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# INVESTING IN FARMERS THROUGH PUBLIC-PRIVATE-PRODUCER PARTNERSHIPS

RURAL EMPOWERMENT AND  
AGRICULTURAL DEVELOPMENT  
SCALING-UP INITIATIVE IN INDONESIA

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**RURAL EMPOWERMENT AND  
AGRICULTURAL DEVELOPMENT  
SCALING-UP INITIATIVE IN INDONESIA**

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# Abstract

Agricultural human capital investment (AHCI) in Indonesia is crucial for spurring innovation, farm management decision-making and empowering smallholders. The Rural Empowerment and Agricultural Development Scaling-up Initiative (READSI), funded by The International Fund for Agricultural Development (IFAD) in Indonesia, is a programme that aims to eliminate rural poverty by empowering small farmers by increasing incomes and strengthening farmer institutions.

This case study adds perspectives on investing in lead farmers and farmer groups with Public–Private Producer Partnerships (4P) through READSI. The objective was to learn how READSI increased knowledge and capabilities in farmers to improve farm productivity and group performance. The study was conducted in South Sulawesi, the largest cocoa production zone in Indonesia and the only area that has developed 4P for cocoa development. The Context, Input, Process and Product (CIPP) and Knowledge, Attitudes, Skills and Aspirations (KASA) models were used to evaluate how READSI builds human capital for participants. Data were collected from programme documents, reports and key informant interviews (KII). Key informants were selected based on their role and responsibility in READSI and included donor representatives, government representatives and private sector staff, farmers and village facilitators). Criteria for the farmer informants were intended for cocoa farmers, members of cocoa farmer groups, those who joined READSI, participated in farmer field schools (FFS) and were available for interviews. This study gathered information about the criteria for selecting farmers from the National Project Management Office (NPMO) and crosschecked whether the farmers were available on the phone. A total of 31 interviews were held and were analysed using NVivo software.

Results suggest that training provided in READSI affected the knowledge of the farmers in agronomy, garden sanitation, harvest and postharvest. Lead farmers who completed a month-long training on cocoa were prepared to be cocoa doctors, whose role was to provide the cocoa extension services needed by the farmers. READSI used Training of Trainers (ToT) to equip farmers to be FFS facilitators. FFS were used as the learning medium following ToT for implementing good agricultural practices (GAP) on cocoa production. Results show that there was an improvement in farmer knowledge, skills, and perceptions on producing cacao following GAP requirements. The changes included seeding, grafting, pruning, composting and harvesting skills. Key farmer informants expressed the view that FFS enrich practices in cocoa production, and farmer interviewees stated that learning modern cocoa production is needed to improve cocoa bean quality.

The study concludes that READSI has helped farmers to strengthen the farmer groups in learning and working together to access cocoa bean markets. READSI can be seen as a support system that helps farmers to develop a quality product as well as human capital.



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## Abbreviations and acronyms

<b>4P</b>	Public–Private Producer Partnership
<b>AAEHRD</b>	Agency for Agricultural Extension and Human Resource Development
<b>ADB</b>	Asian Development Bank
<b>AHCI</b>	Agricultural Human Capital Investment
<b>APBD</b>	<i>Anggaran Pendapatan dan Belanja Daerah</i> (Regional Government Annual Budget)
<b>ASTI</b>	Agricultural Science and Technology Indicator
<b>BAPPENAS</b>	<i>Badan Perencanaan Pembangunan Nasional</i> (National Development Planning Agency)
<b>BBPP</b>	<i>Balai Besar Pelatihan Pertanian</i> (Centre for Agricultural Training)
<b>BPP</b>	<i>Balai Penyuluhan Pertanian</i> (Agricultural Extension Sub-district Agency)
<b>BPS</b>	<i>Badan Pusat Statistik</i> (Central Bureau of Statistics)
<b>CDC</b>	Cocoa Development Centre
<b>CIPP</b>	Context, Input, Process and Product
<b>COVID-19</b>	Coronavirus disease 2019
<b>CSP</b>	Cocoa Sustainability Partnership
<b>CVC</b>	Cocoa Village Centre
<b>EIU</b>	Economist Intelligence Unit
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FC</b>	Field Coordinator
<b>FF</b>	Field Facilitator
<b>FFS</b>	farmer field schools
<b>FG</b>	farmer group
<b>GAP</b>	Good agricultural practice
<b>GBP</b>	Good business practice
<b>GDP</b>	gross domestic product
<b>GFRAS</b>	Global Forum for Rural Advisory Services
<b>GoI</b>	Government of Indonesia
<b>HCI</b>	Human Capital Index
<b>ICT</b>	information and communication technology
<b>IDR</b>	Indonesian rupiah (ref. European Central Bank)
<b>IFAD</b>	International Fund for Agricultural Development
<b>IFPRI</b>	International Food Policy Research Institute
<b>IRB</b>	Institutional Review Board
<b>KASA</b>	Knowledge, Attitudes, Skills, Aspirations
<b>KII</b>	key informant interviews
<b>MOA</b>	Ministry of Agriculture
<b>MoF</b>	Ministry of Finance
<b>MOL</b>	local microorganisms
<b>MoU</b>	Memorandum of Understanding

<b>NDPA</b>	National Development Planning Agency
<b>NPMO</b>	National Programme Management Office
<b>NPMU</b>	National Project Management Unit
<b>NTT</b>	<i>Nusa Tenggara Timur</i> (East Nusa Tenggara)
<b>PIM</b>	CGIAR Research Program on Policies, Institutions, and Markets
<b>PPL</b>	<i>Penyuluh Pertanian Lapangan</i> (Field Extension Worker)
<b>PPP</b>	purchasing power parity
<b>PPSU</b>	<i>Penanganan Prasarana dan Sarana Umum</i> (Public Infrastructure and Facilities Management)
<b>READ</b>	Rural Empowerment and Agricultural Development
<b>READSI</b>	Rural Empowerment and Agricultural Development Scaling-up Initiative
<b>RPJMN</b>	<i>Rencana Pembangunan Jangka Menengah Nasional</i> (National Medium-Term Development Plan)
<b>ToT</b>	Training of Trainers
<b>UNDP</b>	United Nations Development Programme











# Introduction

Sustainable agricultural productivity, food security and poverty reduction are top goals of governments and development institutions around the world. Progress is threatened by several crises, including climate change, public health emergencies and associated economic shocks. Along with a growing population and increased demand for agricultural goods for food, fuel and fibre, these concerns necessitate investments in agriculture, rural infrastructure, natural resource management and climate resilience.

Agricultural investments often emphasise the physical and financial capital of farming households, including land, fertilisers and credit. However, AHCI is crucial for spurring innovation, farm management decision-making and empowering smallholders. Human capital is an economic term encompassing assets that increase individual productivity such as education and health. For the purposes of this study, human capital is defined as the stock of habits, knowledge, social and personality attributes (including creativity) embodied in the ability to perform labour to produce economic value (Goldin, 2016). Human capital allows people to effectively utilise other types of capital. For example, farmers' education and knowledge influence their ability to make decisions, adopt new technologies, evaluate risks and manage farm resources.

As part of a global study on promising AHCI initiatives, this case study presents evidence from the Rural Empowerment and Agricultural Development Scaling-up Initiative (READSI) in Indonesia. The global study, commissioned by the FAO and led by the IFPRI with support from the PIM, examines opportunities for public and private investment in human capital in agriculture. This study aims to fill knowledge gaps about promising investments in programmes that develop agricultural human capital, particularly across different target groups such as smallholders, women and youth.

Case studies were selected according to a set of criteria following a broad assessment using literature review and expert input. Criteria included documentation of impact, scalability, replicability and institutionalisation, inclusion and empowerment, holistic integration and sustainability. Nine case studies were selected across geographies and across a typology of agricultural human capital. The selection process involved a series of workshops during which technical experts discussed potential cases, case study selection and case study teams.<sup>1</sup>

<sup>1</sup> For more information on this process and for a detailed description of the typology, please see IFAD (2017).

## BACKGROUND

Indonesia is home to 270.6 million people, the fourth most populous nation and the tenth largest economy in terms of purchasing power parity (PPP). Approximately 20.6 percent of the population remains vulnerable to falling into poverty as their income hovers marginally above the national poverty line. Indonesia has made enormous gains in poverty reduction, cutting the poverty rate by more than half since 1999 to 9.82 percent in 2018 (World Bank, 2020a).

Indonesia's Human Capital Index (HCI) of 0.53 (in 2018) remains below the world average. Expected years of schooling in 2018 was 12.9, with a primary completion rate of 102 percent<sup>2</sup>, and the literacy rate of Indonesians aged 15 and above was 96 percent. However, the prevalence of undernourishment remains about 8 percent in 2017 (World Bank, 2020a). Great efforts are being made to improve basic public services, yet the quality of health clinics and schools is uneven by middle-income country standards, contributing to concerning indicators, particularly in health. Approximately one in three children under the age of five suffers from stunting, which impairs brain development and will affect their future opportunities. This led the National Medium-Term Development Plan (RPJMN) to focus on (among other things) infrastructure development and social assistance programmes related to education and healthcare, thus allowing for more investments in programmes that directly impact on the poor and near-poor (World Bank, 2020a).

Approximately 44 percent of the population of Indonesia lives in rural areas (World Bank, 2020a), and 40.7 percent of Indonesian households depend on agriculture (BPS, 2019c). Of total agricultural households in rural areas 73.1 percent are smallholders and 60.3 percent of them experience rural poverty. Data from the World Bank (2020a) show that the agriculture sector contributed 12.7 percent of gross domestic product (GDP) and employed about 29 percent of the labour force.

Total investment in agriculture in 2016 was about USD 30 billion. Most of this investment came from farmers' initiatives in the form of land ownership, small infrastructure and supporting agricultural facilities. The total value of domestic investment in 2016 was USD 709 million, and foreign investment was USD 1.4 billion, with the government contributing about 4 percent of total investments (ADB, 2019). Investment from the private sector is very small, although it has increased in recent years (ADB, 2019b). In terms of knowledge and innovation systems, including agricultural research and development, average annual investment from 2011 to 2015 was USD 0.18 billion (ADB, 2019c). To increase the AHCI, the Government of Indonesia (GoI) issued Presidential Regulation No. 38/2015 as a legal framework for cooperation and partnership between the government and the business sector.

<sup>2</sup> Primary completion rate is the percentage of students completing the last year of primary school. The UN defines it as the total number of new entrants in the last grade of primary education, regardless of age, expressed as percentage of the total population of the theoretical entrance age to the last grade of primary. The ratio can exceed 100 percent due to over-aged and under-aged children who enter primary school late or early or repeat grades. (Source: <https://www.right-to-education.org/monitoring/content/primary-completion-rate>)

In January 2018 IFAD and GoI signed a financing agreement to improve incomes, nutrition and sustainable livelihoods for 67 400 rural smallholder farming households in 18 districts in six provinces, including three provinces in Sulawesi Island. One piloted innovation was the Rural Empowerment and Agricultural Development (READ) project with a focus on public–private–producer partnerships (4P) for technical services in cocoa development among rural households in Sulawesi, West Kalimantan and East Nusa Tenggara (NTT). The objective was to empower individuals and groups with the skills, confidence and resources to sustainably improve their farm and non-farm incomes and livelihoods (IFAD, 2017). Sulawesi is the main producer of cocoa in Indonesia. From a total population of 8.7 million in South Sulawesi, 13 percent (or 1.1 million) are farmers (BPS South Sulawesi Province, 2019). South Sulawesi was selected for the case study because of the promising achievement of 4P in this area.

**Table 1**  
**Key agricultural, human capital and enabling environment indicators in Indonesia**

Indicator category	Indicator name	Latest data available	Indicator value
General	Total population	2019	270 625 570
	Rural population (% of total population)	2019	44.0
	Percentage of smallholders (% of total family farmers)	2018	73.1
	Poverty headcount ratio at USD 1.90 (%)	2018	3.6
	Rural poverty headcount ratio (%) based on poverty line	2019	13.1
	Prevalence of undernourishment (%)	2018	9.0
	Human Capital Index (HCI) score	2020	0.5
	GDP in agriculture (% of GDP)	2019	12.7
	Employment in agriculture (% of total employment)	2019	29.0
	Poverty rate (%)	2018	9.8
	Gini ratio coefficient	2018	0.4
	Food security index	2018	62.6
	Unemployment rate (% of workforce)	2018	5.3
	Gender Inequality Index	2018	0.4
	Prevalence of stunting, height for age (% of children under 5)	2018	30.5
Enabling environment: educational attainment	Expected years of schooling, male and female (years)	2018	12.9
	Expected years of schooling, female (years)	2018	12.9
	Expected years of schooling, male (years)	2018	12.9
	Primary completion rate, total (% of relevant age group)	2018	102.0
	Literacy rate, adults total (% of people aged 15 and over)	2018	96.0
Enabling environment: funding	National agricultural research expenditure data as share of agricultural GDP (ASTI)	2017	0.2
	Agriculture expenditure (% of total spending)	2013	1.1
Enabling environment: ICT-related indicators	Mobile subscriptions (per 100 people)	2019	127.0
	Secure internet servers (per 1 million people)	2019	1684
	Access to electricity (% of population)	2018	98.5
Enabling environment: policies	National Agriculture Investment Plan or Policy in place	2015	Yes
	Presidential Decree 38/2015	2019	Yes
	RPJMN	2020	Yes
Country- specific indicators	Approved IFAD grant for READ project	2008–2014	USD 500 000
	Approved IFAD loan for READ project	2008–2014	USD 21.1 million

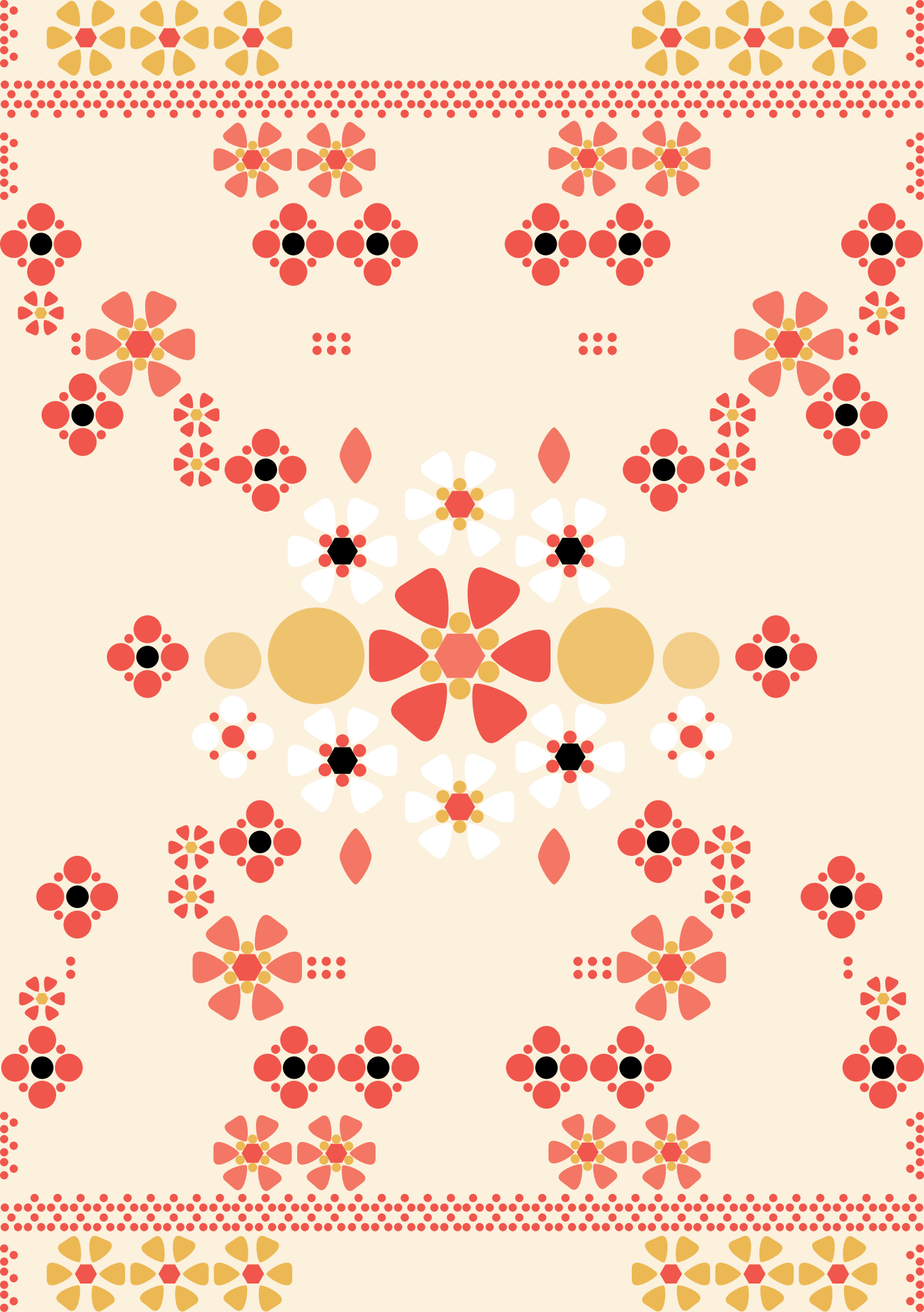
**NOTE:** The poverty headcount ratio indicates the percentage of the population living on less than USD 1.90 per person per day at 2011 PPP. The agriculture expenditure indicator is taken from FAOSTAT's Government Expenditure Data (share of total outlays).

