

Indonesia

Smallholder Livelihood Development Project in Eastern Indonesia

Project Completion Report

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Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

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Map of the Project Area



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 08-04-2019

Currency Equivalents

IDR = Indonesian Rupiah

US\$1.0 = IDR14.600

Weights and measures

1 Kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and Acronyms

AOS	Annual Outcome Survey
APP	Agricultural Production Plans
AWPB	Annual Work Plan & Budget
BU	Business Unit
COSOP	Country Strategic Opportunity Programme
DPMO	District Project Management Office
EIRR	Economic Rate of Return
FCS	Food Consumption Score
FIRR	Financial Rate of Return
FY	Financial Year
GDP	Gross Domestic Product
GOI	Government of Indonesia
HH	Household
IDR	Indonesian Rupiah
IFAD	International Fund for Agriculture Development
M&E	Monitoring and Evaluation
MTDP	Medium-Term Development Plan
MTR	Mid-Term Review
NGO	Non-Government Organization
NPMO	National Project Management Office
PCR	Project Completion Report
PIU	Project implementation unit
PPL	Government Extension Worker
PSME	Project Self Monitored Evaluation
RFL	Revolving Fund Loans
SHG	Self Help Group
US\$	United States Dollar
VF	Village Facilitator

Project at a glance

Region Asia and the Pacific Division	Project at Risk Status Not at risk
Country Indonesia	Environmental and Social Category B
Project Name Smallholder Livelihood Development Project in Eastern Indonesia	Climate Risk Classification 2
Project ID 1100001509	
Project Sector Rural Development	
CPM Ivan Cossio Cortez	
Project Area Maluku (5 districts) and North Maluku (6 districts)	

Key Dates

IFAD Approval	Signing	Entry into Force	Mid-Term Review	Original Completion	Actual Completion
11/05/2011	05/07/2011	05/07/2011	02/06/2014	31/01/2019	31/01/2019
		Original Financial Closure	Actual Financial Closure		
		31/07/2019	not available yet		
Date of Last SIS Mission	Number of SIS Missions	Number of extensions	Effectiveness lag		
28/03/2018	15	0	2 months		

IFAD Financing

Loan	USD Million	49.1 Million	% disbursed	85.3
Grant	USD Million	1.08 Million	% disbursed	83.0

Actual Costs and Financing (USD '000) as at the time of PCR submission

Component	IFAD	Cofinancing	Beneficiaries	GOVT	Total
	Actual	Actual	Actual	Actual	Actual
Community Empowerment	7	0	0	1	9
Institutional Strengthening and Project Mgt	1	0	0	2	4
Productive Rural Infrastructure Investment	5	0	0	3	9
Productivity Imprvmnt & Integrated Farming Systems	18	0	0	1	19
Value Chain Development and Marketing	2	0	0	0	3
Total	36	0	0	10	46
Remarks					

Outreach

Direct Beneficiaries

Number of HH members	Number of persons receiving services
Estimated total: 129 153	Total: 26 907
Indirect Beneficiaries	
Total: 6 750	

Project Objectives

Rural producers & Organisatio

Key project objectivesThe overall objective of the project is to improve livelihoods (incomes and food security) and reduce the incidence of poverty for people in the targeted villages in the two provinces. Policy and institutional objectivesThe project will support priority policy and institutional reforms to ensure continued support for poverty reduction and the development of smallholder-based farming systems in Maluku and North Maluku. Project design and implementation arrangements are aligned with the Government's decentralization processes and support the improvement of service delivery at various institutional levels. In particular, the project will improve the capacity of village institutions for social and economic development and natural resource management.

Country Partners

Executing Institution	Ministry of Agriculture, Agency for Food Security
Implementing Institutions	Local Government (additional)

Project Completion Ratings Matrix

COUNTRY: Indonesia	
PROJECT NAME: Smallholder Livelihood Development Project in Eastern Indonesia	
PROJECT ID: 1100001509	
BOARD APPROVAL DATE: 11/05/2011	
ENTRY INTO FORCE: 05/07/2011	
PROJECT COMPLETION DATE: 31/01/2019	
LOAN CLOSING DATE: 31/07/2019	
IFAD LOAN AND GRANT (USD MILLION): \$50,190,339	
TOTAL PROJECT FINANCING: \$65,001,741	
IMPLEMENTING AGENCY: Local Government (additional)	
Criterion	PCR Rating
Project Performance	
- Relevance	4
- Effectiveness	5
- Efficiency	3
- Sustainability	4
Rural poverty impact	4
- Households' incomes and assets	5
- Human and social capital	4
- Food security	5
- Agricultural productivity	5
- Institutions and policies	4
Additional evaluation criteria	
- Gender equality and women's empowerment	5
- Innovation	4
- Scaling up	4
- Environment and natural resource management	4
- Adaptation to climate change	4
- Targeting and outreach	5
- Access to markets	4
Partners Performance	
- IFAD's performance	4
- Government performance	4
Overall project achievement	4

Executive Summary

Background. The Smallholder Livelihood Development Project in Eastern Indonesia (SOLID) was approved by IFAD's Executive Board in May 2011. Total project financing was US\$65.0 million, funded by an IFAD loan of US\$49.11 million, an IFAD grant of US\$1.08 million and a contribution by the Government of Indonesia of US\$14.81 million. The project financing agreement was signed on 5 July 2011, with project implementation starting thereafter. The project completion date is 31 January 2019.

Theory of Change. The overall premise of the project was to develop a replicable approach to improving livelihoods in remote communities in Maluku and North Maluku. The theory of change underlying the project was to address the constraints of smallholder farmers, including access to technology, inputs and markets, in order to improve the competitiveness of smallholder agriculture and growth of the agricultural sector. This would lead to sustainable increases in farm incomes and improved household food security. The adoption of a community empowerment and participatory development approach would also contribute to ensure the long-term sustainability of SOLID interventions.

In this context, the project goal was to enhance food security and increase incomes in beneficiary households (HH) and its development objective was to improve livelihoods (both food security and income) and to reduce the incidence of poverty. The project sought to achieve these objectives by: strengthening village institutions, self-help groups and federations; (ii) improve sustainable smallholder production systems and low levels of purchased inputs; (iii) improve post-harvest practices and aggregation of produce; (iv) introduce a value chain and market strategy for targeted commodities; (v) improve small-scale infrastructure and ensure sustainability through local ownership.

Results. SOLID has made satisfactory progress towards achieving its goal to enhance food security and increase incomes, as well as its objective to improve livelihoods (both food security and income) in Maluku and North Maluku. The results of the economic and financial analysis confirm that expenditure produced strongly positive results at the national and beneficiary levels. In particular, this analysis and the 2018 Impact Study confirmed large increases in household income and assets attributable to the SOLID investments, as well as greatly enhanced food security and nutrition for the majority of beneficiaries.

