



GrowAsia



Case Study
Coffee Sector in Indonesia
The Journey



PISA Agro

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Grow Asia

Grow Asia is a multi-stakeholder partnership that aims to reach 10 million smallholder farmers by 2020, helping them access knowledge, technology, finance, and markets to increase their productivity, profitability, and environmental sustainability by 20%. Grow Asia brings together Southeast Asia's smallholders, governments, companies, NGOs, and other stakeholders, to develop inclusive and sustainable value chains that benefit farmers. Grow Asia comprises the regional Grow Asia secretariat; country partnerships, each supported by local secretariats; and the working groups, which focus on specific issues and crop value chains.

PISAgro

The Partnership for Indonesia's Sustainable Agriculture (PISAgro) is a multi-stakeholder platform with a 20-20-20 vision - to improve smallholder farmers' yields, incomes and reduce greenhouse gas emissions by 20%. PISAgro facilitates collaboration among government, international and local companies, NGOs, farmer organizations and other stakeholders in developing inclusive and sustainable value chains. Working Groups (WGs) co-design and co-implement these value chain projects, which are locally driven, often led by the private sector, and bring together stakeholders from different disciplines to leverage their expertise.

Purpose of the Case Study

As part of a series, this case study is a tool to help new and prospective partners better understand how Working Groups (WGs) are launched, evolve, and function. It documents the journey of how multiple stakeholders come together to co-create value chain projects on-the-ground. The case study also highlights partners' contributions and leadership and provides anecdotal evidence of the benefits derived from working in partnership. This case study will be a useful guide for other stakeholders in Indonesia, including the government, private sector, and farmer organizations, crop Working Groups, Grow Asia Country Partnerships and New Vision for Agriculture (NVA) initiatives globally.

Started in 2013 before Grow Asia was set up, the coffee WG project is considered a success story within PISAgro. The coffee project has a unique hub-and-spoke structure where Nestlé coordinates different stakeholders in implementing various project sub-components. In particular, the way Nestlé works with the local integrators, or Kelompok Usaha Bersama (KUBs), is key to the success of the project. Grow Asia commissioned this case study to showcase an instance of how multi-stakeholder projects might be structured, in the hopes that some aspects and lessons can be relevant for other partners.

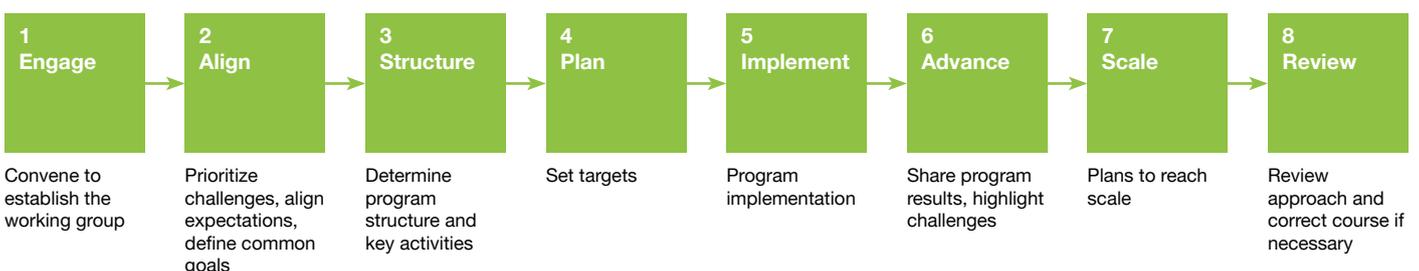
NVA 8-Step Framework for Action

To meet the challenge of sustainably feeding 9 billion people by 2050, the agriculture sector will need to undergo major transformation. Achieving this transformation will require new approaches and extensive coordination among all stakeholders in the agricultural system. Market-based approaches, while not the only answer, will be an important solution in the “toolbox” to drive change – providing the efficiency, scalability and market-based incentives to power a large-scale effort.

The partnership models that have emerged from these efforts are diverse, but they are built upon a shared vision, a set of core principles, and series of key tactical steps that are similar across many countries. These elements have been captured here and described as the New Vision for Agriculture (NVA) Country Partnership Model.

Building on the thought leadership provided by the World Economic Forum, Grow Asia has organized this case study according to the **NVA 8-step Framework for Action**. While presented in a linear way, it is important to note that the partnership has and continues to evolve, with multiple steps occurring concurrently and at times re-occurring. These steps presented by the World Economic Forum were designed for Country Partnerships, but have been adapted for Working Groups as a framework for the core set of activities undertaken by members during their journey.

Figure 1
NVA's 8-step Framework for Action



Introduction

The coffee WG was led by Nestlé, who started its activities in the 1990s when the company created its Agri-Services department at its factory in Lampung. Nestlé is committed to sustainable agriculture and farmer development, in large part driven by its core belief that the long-term sustainability of its supply of quality coffee can only be achieved when farmers are equipped with knowledge and capabilities. Within Nestlé, this project falls under its global Nescafé Plan, in line with Nestlé's principles of Creating Shared Value (CSV) for both society and shareholders.