SOURCES: ASTI (2018); BAPPENAS (2019); BPS (2019a, 2019b, 2019c); FAO (2020); IFAD (2013); MoA (2020); MoF (2020); EIU (2020); UNDP (2019); World Bank (2020a, 2020b).



You are my best friend  
you provide me with joy and love



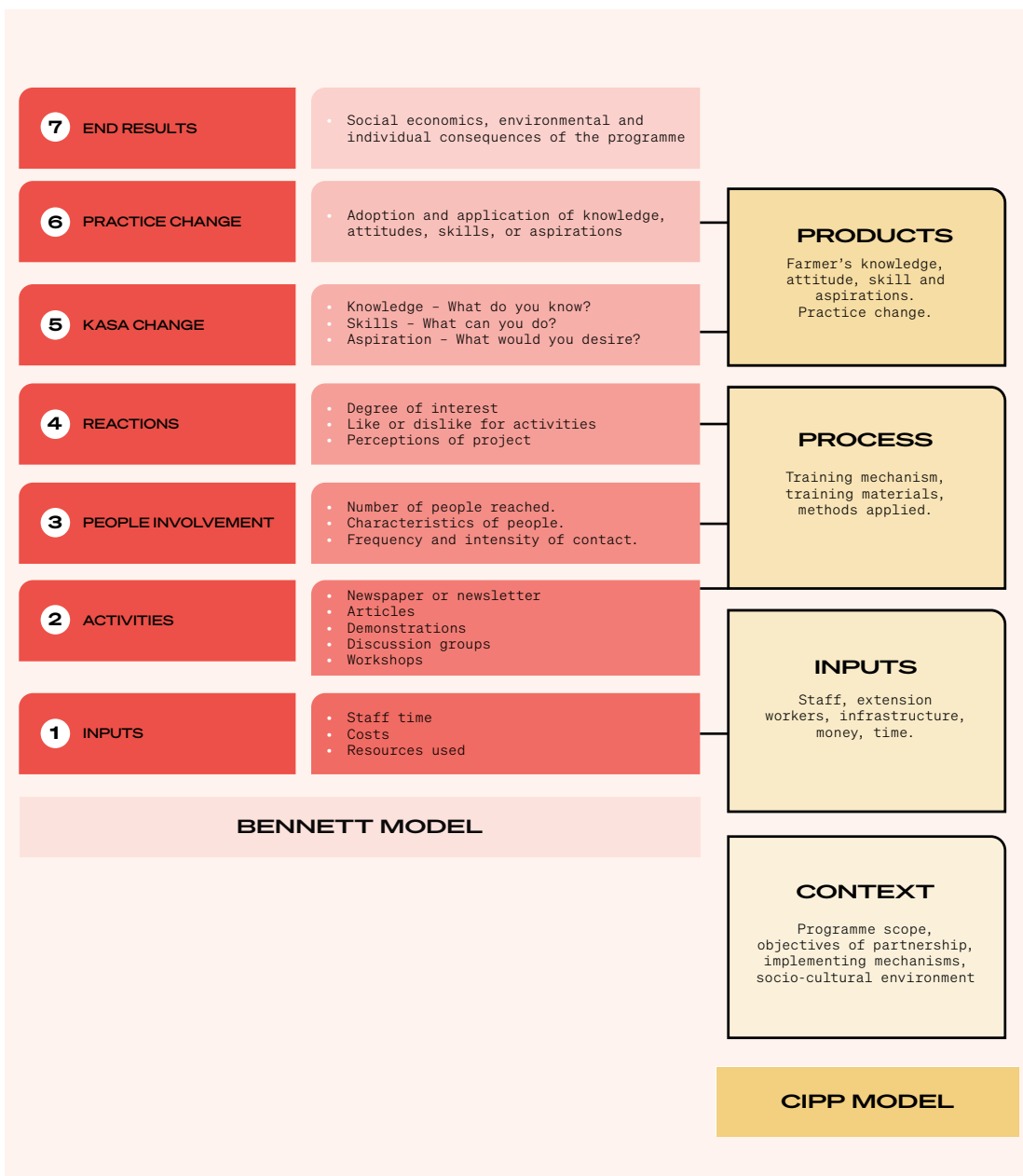


# Chapter 1

## Case study methodology

Given the very broad range of initiatives and programmes incorporating aspects of human capital development in their approach to agricultural development, it is difficult to comprehensively assess these types of investments across similar models, such as farmer field schools (FFS), or even in a single country. However, using case studies can facilitate a deep understanding of the complexity of an initiative that seeks to develop human capital and elucidate the processes and phenomena at play in any given context (Baxter and Jack, 2008). This case study thus incorporates secondary data sources and primary qualitative data to elucidate the opportunities and challenges a particular programme faced in developing human capital amongst family farmers in its specific context.

The study used the Context, Input, Process and Product (CIPP) model to evaluate the training implemented in READSI. The CIPP model is a process of evaluation that can improve programme performance (Stufflebeam, 2015). The study combined CIPP with the Bennett model of evaluation. Based on the Bennett model (1975, 1976), this study focused on knowledge, attitudes, skills and aspirations (KASA). Figure 1 shows the combination of the two models in analysing KASA in farming activities, access to market and strengthening farmer groups.



**Figure 1**  
**Combination of Bennett and CIPP evaluation models**

SOURCE: Adapted from Bennett (1975, 1976) and Stufflebeam (2015).

The application of CIPP and KASA to the Bennett model used in READSI is as follows:

- four aspects of the programme context were studied, including: (i) the programme scope; (ii) objectives of the partnership; (iii) implementing mechanisms; and (iv) the socio-cultural environment;
- project inputs refer to the resources used to support the programme, including the number of staff, number of extension workers, infrastructure, funding and time;
- the next aspect to be evaluated was the process of 4P developed in READSI. The evaluation process focused on how organizations (government, private sector and farmers' organization) run the training. The mechanism and methods applied in the training were studied to find out how the learning materials were shared to increase the knowledge and capabilities of the cocoa farmers;
- the product evaluation focuses on learning outcomes that were measured from KASA change in the lead farmers as well as male and female farmers during their participation in READSI.

Table 2 shows the questions asked by the case study to gather information on KASA.

**Table 2**  
**Questions for gathering information on KASA change**

KASA	Questions
Knowledge	What do the beneficiaries know about cocoa farming, group management, and accessing markets before and after training?
Attitudes	How do the beneficiaries feel about the training, the partnership with the private sectors and the READSI programme?
Skills	What can be done better by the beneficiaries in terms of skills or practice changes after participating in the training?
Aspirations	What would the beneficiaries wish or expect or desire in relation to the cocoa training or partnership with the government and the private sectors?

SOURCE: Authors, based on Bennett (1975, 1976).

## DATA COLLECTION

The study used both secondary and primary data (Figure 2). Review documents on READSI and secondary data collection were compiled to get an overview of the programme. General demographic human capital indicators for Indonesia were extracted from a variety of secondary data sources to contextualize the project environment.

Locations were selected with the following considerations:

- South Sulawesi Province was chosen because it is the only READSI location that has implemented 4P where a Memorandum of Understanding (MoU) between the Ministry of Agriculture (MOA) and Mars exists to develop 4P on sustainable cocoa development.
- Among the 24 districts in South Sulawesi that have cocoa plantations, Luwu, North Luwu and East Luwu districts cover 42.84 percent of the total cocoa area (see Annex 1). These three districts contribute 51.40 percent of the total cocoa production in South Sulawesi.

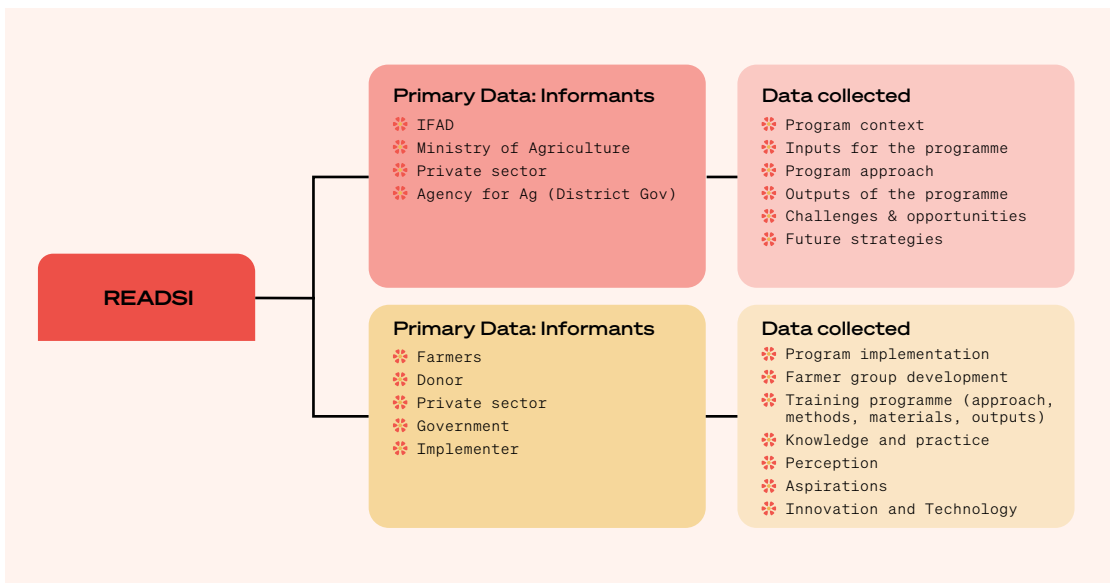
In parallel to the document review, we collected qualitative data in the form of key informant interviews (KII). First, we identified READSI stakeholders due to learn the roles and responsibilities of READSI stakeholders in policy development and programme implementation. Stakeholder identification revealed that the stakeholders were donors, the government, the private sector, farmers and implementers (Figure 2). In this study, the key informants were IFAD, the National Development Planning Agency (NDPA), MoA, and the Local Government Agency for Agriculture and Food Security, Mars, READSI village facilitators<sup>3</sup> and the farmers. Second, we set criteria for the farmers as follows: (i) the farmer owns a cocoa farm; (ii) the farmer is a member of a cocoa farmer group; (iii) the farmer is committed to being involved in the READSI Programme; (iv) the farmer has participated in a FFS; and (v) the farmer is available to be interviewed.

We gathered information about farmers who joined the READSI from the NPMO. Based on the criteria we set, 17 farmers were chosen as candidates to be interviewed. We checked with local contacts whether or not the farmers were on the phone. Virtual interviews were used to gather information from all key informants. The farmer interviews were conducted using WhatsApp calls or phone calls. For non-farmers interviews, the team arranged Zoom meetings.

Information gathered from donors, government and private partners was used to understand the CIPP of the programme. The implementers contributed information on programme implementation, including motivation, interest, approach, mechanism, achievements, and lessons learned. The beneficiaries shared information on involvement in training programmes, group management, KASA change and impact of the programme.

<sup>3</sup> Village facilitators were recruited by the MOA and contracted with READSI to support farmers with modern cocoa modern production.





**Figure 2**

**Primary and secondary data sources for the READSI case study**

SOURCE: Authors' own elaboration.

In each district, four READSI participants were interviewed: a village facilitator, a lead farmer, and two other farmers. The total number of key informants interviewed was 31: four informants at national level, three informants for local government, four informants for implementers, three informants from Mars, five farmer leader informants (three farmer leader informants for individual interviews and two additional lead farmers for group interviews) and twelve farmer informants (Annex 2). The age of informants ranged from 25 to 60 years old. A total of 32 percent of informants were female.

This study followed the nonlinear process of data analysis, including data collection, data condensation, data display and conclusions (Huberman *et al.*, 2014). Data were condensed by selecting, focusing, simplifying and transforming data into notes from interviews, then summarising the information from the interviews and other empirical data into a spreadsheet. The information was summarised according to the context of the questionnaires.

Data were analysed using NVivo software. The analysis was based on the evaluation models and used concepts such that agricultural training, coaching and group development would increase farmer knowledge and skills, as anticipated in the CIPP and KASA models.

The first step in coding was defining the categorisation of the information gathered from the interviews. Several keywords came out from the farmers' interviews, including training topics, venues, training methods, male and female farmer participants, and changes after the training. Based on these findings, the data were coded according to the increase in the farmer's knowledge and skills.