The project contributed strongly to improvement of HHs assets ownership index and reduction of the prevalence of child malnutrition. End-line Surveys have shown that the HH asset ownership index improved from 0,37 in 2012 to 0,54 in 2018, while the prevalence of malnutrition from SOLID respondents decreased from 16% in 2012 baseline to 7% in 2018. Moreover, the prevalence of stunting decreased from 62% in 2012 to 6% in 2018.

Other notable achievements highlighted by the final impact assessment include: (i) 94% of SHGs were assessed as having either "good" or "very good" performance; (ii) 17% points increase in ownership index of SOLID beneficiary household assets compared to the baseline survey against an 11% points increase for non-SOLID HH; (iii) 100% of SOLID HH enjoyed food security (no shortages) for at least 10 months of the year, against a target of 75%, while 75% enjoy food security over the entire year; (iv) an important reduction in stunting rates, with 61% of children stunted or severely stunted in 2012, down to only 6% in 2018 (v) income increases of up to 81%; (vi) yield increases of approximately 50% for SOLID HH against 10% for non- SOLID HH; and (vii) more than 75% of households enjoy a 30% increase in income from the sale of food crops.

Relevance. Project relevance is considered *moderately satisfactory*. The initial design was mostly consistent with the needs of the target groups and aligned to IFAD and Government policies, and the design remained relevant until project completion. In particular, SOLID was relevant in providing support for the achievement of 6 of 11 priorities outlined in the Government's Medium-Term Development Plan (MTDP) for 2010-2014 and was fully aligned with the 2010-2014 National Medium-Term Priority Framework for Agriculture (MTFA) which focused on the revitalisation of the agricultural sector to increase competitiveness in the national and global economies.

Similarly, SOLID is aligned with the 2016-2019 IFAD COSOP, which includes strategic objectives of: (i) assisting small scale producers to participate in remunerative markets; (ii) making small scale producers and their families more resilient to risks; and (iii) making rural institutions more responsive to small scale producer needs.

However a re-design of the SOLID Project was considered necessary at MTR to improve its likelihood of achieving its goal and objectives, as the design lacked some elements of practicality which mitigated against initial success.

Effectiveness. The effectiveness for SOLID is rated as *satisfactory*. The project objective was mostly met and the most important output targets were achieved. In fact, according to the 2018 annual outcome survey, 95% of SOLID beneficiaries did not experience food shortage against an initial target of 75%. Moreover, the final impact survey showed that the monthly per capita income of SOLID respondents increased on average by 81%, in real terms, from 2012 to 2018. The average per capita income of SOLID respondents in 2018 was 7% higher than non-SOLID respondents. Most of the outcomes have been achieved, with 97% of the targeted HH trained (Outcome 1); 80% of HH were found to be food secure (Outcome 2); 66% of SOLID households generated improved income from selling agriculture produce (Outcome 3).

Some contributory factors to this success were: i) the changes made during MTR in the design and approaches, that

provided the necessary tools to improve livelihoods and reduce rural poverty in this remote region ; ii) the project effort to strengthen facilitation at community level, by hiring NGO and consultants right after the MTR; iii) simplified project M&E system and using dashboard to monitor physical and financial achievement monthly.

Efficiency. The project efficiency and value for money is considered to be *moderately unsatisfactory*. Initial Project implementation was less than efficient, and at the time of the mid-term review, there had only been disbursement of 16% of available loan funds. However, there were marked improvement following the MTR and investments have since then represent good value for money. The results of the economic (EIRR of 41%) and financial (FIRR of 58%) analysis confirm that expenditures produced strongly positive results at the national and beneficiary levels.

Sustainability. The sustainability of SOLID impact is assessed as *moderately satisfactory*. While the project has demonstrated economic and environmental sustainability – for instance through the SHG's greater engagement with markets and the promotion of effective use of fertilizer and pesticides – there needs to be further investment to ensure sustainability of key local institutions such as SHGs and Federations. In particular, the tendency for SHG members to market produce as individuals, as well as the relatively poor loan repayment performance of group members can lead to internal tensions and generate forces that could lead to group failure.

Challenges and lessons learnt. There have been numerous challenges facing project management during the implementation. High staff turnover at all levels during early implementation has affected the project stability to perform properly. In addition, the complexity of project structure required a consolidated effort by all project management, consultants and service providers and a focused accountability framework for SOLID to achieve the overall objectives.

As such the project experience provides lessons on the design for projects with features suited for remote areas. Several key features that are seen as necessary for projects such as SOLID, are: (i) Village level cooperation and coherence is vital; (ii) an inclusive focus on farmers is more effective than focusing exclusively on the poor, as it is unlikely that the poorest will have experience in application of innovations of a commercial nature; (iii) adequate training prior to their deployment of facilitators/mentors and as well as refresher training periodically during the program implementation is crucial; (iv) it is important to integrate production and value chain activities into one consolidated extension message; (v) The village level institutions such as SHGs and Federations supported by a project need to have strong social foundations. Section H elaborates further on these lessons learnt.

A. Introduction

1. The Smallholder Livelihood Development Project in Eastern Indonesia (SOLID) was approved by IFAD's Executive Board in May 2011. The Project is jointly funded by an IFAD loan of US\$49.11 million, an IFAD grant of US\$1.08 million and a contribution by the Government of Indonesia of US\$14.81 million. SOLID was approved by IFAD's Executive Board in May 2011 and the loan closing date is 31 July 2019.
2. A Joint Project Completion Mission (JPCM) by IFAD; Agency for Food Security, Ministry of Agriculture and the Ministry of National Development Planning/BAPPENAS was undertaken from 26th November to 10th December 2018. The objectives of the project completion review (PCR) are to (i) assess the performance of SOLID project in number of areas, as defined in IFAD's guidelines for project completion report; (ii) assess the relevance of project intervention at the time of project design and in the current context; (iii) assess the effectiveness and efficiency of project implementation; (iv) document performance and achievement of performance indicators with reference to the logical framework; (v) validating and reviewing the project completion report prepared by the executing agency.. All ratings will be based on sound quantitative data, enriched with qualitative findings.
3. The Government of Indonesia (GoI) prepared a comprehensive Draft Project Completion Report (PCR), with inputs from Project Management, Partners, Beneficiaries and Local and Central Government institutions. This draft PCR presents substantial detail on project design and modifications, progress in project implementation and delivery of outputs and achievement of outcomes. There is also substantial information on project management, financing, monitoring and evaluation, knowledge management and lessons learned.
4. Within this context, the JPCM supported Ministry of Agriculture in validating its draft PCR. The JPCM was conducted in close consultation with key stakeholders at national, district, sub-district and village levels, and undertook field visits to West Seram District in Maluku Province and North Halmahera District in North Maluku Province. Pre-wrap up and wrap up meetings were held on the 7th and 10th of December respectively. An Aide Memoire (Appendix 9) reflects the discussion at those meetings.