Nestlé started working with local farmers through its Agri-Services, or its coffee suppliers' development program. The program's goal was to expand farmers' knowledge of coffee production in order to increase the availability of quality coffee. In parallel, Nestlé Agri-Services also introduced training on quality-based pricing, as previously farmers would sell produce to middlemen without considering the quality of their beans. Gradually, the program evolved to include on-farm training about good agriculture practices (GAP) and capacity building for farmer organizations, as Nestlé started to involve farmer groups and Kelompok Usaha Bersama (KUBs).

Nestlé also started to engage the Indonesian Coffee and Cocoa Research Institute (ICCRI), a state-owned enterprise, to initiate its replanting program, and Rainforest Alliance for farmer training. This program eventually became part of the global Nescafé Plan for Sustainable Agriculture, and laid the foundations for the multi-stakeholder coffee WG program in Indonesia.



1 Engage

Expansion of coffee WG membership

In order to achieve its goals, Nestlé realized the need to expand its program to include new partners. The program has since undergone several phases of growth to reach the scale and number of stakeholders it currently has. As mentioned earlier, ICCRI and Rainforest Alliance were already partners of Nestlé before the coffee WG was established. Since the coffee WG was established in 2013, it has engaged many partners – the variety and quality of whom reflecting the multi-stakeholder and holistic nature of the program.

To expand its farmer training activities, Nestlé has sought the engagement of Sustainable Trade Initiative (IDH), a Dutch organization that aims to develop farmers for sustainable agriculture. The commitment of IDH to provide matching grants for farmer trainings, funded by the Dutch government and the Swiss State Secretariat for Economic Development SECO, was a major component of

the working group activities. For the development and delivery of training modules, Nestlé has continued its engagement with Rainforest Alliance. Seeing the importance of providing financial services for coffee farmers, the Coffee WG engaged Rabobank Foundation, with its reputation for lending support to farmer development in the country. To further improve farmer access to financial services, the WG also engaged Telkomsel, a state cellular network provider, and Bank Tabungan Pensiunan Nasional (BTPN), to extend conventional and branchless banking services to farmers.

For input supplies, the Coffee WG also engaged Yara to provide quality fertilizers, and Syngenta to provide crop protection products. As part of their approach to doing business, both companies train suppliers about product quality and cultivation practices, allowing them to build up close relationships with the farmers.

PISAgro providing platform for engagement

As the national multi-stakeholder partnership platform for Indonesian agriculture, PISAgro was the natural recruitment stage for new coffee WG members. Through its general meetings and periodic conferences, the platform has allowed both members and non-members to come together, thus facilitating the recruitment of new partners. Interest to join and collaborate on existing projects is gauged through presentation of farmer development services and the distribution of printed materials.

“Farmers’ capacity building has been a continuous action in our organization because we believe in sustainable agriculture. But through this working group, we can achieve so much more compared to when we do it alone”

Wisman Djaja,
Director of Sustainable Agriculture Development & Procurement,
Nestlé Indonesia



2 Align

Sharing a common vision

Having a common vision with the WG is an important precondition for effective participation. WG members have long track records of working with coffee farmers and demonstrating commitment to farmer development and sustainable agriculture. This aligned well with the WG's aims of securing a sustainable supply chain of traceable coffee beans, and ensuring that all involved stakeholders, particularly smallholder farmers, benefit.

Well-founded business case

It was equally clear to the WG that a shared vision was not sufficient for effective participation in the WG. Partners had to have a substantiated business case for sustainable, long-term involvement in the WG. Despite their goals to benefit smallholder farmers, the WG did not consider their interventions to be social assistance programs for farmers.

From the private sector, Nestlé as off-taker clearly benefited from obtaining access to steady supplies of coffee beans. Yara, as an input supplier, saw this as an opportunity for market entry in the area and to gain a foothold in the niche market of coffee farmers. BTPN and Telkomsel, as financial services provider and mobile network operator, hoped to use the program to expand their user base of regular savings products and digital finance products that promoted the government's cashless and branchless banking programs.

For the financing program, Rabobank, through its Foundation arm and with its focus on agri-financing, felt that the WG provided a conducive environment for farmer financing. Rabobank Foundation had certain business criteria that had to be met before deciding to align with the program and scale up its work, namely the performance for the KUB as a lending organization, and farmer repayment rates.

ICCRI, as a research institute and state-owned plantlets supplier, saw opportunities to increase plantlet sales and more importantly, gain access to a farmer group base to test the development of new clones, thus contributing to the development of coffee in Indonesia.

Civil society partners and other non-profit institutions, had benefits from participating in the WG too. IDH and Rainforest Alliance considered the partnership as a way to deepen their work in building sustainable trade and environmental conservation, through working with private sector partners and other stakeholders in the WG.

Identifying main challenges

Having established a common understanding, the coffee WG set out to address persistent problems faced by farmers and other stakeholders along the coffee supply chain. Low productivity, a result of improper plant materials and cultivation practices, was a major problem. Middlemen along the

value chain were charging high costs, keeping farm-gate prices low. Local coffee trading also did not differentiate between the quality of coffee beans, thus discouraging farmers from improving cultivation and post-harvest practices, and resulting in low quality beans.