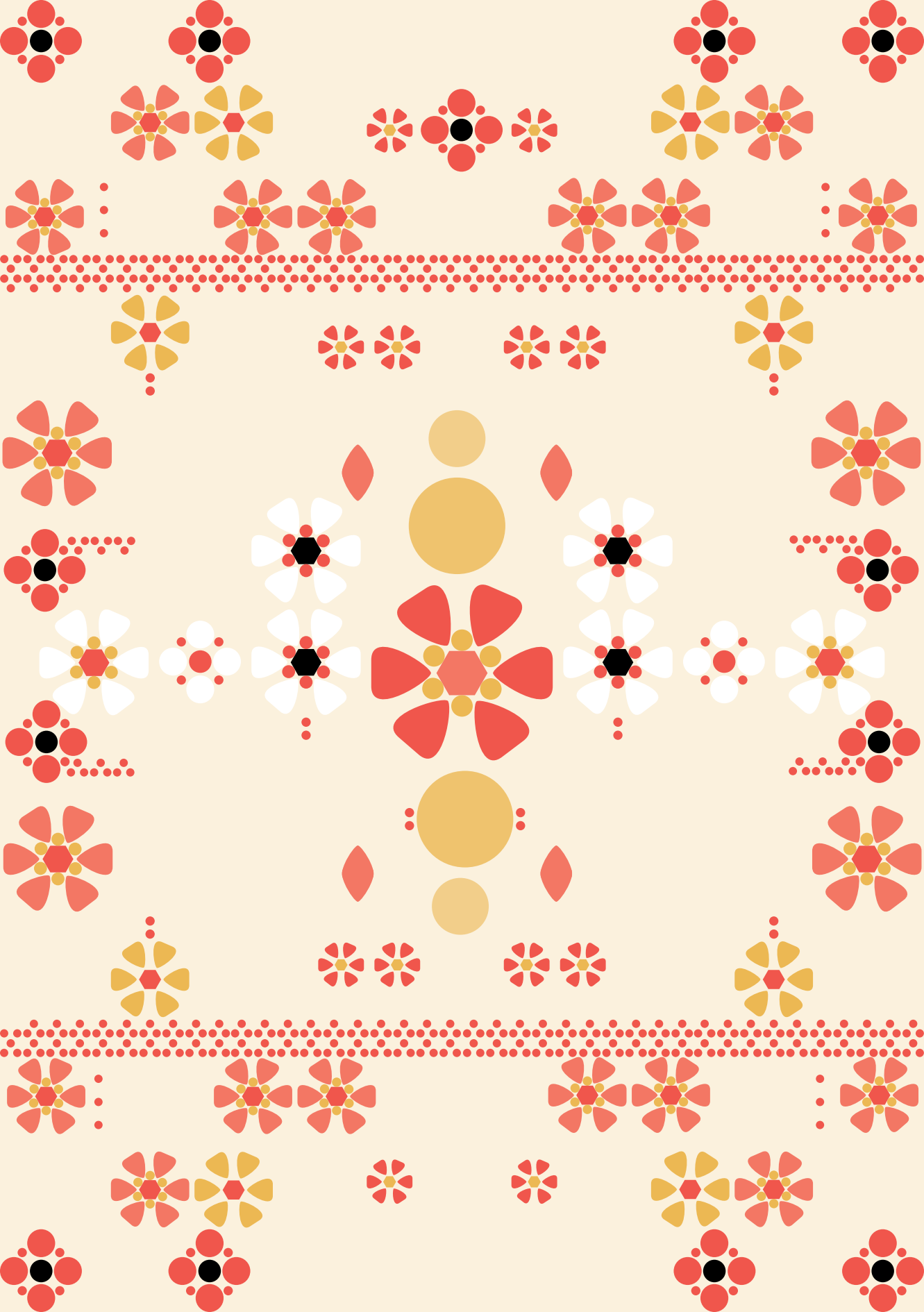
The second step of the analysis was to visualise the data as diagrams and to draw conclusions. The data visualisations were drawn as four figures for knowledge and skills increase associated with size of land ownership, training venues, group membership, and gender (see Figures 5–8 below). The colours of the circles and the texts in the diagrams represent the data categories. NVivo (QSR International, 2020) provides the option of assigning itemized colours to sources, nodes, relationships, attribute values and users. QSR International suggests that the assigned colours can visually distinguish nodes, identify items assigned to different users, keep track of significant nodes, add emphasis to specific sources or nodes, and differentiate sources or nodes by attribute values in charts, thus making it easier to see patterns or compare charts created at different times and indicating progress.

IFPRI's Institutional Review Board for Social, Behavioural, and Educational Research approved the methods of data collection (IRB Approval Number: DSGD-20-0621).









# Chapter 2

## Overview of the case

Given the limitations of government funding, 4P is considered an important mechanism for gaining access to additional financial resources, sharing risks and addressing other constraints in pursuit of sustainable and inclusive agricultural development. READSI has three components: (i) village agriculture and livelihood development; (ii) services, input and market linkages; and (iii) policy and strategy development support. The second component of READSI was implemented using the 4P approach. The aims of READSI are to improve the quality of agricultural extension services, ensure timely availability of inputs, and increase market access for READSI participant groups. READSI engages in partnerships with Mars and invites additional private partners to support the programme.

### **RURAL EMPOWERMENT AND AGRICULTURE DEVELOPMENT (READ)**

READSI is the first stage in the scaling-up of the successful READ project, which was carried out in five districts in Central Sulawesi. Following a mid-term redesign, READ showed significant results. READ was successful in terms of empowering smallholder farmers, increasing incomes and production, and strengthening village-level institutions by integrating community-driven development and agricultural productivity activities between 2008 and 2014. The total cost of READ was USD 28.3 million, consisting of an IFAD grant (USD 500 000) and loan (USD 21.1 million) with the remainder being funded by Gol. Government investment in READ aimed at increasing farmer knowledge and skills in cocoa farming, improving farmer group performance and supporting other technical services. To support READ, Gol cooperated with a

private partner, namely Mars. Through this partnership, five Cocoa Development Centres (CDCs) were established to disseminate learning on improved farm management techniques (Thorpe, 2018). Mars played a role in training lead farmers and extension workers and in providing technical assistance. Under READ, the cocoa farmers benefited from improved market access, technical support from world-class technical personnel, price premiums of 15 percent on top of a guaranteed price for quality cocoa and increased yields (IFAD, 2017). The READ farmers had a new market channel through which to sell their cocoa to Mars through Cocoa Village Centres (CVCs) (Natawidjaja *et al.*, 2015). In the areas where the CDC model is functioning well, the cocoa yield of the READ farmers increased from 50 kg per tree per month in 2010 to 100–200 kg per tree per month by 2014 (Thorpe, 2018). On average, the weight of cocoa beans and the incomes of the READ farmers also increased by 10–15 percent and 10 percent, respectively (Thorpe, 2018).

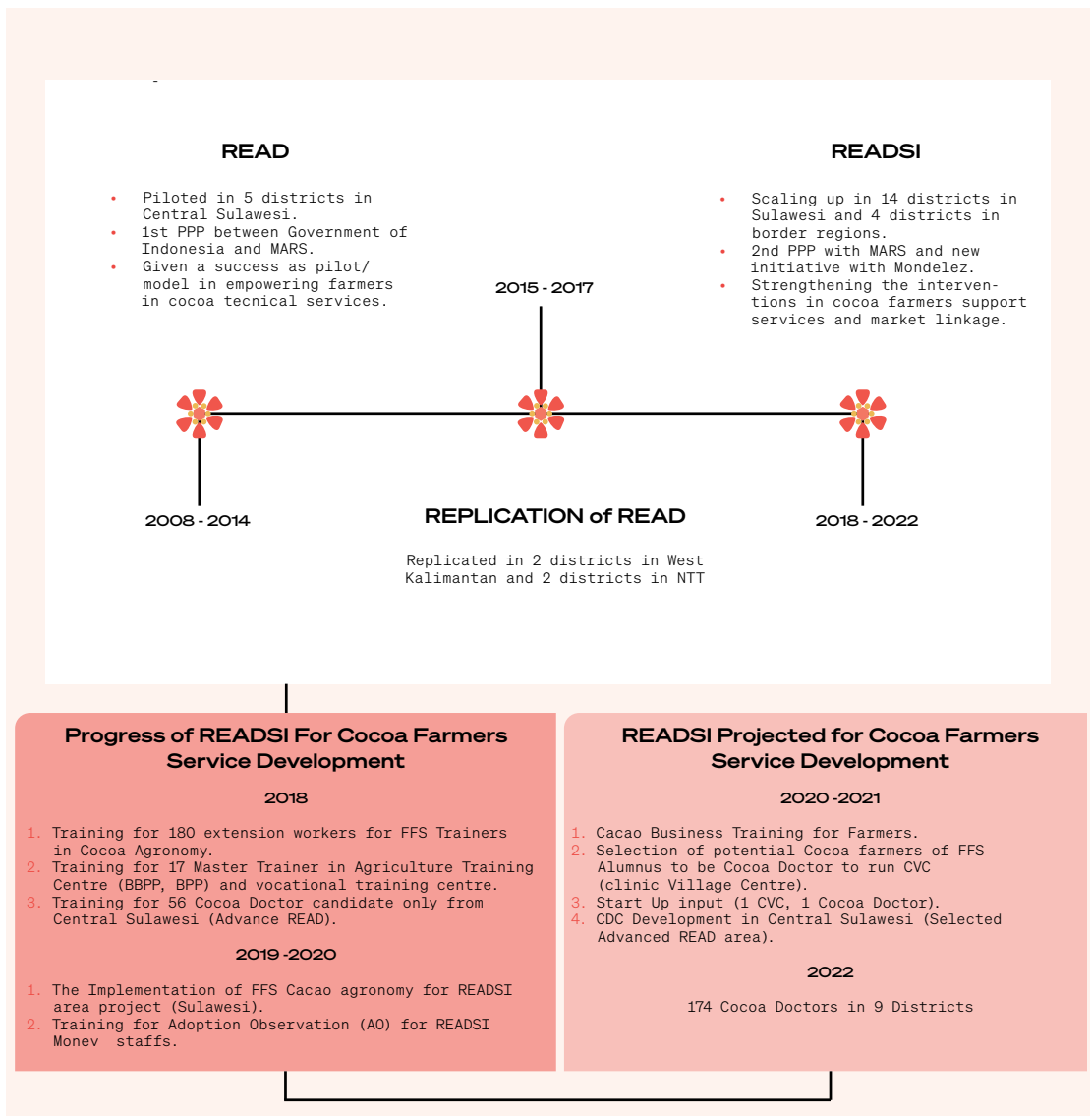
To promote agriculture and rural development, MoA began to replicate the elements of READ in two new provinces: West Kalimantan and NTT in 2015. The total budget of this replication was USD 1.45 million per year (IFAD, 2017). West Kalimantan and NTT are very different in agricultural and socioeconomic settings. Thus, initial implementation progressed more slowly than expected, highlighting the need for continued IFAD technical support to the broader scaling up.

Given the success of READ in Central Sulawesi and its replication in West Kalimantan and NTT, Gol considered scaling up this programme. READ was perceived as a model for achieving national development goals. Gol proposed that IFAD should finance and provide technical assistance for READ scaling-up. IFAD approved the proposal in 2018. The programme was known as the Rural Empowerment and Agricultural Development Scaling Up Initiative (READSI). The implementation of READSI applies to a total of 24 districts, with 20 districts within the six provinces of Sulawesi Island (North Sulawesi, Gorontalo, Central Sulawesi, Southeast Sulawesi, South Sulawesi and West Sulawesi) and two districts in each of West Kalimantan and NTT.

Gol is implementing READSI from 2018 to 2022 (Figure 3). The objective of READSI is that rural households in Sulawesi, West Kalimantan and NTT should be empowered both individually and collectively with the skills, confidence and resources they need to sustainably improve their farm and non-farm incomes and livelihoods.

READSI introduced 4P as an innovation to strengthen farmers with knowledge and skills gained through the use of Mars facilities. Mars provides a package of technology, trains lead farmers and extension workers and provides technical assistance. Through the partnership, the farmers receive technical support from Mars that will help them to increase the quality of cocoa to meet international market standards. In this context, 4P in READSI aims to enable cocoa farmers to readily access affordable good advice including inputs, private service providers and cocoa nurseries. In addition to this technical support, the partnership expands the cadre of private and public extension professionals who have advanced cocoa production and farm business knowledge.





**Figure 3**  
**History, progress and scaling up of READSI**

SOURCE: Authors' own elaboration.

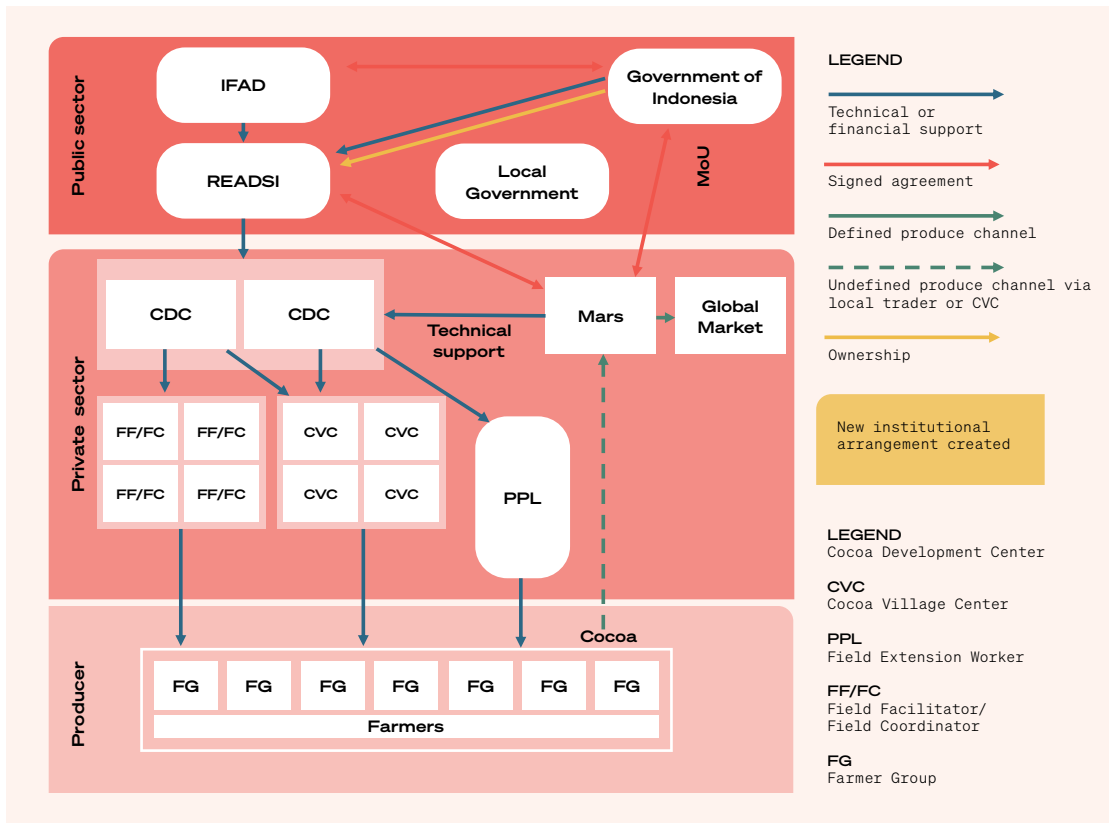
Figure 4 shows the 4P arrangement under READSI. The MoA's Agency for Agricultural Extension and Human Resource Development (AAEHRD) is the executing agency hosting READSI. The organizational framework for READSI consists of the NPMO, a provincial programme support unit and a district programme management office. The NPMO contracts additional technical specialists to work as an integral part of READSI. In the private sector the first 4P agreement was established with Mars in 2018, following the first READ partnership for advanced districts and a new initiative for new READSI districts. In addition, a partnership between MoA and Mondelez is in progress.