B. Project Description

B.1. Project context

5. **Maluku and North Maluku.** In the period prior to 2010, the eastern provinces of Maluku and North Maluku had been relatively neglected in terms of effective support for agriculturally-based development, despite having a rich natural resources base. Both areas had been unsettled by social conflicts that had a further negative effect on economic development. Food and nutritional security remain critical issues in both North Maluku and Maluku. Both provinces are net food importers with food insecurity amongst poor families being a constant reality. The central Government was engaged with the transition to decentralisation of service provision. This was to more directly engage about 500 provincial, district and city governments that play an important role in local administration, social and economic development and in the delivery of public services. The role of the central government agencies had therefore shifted from implementation to that of creating the enabling legal and policy environment for the local governments to take the lead implementing their own development agenda. Decentralisation was also expected to contribute to the peaceful resolution of regional and social conflicts, e.g. in Aceh, Papua and Maluku and North Maluku.
6. At the time of project design, almost half of the Indonesian population lived in the urban areas. Agriculture accounted for about 14% of Gross Domestic Product (GDP), while the industry and services sectors accounted for 47% and 37% of GDP respectively. There had been an ongoing shift in the composition of sector GDP between 1970 and 2007 with a reduction of the contribution of food crops from 61% to 49% (a 19% decrease), an increase in fisheries from 9% to 16% (a 79% increase) and in livestock from 6% to 13% in 2007 (a 112% increase). Indonesia had previously been to be self-sufficient in rice but had now become a major rice importer. These statistics clearly pointed to the relative reduction in economic performance by the rural sector, which in turn produced increased income inequality between rural and urban areas. They also provided an imperative for the Government to further emphasise the need for improved productivity of the rice sector.
7. Despite this, agriculture continued to play an important economic role as it employed 43% of the total work force in 2006. This was also a reflection of the relatively low productivity of small-holder production of annual food crop and estate (tree) crops, particularly in Eastern Indonesia. The causes of the low agricultural productivity included inadequate management and marketing systems, use of shifting cultivation systems in some areas, limited knowledge of appropriate and modern improved agricultural practices, lack of effective extension and research outreach, poor rural infrastructure and a lack of supply of production inputs and appropriate sources of finance. The above factors resulted in the production of poor quality produce with a low market value, despite the cultivation of potentially high value crops e.g. cocoa, nutmeg, cloves etc., without local value addition through processing and marketing. Market outlets were limited and there was a lack of market information systems.
8. Conflicts in Maluku and North Maluku during the period 1999-2003 also had a major effect on the economic prosperity and livelihoods of people in these areas and the combined economy of Maluku and North Maluku contracted by approximately 30% in real terms. Virtually no sector or sub-sector of the economy was unaffected.
9. In 2008 the GRDP per capita for the two provinces were the equivalent of USD 510 for Maluku and USD 425 for North Maluku. According to the Central Bureau of Statistics (CBS), 28% of the population in Maluku was living below the poverty line in 2009 and 10% in North Maluku. The unemployment rate in Maluku in February 2009 was 10%, among the highest level nationally and higher than the national average of 8%. In comparison, the unemployment rate in North Maluku was less than 7%. More than 70 of the 127 sub-districts in the eleven provinces have poverty rates greater than 20%. A further four sub-districts have relatively large numbers of poor (nearly 5,000), even though the poverty rate ranges from 8-14%. This analysis highlights the fact that the absolute numbers of poor households should be considered as well as the incidence of poverty when using poverty as a targeting tool. Both Maluku and North Maluku are provinces that include areas with a cereal deficit. Three of the five districts selected for project activities in Maluku were identified as regions of highest vulnerability under the composite food security index (which takes into account food use, nutritional situation and health aspects).
10. The causes of relative poverty in Maluku and North Maluku could be summarised as: (i) a lack of income, employment and business opportunities and at times a shortage of food; (ii) a lack of access to good quality services: health, education, water and sanitation; (iii) a lack of formalised land rights; and (iv) in some places a deteriorating environment and lack of access to natural resources; (v) the violent conflicts a decade ago; and (vi) a lack of participation by the population in local planning and in prioritising development priorities. These causes can be summarised as a lack of access to various forms of human, physical, financial, natural, and social capital. In addition, it was noted that North Maluku had the lowest gender empowerment rating in the country primarily because there were no women in the provincial parliament.
11. **National Policies.** The design and initial implementation of the SOLID was oriented towards being a means to realise the objective of the Government's Medium-Term Development Plan (MTDP) for 2010-2014. This is to "build a nation that is more advanced and prosperous, more self-reliant, more secure and peaceful, and more democratic and just." Within the 11 national priorities of the MTDP, the project was to support progress towards: governance reform; poverty alleviation; food security; infrastructure development; environment and disaster management; outer islands and conflict areas development; and culture, creativity and technology innovations.
12. The 2010-2014 National Medium-Term Priority Framework for Agriculture also provides some context for SOLID. It

focuses on the revitalisation of the agricultural sector to increase competitiveness in the national and global economies. The priority strategies include: (i) ensuring food security, producer profitability, consumer safety and nutritious diet; (ii) developing sustainable agriculture in an environment of climate change, using green technology and best practices; and (iii) facilitating decent and “green” employment. It had priority areas for external assistance that included: food crops, especially rice, corn and soybean; institutional and staff capacity for developing and adopting “green” technology in sustainable food crops practices; and, assistance for small-scale horticulture producers that will promote agribusiness and trade, value-added processing, and entrepreneurship.

