclusive marketing strategy in selling mungbean seeds and disseminating GAP How ISPs implement the inclusive marketing strategy and disseminate GAP Reasons for applying or not applying inclusive marketing strategy and disseminating GAP
F01	Male and female farmers have access to information on mungbean seed quality and GAP	<ul style="list-style-type: none"> No. of farmers who have better knowledge on mungbean seed and its cultivation (male/female) Reasons for changes in knowledge
F02	Male and female farmers have access to and buy mungbean seed	<ul style="list-style-type: none"> No. of farmers using quality mungbean seeds (male/female) Farmers' reasons for buying or not buying quality mungbean seeds (male/female)
F03	Male and female farmers cultivate mungbean with quality seed and better GAP	<ul style="list-style-type: none"> No. of farmers who cultivate quality mungbean seeds (male/female) How farmers cultivate quality mungbean seeds (male/female)
F04	Male and female farmers have more manageable workloads due to use of improved variety	<ul style="list-style-type: none"> Farmers' workloads: volume of work and timing of work (male/female) Opinion on workload and timing (male/female)
F05	Male and female farmers increase productivity	<ul style="list-style-type: none"> No. of farmers who get a productivity increase from using quality mungbean seeds (male/female) Yields (Metric tonne /hectare /annum) Reasons for increasing or not increasing yields (male/female)
F06	Male and female farmers increase income	<ul style="list-style-type: none"> No. of farmers who increase net additional income from mungbeans (male/female) Net additional income (IDR/annum)
S01	Existing farmers and other farmers get motivated seeing the benefits of mungbean seeds with GAP and expand mungbean cultivation area.	<ul style="list-style-type: none"> Farmers' opinions on continuing to cultivate quality mungbean seed (male/female) No. of new farmers buy and use quality mungbean seed (male/female) No. of new farmers that increase yield and income from using quality mungbean seed (male/female) Reasons more farmers try cultivating quality mungbean seeds
S02	Existing ISPs and other ISPs see the benefits of promoting and selling higher volume of mungbean seed.	<ul style="list-style-type: none"> ISPs' opinions on continuing selling quality mungbean seeds, applying inclusive marketing strategy, and disseminating GAP (male/female) No. of new ISPs sell quality mungbean seeds (male/female) New ISPs' opinions on the first trial of selling quality mungbean seeds (male/female) Quantity of seed sold by new ISPs (male/female)
S03	Sinta and other seed companies see the potential of mungbean seeds and decide to sell more mungbean seeds to a wider region	<ul style="list-style-type: none"> Sinta's opinions on continuing to sell quality mungbean seeds List of expansion sales areas No. of other nurseries that produce and sell quality mungbean seeds Quantity of seeds sold by new nurseries

Annex 4: Intervention Monitoring Plan

This plan uses a time and actor-based approach for each market channel and province to help think through monitoring in the different phases of the intervention for each market channel and location. It aims to provide an overview to encourage efficiently gathering information from the various market actors. The channel / province combinations are:

- Market 1: Commercial distribution in EJ
- Market 2a: Government subsidy program in EJ
- Market 2b: Government subsidy program in NTT

For easy viewing on paper, the time periods when there are no monitoring activities are not included. However, in practice, it is easier to include these across all channels so that all timeframes are represented, and the team can see the time periods for monitoring in different locations based on seasonality.

Note that the post-intervention impact assessment is not described but would be included in the plan in practice.

Source / Time		Mar-Dec 2018	Feb-Jun 2019	May-Oct 2019	Feb-Jun 2020	May-Oct 2020
Market 1: Commercial distribution EJ		<i>Activities with Sinta: producing seeds, establishing distribution network</i>	<i>Marketing and info on GAP including demos and FFDs</i>	<i>Farmers buying, using and harvesting first season</i>	<i>Marketing and info on GAP including demos and FFDs</i>	<i>Farmers buying, using and harvesting second season</i>
Sinta	What	A03, P04: get foundation seeds and GAP knowledge A02, P01, P02, P05: set up distribution channel P06 produce seeds	P03, P05: market and provide GAP info to farmers I01, I02: ISP knowledge and behaviour change	P06: produce seeds for second year S03: intention to continue	I02: ISP behaviour change F01, F02: farmer uptake	S03: intention to continue, other nurseries crowding-in
	How	in-depth interviews and company records	in-depth interviews and company records	in-depth interviews and company records	in-depth interviews and company records	company records, in-depth interviews with CV Sinta and with similar nurseries
ISPs	What	P05: Sinta builds ISP capacity	P05: Sinta builds ISP capacity I01, I02: ISP knowledge & behaviour F01: farmer knowledge	F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue	I01, I02: ISP knowledge & behaviour F01: farmer knowledge	F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue
	How	in-depth interviews with a few selected M/F ISPs	in-depth interviews with a few selected M/F ISPs, observe some demos & FFDs	in-depth interviews with few selected M/F ISPs	in-depth interviews with few selected M/F ISPs	in-depth interviews with few selected M/F ISPs
Farmers	What		F01: farmers knowledge	F01 F02, F03, F04, F05, F06, S03: farmers' knowledge, behaviour, performance, benefit, likelihood to continue		F01 F02, F03, F04, F05, F06, S03: farmers' knowledge, behaviour, performance, benefit, likelihood to continue
	How		in-depth interviews with a few M/F farmers that say they will/will not apply	in-depth interviews with selected M/F farmers that do/do not apply		Impact Assessment

Source / Time		April- June 2019	July-Oct 2019	April-June 2020	July-Oct 2020
Market 2a: Government distribution EJ		<i>Government agencies purchasing and distributing seeds to farmers in EJ first season</i>	<i>Farmers using seeds and harvesting mungbeans first season</i>	<i>Government agencies purchasing and distributing seeds to farmers in EJ second season</i>	<i>Farmers using seeds and harvesting mungbeans second season</i>
Government procurement and distribution agencies	What	P07: purchase seeds F02: distribute seeds	F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue	P07: purchase seeds F02: distribute seeds	F02, F03, F05, S02: farmers' behaviour, performance, likelihood to continue
	How	in-depth interviews and records of government subsidy program	in-depth interviews and records of government subsidy program	in-depth interviews and records of government subsidy program	Impact Assessment
Farmers	What		F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue		F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue
	How		in-depth interviews with few selected M/F farmers that do/do not apply		Impact Assessment

Source / Time		Oct-Nov 2018	Dec 2018-Apr 2019	Oct-Nov 2019	Dec 2019-Apr 2020
Market 2b: Government distribution NTT		<i>Government agencies purchasing and distributing seeds to farmers in NTT first season</i>	<i>Farmers using seeds and harvesting mungbeans first season</i>	<i>Government agencies purchasing and distributing seeds to farmers in NTT second season</i>	<i>Farmers using seeds and harvesting mungbeans second season</i>
Government procurement and distribution agencies	What	P07: purchase seeds F02: distribute seeds	F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue	P07: purchase seeds F02: distribute seeds	F02, F03, F05, S02: farmers' behaviour, performance, likelihood to continue
	How	in-depth interviews and records of government subsidy program	in-depth interviews and records of government subsidy program	in-depth interviews and records of government subsidy program	Impact Assessment
Farmers	What		F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue		F01 F02, F03, F04, F05, F06, S02: farmers' knowledge, behaviour, performance, benefit, likelihood to continue
	How		in-depth interviews with few selected M/F farmers that do/do not apply		Impact Assessment