In the public sector, IFAD and Gol signed an agreement for READSI under which IFAD provides financial support. The MoA coordinates with local government to deliver extension services needed by farmers' groups (FG). The private sector (Mars) provides technical support in the form of the CDC, which trains lead farmers, field facilitators/coordinators and field extension workers (PPL) in cocoa farming. The trained lead farmers run CVCs to help farmers in their area who are supplying cocoa beans to Mars.

The partnership between Gol and Mars brings several advantages, including sharing resources to strengthen the knowledge and skills of the farmers and extension workers. Three particular benefits should be noted. First, extension workers and village facilitators working for READSI receive further training on upgrading extension skills and on the diffusion of new practices in cocoa production and post-harvest. Second, the FFS provides farmers with technical training on cocoa farming, the use of trial plots and cocoa doctors. Third, instructors in vocational training are trained as cocoa master trainers. In addition to developing the knowledge and skills of the farmers and extension workers, the partnership supports extension services and their facilities, including agriculture equipment for cocoa, agricultural inputs and approaches to improving farmer group performance.

The local Agricultural Extension Sub-district Agency (BPP) is responsible for supporting FFSs and for providing services needed by farmers. READSI assigns a village facilitator to assist the farmers in practising cocoa farming based on good agricultural practices (GAP). The facilitator is recruited for supporting farmers through the NPMO of READSI. The tasks of the facilitator are to plan cocoa training, make home visits to identify farmers' needs for FFS, motivate farmers to practise knowledge and skills and strengthen farmers' groups.

READSI is committed to inclusiveness in terms of reducing poverty and promoting diversity. The farmers eligible to participate in the programme are smallholders, either poor or near-poor, who can generate economic returns from agriculture with programme support. According to an NPMO informant, READSI also provides an opportunity for farmers, whatever their ethnic group, to be involved so long as they commit to participating in the programme. Among READSI farmers, 50.6 percent belong to local ethnic groups and 49.4 percent to non-local ethnic groups (READSI, 2020). The local people of South Sulawesi are Bugis, Toraja, Luwu, Banggai and Makassar. The farmers are from mixed ethnic groups, including Javanese, Balinese, Tolaki, Buton, and South Sulawesi ethnic groups.



**Figure 4**  
**4P arrangement for READSI cocoa development in Indonesia**

SOURCE: Authors' representation based on Natawidjaja et al. (2015).

According to *A Guidebook on Public-Private Partnerships in Infrastructure* (UNESCAP, 2011), PPP must be based on a clear allocation of resources, risks, responsibilities and rewards from both public and private partners. Each partner must come up with its own expertise to support the PPP in an optimal manner. Public contributions can take many forms, including capital, tax advantages, transfer of assets, and other in-kind contributions or event commitments that will support the PPP, such as social responsibility, environmental awareness, advantages in local knowledge and an ability to mobilize political support. Private roles can take the form of capital, expertise, technical knowledge and assistance, business methods, management, operations, innovations and patents and many other forms of knowledge the public sector may lack. The PPP's structure should be able to allocate risk to the partner with the greater ability to manage and minimize risk and therefore will increase profits for the PPP, as well for all partners involved (ADB, 2019).

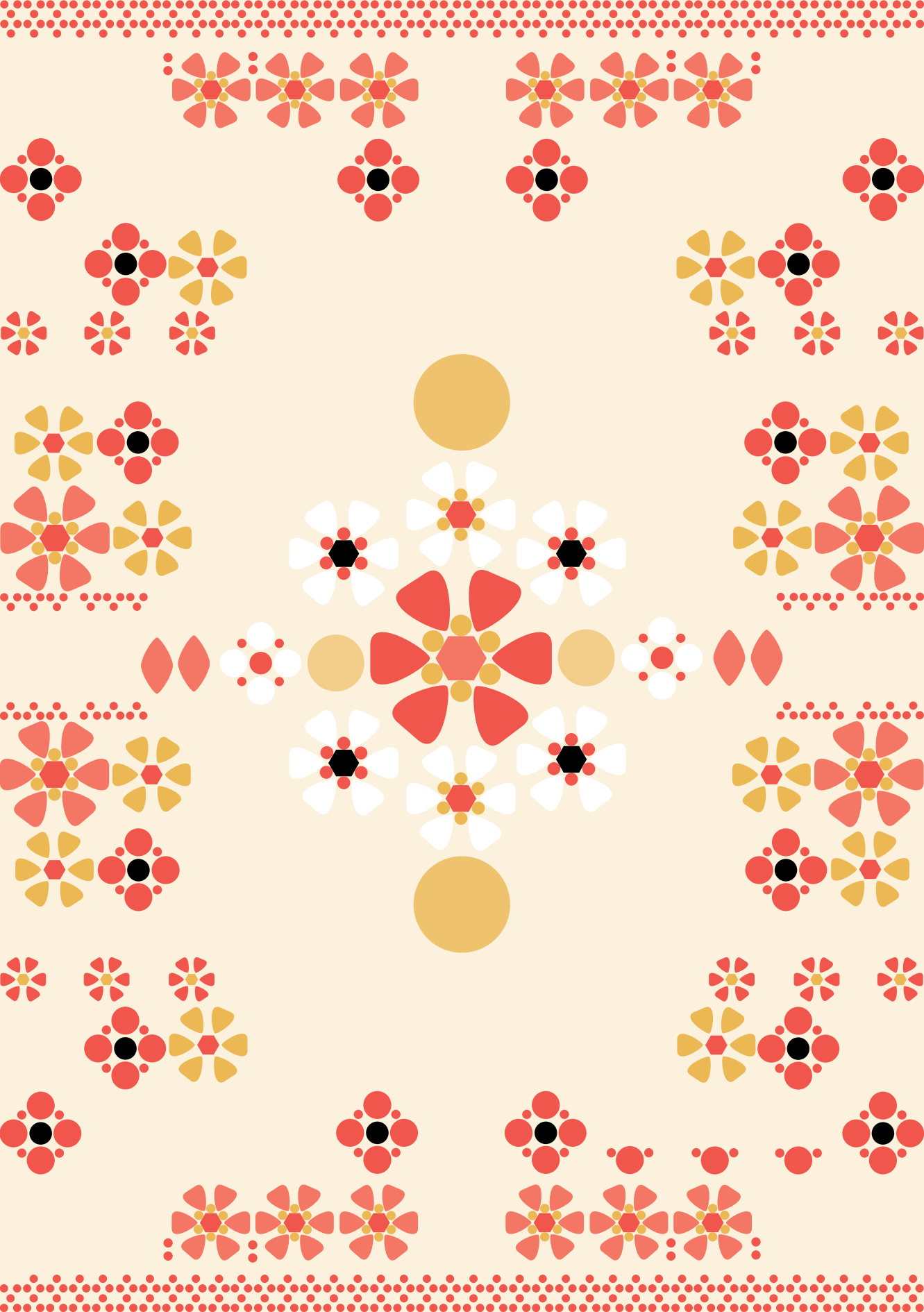














# Chapter 3

## Details of the case

### **TARGET OF READSI**

The target groups of READSI are smallholders or landless farmers, female heads of household, and lead farmers with the potential to be innovative farmers (READSI, 2020). Direct beneficiaries of the 4P READSI with Mars are farmers who have made an agreement to implement all the technical recommendations from Mars after they have been trained in cocoa agronomy and business skills. The farmers must follow the government requirement to commit to the programme. The farmers should also follow the company requirement to produce good-quality cocoa beans. The farmers need to apply GAPs, including seed selection, grafting and procedures for harvesting and sorting. The company only buys good-quality cocoa beans from the farmers. As an incentive, the farmers receive good prices if the cocoa beans fulfil the standard.

Based on the READSI programme document in South Sulawesi, the programme covers 3766 farmers in 151 farmers' groups, of whom 67.1 percent are male farmers and 32.9 percent are female farmers (READSI, 2020). Female farmers work on post-harvest processing such as peeling and drying. Male farmers usually do the planting, pruning, pest control and harvesting. The average age of farmers participating in the programme is 40-49. Youth participation in the programme reaches 37.8 percent.

Almost all participant farmers can read and write, with 49 percent having completed primary school and the rest having completed high school or university. However, 3.2 percent of the farmers did not complete their basic education. There are no literacy prerequisites for entry to FFS. Trainers approach the illiterate farmers to explain how to do practical work. However, training in the Mars Academy requires farmers to be literate. Mars provides a set of modules about GAPs and good business practices (GBP) on cocoa farming for trainees, who are expected to be innovative farmers and to become trainers for other farmers.

Most cocoa farmers in South Sulawesi are smallholders with one-hectare cocoa farmland ownership. The farmers manage the farms on a subsistence scale. Usually the knowledge needed for managing cocoa farms is inherited from the previous generation or acquired from other farmers. The farmers also produce other commodities such as corn and hybrid coconut. Corn is generally grown on separate plots, while hybrid coconut is intercropped with cocoa trees. The revenue from other commodities varies from USD 34 to USD 40 per month.

### FUNDING MODEL

The total READSI costs including physical and price contingencies, duties and taxes are estimated at USD 87.28 million over the five-year implementation period. Table 3 shows the sources of programme cost by parties involved in the READSI programme. An IFAD loan covers 67.5 percent of the total programme cost. Gol contributes 17.3 percent of the budget by financing salaries of all NPMO, province, district and sub-district staff and by waiving taxes levied on project payment. A USD 1 million IFAD grant is meant to support specific efforts on knowledge management within READSI and to contribute to broader policy and strategy processes under way in MoA and other government stakeholders at the national, provincial and district level. The farmers are expected to contribute 6.7 percent of programme costs, mostly to co-finance the purchase of basic and advanced agricultural mechanization. To address this expectation, the farmers work in groups to accumulate the capital needed to purchase equipment. The private-sector partners are companies investing in cocoa-related activities who finance 7.4 percent of the total programme costs.

**Table 3**  
Cost of READSI programme by parties

Source of programme cost		Cost (USD million)	Percentage of total cost
A	IFAD: Loan	58.88	67.5
	IFAD: Grant	1.00	1.1
B	Government of Indonesia	15.70	17.3
C	Private sector	6.49	7.4
D	Programme beneficiaries	5.84	6.7

SOURCE: Adapted from IFAD (2017).

Programme investments are organized into three major components: (i) village agriculture and livelihoods development (55.8 percent of the costs); (ii) services inputs and market linkages (18.8 percent of the costs); and (iii) policy development (1.3 percent of the costs). Programme management costs in NPMO and provincial offices represent 6.6 percent of the total cost while district offices costs are 11.8 percent of the total. An unallocated amount of USD 5 million (5.7 percent of the total programme cost) is also included in the budget to provide financial flexibility for the programme. The READSI programme cost by component can be found in Annex 3.

READSI uses a granting (forwarding grant) financial mechanism when implementing activities, especially those related to the distribution of funds to the regional government. Through this mechanism, part of the central government's loan is handed over to the regional governments implementing READSI. The implementation of this granting mechanism refers to Ministry of Finance Regulation No. 224/PMK.7/2017, which regulates the management of grants from central to local government. Implementation of READSI activities in the regions requires pre-financing by requesting the use of the Regional Government Annual Budget (APBD) followed by reimbursement by the central government in accordance with the stipulated terms and conditions.









# Chapter 4

## Evidence base for success of case in human capital development

### DEFINITIONS (Levinson *et al.*, 1999):

#### Goals

Broad aims of the project – the significant, longer-term changes planners expect to occur as a result.

**Example:** Improved ability of farmers to identify and access information needed for farm-related decisions.

#### Outputs

Provision of project goods and services to the target population – the primary activities.

**Example:** Number of trainers or producers reached, number of training sessions or demonstrations conducted, numbers of youth and women attending an FFS, number of certificates awarded.

#### Outcomes

Intermediate effects, often behavioural, resulting directly from outputs that may be necessary to achieve a desired impact.

**Example:** Improved knowledge of X or Y, increased access to market or weather data, increased profits from farm business.

#### Impacts

Changes in the condition of the target population, which generally reflects the primary objectives of the project.

**Example:** Better management of the farm as a business, improved resilience to climate impacts, higher incomes and welfare for farming families, increased use of GAPs, increased feeling of empowerment among farmers.

## **GOALS**

The goals of READSI are that cocoa-farming households in South Sulawesi should be empowered individually and collectively with the skills, confidence and resources to sustainably improve their farm and non-farm incomes. To reach that goal, several activities have been undertaken since 2018, including farmer and village facilitator recruitment, need training assessment, introductory training followed by serial training sessions on cocoa farming and farmer group development.

After two years of READSI implementation, the farmers interviewed for this study have indicated that, as individuals, each farmer is aware of the broader orientation of cocoa farming to produce good-quality cocoa and to meet market demand; the farmer is able to explain GAPs and can understand the cocoa market. As a group, farmers can cooperate to access agricultural inputs, information and training; they have implemented GAPs and are more active in organising groups to increase cocoa productivity.

The female farmers interviewed for this study have developed entrepreneurial skills in cocoa nursery. As long as cocoa continues to be produced in South Sulawesi, cocoa nursery will be needed. This can lead to increases in female farmer incomes. In the long term, farmer welfare is expected to increase.

## **OUTPUTS**

Since it launched in 2018, READSI has implemented nine topics for training: (i) cultivation techniques; (ii) group development; (iii) sanitation; (iv) harvesting; (v) planting calendar; (vi) cocoa farming information and practices; (vii) postharvest; (viii) grafting techniques; and (ix) composting. The outputs are increased knowledge and skills of the farmers in cocoa farming and group development. The farmers interviewed during the study explained that the training topics increase their knowledge and skills, as summarised in Table 4.