B.2. Project objectives

13. **Rationale and Theory of Change.** The overall premise of the project was to develop a replicable approach to improving livelihoods in remote communities in Maluku and North Maluku. The theory of change underlying the project was to address the constraints of smallholder farmers, including access to technology, inputs and markets, in order to improve the competitiveness of smallholder agriculture and growth of the agricultural sector. This would lead to sustainable increases in farm incomes and improved household food security. The adoption of a community empowerment and participatory development approach would also contribute to ensure the long-term sustainability of SOLID interventions.
14. The strong rationale for project intervention in Maluku and North Maluku was that these areas required targeted investments to lift rural productivity and incomes and eliminate disparities with urban areas. Strategically, the investments would focus on mitigating the factors depressing incomes and productivity. In the broader national context, this project would provide valuable insights into modalities for investment in remote and relatively impoverished rural areas.
15. Specifically, the rationale for the investment included: (i) targeting rural sub-districts in the provinces of Maluku and North Maluku with higher than average levels of poverty and/or large numbers of poor people to enhance their competitiveness while simultaneously improving the low returns from agricultural production and leading to higher farm incomes and improved household food security; (ii) address key marketing, production, natural resource management and infrastructure constraints; (iii) promote a community empowerment and participatory development approach to ensure a sustainable improvement in the livelihoods of beneficiary smallholders. The project targeted five districts in Maluku and six in North Maluku. The original target group of the project was around 49,500 households, and was reduced during Mid Term Review to 33,600 households as direct beneficiaries in 224 villages
16. **Project Goal and Development Objective.** The project goal was to enhance food security and increase incomes in beneficiary households (HH) and its development objective was to improve livelihoods (both food security and income) and to reduce the incidence of poverty. The objective of the project was to improve the livelihoods (incomes and food security) and reduce the incidence of poverty for people in the targeted villages in both Maluku and North Maluku. The project sought to achieve these objectives by: strengthening village institutions, self-help groups and federations; (ii) improve sustainable smallholder production systems and low levels of purchased inputs; (iii) improve post-harvest practices and aggregation of produce; (iv) introduce a value chain and market strategy for targeted commodities; (v) improve small-scale infrastructure and ensure sustainability through local ownership.
17. As such, the project originally had five components: (i) community empowerment; (ii) productivity improvement and integrated farming systems; (iii) value chain development and marketing; (iv) productive rural infrastructure investment; and (v) institutional strengthening and project management. This was adjusted to four components at MTR, namely: (i) Community Development and Gender; (ii) Support for Agriculture Production and Marketing; (iii) Support for Estate Crops Value Chains Development and Marketing; and (iv) Project Management. Its expected outcomes were: (i) village institutions and self-help groups and unions functioning effectively; (ii) target group farmers using improved, sustainable production systems and low levels of purchased inputs; (iii) target communities using improved natural resource management systems; (iv) self-help groups and unions/federations operating as successful elements of the value chains for the targeted commodities; (v) improved small-scale infrastructure available in the target villages with the community organisations undertaking their operation and/or maintenance; and (vi) project completion on time and within agreed budget.
18. **Innovative Features.** The design of the SOLID project had these innovative features.
 - (a) The project introduced village federations to handle larger volumes of agricultural products as required by the market with drying, grading, primary processing, as part of the project’s value chain approach;
 - (b) Quarterly Project Coordination and Consolidation Meetings in which project staff and consultants identified constraints and recommended improvements in operational arrangements, procedures and policies – these practices are now common across IFAD projects in Indonesia; and,
 - (c) The project adopted a more organised approach to capacity building, which including conducting a Training Needs Assessment covering staff involved with project activities as well as carrying out an evaluation of the impact and effectiveness of the training provided.
19. A Mid-Term Review in 2014 proposed a revised project design to move away from an infrastructure and value chain focus towards a more integrated approach involving self-help groups (SHGs) being trained to engage in food

production activities for home consumption and local market sales. In addition, the engagement with longer value chains (LVCs) for 3 major commodity crops (cacao, coconut and nutmeg) was to be developed. By removing a stand-alone infrastructure component, the mid-term review reduced the number of components to four: (i) Community Development and Gender; (ii) Support for Agriculture Production and Marketing; (iii) Support for Estate Crops Value Chains; and (iv) Project Management. The post- mid-term review expected outcomes are: (i) communities with enhanced capacity for household (HH) food security and agriculture income planning; (ii) HHs with more food and cash crops available for both home consumption and/or sale; (iii) increased HH incomes from sales of 3 selected estate crops (coconut, cacao and nutmeg); and (iv) effective implementation and monitoring.

B.3. Implementation modalities

20. SOLID's main implementing agency was the Agency for Food Security of Ministry of Agriculture. At the national level (central) the NPMO was responsible for guiding overall project implementation and providing management support. A Project Steering Committee was formed and expected to provide project oversight and coordination. The PSC rarely met and was largely ineffective. The Provincial PMO and District PIUs in both Maluku and North Maluku were responsible for project implementation activities at the district and village levels. The NPMO were housed within the Ministry of Agriculture structure, under the Agency for Food Security. Provincial PMO and District PIUs were housed under *Dinas Pertanian* or *Dinas Ketahanan Pangan*. The Project staff was comprised of a mix of government officials under the Dinas or Ministry, team of consultants, NGOs and individual specialist.
21. The project comprised of three components. The first component, Community Development and Gender, focussed on providing communities with enhanced capacity for household food security and agricultural income planning. It had community driven participatory planning processes leading to formation of SHGs that were then supported to plan and manage their key factors of production, notably land and finance. These SHGs with enhanced cohesion and planning skills were then the main delivery point for component two (Support for Agriculture Production and Marketing) which aimed at significant improvements in HH food security and in increases in cash incomes from food/cash crop sales. The third component was specifically targeted at three priority estate/tree crops in Maluku/North Maluku i.e. cacao, coconut and nutmeg. This component aimed at increasing HH cash income from sales of the three tree crops as a result of productivity increases and greater value chain efficiencies.
22. The key change after the mid-term review was the move away from a value chain driven strategy towards a straight forward and efficient progression from SHG socialization via savings and loans for food production to local markets and finally provincial markets.
23. After the mid-term review, the Project adjusted its targeting approach to ensure that a greater number of "near poor" have access to the Project. Efforts were made to engage with all beneficiaries in a deeper, more effective manner, especially in regard to food production and agricultural product marketing. With both project provinces remaining as food importers, the revised component 2 addressed food production for home use and local sales. Component 3 was re-focussed on the three predominant estate crops (coconut, cacao and nutmeg). This initially involved slowing down progress towards the number of target PDR villages, SHGs and beneficiary targets, but was a necessary strategy to ensure viable models for poverty reduction, food and cash crop production, and market linkage outcomes were delivered.
24. By mid-term review the project management structure (management and technical) was being re-structured and focusing more resources at the district and village levels. The restructuring enabled reallocation of staff resources to district and village levels and making the M&E system more relevant and more functional with data analysis for management reporting being completed at district level. The Project Implementation Manual (PIM) was revised to ensure it addressed all aspects of implementation in sufficient detail. Further, procurement processes were refined to become more functional and timely, and financial controls strengthened to address the issues raised in the 2013 Audit Report. Finally, a data base on the status of SHGs and Federations, detailing their activities, savings and loan fund balances, actual membership by gender and quality was established. This was to be an important tool for NPMO staff to plan post mid-term review activities.