Setting objectives

When it was established, the WG set objectives to have 20,000 farmers trained and certified between 2013 and 2020. These objectives were communicated to related parties and were largely developed based on Nestlé's on-field experiences in the Tanggamus district. Partners agreed to these objectives, and were also clear about their respective areas of expertise and roles that they would play in the partnership. This contributed to an environment of close collaboration and mutual respect among partners.

Aligning standards and existing best practice

To prevent reinventing the wheel, the WG decided to incorporate standards and best practices from various farmer assistance activities. For example, the WG adopted five priority programs from Nestlé's Nescafe Plan and its theory of change: increase yield, improve quality, entrepreneurship (agri-preneur), soil improvement, and water conservation. The WG also used IDH's 4C (Common Code for the Coffee Community) standards and programs, an established set of standards used globally.



3 Structure

The Coffee WG started out with a simple structure that expanded and evolved as the program grew. Even as the number of partners increased, across all the interventions, the KUB plays a crucial role that coordinates farmer participation in the working group.

KUB – introduction

A KUB is an independent organization that was established to organize farmer participation in the value chain project. In the early phases of Nestlé's operations in Tanggamus, Nestlé realized that it could not work alone in organizing farmers and building capacity for them. Nestlé took the strategic step to work with informally operated integrators in its network and support them to become KUBs.

KUB – Role of ICS

As mentioned above, KUBs play crucial roles in coordinating farmer participation through farmer groups. Each KUB recruits a number of farmers groups, each with about 20-30 members and with their own leadership and management structures in place. Internal Control System (ICS) staff within the KUB are appointed – usually farmer champions who receive additional training by Nestlé and the KUB. ICS staff oversee the training and monitoring of farmer groups at the field schools (sekolah lapang or SL), and are also responsible for socializing the WG's programs. Besides the ICS staff, the WG recently added a new role recently – Internal Management System (IMS) staff. IMS staff are responsible for farmer information and administrative matters.

Farmers' feedback and complaints are generally voiced through farmer groups, or through ICS to the KUB. ICS staff will meet monthly with related parties in the WG – providing a platform for partners to review project implementation. For example, ICS staff have shared

experiences and suggestions on module content and delivery methodologies; Rainforest Alliance has also added a module for companion crops because of farmer feedback provided by ICS staff. Besides this, direct interaction between farmers and other partners' program field staff provide another channel for feedback and opinions from farmers.

KUBs vs. cooperatives

A cooperative or member-based farmer association (*gapoktan*) was considered unsuitable for collaboration because of trust issues, especially in Tanggamus where such organizations have a history of fraud. This makes it challenging to build confidence of farmers in the program.

The WG also felt that a cooperative would not be as commercially-oriented and focused as the WG would have liked. Members of cooperatives usually have their own income generating activities, which might prevent them from concentrating wholly on the cooperatives' overall business interests. On the other hand, a KUB, being individually-owned, is usually the main business of the owner, who would then push hard to develop its commercial interests. KUB owners make their own investments decisions on machinery, and earn IDR 700 for every kilogram of coffee beans sold to Nestlé. This fee goes towards the KUB's operational costs, including payment of ICS staff salaries, and KUB profits.

The WG also preferred working with KUBs as it felt that KUBs had greater flexibility in terms of decision-making. Working with cooperatives would usually require majority consensus, which might make them slower in terms of responding to market dynamics. On the other hand, the KUB owner can respond much more quickly and decisively.

KUB – criteria for selection

The fact that the KUB is individually-owned means that proven reliability and trustworthiness are key criteria when it comes to selecting KUBs to partner with. Nestlé conducted an initial mapping of the informal integrators, and selected those who had good character, proven track record of interest in capacity building for farmers, and had large networks of farmer suppliers. This strategy has been generally successful in identifying integrators who would go on to form strong KUBs.

KUB – capacity building and sustainability

The WG has incorporated measures to ensure the sustainability of the program through capacity building for the KUBs. At the beginning, Nestlé would fully subsidize the salaries of ICS staff. However, as the KUB progressed, the business model allowed for financial independence and sustainability, and responsibility for ICS staff has been handed over to the KUB.

Hub and spoke model – Nestlé as leader

The WG adopts a hub-and-spoke model with sub-groups spearheading the various projects that comprise the WG program. Nestlé takes on the leadership role within the WG, and manages the various sub-groups, and partners, from the hub. The WG originally started with two sub-groups – GAP training and replanting – and has since evolved to four sub-groups, with the addition of Access to finance and Branchless banking. Partners in sub-groups are not necessarily involved in other sub-groups, and hence might not interact with all other partners on a regular basis. As the hub, Nestlé coordinates these various components, especially when it comes to engaging new members, and ensures that sub-group projects contribute to the achievement of the WG's overall objectives.



Nestlé – internal staffing and organization of program

Strong leadership and commitment by Nestlé has been key to the coffee WG's success, even as the program continues to evolve with new partners coming on board. Nestlé has generally succeeded in driving the formulation of clear ideas by the WG, and building effective communication among all the stakeholders involved.