**Table 4**  
**Outputs in terms of farmer knowledge and skills improvements**

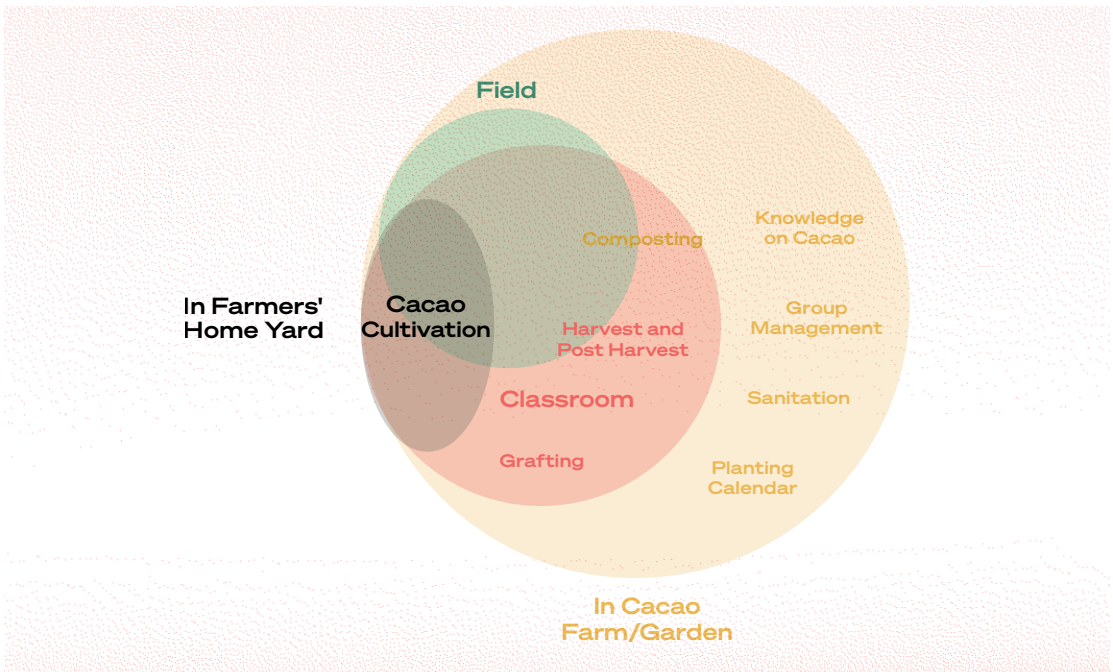
Topic of the training	Subtopics	Outputs
Cultivation techniques	1 Planting	From interviews with the farmers, most farmers practise new techniques for cocoa farming, e.g. the seed selection, fertilizer and pesticide application, making local microorganism (known as MOL*), setting up the garden, checking the pH of cocoa gardens and implementing mechanical techniques to control pests and diseases.
	2 Fertilization	
	3 Pruning	
	4 Pest and disease control	
Group development	1 Group structure	The farmer knows how to process legal issues affecting farmers' groups and the roles of group members and prepare group working plans.
	2 Group mechanism	
	3 Group working plan	
Sanitation	1 Principles of farming sanitation	Farmers know the importance of clean cocoa gardens and using garden waste as organic compound.
	2 Types of cocoa waste	
	3 Farming sanitation activities	
Harvesting	1 Appropriate harvest time	Farmers conduct harvests at least once every two weeks.
	2 Characteristics of adequately harvested pods	
	3 Principles of harvesting	
	4 Practising harvesting	
Planting calendar	1 Cocoa production cycle	Farmers practise activity of cocoa farming in a timely manner.
	2 Implementing a cocoa planting calendar	
Grafting technique	1 Cocoa nursery	Farmers are able to conduct plant propagation techniques.
	2 Superior cocoa clones	
	3 Types of cocoa plant propagation	
Composting	1 Making compost	Farmers are able to produce compost.
	2 Compost application	

**NOTE:** Local microorganisms (MOL) are fermented liquids made from natural ingredients that contain microorganisms that have the potential to transform organic matter, stimulate growth, and control plant diseases and pests.

**SOURCE:** Authors, based on farmers' interviews.

Through READSI, the Mars Cocoa Academy in East Luwu functions as the learning centre that enables farmers and those who are interested in learning cocoa farming. The academy also functions as a CDC for Mars to train lead farmers as cocoa doctors. Some 150 lead farmers, who have successfully achieved the learning outcomes of the training, have gone on to take on the role of cocoa doctors. Cocoa doctors provide voluntary consultancy services related to cocoa farming to other farmers, particularly in their areas. A cocoa doctor will provide extension services to 100–200 farmers.

As shown in Figure 5 the venues for training are the classroom, the field, the cocoa garden and the farmers’ home yard. The classroom is used for learning the concepts of cocoa farming, the planting calendar, sanitation and farmer group development. The fields, including farmland and cocoa gardens, are the venues for learning practical aspects, such as cocoa cultivation, grafting, composting, harvesting and postharvest.



**Figure 5**  
Increases in farmers’ knowledge and skills after training,  
for each training venue

SOURCE: Authors' own elaboration.

The changes in farmer knowledge after the training are summarised in Table 5. The theoretical aspects of cocoa farming and the concept of GAP were learned in the Mars Academy.

**Table 5**  
**Knowledge and skills of the farmers before and after the training**

Knowledge aspect related to cocoa farming	Before training	After training
Concept of cocoa farming	Farmers learn from previous practices traditionally accumulated by the community.	Farmers understand new practices of cocoa farming.
Planting calendar	Farmers have limited knowledge of timing for fertilizing, pruning or harvesting.	Farmers realize the importance of the planting calendar.
Garden sanitation	Farmers do not know that gardens need to be sanitized to protect them from pests and plant diseases.	Farmers are aware that cocoa trees should be regularly pruned. Farmers know how to reuse waste from cocoa. Farmers sanitize the cocoa garden and farm field.
Farmer group development	Most farmers lack awareness of group cooperation for cocoa.	Farmers use groups to learn and share information on cocoa farming and marketing.

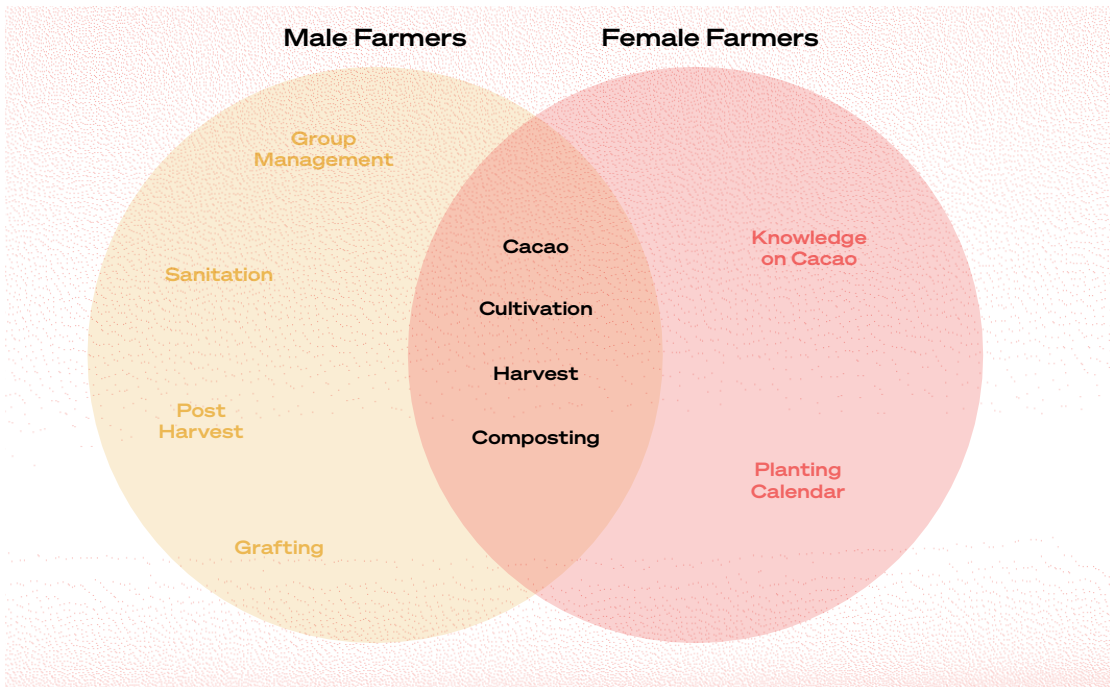
SOURCE: Primary data.

Both male and female farmers gained knowledge from the training, including cocoa cultivation techniques, composting and harvesting (Figure 6). Male farmers learned better sanitation, grafting, postharvest and group management, while female farmers increased their knowledge of cocoa cultivation techniques, composting, harvesting and the planting calendar. During the training, the female farmers were more interested in learning the concept of cocoa farming than male farmers. One of the respondents (12 District 3) said:

*“Perempuan tani sangat antusias dalam mengikuti pelatihan tentang usahatani kakao, banyak bertanya dan semangat. Female farmers are very enthusiastic about learning cocoa farming from the training, actively asking questions and being highly motivated.”*

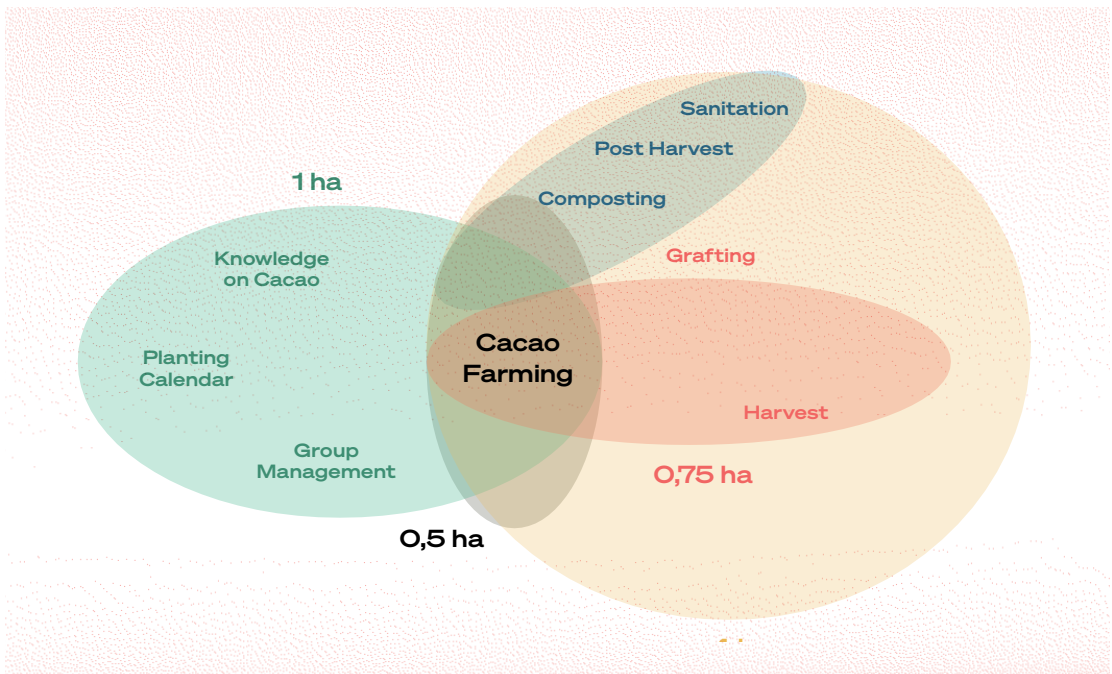
The male farmers have been engaged in a cocoa farmer group for six-and-a-half years; the female farmers joined a group four years ago. The male farmers have been learning about cocoa farming longer than the female farmers; however not all the knowledge of cocoa farming was shared with female farmers. Both the male and female farmers are very interested in practical aspects of cocoa farming. The following quote from a farmer (male farmer, 8 district 2) indicates a preference for practical aspects over theoretical aspects:

*“Saya ingin pelatihan lebih banyak praktek di lapangan saja dan teori sebagian kecil saja. I expected that training would be more focused on practical aspects of cocoa farming than theoretical aspects.”*



**Figure 6**  
**Knowledge of cocoa farming disaggregated by gender**

SOURCE: Authors' own elaboration.



**Figure 7**  
**Knowledge on cocoa farming by size of land managed**

SOURCE: Authors' own elaboration.

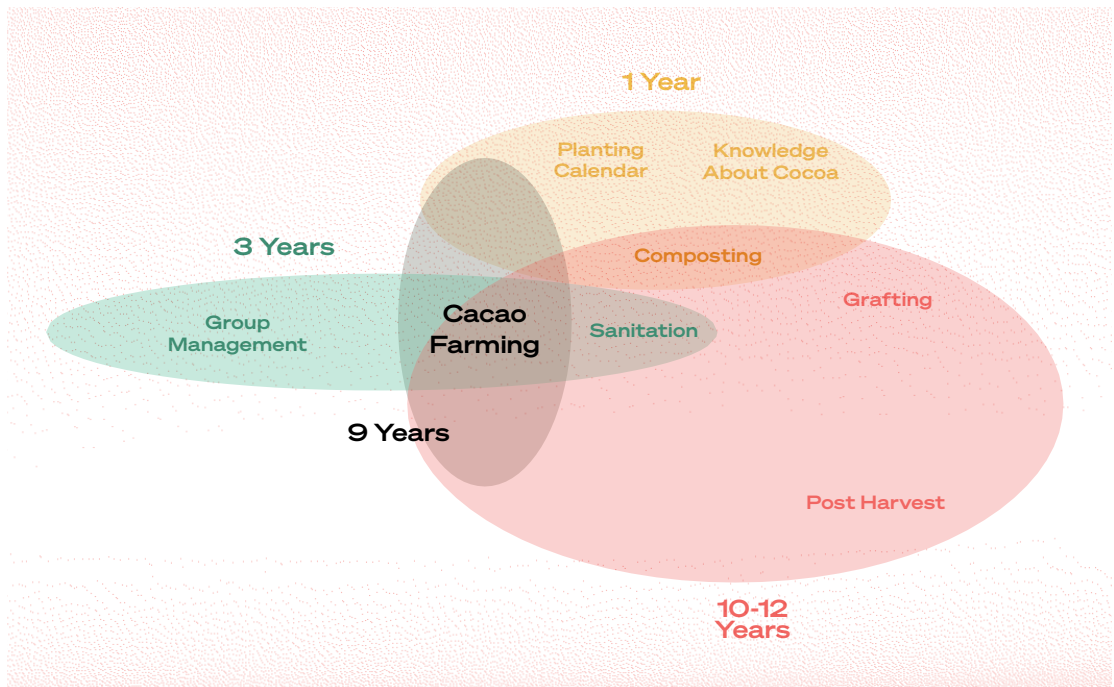


In responding to this aspiration, training in the farm field is managed to directly practise grafting, composting and handling pests affecting the cocoa beans. The following is a quotation from a village facilitator (12 District 1):

*“Keterampilan petani diasah melalui praktek langsung di kebun kakao. Keterampilan petani meningkat mengenai praktek yang sebelumnya dilakukan, tetapi hanya berdasarkan perkiraan petani, misalnya cara memupuk, cara memangkas, pengamatan lingkungan kakao seperti unsur hara dan pH tanah. The skills of farmers are sharpened through practising the FFS directly in the cacao farm. Previously, the skills of farmers in composting, pruning and soil testing were only based on traditional knowledge.”*

All interviewed farmers reported that their knowledge and practical skills of cocoa farming increased regardless of the size of land managed for cocoa plantation (Figure 7). Average land ownership among the interviewed farmers is 1.3 hectares. Cocoa farmers with land ownership of more than two hectares have the opportunity to practise various skills from the training, including sanitation, composting, grafting, harvesting and postharvest. Farmers with less than four hectares of land gained knowledge of cocoa farming management, the planting calendar and the same practical skills as other farmers. Those farmers with less than one hectare cooperate with other farmers in managing the farms to reduce the risks of pests as well as in selling the cocoa beans.

The farmers interviewed in the study revealed that the duration of membership or involvement in the farmers' groups also contributes to broadening knowledge of farmers in cocoa production. One of the approaches for farmer empowerment in Indonesia has been establishing and developing farmers' groups. Before READSI started, some of the interviewed farmers had been members of these groups. In general, male farmers were dominant members of farmer groups, while female farmers have joined cocoa farmer groups since READSI was implemented in 2018. The length of group membership of male farmers ranges from one to twelve years in 2020. Those who have been in the farmers' group for one year are still developing basic knowledge of cocoa and the planting calendar. Farmers who have been in the group for three years show developed skills in sanitation, cultivation techniques and group management. The farmers who have been group members for more than ten years are very good in cultivation techniques, composting, sanitation, grafting, harvesting and postharvest. To summarize, there is a relation between the length of farmer group membership with the knowledge and skills of farmers in cocoa production (Figure 8).



**Figure 8**  
Farmers' knowledge and skills about cocoa farming and group development distinguished by length of group membership

SOURCE: Authors' own elaboration.