B.4. Target groups

25. The project is located in the provinces of Maluku and North Maluku in the eastern Indonesia. Home of 2,2 million population^[1], consists of 1,208 small islands, where the topography is characterised by mountainous small islands with narrow low-land areas along the coastal fringe, with poor connectivity and remote areas. The residential areas are scattered in the low-land areas facing the sea while the farms are terraced in the slopes of the main land mountains. North Maluku has a Muslim majority and Maluku has a Christian majority. Indigenous People account for the majority of the population in all of the target districts in North Maluku, while in Maluku, they accounted for just less than 50% of the population of Buru and Seram Bagian Barat, but 88% and 70% in Seram Bagian Timur and Buru respectively.
26. The project targeted 11 districts, five in Maluku and six in north Maluku, based on the incidence of poverty, cereal deficits as agreed with *Bappenas* and the Agency for Food Security (AFS). Within the target districts, the criteria for

selecting the sub-districts and villages for participation in the project were: (i) exclusion of all urban villages and urban sub-districts; (ii) incidence of poverty >20%; (iii) potential for agricultural productivity and livelihoods improvement and rural poverty reduction; (iv) commitment from the local government to participate in the project; (v) availability of providers of rural services (public, private and/or NGOs) with the capacity to deliver the services to the target groups; (vi) accessibility with a maximum journey time from the district or sub-district HQ of around four hours; and (vii) availability of a district agricultural office and/or office of food security at the sub-district level.

27. The project originally targeted 49,500 HHs members and was designed to establish 3,300 SHGs. It adopted a participatory approach in the selection of households in the target villages using a gender-sensitive poverty and livelihood data. It targeted between four and seven sub-districts in a district and a cluster of five or six villages in a sub-district. The exact number was dependent on logistics and the capacity of the staff of the districts and sub-districts. The project planned to support activities in each target village for four years.
28. Within the sub-districts, the project targeted about 330 villages with: (i) a large number of poor households, where there is a potential for increased agricultural productivity, improved food security, higher household incomes and improved natural resource management; (ii) a large number of households from the poor and poorest socio-economic groups, including female headed households; (iii) the people expressing a need for assistance and guidance; and (iv) willingness to work together in a participatory way. The project intended to target poor indigenous and immigrant communities (including where appropriate transmigrant communities).
29. **Revision at MTR.** The MTR mission found that original target of 49,500 HHs members and establishment of 3,300 SHGs to be an over ambitious target and it was agreed to reduce the target to reaching 33,600 HHs and establish 2,240 SHGs. The numbers were reduced because: (i) due to the poor numerical progress to mid-term, a consolidation of progress in existing villages/SHGs was considered prudent to justify the costs already sunk in community capacity building; (ii) the logistical challenges of scaling-up to the 106 planned new villages, many of them remote and some further complicated by pending district division plans, was considered too risky; (iii) a re-evaluation of the technical packages and inputs required to support and demonstrate sustainable agricultural production significantly increased the budget per SHG; (iv) the successful application of improved agricultural production practices had important demonstration effects and so implications for successful replication and finally; (v) the inclusion of a few less poor households with more resources was to support the initiative of the groups without any anticipated risk of elite or benefit capture, given the overall sub-district poverty rates.
30. There were more focused project interventions in each of the 108 existing villages plus an additional 106 that were to be incorporated in 2014. SOLID has supported 14,280 members of 952 existing SHGs and 476 SHGs included in 2014 and created 812 additional groups in 2015-2018. These figures add up to 2,240 SHGs and 33,600 households, that were mainly to be supported through components one and two. In addition, there were to be a number of non-SHG members and non-poor households indirectly benefiting from component 3, estimated to be about 6,750 lead farmers. Thus, the revised total of target beneficiaries was estimated at 40,350 households.
31. The performance of the targeting and outreach is described in section D.3.

C. Assessment of project relevance

32. Project relevance is considered *moderately satisfactory* (4). The initial design was mostly consistent with the needs of the target groups and aligned to IFAD and Government policies. In particular, SOLID was relevant in providing support for the achievement of 6 of 11 priorities outlined in the Government's Medium-Term Development Plan (MTDP) for 2010-2014 and was fully aligned with the 2010-2014 National Medium-Term Priority Framework for Agriculture^[1] (MTFA) which focused on the revitalisation of the agricultural sector to increase competitiveness in the national and global economies.
33. Similarly, SOLID is aligned with the 2016-2019 IFAD COSOP, which includes strategic objectives of: (i) assisting small scale producers to participate in remunerative markets; (ii) making small scale producers and their families more resilient to risks; and (iii) making rural institutions more responsive to small scale producer needs.
34. Furthermore, the initial design addressed all the key factors which were generating the observed poverty prevailing in the project areas. However a re-design of the SOLID Project was considered necessary at MTR to improve its likelihood of achieving its goal and objectives. The key change in post mid-term review SOLID was simplify a complex value chain approach towards a straight forward and efficient progression from SHG socialization (C-1) to food production to local markets (C-2) and finally value chain development for key estate crops (C-3).

C.1. Relevance vis-à-vis the external context

35. The design of SOLID aligned with the Government's Medium-Term Development Plan (MTDP) for 2010-2014. The

MTDP had 11 national priorities, and the SOLID design was relevant in providing support for achievement of six of these, namely: poverty alleviation; food security; infrastructure; environment and disaster management; outer islands and conflict areas; and culture, creativity and technology innovations.

36. At the same time, the 2010-2014 National Medium-Term Priority Framework for Agriculture^[2] (MTFA) focused on the revitalisation of the agricultural sector to increase competitiveness in the national and global economies. The SOLID design was entirely relevant to the objectives of the MTFA. Specifically, project objectives and activities, with their focus in remote communities in eastern Indonesia, food and income generation, value chain development, village-level self-help group formation and natural resource conservation, were consistent with GoI policies, priorities, and strategies. These were over-layered by the need to provide a stable context for renewed social cohesion in the communities that had suffered from previous conflicts. It is important to note that the government had requested IFAD to take a broad approach to address the major constraints and opportunities of the smallholder farmers in the project area, which have been neglected in the past decades.
37. SOLID was the first project to be designed under the COSOP for Indonesia 2009-2013. The design was completely consistent with IFAD priorities as detailed in this COSOP. Specifically, this is shown by:
 - (a) its targeting of rural sub-districts in the provinces of Maluku and North Maluku with higher than average levels of poverty and/or large numbers of poor people
 - (b) focussing on improving the livelihoods of the poorer sections of these rural communities;
 - (c) simultaneously improving the low returns from agricultural production, specifically food and estate crops.
38. The design was completely consistent with the IFAD focus on smallholder agricultural development, to address the main constraints of the smallholders, e.g. their capacity, access to technology, inputs, natural resources, capital and markets and restoration of key community infrastructure.
39. The most recent COSOP, approved in 2016, includes strategic objectives of: (i) assisting small scale producers to participate in remunerative markets; (ii) making small scale producers and their families more resilient to risks; and (iii) making rural institutions more responsive to small scale producer needs. Both the initial design, and the revised design after the mid-term review, was completely consistent with these objectives, and relevant to their achievement.