In order for effective implementation of the coffee WG program in the field, Nestlé provides direct involvement of its operational staff. As part of Nestlé's Agri-Services unit, a team of agronomists handle specific program activities and maintain coordination among all participating WG members in the sub-group. The Agri-Services team is divided into three units:

1. Farmer Connect

Responsible for the post-harvest process, i.e. overseeing the coffee selection process and monitoring the delivery of produce from farmers to KUBs, and from KUBs to Nestlé's factories. Generally, this team supports the KUB's capacity building efforts relating to coffee traceability, the loan program, and the cashless and branchless banking program.

2. 4C Farmer

Responsible for the monitoring of farmers' on-farm activities. This unit oversees farmer training, 4C certification, and the development of demo plots. Agronomists work directly with the KUB's ICS staff for training-of-trainer activities, transferring knowledge to farmers while building capacity of KUB for farmer training. This unit also manages the micro-credit scheme for 4C farmers, where micro-credit is provided in the form of fertilizer.

3. Coffee Development

Responsible for the improvement of quality and quantity of farmer production. This unit monitors the research and development of quality seeds, planting methods and GAP. They also manage the Edu Farm where the quality seeds are developed.

The reality is that effective partnership in a multi-stakeholder project remains complicated, and requires a lot of coordination to have a smooth implementation process. Sub-group coordination at the field level is essential to drive and monitor activities in the field.

Communications

As the WG leader, Nestlé plays a big role in ensuring smooth flow of communications within the WG. This takes place in the form of both formal and informal discussions. Among partners at the executive level, Nestlé's Sustainable Agriculture Development Director is directly involved in communications. Field-level project communications are mainly conducted among sub-group members, as Nestlé agronomists facilitate discussions and monthly meetings. However, updates on activities and achievements will be shared to all members of the WG. This is partly supported by the PISAgro secretariat, who coordinates activity reports, general meeting attendance, and other announcements.

Data collection

Each partner organization manages data collection relevant to their respective activities. Nestlé gathers information on the KUB coffee supply from their processing plants, and also compiles information from their agronomists who interact regularly with other partners. Rabobank Foundation field staff manage the information on KUB loan – though they do not directly manage the farmer loans, they monitor farmer repayment through KUB loan tracking to understand the loan quality and performance. Rainforest Alliance manages farmer training information, such as records of sessions conducted and farmer attendance. BTPN and Telkomsel gather data on account opening and usage of digital financial services. ICCRI would oversee information on plantlets, including the volumes delivered to nursery, used on demo plots, and distributed to farmers for replanting.

On farmer-level data, the KUB will consolidate various information, including farmers' coffee bean sales, training, loan disbursement and repayment, plantlets distribution, and replanting. Within the KUB, ICS staff will monitor on-farm related activities, namely GAP training, plantlets distribution and replanting, demo plot activities, and farm conditions as observed during monitoring. IMS staff will monitor off-farm data that comes as part of coffee bean sales, such as the quantity, quality of coffee bean supply, and the tracking for traceability. To support the IMS staff in record keeping, they receive intensive training and assistance from Nestlé's agronomist. Precise documentation and data accuracy is important to ensure that farmers who meet the 4C standards receive the premium payments of IDR 550/kg.

As WG leader, Nestlé would then compile and share period reports during monthly meetings, and also report WG activities to its head office in Jakarta. Information from these reports are then shared and disseminated in PISAgro annual meetings and publications.



4 Plan

Pragmatic approach to planning process

For each sub-group, relevant partners would convene to develop workplans, establish roles and responsibilities, and set parameters for monitoring and evaluation. According to the WG members, they do not need lengthy meetings to discuss plans. Each member understands its capabilities and is committed to clear action plans. They find this pragmatic approach much more effective, and prefer this to high-level discussions that lack direction and concrete implementation.

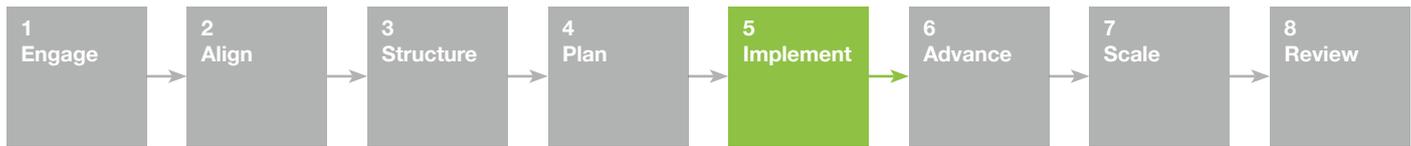
Core activities and objectives

As a WG, the programs are aimed at meeting the priorities adapted from the Nescafe Plan, with focuses on yield, quality and entrepreneurship. As the WG and program expands, the sub-components also require distinct objectives and separate planning by members. For example, the replanting

program is a major activity for the WG, considering its goals to increase long-term production. The program aims to replace at least 10% of farmers' trees in a year. As the leader, Nestlé ensures that the engagement of new members and participation in sub-components contribute to the achievement of the WG's broader objectives.