### OUTCOMES

Human capital development among READSI participants, for farmers in general and particularly for lead farmers, includes technical skills, soft skills and empowerment of farmers. The technical skills of farmers were increased through training and by implementing new practical skills in cocoa farming. These productive skills have increased their productivity and the quality of their cocoa beans. As a result, READSI benefitted individual farmers by increasing their confidence in selling a quality product.

First, the farmers developed technical skills in cocoa farming and postharvest after graduating from the Mars Cocoa Academy. The outcomes of READSI include practising new skills in the fields such as pruning, fertilizing, spraying toxins, testing of soil nutrients, calcifying, grafting, herbicides application, fruit covering, composting, making pest and disease treatments, harvesting, peeling, postharvest handling and drying. The farmers reported the benefits of implementing the new and better productive skills they gained from READSI training. One interviewee (lead farmer, 9 District 2) said:

*“Saya dapat membuat pupuk organik. Saya dapat memelihara tanaman dan mencegah penyakit tanpa menggunakan zat kimia atau racun. Saya membungkus buah coklat untuk melindungi buah dari hama penggerek buah coklat. Saya puas dengan kemajuan yang saya dapat.*  
I can produce organic fertilizer. I am also able to protect

the cocoa pods from pests and disease by using non-chemical inputs. I cover the cocoa pods to protect the fruit from pod borers. These achievements make me happier and more satisfied.”

Another interviewee (male farmer, 17 District 3) mentioned the following:

*“READSI sangat bermanfaat. Kita jadi tahu cara khusus untuk meningkatkan hasil tanaman kakao. Dari pelatihan dan pendampingan di READSI, saya mendapatkan ilmu baru tentang pemeliharaan tanaman kakao dan pengendalian hama penyakit secara lebih baik.* READSI was very useful. I knew that there is specific treatment to increase the yield of cocoa beans. Through the READSI training and coaching, I got new knowledge on how to produce and protect cocoa plants from pests and disease.”

Another interviewee (female farmer, 28 District 3) stated:

*“Saya dapat mengembangkan usaha pembibitan kakao setelah bergabung dalam program pelatihan Mars. Pada awalnya saya menjual sayur keliling desa dan melihat peluang untuk menjual bibit kakao yang unggul. Dengan mengikuti pelatihan di Mars, saya mencoba praktik pembibitan kakao. Saya merasa lebih percaya diri untuk berusaha dan sampai saat ini saya sudah mampu menjual bibit sampai ke luar daerah.* I can run and develop a cocoa nursery after joined the training from Mars. I took this opportunity to run a cocoa nursery. Before joining the programme, I was a vegetable seller in the village. After the training, I tried the cocoa nursery and I started to sell the cocoa seed. I feel confident about running cocoa nursery as an income-generating activity.”

Second, READSI has provided spaces for farmers to have better access for information, knowledge and innovation, which are the foundation for individuals and groups to move forward. READSI has supported the district extension agency to provide appropriate services needed by the farmers, including the availability of “cocoa doctors” to assist farmers in GAP in cocoa farming. Beyond that, the CDC has also cooperated with the Education Agency in South Sulawesi to integrate cocoa farming into the curriculum of public agricultural vocational education (IFAD, 2017). The students learn about cocoa from on-farm and off-farm activities, with some aspects of

cocoa production being learned in the CDC. Some graduate students are recruited as Mars field staff and some become suppliers of cocoa seed trees. One of the female farmers interviewed graduated from the school and was a supplier of the seed trees.

As part of this impact, some farmers have a role as change agents through extension work with other farmers in their area. Such farmers can be innovative in helping other farmers to improve their hard and soft skills, as they knew from the READSI training what types of innovations related to production, marketing and decision-making were needed by other farmers.

Third, the READSI farmers have improved market access to sell quality produce to Mars through CVCs. In the READSI training, Mars introduces farmers to the quality standards of cocoa beans that meet the market demands, including fulfilling the standards that Mars requires. Mars also provides opportunities for the trained farmers to be collectors or middlemen for cocoa beans.

Fourth, the farmers have developed their group cooperation and decision-making skills. Group members have learned communication, entrepreneurship and marketing skills. In the group interviews, one of the farmers (male, 17 District 3) explained:

*“Sebagai anggota kelompok, saya belajar baik aspek budidaya maupun pemasaran kakao. Saya juga menjadi tahu standar kakao premium yang diterima oleh Mars. Oleh karena itu, saya memutuskan untuk menjual produk kakao premium ke Mars dan sisanya ke pedagang. As group member, I have learnt not only agronomy but also marketing aspects of the cocoa bean. I also know the premium standard of cocoa bean accepted by Mars. Therefore, I decided to sell the premium standard to Mars and the rest of my cocoa beans to the middlemen.”*

Fifth, READSI contributes to the farmers, including female farmers, developing a “new orientation” in cocoa farming. Before joining READSI, farmers tended to perceive agriculture including cocoa farming as culture or heritage rather than a business. Most farmers ran their cocoa production in a subsistence way, and productivity was low (750 kg of wet cocoa bean per hectare per year). Under these conditions, farmers’ income from cocoa farming was around USD 650 per year. This is, however, above the poverty line in South Sulawesi Province, which is USD 285 per year (BPS South Sulawesi Province, 2020).

Through the 4P set-up, the farmers are permitted to sell their cocoa beans to any trader, not just to Mars. After READSI, farmers successfully increased their cocoa production from around 750 kg per hectare to around 1200 kg per hectare and earn up to USD 1059 per year. Some farmers are even able to produce up to 1.5 tonnes per hectare. The normal price of cocoa beans is around IDR 30 000 (USD 2.04) per kilogram of cocoa beans.



Overall, READSI has a potentially large impact at beyond the individual level. For example, cocoa productivity in East Luwu District approximately doubled from 0.595 tonnes per hectare before READSI in 2016 to 1.184 tonnes per hectare in 2019 during READSI. Table 6 presents the cocoa-planted area, the number of farmers and the average cocoa production in 2016 and in 2019. The decrease in cocoa production in Luwu and North Luwu was caused by the unproductive age of their cocoa plants and a decline in cocoa-planted areas due to land conversion as farmers decided to plant an alternative commodity because of the high level of pest and disease attacks on cocoa pods.

**Table 6**  
Cocoa planted area, number of farmers and cocoa productivity per hectare in Luwu, North Luwu and East Luwu districts in 2016 and 2019

District	Planted area (ha)	Number of farmers	Production (tonnes)	Productivity per hectare (tonnes)	Planted area (ha)	Number of farmers	Production (tonnes)	Productivity per hectare (tonnes)
Luwu	34 094	27 897	28 989	0.850	24 640	27 809	24 260	0.984
North Luwu	38 127	24 528	27 391	0.718	39 220	24 528	26 320	0.671
East Luwu	25 583	16 373	15 240	0.595	17 495	11 371	20 727	1.184

SOURCE: BPS Luwu District (2020), BPS North Luwu District (2017, 2020), BPS East Luwu District (2017, 2020).

## EXPECTATIONS FROM THE DONOR AND READSI PARTNERS

While recognizing positive outcomes, as explained above, the key informants also reflected on their perspectives and expectations of READSI.

### Donor perspectives

IFAD recognizes and supports the implementation of 4P in READSI as an approach that links farmers to the market. The funding from the central government was disbursed following the mechanism from the Ministry of Finance (MoF). Sometimes there was a slight delay in the implementation and reimbursement of funding at district level due to bureaucratic regulations. This implies a need for further improvement and strategies to simplify the procedure for providing funding in a more timely manner. This would include considering the effectiveness of the funding mechanism from the central government to the village level. One key informant (O2 INA) stated:

*“Mekanisme on granting membutuhkan kesiapan pemerintah daerah untuk menyiapkan dana awal yang akan diganti pada saat kegiatan berlangsung. Akan tetapi, tidak semua pemerintah daerah dapat memenuhi persyaratan ini karena keterbatasan dana daerah meskipun mereka sudah komitmen untuk berkontribusi. Oleh karena itu, ada beberapa aktivitas yang tertunda.* The granting mechanism requires readiness of local government to pre-finance the programme. However, not all local governments can fulfil this requirement due to limited budgets, even though there is a commitment to contribute. Therefore, there is a delay in some field activities.”

#### **Public (government) perspectives**

The government recognizes the importance of 4P as a strategic programme for strengthening the sustainability of the cocoa sector in Indonesia. Training farmers and brokering producers with the chocolate industry has increased the productivity of cocoa producers. The role of the private sector has been developed to build a platform that makes it easier for farmers to access on-farm information, new practices, new technology and market information. The platform is important to raise farmers’ ability not only in technical production but also in managing quality in the cocoa market.

A male key informant stated:

*“Kemitraan pemerintah, swasta dan produsen merupakan salah satu strategi pendanaan bersama dalam pembangunan pertanian. Saya memahami bahwa setiap pihak mempunyai kepentingan tersendiri. Dalam hal ini, saya berharap pihak swasta mengerti kebutuhan petani. Petani perlu memperoleh harga yang adil untuk kakao mereka. Oleh karena itu, peningkatan daya tawar petani dan kelompok petani diperlukan.* The 4P approach is one of the strategies for resource sharing in agricultural development. I understand that every actor in the partnership has specific interests. In this case, I hope that private partners have a better understanding of the farmers’ needs. It is important that the farmers receive a fair price for their products. So, improving the bargaining position of farmers and farmers’ groups is essential.”

### **Private sector perspectives**

In the context of increasing cooperation between cocoa business stakeholders such as farmers and local governments, READSI and Mars have similar objectives. Private partners advise increasing the ability of the farmers not only in knowledge and skills but also in entrepreneurship.

Continuity in technical assistance in the post-training stage is needed for cocoa doctors and farmers. After FFSs and the project ended, sustainability of the programme was expected. Coordination between the parties involved in READSI needs to be increased considering the availability of specialist extension workers in cocoa, since most of them act as generalists with multi-commodity knowledge. Approaches to sequencing assistance to the farmers should involve providing a mentor or a coach to the farmer's closest family members. Regular visits by farmers to the demo plot farm of the cocoa doctor can raise farmers' interest, and visits by cocoa doctors to farmers' fields can increase bonding and cooperation. Internet connections are also needed by farmers' groups to access learning materials from various sources and to communicate with cocoa experts.

### **Producer perspectives**

Lead farmers and both male and female farmers as the beneficiaries propose that a proportion of training should be focused on practices in the field. Demonstrations of techniques in the farmers' fields should be done more frequently, with a less focus devoted to theoretical aspects of the learning materials. Additional requests from the beneficiaries are: (i) the need for a farmer's learning centre in addition to the FFS (supported infrastructures, including computers and internet facilities, are needed to connect the farmers with MoA) – in response MoA has developed a system connecting it to all BPPs in Indonesia, and the farmers' learning centre can now be linked to the BPP to give the farmers better access to extension services; (ii) in addition to cocoa doctors, the farmers need cocoa mentors and coaches who will work together with farmers at the farm level; (iii) the 4P process should provide agricultural inputs on time needed and technical tools to support sustainable cocoa production including seed, cocoa fertiliser, pesticide and equipment; and (iv) the programme should be a bridge between the farmers' and the input supplier, and help in negotiating the price of cocoa beans to be more reasonable for farmers to continue plant cocoa trees.

### **Success stories**

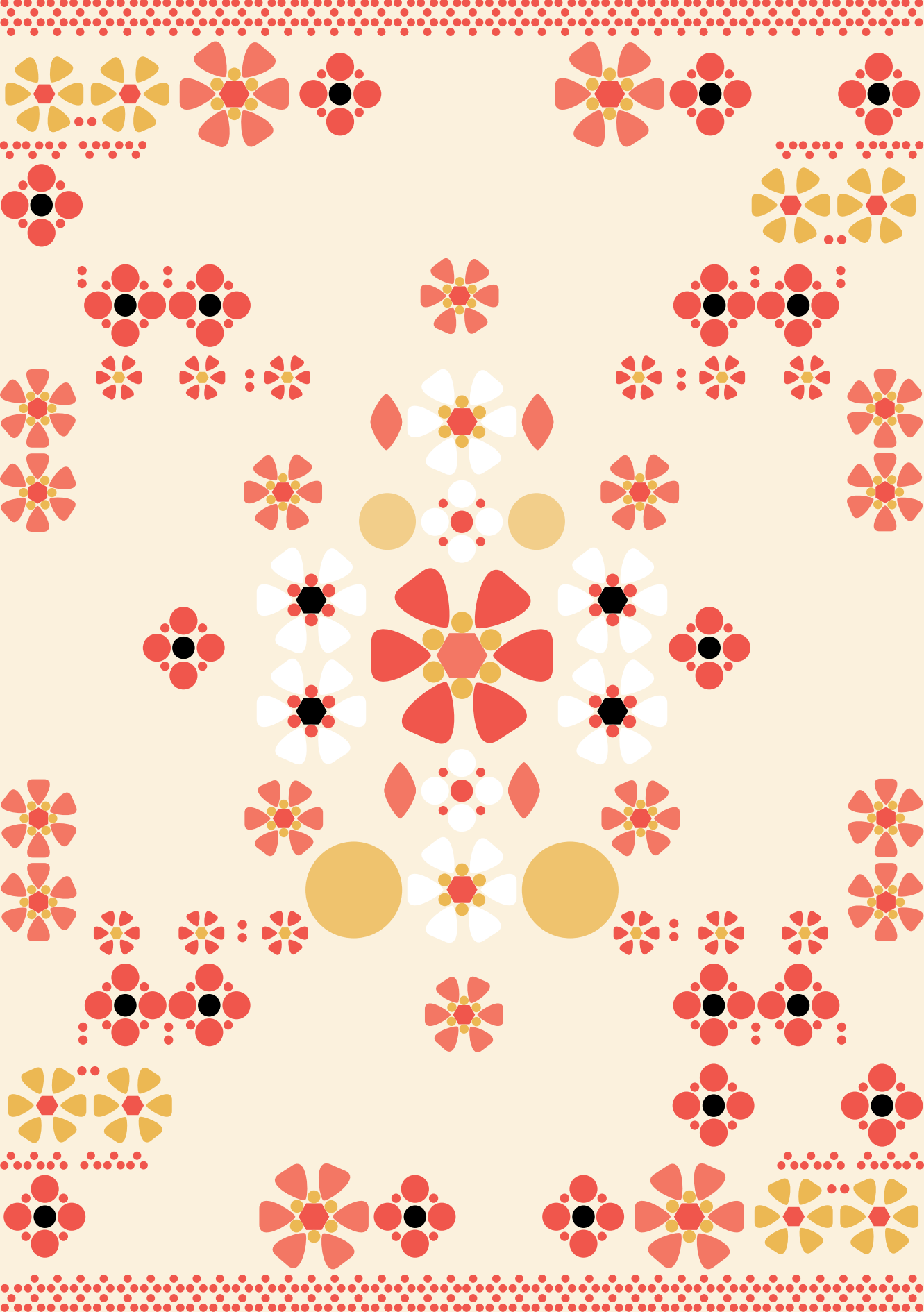
To exemplify how the model has impacted farmers at local level, the following are personal experiences of successful READSI programme implementation beneficiaries.