C.2. Internal Logic

40. While the original design addressed issues of gender equity and empowerment, food security, agriculture productivity, and value chain engagement, it also contained significant elements of natural resource management, community infrastructure, forestry and fisheries. As a post conflict area, at the time of design, there was a broad range of needs at village level and limited social cohesion. In fact, the economies of both provinces had retracted by 30% as a result of conflict in the period from 1999 to 2003^[3]. In Maluku, 28% of the population had incomes below the poverty line and 10% were unemployed, the highest such percentage nationally. There were villages in both Maluku and North Maluku with a cereal deficit. While the target districts were not identified during design, selected districts had high or moderate levels of food insecurity. Four target districts were scored as having high vulnerability under the composite food security index (measuring food use, nutritional and health aspects).
41. The original design was internally synergistic, as each component complemented and supported the others in achievement of objectives. However, it was ambitious in scope and not matched to the limitations of local district level implementation capacity. Institutionally, the concept of engaging with such a broad range of technical agencies including agriculture, estate crops, livestock, fisheries and forestry was challenging. Further complicating this was the menu driven approach to offer in each village. Implementation experience showed that one PPL was incapable of supporting such a range.
42. The post mid-term review design changes were based on a thorough analysis of poverty, food insecurity and social cohesion issues in Maluku and North Maluku provinces, as well as on initial implementation experience. The changes took account of the need to address these issues at household level as well to realise the potential from value adding and improved market linkages. Engaging with families whose primary concern for 3 months of the year was feeding themselves required adjustments to project design.
43. The mid-term review redesign also gave enhanced support for community development and gender mainstreaming objectives. It gave greater consideration to the needs of female borrowers and outlined steps to increase their participation in project activities. With respect to community development, the SOLID design includes activities to empower the poor, through collaboration with NGO village facilitators to assist communities in the formation and strengthening of self-help groups. Following the mid-term review, project objectives were adjusted to: i) Increase household food security capacity and farm income; ii) Improve the ability of the poor to manage and maintain group resources (both human and financial) of SHG members; and iii) Increase the capacity of SHG members in planning and implementing agricultural production and post-harvest activities.
44. There were some challenges in value chain development, as exemplified in the nutmeg crop. While, the Malukus are among the world's biggest nutmeg producers, prior to the SOLID project, only 30% of nutmeg sold by farmers was

graded as good quality. Anecdotal observations suggest that while some improvement in this ratio has been noted, the share of top-grade nutmeg being sold is still less than 50%.

45. Despite this, an analysis of the revised Logical Framework produced from the mid-term review reveals that the outputs and outcomes were entirely consistent with the project development objective and the project goal. It is also noteworthy that the means of verification of achievement relied heavily on the data received from the Annual Outcome Surveys (AOS) and other independent observations such as the three impact assessments.

C.3. Adequacy of design changes

46. **Assessment of Project Design.** The initial design addressed all the key factors generating the observed poverty prevailing in the project areas including: smallholders lack of productive capacity, access to technology, inputs, capital and markets; the degraded natural resources base; and, the non-functionality of key community infrastructure. The design addressed all also identified opportunities for addressing challenges through support for accessing markets, group formation and capacity developments, technology and skills transfer, and natural resources management.
47. Despite these factors, the initial design was clearly less than completely relevant to the circumstances pertaining to the project area, as was observed by the MTR mission. The mid-term review found that the PDR was inadequate in terms of specific actions and management. It also found that the PIM lacked precision on important details to guide implementation. The most significant issue in the project design was trying to engage poor, food insecure villagers directly in value chain activities without adequately addressing their food insecurity.
48. The mid-term review also found that initial management arrangements lacked clarity. A relatively inexperienced Project Director had little day to day management support and in addition, staffing arrangements at provincial and district levels are too informal to ensure commitment and implementation certainty of SOLID activities. Key aspects of the management arrangements had not been implemented, especially the fielding of the Village Implementation Teams. Key management processes, especially M&E and procurement, had been ineffective. This was reflected by low disbursements until the mid-term review, when only 16.4% of IFAD loan funds, 24% of IFAD grant funds and 33.4% of GOI funding had been spent.
49. In summary, although the design genuinely attempted to resolve factors inhibiting development, it lacked some elements of practicality which mitigated against initial success. However, in the period since the mid-term review, the relevance of the project has been emphatically re-affirmed through the results achieved (see below).
50. **Design Changes.** A re-design of the SOLID Project was considered necessary at Mid-Term Review to improve its likelihood of achieving its goal and objectives. The key change in post mid-term review SOLID was a move away from a value chain approach towards a straight forward and efficient progression from SHG socialization (C-1) to food production to local markets (C-2) and finally value chain development for key estate crops (C-3). Post mid-term review changes included: (i) adjustment of targeting approach; and (ii) engagement with all beneficiaries in a deeper, more meaningful manner, especially in regard to food production and agricultural product marketing. This involved adjusting the village targeting approach, SHGs and beneficiary targets, to ensure some models for poverty reduction, food and cash crop production, and market linkage outcomes were achieved. The project was streamlined to ensure as much consistency between the design, existing food insecurity, and the limited project implementation capacity at district/kabupaten level. Important changes included:
 - (a) Reduced scope with less beneficiaries, from 49,500 down to 40,350 (18% reduction). The rationale for this was: (i) numerous targeted villages had been unable to identify the expected number of qualified poor households, due to small village size or when the village had been divided. In some cases, this allowed the inclusion of a few less poor households with more resources to support the initiative of the groups; (ii) given poor progress to mid-term the mid-term review mission considered a consolidation of progress in existing villages/SHGs and the provision of technical inputs important to justify the costs already sunk in community capacity building; (iii) the logistical challenges of scaling-up to the 106 planned new villages, many of them remote and some further complicated by pending district division plans, was considered too risky; (iv) a re-evaluation of the technical packages and inputs required to support and demonstrate sustainable agricultural production has significantly increased the budget per SHG; and, (v) the successful application of improved agricultural production practices has important demonstration effects and so implications for successful replication.
 - (b) Rationalization of components. The major change was the removal of the productive rural infrastructure. While expenditure on infrastructure had been satisfactory at mid-term review (when overall loan disbursement was 16%), there were concerns over both the relevance of much infrastructure expenditure and lack of maintenance planning and capacity for the already constructed infrastructure. Post mid-term review infrastructure expenditure was confined to investments in small-scale productive rural infrastructure only e.g. upgrading access from village to the farmers' fields, micro-irrigation schemes, small crop drying and storage facilities and rehabilitation of previously cropped areas.
 - (c) Greater focus on food production and marketing. At mid-term review, food production remained a critical issue in both North Maluku and Maluku. Both provinces were net food importers with food insecurity amongst poor families being a constant reality. Against this backdrop, the revised component 2 addressed food production for

home use and local sales. The mid-term review was firmly of the view that value chain activities would be undermined unless food security was first addressed.