“We do not need a lot of meetings and discussions. We only want to do something real. We make plans and follow up on progress. If it works, we will scale up.”

Eric Marnat,
Country Manager, Yara International, Indonesia



5 Implement

There are four main sub-components in the coffee WG's program that will be discussed in greater detail - seed development and replanting, farmer capacity building, traceability, and financial inclusion.

Seed development and replanting

As the plantlet cultivation site, the Edu Farm serves as the hub for the replanting program. Here, Syngenta contributes inputs and seed protection, and together with ICCRI and Nestlé, they manage the Edu Farm where plantlets are cultivated before distribution. Super Clone seeds were used – a result of ICCRI's recent research and development. Genetically, this clone was chosen for its prime characteristics of having root volume, increasing its survival in marginal soil conditions, and resistance to parasites, offering a solution to climate change issues. Currently, Super Clone seeds are being tested at three demo plots locations, including the Edu Farm.

The main challenge with this sub-program has been reassuring farmers that replanting with new seeds with produce better yields. At the demo plots, ICCRI does engage farmer support in land clearing and replanting, thus allowing them to witness the benefits directly. The WG has also encouraged a gradual process of replanting, e.g. 10 percent of annual coffee crops, in order to prevent drastic drops in farmer production.

ICCRI as a main partner in the replanting program provides dedicated field staff who oversee the research and development, and plantlets distribution. Assigned from ICCRI's head office in Jember (West Java), ICCRI field staff would stay in the field for at least three consecutive months to monitor field activities, before rotating with other colleagues for subsequent planting seasons.

Farmer capacity building

Ensuring a sustainable supply of quality beans and addressing issues in traditional cultivation practices remains the Coffee WG's main goal. The WG's GAP training is based on the established standards of 4C, which include principles relating to social, environmental, and economic impact for all stakeholders in the value chain. The program's sub-goals are to improve coffee quality, reduce production costs, and strengthen the organization of coffee producers.

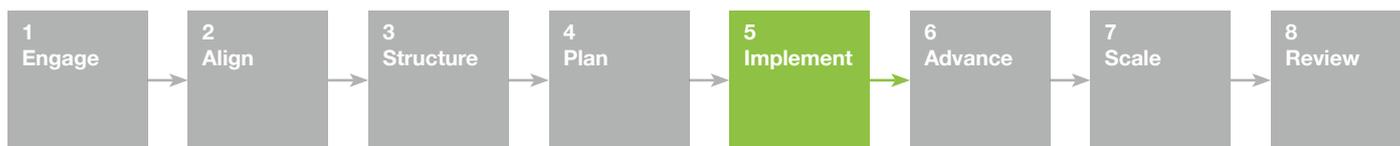
Training modules incorporate feedback from farmers. With support from Nestlé and IDH, Rainforest Alliance was appointed to develop modules and organize trainings. Rainforest Alliance conducts training needs assessments at the initial implementation stage, where they receive direct feedback from the farmers. The WG also relies on feedback collected by ICS staff as they review and implement advanced modules. Further, Rainforest Alliance's has ensured that the Nescafe Better Farming Practices are adapted to local characteristics of the Robusta coffee used in Lampung.

The GAP is delivered in six training modules. Rainforest Alliance trainers would conduct ToT for ICS staff. In turn, ICS staff from KUBs would deliver training to the farmers. Trainings were conducted in stages to achieve the WG's target of educating 20,000 farmers by 2020. On average, ICS staff conduct training to seven farmer groups per week, with each ICS staff responsible for about 40 farmer groups in total. Trainings are scheduled according to coffee farming seasons to avoid disrupting farmer production activities. Intensive training sessions are done between September and March when farmers have more time to attend. However, the capacity of ICS staff in conducting training remains varied and presents a challenge, hence the need for special mentoring to ICS staff.

Developing farmers' entrepreneurial mindset has been another objective of farmer training. Rainforest Alliance has comprehensive modules with content on business planning, savings and loans. Livelihood training modules have also been piloted between 2015 and 2017. Particular attention has been paid to women farmers, who play major roles in coffee farming. Each KUB has women farmer groups, which have demonstrated to be useful in ensuring effective participation in training among women.

Field mentoring has also been essential in order to really transform farmers' cultivation practices. One-on-one coaching by ICS staff in the field provide farmers with the opportunities to consult the ICS staff on any practical issues they face. Ultimately, behavioral change is a long-term process, and farmers need time and opportunity to digest the lessons and witness the importance of embracing good practices for themselves. With this approach, the WG has created a positive environment for learning and trust building that has achieved positive results in terms of changed mindsets and farmer behaviors.

To develop long term sustainability of the program, the WG has gradually promoted the notion of KUB ownership over training modules. From 2017, the KUBs will own all modules and conduct the training with the other WG partners playing more of a supervisory and monitoring role.



Traceability

The KUB plays an important role in the traceability of 4C certified coffee, by keeping records of the coffee's sources and tracing the supply of coffee beans back to the farmers. Nestlé staff trained the KUB staff in maintaining and operating the traceability system.