One of the success stories comes from a lead farmer in North Luwu. The farmer joined READSI in 2019 and participated five times in training implemented by field extension workers and Mars. Beforehand, he practised cocoa farming based on heritage, not managing his farming appropriately but simply following recommendations. From the training the lead farmer learned about pruning, fertilizing, and controlling pests and disease. He thus succeeded in improving cocoa production by over 40 percent, from 700 kg per hectare to 1000 kg per hectare annually. A READSI facilitator assisted the farmer in developing a farmers' group based on farmers' needs. The farmer now leads the group members in actively participating in the training, organizing the group's regular meeting, planning the cultivation for the next planting season, and managing the group's cash for collective action.

The following is a personal testimony from a female farmer who participated in the READSI programme. She is middle-aged and shows a very positive attitude to learning something new. The village extension worker and READSI facilitator manage agronomy and business training for the cocoa farmers. Having joined the training, she reports that she gained knowledge in managing cocoa trees. She learned a new harvesting technique, appropriate fertilizer application for the cocoa plants and better techniques for peeling and drying the cocoa beans. The training has increased her knowledge of good cocoa farming practices. She decided to replant old cocoa trees as the PPL teaches the farmers to apply new techniques to cocoa bean production. For the last three months, she has achieved a better price for cocoa beans, up from less than USD 2 per kilogram of cocoa to USD 2.1 per kilogram.







# Chapter 5

## Analysis of case and recommendations

“The READSI programme provides hope for farmers to restore the glory of cocoa from the past. This programme recognizes equal opportunities for women to become successful farmers. I feel pride when I succeed in implementing the technology recommended by the field extension workers.”

(Female farmer, District 1)

The READSI partnership between the Gol, farmers and Mars aims to increase the productivity of smallholder cocoa farmers using sustainable cocoa farming. The impact of the partnership is to increase farmer welfare in rural areas in Indonesia. The role of Mars as the private partner is to provide technical cocoa knowledge and skills, Gol delivers extension services and increases the capacities of extension workers and IFAD brokers, finances and monitor progress.

Having implemented the programme for three years, 4P enabled success in terms of CIPP and KASA performance. According to key informants, four aspects that contributed to a successful programme were: (i) relevance of the programme to effectively addressing the needs of stakeholders; (ii) good programme design; (iii) community involvement, and (iv) availability of funding. The enabling environment for the programme is support from both central and local government. Without these four aspects or this enabling environment, 4P cannot run effectively. For example, among the READSI locations, only 4P has signed an MoU between MoA and Mars with cacao beans produced by small farmers (READSI 2020). The farmers' product has now entered the global market.

The design of 4P in AHCI has enhanced the diversification to agricultural education and advisory services. The private sector invested in providing research and development centres in cocoa production, and then received premium cocoa beans from the producers. The farmer-producers improved their competencies in cocoa farming and business, helping them to respond to the market. The government cost sharing helped in providing further education for farmers, especially female farmers, while local government developed further training for extension workers and facilitators. The variation and modifications to agricultural extension services (Suvedi and Kaplowitz, 2016) have enriched approaches for further extension services.

One significant issue in the implementation of READSI in 2020 was the Coronavirus disease (COVID-19) global pandemic, which was declared in March 2020. As a result, some planned activities, including e-cocoa, have been delayed and further training for lead farmers, female farmers, and village extension workers has been postponed. Starting from July 2020, activities in the cocoa fields have been carried out following the health protocols due to the pandemic. There is also room for improvement in ensuring that the private sector prioritizes the farmers' needs for agricultural inputs and outputs at reasonable prices.

Some improvements needed for future programmes are: (i) training should focus first on practical aspects in the field and then be followed by advisory services from cocoa specialists, extension workers, cocoa doctors or facilitators; (ii) farmer learning centres should be located at the village level to fulfil the needs for inputs, information and innovation; (iii) continuous support for inputs, tools and equipment for cocoa production should be mandatory; and (iv) cooperation and support in purchasing inputs and trading production should be strengthened.

The 4P approach involves dynamic relationships between various stakeholders with different interests and resources, thus donors, the private sector, the government and the community each have specific goals and intentions in developing partnerships. Therefore, intensive dialogue and the maintenance of mutual trust, respect and accountability among stakeholders will have a strong influence on the effectiveness of the partnerships. In relation to this, Amanah and Fatchiya (2018) support the idea of cooperation in providing extension services to assist farmers with better access to information and innovation. Extension systems should respond to and fulfil the farmers' needs for learning and information (Suvedi and Kaplowitz, 2016). The 4P model can be adopted to increase the productivity of farmers through training and co-working to produce goods in whatever agroecological zone. The principle of a participatory approach should be integrated in all phases of the programme.

Further institutional arrangements may also be needed for continual support from 4P in AHCI to reduce poverty through better farming, business practice and group management. Farmers' groups need to be empowered in their role to support their members through access to better market information and sharing knowledge and other services (Sopov and Reuver, 2017). This is consistent with MoA regulations.

For further 4P READSI development, Gol can expand the current 4P READSI on cocoa development into other regions and more activities. Gol can also explore similar 4P initiatives for the other main agricultural commodities by considering potential stakeholders willing to be involved in the partnership. However, it is still necessary to consider regional differences

and to emphasise quality, sufficient supervision and strong efforts to educate farmers in quality and sustainability (Glorya and Nugraha, 2019). Creating policies that address regional differences will also reduce problems that might result from a one-size-fits-all policy. This expansion of 4P to further cocoa development can include collaboration with Mars or other companies. Intensive coordination with the Cocoa Sustainability Partnership (CSP), a forum for public–private collaboration and working actively for the betterment of cocoa development in Indonesia, can also be considered for expanding the Indonesian cocoa sector in the international market.

As explained above, READSI is recommended as a strategic model for engaging private partners with AHCI. Therefore, this 4P can be implemented in other locations as a potential development approach for addressing rural poverty and improving the livelihoods of smallholder farmers. However, strategies for implementing 4P elsewhere do need to consider the following conditions.

First, the basic requirement to implement 4P is at policy level and with country and government support. The law and regulations should allow for partnerships for investment in agricultural production as well as human capital development. Central and local government should agree roles and responsibilities in 4P, including cost sharing for extension services.

Second, mechanisms for governance of the programme and authority from each party should be made clear; all parties involved in 4P must have a good understanding of the programme and share a similar vision of success for AHCI through 4P.

Third, support from the community should be available to ensure its active participation in the programme.

Fourth, the programme should address the community's needs. The key point here is that need assessments, analysis of potential agricultural resources, socio-cultural analysis and GAP analysis, identification of champions and feasibility analysis should be done before the program starts.

Fifth, a roadmap, including a plan and a program of actions, should be drawn up as the reference for monitoring and evaluating progress.

Sixth, the competencies of staff and personnel involved at every level of the programme should be ensured. If necessary, staff and personnel should be trained to improve knowledge, skills and attitude towards the scope of the programme.

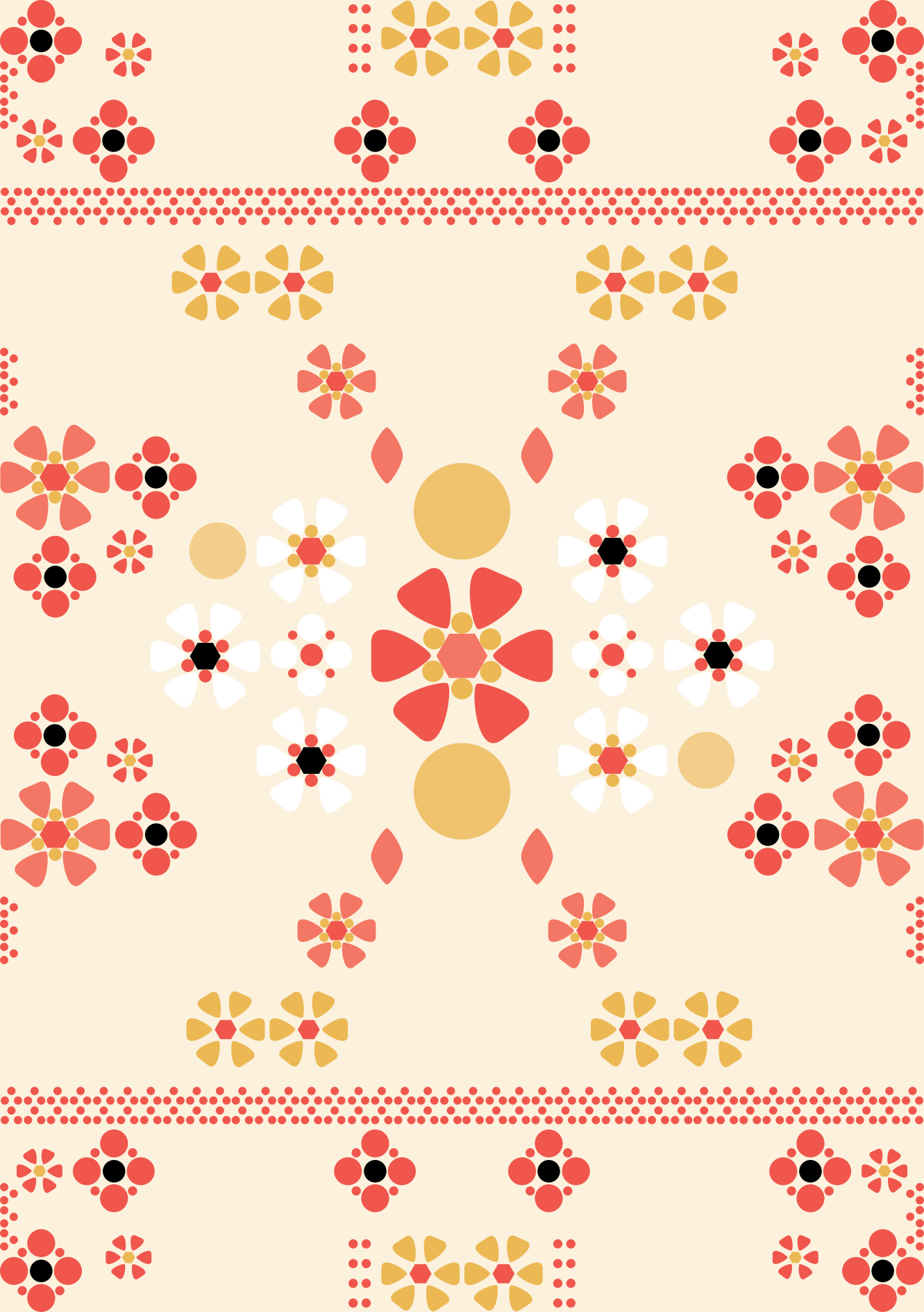
These six necessary conditions for 4P show that investing in agricultural human capital requires adequate funding for extension education (Davis *et al.*, 2020) as a strategy and approach for agricultural development. Thus, investment in agricultural human capital should be continued so as to fulfil the needs of the people of Indonesia and around the world.











## References

- ADB.** 2019. *Policies to Support Investment Requirements of Indonesia's Food and Agriculture Development during 2020–2045*. [Cited 10 August 2020]. Manila: Asian Development Bank. Available at: <https://www.adb.org/publications/indonesia-food-agriculture-development-2020-2045>.
- Amanah, S. & Fatchiya, A.** 2018. *Strengthening Rural Extension Services to Facilitate Community towards Sustainable Development Goals in Three Districts in Indonesia*. *Jurnal Penyuluhan*, 14(1): 134–144. Available at: <https://doi.org/10.25015/penyuluhan.v14i1.20434>
- ASTI.** 2018. Data. [Cited 16 August 2020]. Available at: <https://www.asti.cgiar.org/data>.
- BAPPENAS.** 2019. *Rancangan Teknokratik RPJMN 2020–2024*. [Cited 14 August 2020]. Available at: <https://www.bappenas.go.id/id/berita-dan-siaran-pers/re>.
- Baxter, P. & Jack, S.** 2008. *Qualitative case study methodology: study design and implementation for novice researchers*. *The Qualitative Report*, 13(4): 544–559.
- Bennett, C.F.** 1975. Up the hierarchy. *Journal of Extension*, 13(2): 7–12.
- Bennett, C.F.** 1976. *Analysing Impacts of Extension Programs*. Washington, DC: US Department of Agriculture, Extension Service.
- BPS.** 2019a. *Hasil Survei Pertanian antar Sensus (SUTAS) 2018 Seri-A2* [Results of Inter-Censal Agriculture Survey 2018 A2-Series]. [Cited 24 August 2020]. Available at: <https://www.bps.go.id/publication/2019/10/31/9567dfb39bd984aa45124b40/hasil-survei-pertanian-antar-sensus--sutas--2018-seri-a2.html>.
- BPS.** 2019b. *Penghitungan Indeks Ketimpangan Gender 2018*, Indonesian Original [Gender Inequality Index Measurement 2018]. [Cited 14 August 2020]. Available at: <https://www.bps.go.id/publication/2019/11/07/4efb3f1db4e099743a35adbd/penghitungan-indeks-ketimpangan-gender-2018-kajian-lanjutan-2-.html>.
- BPS.** 2019c. *Profil Kemiskinan di Indonesia September 2018*, Indonesian Original [Percentage of Poor People September 2018]. [Cited 15 August 2020]. Available at: <https://www.bps.go.id/pressrelease/2019/01/15/1549/persentase-penduduk-miskin-pada-september-2018-sebesar-9-66-persen.html>.
- BPS East Luwu District.** 2017. *Kabupaten Luwu Timur Dalam Angka 2017* [East Luwu District in Number] English translation. Cited 4 September 2020. Available at: <https://luwutimurkab.bps.go.id/publication/2017/08/11/9ba8a0d32307c88af47b17cc/kabupaten-luwu-timur-dalam-angka-2017.html>.
- BPS East Luwu District.** 2020. *Kabupaten Luwu Timur Dalam Angka* [East Luwu District in Number] English translation] 2020. [Cited 2 September 2020]. Available at: <https://luwutimurkab.bps.go.id/publication/2020/04/27/e57f09d8c14dad168bc747fc/kabupaten-luwu-timur-dalam-angka-2020.html>.