- (d) Value chain focus was confined to the three predominant estate crops (coconut, cacao and nutmeg). Based on a quality value chain study for each crop, component 3 aimed to improve volume and quality of products, add value with additional processing where possible and establish market links with selected district and provincial traders and processors.
- (e) Federation roles were re-focused to applying their remaining resources towards: (i) building institutions that could provide meaningful support to sustaining market linkages; and (ii) ensuring maintenance plans were developed to ensure sustainable funding of pre- mid-term review infrastructure.
- (f) Project management. The mid-term review made a number of changes to: (i) simplify the structure of the Project; (ii) clarify requirements to implement the major activities being funded; and (iii) revise the staffing structure (management and technical) by focusing more resources at the district and village levels and formation of a project management team at national level.
- (g) Reallocation of project funds was made from some cost categories/activities (such as vehicles, consultants, and unallocated) to others (such as investments in community enterprises and supporting district investments) as needed towards the end of the Project and based on expenditure up to that point. This increased the proportion of project funds responding to demand-driven beneficiary needs spent at the community level.

51. The relevance of mid-term review design changes is highlighted by the reality that by project closure, 14% of SOLID HHs experienced food shortages of 3 weeks or more – compared to 45% for non-SOLID HHs. It is noteworthy that after the severe 2015 drought (3 years prior to SOLID completion), 25% of SOLID HHs were found to have been food insecure for only 2 weeks during the drought versus 32% of non-Solid HHs were insecure for more than 3 weeks.

D. Assessment of project effectiveness

52. Project effectiveness is considered *satisfactory*(5). The project objective was mostly met and the most important output targets were achieved. In fact, according to the 2018 annual outcome survey, 95% of SOLID beneficiaries did not experience food shortage against an initial target of 75%. Moreover, the final impact survey showed that the monthly per capita income of SOLID respondents increased on average by 81%, in real terms, from 2012 to 2018. The average per capita income of SOLID respondents in 2018 was 7% higher than non-SOLID respondents. Most of the outcomes have been achieved, with 97% of the targeted HH trained (Outcome 1); 80% of HH were found to be food secure (Outcome 2); 66% of SOLID households generated improved income from selling agriculture produce (Outcome 3).

D.1. Physical targets and output delivery

53. Overall. The physical outputs and indicators across SOLID components 1 and 2 were met or exceeded, while the evidence for component 3 does not provide adequate information on achievements.
54. **Component 1. Community Development and Gender.** The objective of this component was to provide communities with *enhanced capacity for household food security and agriculture income planning*. As reported by the 2018 AOS, a large majority of the targeted communities considered that SOLID activities had contributed greatly to improved capacity for achievement of food security and income derivation from agriculture.
55. The target of having 2240 SHGs re-oriented or trained in PRA, S&L group management was virtually achieved, with a total of 2192 SHG (1396 existing and 796 new) took part in institutional trainings, technical trainings, demo-plots and farmer field schools. These same SHG used Individual Business Plan (RUA) and Agriculture Production Plan (RPP) for their productive activities.
56. As such, the capacity of SHGs as well as individual beneficiaries has clearly been improved. In particular, it is noted by the 2018 Annual Outcome Survey (AOS) that 94% of SHGs were assessed as having either “good” or “very good” performance. It is also important to note that this has impacted very positively on participating households (HH) assets. A large or very large improvement in HH assets attributable to SOLID was reported by 77% of those surveyed.
57. Not only have SOLID activities been able to build the collective capacity of the SHG, they have also effectively promoted gender equality. Women's participation in family economic activities has increased they have access to a variety of economic resources, agriculture and finance. In fact, 90% of the respondents of the final impact survey rated SOLID activities as having a large or very large impact on gender equality in local non-governmental organizations and institutions. The same survey highlighted women have equal opportunities in determining decisions in the SHG, federations and business centers (96% respondents rated women participation as good or very good), as well as equal opportunities in making decisions in other institutions (93%) and in the decisions making process with regards to village activities (91%).