The WG and KUB realized the need for additional managerial positions, particularly to oversee farmer information for traceability and other administrative matters. Thus, they created the role of the Internal Management System (IMS) staff, who would maintain and operate the KUB's traceability systems. In some cases, these IMS positions are filled by family members of the KUB owners, thus allowing for continuation in KUB management.

Farmers also receive premium payments for their 4C certified produce. Upon receiving the coffee beans from farmer groups, KUB staff would input the supply information into their traceability system. Payment is made on an annual basis at IDR 550,000 or USD 40 per ton,. The premium payment and improved yield are significant incentives for farmers to join the program and adopt the 4C standards.

Financial inclusion

Following the basic stages of GAP training, the coffee WG shifted its focus to providing farmers with access to financial services. This remains a persistent problem, particularly in the rural areas that do not have bank branches. The financial industry still considers agriculture as a risky sector for lending and farmers have limited assets for collateral. The coffee WG's financial inclusion program thus has three main focus areas, namely branchless mobile banking, loan scheme, and financial management capacity building.

The **branchless and cashless banking program** begins with a basic introduction and promotion of the use of savings account and mobile money account among farmers. This is done by both BTPN and Telkomsel. Telkomsel's mobile money program is a partnership between BTPN's WOW branchless banking program and Telkomsel's T-Cash mobile money program. This allows farmers to set up a mobile savings account using their mobile numbers as ID. Farmers can then conduct transactions through agents of BTPN WOW instead of having to visit bank facilities.

Apart from savings facilities, T-Cash is also used to conduct transactions with merchants, including cashless purchase of phone credit. BTPN's WOW program also provides additional opportunities for income generation, as ICS staff, kiosk owners and farmers can register as agents and earn fees from every

transaction facilitated. The WG planned to conduct cashless transaction for coffee sales for the 2016 harvest, but was unable to implement this in time. They will be doing so for the harvest in 2017.

The WG also offers a **credit facility program** for farmers, involving Rabobank Foundation, Yara, IDH, Rainforest Alliance, the KUBs, and Nestlé. This program is currently piloted in one KUB – KUB Robusta Prima. The KUB borrows from Rabobank Foundation and onlends IDR 5 million low interest rate loans with a 3 year tenure to its 201 farmers. The loan is disbursed in three stages – IDR 2 million, IDR 2 million, and IDR 1 million. The first two stages are part cash, part inputs (Yara fertilizer). As the KUB is the one administering the loans, they can earn an additional source of operational revenue from the interest gap between what the KUB borrows at and what it lends at to the farmers. Farmers then pay off their loans to the KUB when they sell their produce.

The training program by Nestlé and Rainforest Alliance also includes a financial management component. The program trains farmers to manage risks, smooth consumption cycles, and build assets. BTPN introduced the use of sub-accounts that allow farmers to manage their expenditure and reduce excessing consumptive spending. IDH supports by delivering **financial management** training and basic accounting skills to the KUB.



6 Advance

Program results

By 2016, the coffee WG had advanced past several stages of implementation, with significant achievements.

The coffee replanting program has distributed three million plantlets to farmers. Under the supervision of ICCRI and Nestlé, and in collaboration with the KUBs, nurseries have effectively distributed the plantlets through farmer groups. Plantlet cultivation practices at the nursery has seen increased quality of plantlets, with the rate of plantlet death reduced by 2-4%. Besides that, demo plots under the program have been involved with the testing of 1,500 Super Clone plantlets, with direct involvement from farmer champions.

The farmer capacity building program has also seen 18,000 coffee farmers trained on GAP to 4C standards. This result shows the program is well on track to achieving its target of 20,000 farmers trained by 2020. As many as 40 farmer champions have been trained and approved as ICS staff and trainers of 4C programs. The KUB is also now managing the delivery of training modules independently.

Improved agricultural practices has caused an average increase in productivity of 50-86%. Notably, farmer output has increased to an average of 1.2-1.3 tons/ha, compared to the pre-project average 0.7-0.8 tons/ha. Top performing farmers have even reached yields of up to 2 tons/ha, or an increase of more than 150%.

The use of premium fertilizer has increased production costs significantly – from IDR 5 million per ha to IDR 6.5 million per ha. However, farmers have experienced an improved productivity of at least 50%, resulting in overall revenue increase for farmers. Moreover, farmers' produce has also improved in quality, with a reduced rejection rate of 8%, compared to a 15% rejection rate previously. This has further increased farmer revenue.

The supply chain program has resulted in 18,000 4C-certified farmers. These farmers are now producing at least 20,000 tons of traceable, 4C-certified coffee beans per year, with a premium of about USD 40 per ton. All eight KUBs have incorporated Nestlé's traceability system.

The financial inclusion program has significant improved financial inclusion in the area and improved farmer access to formal financial services. 14,000 farmers

have opened bank accounts, and more than 200 farmers have received loans. In addition, 200 agents (including ICS staff and farmers) have been recruited as part of the branchless banking program. In the pilot implemented in KUB Robusta Prima, 201 farmers have received loans, with a total portfolio of IDR 1 billion. Besides that, the 18,000 farmers in the main program have received financial literacy training as part of the comprehensive training modules.