- BPS Luwu District.** 2020. *Kabupaten Luwu Dalam Angka* [Luwu District in Number] English translation 2020. [Cited 2 September 2020]. Available at: <https://luwukab.bps.go.id/publication/2020/04/27/176518cb68c9210e48a1b980/kabupaten-luwu-dalam-angka-2020.html>.
- BPS North Luwu District.** 2017. *Kabupaten Luwu Utara Dalam Angka* [North Luwu District in Number] English translation. 2017. [Cited 2 September 2020]. Available at: <https://luwuutarakab.bps.go.id/publication/2017/08/11/4a45f7fbf2e4bce3397fbc7/kabupaten-luwu-utara-dalam-angka-2017.html>.
- BPS North Luwu District.** 2020. *Kabupaten Luwu Utara Dalam Angka* [North Luwu District in Number] English translation] 2020. [Cited 2 September 2020]. Available at: <https://luwuutarakab.bps.go.id/publication/2020/04/27/e77c90c2fdb66f47149cafc2/kabupaten-luwu-utara-dalam-angka-2020.html>.
- BPS South Sulawesi Province.** 2019. *Provinsi Sulawesi Selatan Dalam Angka 2019* [South Sulawesi Province in Number 2019] English translation. [Cited 16 August 2020]. Available at: <https://sulsel.bps.go.id/publication/2019/08/16/990caae13d6f4c5d743e852b/provinsi-sulawesi-selatan-dalam-angka-2019.html>.
- BPS South Sulawesi Province.** 2020. *Statistik Daerah Provinsi Sulawesi Selatan* [Statistic of South Sulawesi Province] English translation. [Cited 1 October 2020]. Available at: <https://sulsel.bps.go.id/publication/2020/09/28/682c09e1c3e269f62cc1df55/statistik-daerah-provinsi-sulawesi-selatan-2020.html>.
- Davis, K.E., Babu, S.C. & Ragasa, C.** 2020. *Agricultural Extension: Global Status and Performance in Selected Countries*. Washington, DC, International Food Policy Research Institute. Also available at: <https://ebrary.ifpri.org/digital/collection/p15738coll2/id/133965>.
- EIU.** 2020. Global Food Security Index. [Cited 14 August 2020]. Available at: <https://foodsecurityindex.eiu.com/Index>.
- FAO.** 2020. Government Expenditure. Rome: FAOSTAT. [Cited 18 August 2020]. Available at: <http://www.fao.org/faostat/en/#data/IG>.
- Glorya, M.J. & Nugraha, A.** 2019. *Private Sector Initiatives to Boost Productivity of Cocoa, Coffee, and Rubber in Indonesia*. Available at: <https://repository.cips-indonesia.org/media/291601-private-sector-initiatives-to-boost-prod-14118f2a.pdf>.
- Goldin, C.D.** 2016. Human Capital. In: C. Diebolt & M. Hauptert, eds. *Handbook of Cliometrics*, pp. 55–86. Heidelberg, Germany: Springer. Also available at: <http://nrs.harvard.edu/urn-3:HUL.InstRepos:34309590>.
- Huberman, A.M., Miles, M. & Saldana, J.** 2014. *Qualitative Data Analysis: a methods sourcebook*. Thousand Oaks, California, Sage.
- IFAD.** 2013. IFAD and Public-Private Partnerships: Selected Project Experiences. [Cited 19 August 2020]. Available at: <https://www.ifad.org/documents/38714170/39135645/IFAD+and+public-private+partnerships+-+selected+project+experiences/52a2253a-feef-4445-9d96-e5708c748eb5>.
- IFAD.** 2017. *Republic of Indonesia: Rural Empowerment and Agricultural Development Scaling-up Initiative (READSI)*. [Cited 20 August 2020]. Available at: <https://webapps.ifad.org/members/eb/120/docs/EB-2017-120-R-11-Programme-design-report.pdf>.

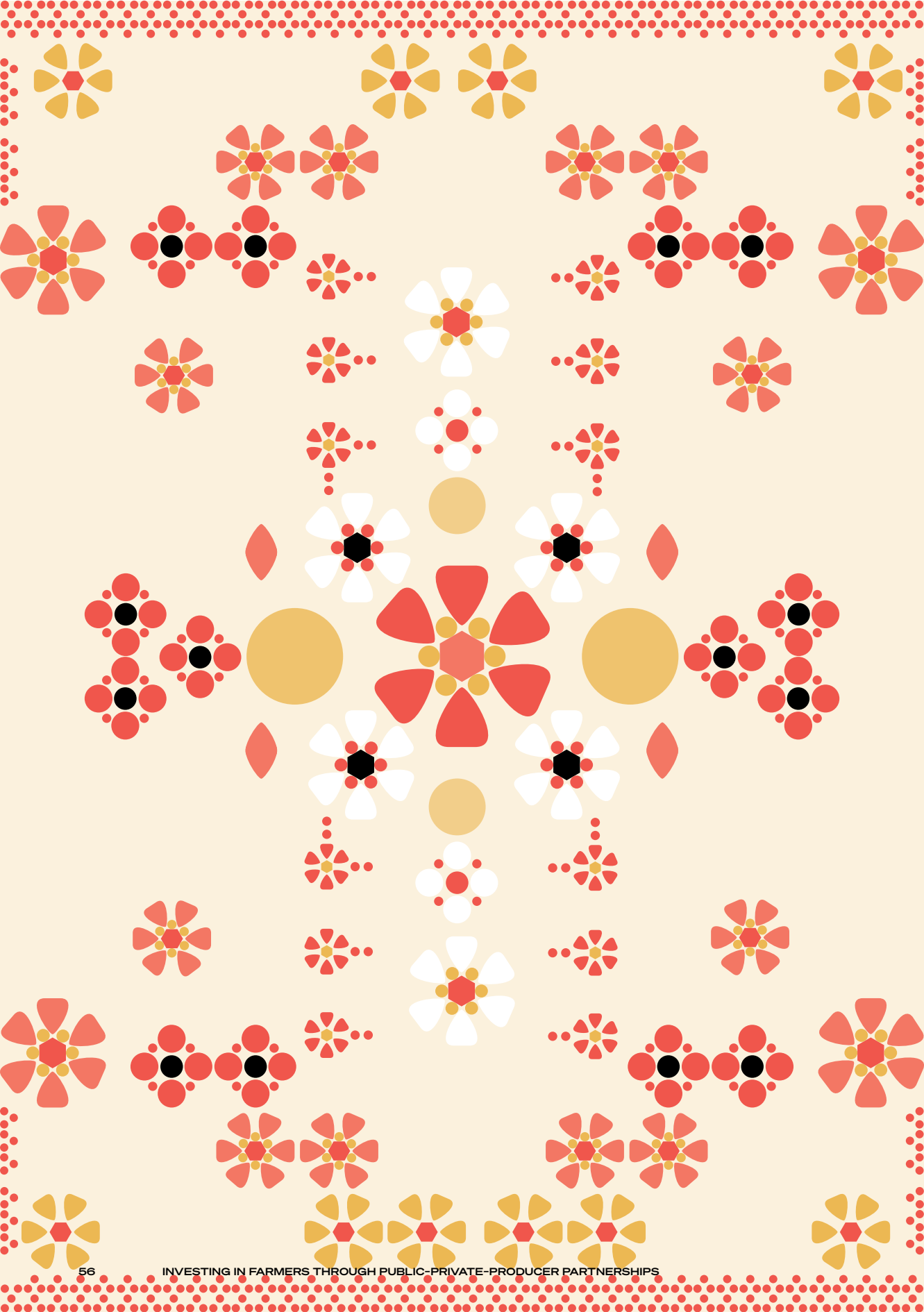


- Levinson, F.J., Rogers, B.L., Hicks, K.M., Schaetzel, T., Troy, L. & Young, C.** 1999. *Monitoring and Evaluation: A Guidebook for Nutrition Project Managers in Developing Countries*. Washington, DC: World Bank.
- MoA.** 2020. *Rencana Strategis Kementerian Pertanian* [Ministry of Agriculture Strategic Plan] English Translation. [Cited 16 August 2020]. Available at: <https://www.pertanian.go.id/home/?show=page&act=view&id=12>.
- MoF.** 2020. *Peraturan* [Regulation] English Translation. [Cited 18 August 2020]. Available at: <https://jdih.kemenkeu.go.id/fullText/2015/38TAHUN2015PERPRES.pdf>.
- Natawidjaja, R.S., Harahap, H.F. & Perkasa, H.W.** 2015. *Brokering Development: Enabling Factors for Public-Private Producer Partnerships in Agricultural Value Chains. Summary of the Indonesia case study*. Brighton, UK: Institute of Development Studies and IFAD. Also available at: <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/6458>.
- QSR International.** 2020. *NVivo 11 for Windows*. Available at: <http://help-nv11.qsrinternational.com/desktop/welcome/welcome.htm>
- READSI.** 2020. READSI: Empowering in Partnership. [Cited 9 January 2020]. Available at: <http://www.readsi.id>.
- Sopov, M.B. & Reuver, R.** 2017. *Collaborating to Boost Sustainable Cocoa Production in Indonesia: A Case Study*. Wageningen, The Netherlands: Wageningen Centre for Development Innovation. Also available at: <https://library.wur.nl/WebQuery/wurpubs/fulltext/467396>.
- Stufflebeam, D.L.** 2015. *Evaluation Models*. Available at: [https://wmich.edu/sites/default/files/attachments/u58/2015/Evaluation\\_Models.pdf](https://wmich.edu/sites/default/files/attachments/u58/2015/Evaluation_Models.pdf).
- Suvedi, M. & Kaplowitz, M.** 2016. *What Every Extension Worker Should Know: Core Competency Handbook*. East Lansing, MI: MEAS. Also available at: [https://meas.illinois.edu/wp-content/uploads/2015/04/MEAS-2016-Extension-Handbook-Suvedi-Kaplowitz-2016\\_02\\_15.pdf](https://meas.illinois.edu/wp-content/uploads/2015/04/MEAS-2016-Extension-Handbook-Suvedi-Kaplowitz-2016_02_15.pdf).
- Thorpe, J.** 2018. *Procedural justice in value chains through public-private partnerships*. *World Development*, 103, March 2018: 162–175. Also available at: <https://doi.org/10.1016/j.worlddev.2017.10.004>.
- UNDP.** 2019. *Human Development Report*. Available at: <http://hdr.undp.org/en/countries/profiles/IDN>.
- World Bank.** 2020a. *World Bank Open Data*. Available at: <https://data.worldbank.org>.
- World Bank.** 2020b. *Human Capital Project*. Available at: <https://www.worldbank.org/en/publication/human-capital#Data>.









# Annex 1

Cocoa Planted Area, Cocoa Production and Number of Cocoa Farmers in South Sulawesi

No.	Regency/City	Cocoa planted area (hectares)	Cocoa production (thousand tons)	Number of cocoa farmers (families)
1	Selayar Islands	616	166	1335
2	Bulukumba	8123	4552	11 434
3	Bantaeng	5408	2896	6432
4	Jeneponto	103	33	281
5	Takalar	30	8	171
6	Gowa	3838	1485	7955
7	Sinjai	7326	1595	11 642
8	Maros	1730	582	1841
9	Pangkep	308	58	711
10	Barru	777	265	1554
11	Bone	22 900	10 692	32 582
12	Soppeng	17 709	5008	23 671
13	Wajo	15 534	10 700	24 283
14	Sidrap	7835	5891	7027
15	Pinrang	19 585	10 556	21 200
16	Enrekang	7921	3289	6336
17	Luwu	33 901	24 640	27 799
18	Tana Toraja	4199	1014	14 451
19	North Luwu	39 767	26 406	28 027
20	East Luwu	22 790	12 862	16 522
21	North Toraja	1452	813	4550
22	Makassar	-	-	-
23	Pare Pare	-	-	-
24	Palopo	3 173	821	2 625
<b>South Sulawesi</b>		<b>225 114</b>	<b>124 332</b>	<b>252 429</b>

SOURCE: BPS (Central Bureau of Statistics) South Sulawesi, 2019.



## Annex 2

### Key Informants

No.	Type of key informants	Number of key informants	Percentage of key informants (%)
1	<b>Informants for national level</b>		
	a Gender		
	Male	1	3.23
	Female	3	9.68
	b Age (years)		
	25-30	0	-
	31-40	1	3.23
	41-50	0	-
51-60	3	9.68	
2	<b>Local government</b>		
	a Gender		
	Male	2	6.45
	Female	1	3.23
	b Age (years)		
	25-30	0	-
	31-40	0	-
	41-50	1	3.23
51-60	2	6.45	
3	<b>Implementers</b>		
	a Gender		
	Male	3	9.68
	Female	0	-
	b Age (years)		
	25-30	0	-
	31-40	3	9.68
	41-50	1	3.23
51-60	0	-	
4	<b>Mars</b>		
	a Gender		
	Male	3	9.68
	Female	0	-
	b Age (years)		
	25-30	0	-
	31-40	0	-
	41-50	3	9.68
51-60	0	-	

No	Type of key informants	Number of key informants	Percentage of key informants (%)
5	<b>Farmer leaders</b>		
	a Gender		
	Male	4	12.90
	Female	1	3.23
	b Age (years)		
	25-30	0	-
	31-40	3	9.68
	41-50	1	3.23
51-60	1	3.23	
6	<b>Farmers</b>		
	a Gender		
	Male	7	22.58
	Female	5	16.13
	b Age (years)		
	25-30	2	6.45
	31-40	5	16.13
	41-50	2	6.45
51-60	3	9.68	
<b>Total key informants</b>		<b>31</b>	

SOURCE: Authors' own elaboration.

## Annex 3

### READSI Programme Costs by Component

Cost Component	Total cost (USD '000)					Total
	2018	2019	2020	2021	2022	
<b>A. Village agriculture and livelihoods development</b>						
1. Community mobilization	2365	2247	2292	2292	2284	11 480
2. Agriculture and livelihoods	17103	5378	7745	3015	34	33 274
3. Savings, loans and financial literacy	525	534	1105	254	-	2417
4. Nutrition	126	494	382	382	135	1519
<b>Subtotal</b>	<b>20 119</b>	<b>8653</b>	<b>11 524</b>	<b>5942</b>	<b>2453</b>	<b>48 690</b>
<b>B. Services inputs and market linkages</b>						
1. Agricultural extension services	1814	1356	1150	703	964	5987
2. Financial Institutions	301	611	349	349	349	1958
3. Seed supply and market systems	958	93	77	69	63	1260
4. Cocoa farmer support services and inputs markets	5390	657	373	373	362	7156
5. Livestock production and health services	-	14	11	3	3	31
<b>Subtotal</b>	<b>8464</b>	<b>2731</b>	<b>1960</b>	<b>1496</b>	<b>1741</b>	<b>16 391</b>
<b>C. Policy</b>	<b>275</b>	<b>275</b>	<b>275</b>	<b>275</b>	<b>-</b>	<b>1100</b>
<b>D. Districts, provinces and NPMO management</b>						
1. District project management	3166	1758	1795	1804	1814	10 336
2. NPMU and PPSU project management	1395	1165	1142	1001	1064	5766
<b>Subtotal</b>	<b>4561</b>	<b>2923</b>	<b>2936</b>	<b>2805</b>	<b>2878</b>	<b>16 102</b>
<b>E. Unallocated</b>	<b>-</b>	<b>-</b>	<b>2000</b>	<b>2000</b>	<b>1000</b>	<b>5000</b>
<b>Total Project Costs</b>	<b>33 418</b>	<b>14 582</b>	<b>18 695</b>	<b>12 519</b>	<b>8071</b>	<b>87 284</b>

SOURCE: IFAD (2017).











Investing in farmers through public-private-producer partnerships Rural Empowerment and Agricultural Development Scaling-up Initiative in Indonesia. Investing in farmers – or agriculture human capital – is crucial to addressing challenges in our agri-food systems. A global study carried out by the FAO Investment Centre and the International Food Policy Research Institute, with support from the CGIAR Research Programme on Policies, Institutions and Markets and the FAO Research and Extension Unit, looks at agriculture human capital investments, from trends to promising initiatives. One of the nine featured case studies is the Rural Empowerment and Agricultural Development Scaling-up Initiative in Indonesia. This programme adds perspectives on investing in human capital in agriculture through public-private-producer partnerships, using lead farmers, cocoa doctors and farmer field schools. The case study shows that the training and coaching provided increased knowledge of and practical skills in cocoa farming, including technical skills, soft skills and empowerment, leading to better productivity and cocoa quality. The programme increased farmers' confidence to take on new activities and sell a quality product. In addition, farmers developed group cooperation and decision-making skills, and group members learned communication, entrepreneurship and marketing skills. This publication is part of the Country Investment Highlights series under the FAO Investment Centre's Knowledge for Investment (K4I) programme.

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