As key implementing partners of the coffee WG, KUBs have also improved their capacity as a result of the program. All eight KUBs now have the capacity to deliver GAP training to 4C standards, and to promote the use of financial services. In addition, KUBs have also been able to develop as an organization. They have managed to obtain loans for additional investments in technology for production, can manage farmer loans, and have also engaged in trading of non-4C products and non-coffee products to other buyers.

Impact estimates

A comprehensive formal evaluation of the program is yet to be conducted, but the program's impact on farmer households and to the region is palpable. Farmers in the WG program have experienced increased incomes of more than 80%, to IDR 17 million per year.



Table 1
Comparison of Coffee Production Before and After Farmer Capacity Building Programⁱ

	Parameter	Unit	Before Intervention (k)	After Intervention (l)	Percentage Difference
a	Production (average)	Tons/ha/year	0.8	1.2	50%
b	Reject (average)	%	15	8	46%
c	Net sales volume: (a) - (axb)	Tons	0.68	1.1	62%
d	Price	IDR/kg	20,700 USD 1.55	20,850 USD 1.56	0.7%
e	Total revenue: (c) x (d)	IDR/ha/year	14,076,000 USD 1,056	23,018,400 USD 1,726	63%
f	Average production cost	IDR/ha/year	5,000,000 USD 375	6,500,000 USD 488	30%
g	Profit: (e) - (f)	IDR/ha/year	9,076,000 USD 681	16,518,400 USD 1,239	80%
h	4C premium	IDR/ton	0	550,000 USD 41	
i	Total premium: (h) x (a)	IDR/year	0	607,000 USD 46	
j	Total cash in: (g) + (i)	IDR/ha/year	9,076,000 USD 681	17,125,600 USD 1,284	89%

Table 2
Comparison of Coffee Farmers Capacity Building to the Farmers and Economy of Tanggamus Districtⁱⁱ

Results for the economy of Tanggamus district (20,000 farmers) (annually)	
I	Total Net income pre-program: (20,000 x kj) IDR181,520,000,000 USD 13,614,340
J	Total Income post-program: (20,000 x lj) IDR342,512,000,000 USD 25,689,042
K	Total Income Increase: (J-I) IDR160,992,000,000 or USD 12,074,702

^{i, ii} Source: RISE research based on interviews with 27 program staff and 55 farmers, in March, 2017. Exchange rate of USD 1 - IDR 13,333 as of 30 June 2017, xe.com



The increased income of coffee farmers supports the developing economy of the Tanggamus regency.

With the increase in profit of more than IDR 8 million per farmer per year, there is a significant increase of more than IDR 160 billion for the 20,000 farmers in the region – a significant amount that contributed to the improved livelihoods of people in the area.

Farmers use the additional income for children’s education, business ventures, and various household consumption. Farmers said that the additional income is typically spent for sending children to universities outside the region. While low rates of education are common among farmer families, many children in Tanggamus are now graduates from institutes of higher education. Farmers also use their extra income to support their small businesses, such as kiosks or eateries attached to their houses. Many of them use the additional income for renovations or building new houses. Unlike other area of Indonesia, *arisan*¹ for renovating or procuring houses is common in the Tanggamus area.

Participation of women and youth farmers in coffee farming has increased. Increased

income from coffee farming has boosted the attractiveness of the venture, with family members increasingly interested in supporting the business as a major income source of the family. Female members of the family are involved in all stages, including planting, weeding, fertilizing, harvesting, drying, sorting, and selling. There are also women farmer groups (*Kelompok Wanita Tani* or KWT) in all KUBs, where they also receive capacity building from the Coffee WG program.

The involvement of youth farmers presents a promising outlook for coffee farming in the area.

There is an observed increase in the number of youth who participate in farmer groups. They used to consider farming as the last resort for job, but are now showing interest and participating in coffee farming, having seen the proven impacts of the program. These youths, who join their farmer groups as members and even leaders, now consider coffee farming as an attractive and promising economic activity.

Neighboring farmers – who are not participants of the capacity building program – have also enjoyed improved livelihoods from coffee farming. As they observe and learn from the improvements experienced on neighboring farms, they also adopt similar practices on their own farms. Despite not being directly involved in the program, these other farmers have also seen a significant increase in their productivity.

“I used to think that my decision to help my father in coffee farming (instead of migrating like my friends), was a wrong decision. Now I see the result and I get excited (with coffee farming)”

Edi,
young farmer, Lampung

¹ *Arisan* is a form of rotating savings and credit association (or ROSCA) which can be found in many countries. A group of people gather and collect a fixed amount every month during a certain period (usually annually) and at every collection the amount collected will be immediately disbursed to one member (sometimes two) as a loan. The collection of savings and disbursement of loans is conducted until everyone in the group has received their savings (or their loan). There is no interest applied in the loan or savings. *Arisan* is often conducted for certain financial purchases, which households cannot otherwise afford. For example, *arisan* to buy expensive kitchen utensils is common among women in urban and rural communities. Access to informal financial services is only one of the reasons why *arisan* is popular in Indonesian society. The social side of it is often a key reason for forming such a group, as members would gather regularly in social gatherings. *Arisan* is common among rural as well as urban communities, and it is estimated that 30% of Indonesians are *arisan* members (Indonesia Financial Inclusion Insights, 2015).



7 Scale

Plans to scale

From its inception, coffee WG partners set out to design a farmer capacity building program that would be scalable and replicable. This approach allowed for dynamic program planning and implementation that drove majority of the program's scaling up efforts in 2017.

The training and certification program has already achieved 90% of its target of certifying 20,000 farmers by 2020. For deeper impact, the WG has added six advanced training modules to the GAP training. Advanced modules include fertilizer production, specialized training for women farmers, and financial literacy, including financial planning, book-keeping and financing. In the future, the program aims to develop farmers' entrepreneurship (or "*agripreneurship*"). Part of the entrepreneurship module would include the development of nurseries, which would offer farmers the opportunities to own their own nursery businesses.

The branchless banking and digital financial services program has also been vigorous in its implementation, with 90% of the farmers opening a bank account in the first year. As it scales, the program aims to achieve wider use of financial services among farmers, with the increase of cashless, mobile and agent service transactions, which in the future will also be how all coffee supply transactions at the KUB levels will be conducted.

The farmer loan program which was piloted in KUB Robusta Prima will soon be ready for scaling. As the program continues into its second year, a neighboring KUB is set to submit their proposal to join the program. Based on the initial results of the pilot, Rabobank Foundation is open to scale up the program to more KUBs, to provide access to finance for more farmers. The goal will be for all KUBs to join the program in disbursing loans to farmers. The coffee replanting program has distributed 3 million plantlets to farmers in the program, reaching an estimated 15% of coffee plants. It aims to cover majority of farmer plantations by 2020.

8 Review

Comprehensive program evaluation

Internal program reviews are conducted periodically at the sub-project level by participating institutions, involving both executives and field staff. In 2017, the Coffee WG plans to conduct a comprehensive evaluation to examine its performance after four years of implementation.

Further expansion of program

The coffee WG seeks to involve more organizations to bring further impact of the program to farmers and stakeholders in coffee value chain. More innovative programs are expected to come out from the multi-stakeholder partnership that has a united vision and mission for sustainable agriculture.

9 Conclusion

The coffee value chain project brings to light many useful lessons for other partners, both regionally and globally, who are designing and implementing similar projects.

1. Nestlé, as off-taker, played a critical leadership role in planning and coordinating the diverse partners in the supply chain. The project involved at least 16 different partners alongside Nestlé: IDH, Rainforest Alliance, Yara, Syngenta, Rabobank Foundation, Telkomsel, BTPN, ICCRI, plus eight separate and distinct KUBs. Acting as a central coordinator, Nestlé organized the partners by dividing them into sub-groups focusing on good agricultural practices, replanting, traceability, KUB capacity building, and financial inclusion.

2. A key innovation is the use of KUBs, where Nestlé identified informal integrators (typically successful and well-regarded local traders), and supported them to become KUBs. These KUBs worked with around 2,000 farmers and had enough critical mass to achieve economies of scale (i.e. around 2,500 tons per annum or average annual sales of US\$4 million each), which provided them with the necessary confidence to make significant investments in post-harvest equipment, storage, or logistics. At the same time, farmers could switch between KUBs, thus ensuring the buyers keep their prices competitive. As a sign of their increasing sustainability, the KUBs are progressively going beyond selling to Nestlé, and are marketing to other buyers in the area, typically small and medium scale Indonesian coffee export companies.

3. A project of this scale, especially one that tries to offer a holistic program of intervention, takes time to work. In the case of the coffee value chain project, there has been significant development and evolution over the last five years. In its first two years, the first KUB was formed, along with basic training on coffee quality and the clonal propagation of elite planting material. With the advent of the working group, the focus moved to improving productivity and the improved use of inputs. More recently, attention is being given towards financial inclusion and increasing the role of the KUB in the on-going management of the supply chain.

4. Incorporating feedback loops are important. The farmer champions that comprise the ICS collect and provide feedback as they deliver the training programs. They also review project implementation and serve as a grievance mechanism during monthly meetings. With an increasing emphasis on the on-going effectiveness and sustainability of the KUBs, a new IMS role has been defined and developed to support record keeping, oversee farmer information, and handle administrative matters.

The coffee value chain project demonstrates that through **(i)** the leadership of an off-taker, **(ii)** a lift in productivity with the provision of inputs and agricultural finance, coupled with **(iii)** improved marketing through a collaboration between farmer groups and local traders, a successful value chain project can be implemented by a Working Group convened by a country secretariat.

The project aimed to build a stronger supply chain—one that fostered mutual trust between producers and buyers, and assured on-going supply of raw material in terms of quality and quantity. Nestlé's buying of coffee has doubled to 20,000 tons per annum. The project currently benefits 20,000 farmers in the region, with an average annual income increase of about US\$600 per farmer. This translates to an additional income flow of US\$12 million into the local rural economy. The program in Tanggamus has been an effective model for coffee farmer development program, with many best practices and lessons that can be replicated in other regions of Indonesia.