58. Other anecdotal evidence of the impact on gender described in the impact study include the fact that previously illiterate women were taking up book-keeping roles within the SHG and other women becoming cadres within village administration. Nonetheless, the study also revealed that some social restrictions remained, and that it was difficult to attribute these improvements solely to SOLID.
59. There are also some concerns over the long-term institutional sustainability of the SHGs and Federations mainly due to the poor quality of group revolving fund (RF) management. While many Groups showed strong institutional capacity, strong cohesion, clear group vision and intuitive business planning, more than 50% of them groups have high rates of outstanding loans. As there have been significant increases in household cash flow due to increased cropping area and higher yields, a repayment over a 3-year schedule is regarded as reasonable, and recent progress in this respect is apparent.
60. **Component 2:** Support for Agriculture Production and Marketing. The objective of this component was that HH would have more food available for both home consumption and/or sale. The logframe output indicators for Component 2 were: (i) HH are food secure for 80% of the season, and (ii) increase in HH income as a result of increased sales of agricultural products.
61. Food security. This output target has been greatly exceeded, with 80% of HHs being food secure for 80% of the season versus a log frame target of 75%. Further, now only 14% of SOLID HHs experience food shortages of 3 weeks or more – compared to 45% for non-SOLID HHs. Furthermore, in terms of child nutrition and stunting, SOLID HHs have made outstanding progress. Currently, 7% of children under 5 years in SOLID HHs experience poor nutrition compared with 25% in non-SOLID HHs. More details on the project's impact on food security and nutrition are presented in the next section on impacts.
62. Increases in HH income from increased sales of agricultural products. Regular engagement with the market for food and cash crops has been achieved, with at least 90% of HHs now selling crops, compared with a target of 50%. Households have improved total output, improved yields and changed cropping patterns to include more saleable vegetables, especially tomatoes, chili, long beans and peanuts. Consistent cash income is achieved by sale of corn in the rainy season (44% HHs), peanuts in transition season (30% HHs) and cassava and cacao in the wet season (45% for each crop). The log frame target of increased income of 30% has been exceeded, as there has been achievement of an increase in real terms of 98% increase since the mid-term review. Before SOLID, farmers engaged with the market in an opportunistic way, when all farmers would have crop surpluses as a result of favourable growing conditions. They would simultaneously flood the market and drive prices downwards. Farmers have adopted more planned market engagement, planting increased areas of a wider range of crops which are directly intended for the market.
63. Other outputs under this component relate to access to financial services. According to the 2018 ADS, over the course of the 2018 approximately 63.8% of SOLID Beneficiary respondents have access to credit, especially from SHGs, while only 23.2% of Non-SOLID Beneficiary respondents had access to various sources of credit. The existence of revolving fund (RF), enables farmers to obtain access to credit. The same survey showed that agriculture (48,5% of respondents) was by far the main use for the loans, with education (14,4%) second. On the other hand, non-SOLID respondents were more prone to using loans for education (25,7%) and consumption needs (20%). This highlights how SOLID not only allowed for greater access to finance, but also pushed beneficiaries to invest the credit in productive activities (agriculture) rather than for consumption.
64. Despite these positive results, there were several output aspects of the revised post mid-term review SOLID design that were either not implemented, or partially implemented. In particular, the following outputs have not been fully achieved: (i) formation and operationalizing of Village Implementation Teams (VITs); (ii) preparation and implementation of Agriculture Production Plans (APPs); (iii) use and application of Revolving Fund Loans (RFLs); (iv) skills and performance improvement of agriculture extension staff (PPLs); (v) managing market engagement with aggregated product to reduce market volatility; and, (vi) ensuring individual farmers possess the capacity to make sound production decisions based on both market and crop profitability. Had these aspects been better addressed, the outcomes for SOLID farmers would have been even stronger with greater sustainability prospects.
65. Cohesion between PPLs and Village Facilitators (VFs) was not always strong, resulting in sub-optimal outcomes for SHGs. Had the VITs been formed as intended, there would have been a forum for village leadership to monitor and discuss the results of PPL and VF activity and lead them towards more effective teamwork and collaboration.
66. APPs were intended to ensure each SHG had a common plan within which each SHG member could outline their production goals and the inputs required to achieve those goals. There was a design weakness in that APPs should also have addressed market engagement plans. The APPs were intended to be the plans which were to guide the use of Revolving Fund Loans (RFLs).
67. Each SHG received funds of Rp. 40m as capital to establish a revolving fund which would finance RFLs for the 15 SHG members^[4]. The design clearly stipulated that RFL funds were not to be disbursed to SHGs without a prepared APP. It was also intended that the interest charged would be sufficient to “grow” the RF capital over time. Neither of these features was implemented as intended. Interest rates have typically been around 2.5% per year – which is well

below the inflation rates in both provinces^[5], meaning the purchasing power of the capital continues to diminish over time. Management of SHG RFLs was to be transparent, clearly outlining the loan fund use and repayments (principal and interest) of each SHG member. Funds have been disbursed and used for a variety of purposes, some of which were related to agriculture production. Repayments of loan principal (to ensure the fund revolves) have been extremely variable, with many repayments outstanding. However, most SHGs claim to still hold some of their original RF capital. Ensuring this is protected is an important task for enabling sustainable use after project completion.

68. The capability and performance of PPLs in SOLID villages was improved as a result of them receiving training in specific agronomic and business topics. The application and outcomes of those lessons was variable. PPLs successfully implemented Farmer Field Schools (FFS) and associated Demonstration Plots which were vital in transferring new agronomic methods to SHG members. Conversely, they generally failed to build skills in simple crop financial analysis to assess profitability. The Mission observed that SHGs had little or no concept of profit or loss of their new production enterprises. Also, a move towards aggregated selling by Self Help Group (SHGs) to reduce price volatility is not apparent. The large majority of farmers still prefer to sell as individuals.
69. Despite these shortcomings, the PPLs and the VFs were an integral element of the success and achievement in agriculture productivity.

Component 3: Support for Estate Crops Value Chains Development and Marketing

70. SOLID mid-term review reduced the range of estate crops down to the three main tree crop products – cacao, copra and nutmeg. The mid-term review also moved the value chain development of food crops to C-2. This was to endeavour to integrate production and local/short value chains into one “*farming and value chain system*”. Development of the longer value chains associated with estate crops was confined to Component 3 (C-3). The expected outcome was that 50% of village crop producers enjoy a 20% lift in monthly cash income from sale of estate crop related products. This target appears to have been exceeded, although the 2018 AOS did not disaggregate income data by crop. Incomes from crop sales, including those of estate crops, have risen by 98% for SOLID participants.
71. This result is further confirmed by the positive impact on yields and outputs of the three priority tree crops. Cacao yields in SOLID HHs increased by 50% v. non-SOLID HHs by 10%. The output per HH in SOLID HHs increased by 71% v. non-SOLID HHs by 58%. The results were similar for nutmeg. However, while SOLID HHs increased copra yields, there was little change in total copra output per HH between SOLID and non-SOLID HHs. This reflects the mission observation that SOLID farmers had developed other associated coconut products e.g. charcoal or virgin coconut oil (VCO) which were more profitable – in particular for farmers who had no coconut trees and were obliged to purchase nuts. Given the SOLID focus on the poor, most SHG members therefore did not have access to coconut trees of their own. This provided a model for SHGs which can be replicated for other poor members, providing for income generation and value adding.
72. An important output was for up to 3 value chains (VC) to be assessed as feasible for sustainable increases to HH incomes. The 3 studies were completed to international standards by Dec 2015, and these contributed to the orientation of support provided subsequently by SOLID.
73. A further output under this component was for farmers to be equipped with improved market linkages and understanding of market requirements for estate crops. Federations were to be established as sustainable business units with capacity to represent farmer interests in the market place and/or add value to any or all of the 3 selected products. These outputs were not fully achieved.
74. In fact, while each of the 224 Villages have formed a Federation, basic institutional documents to guide the management and running of these Federations are lacking. Furthermore, while tree crop product processing was undertaken as a group (SHG), marketing was mixed between individuals and SHGs. Marketing by a federation was the exception unless there was some value adding dimension undertaken by a federation. In these situations, although nominally members of the federation, SHG members had little understanding of the financial aspects of “their” federation. Federations and business groups which are engaged in value adding to tree crop products do so with enthusiasm and energy but an equally notable lack of business acumen. Financial management (cashflow) and medium-term business planning are weaknesses which seriously undermine sustainability prospects.
75. Further to this, although traders and middlemen are an important element of the value chain for tree crops, there was reluctance by SOLID staff to engage with them as a resource. The opportunity to establish market information and feedback flows to SOLID SHGs via traders was largely missed. As a result, product quality especially in cacao and nutmeg has not markedly improved.
76. In summary, SOLID SHGs generally now have the confidence and cohesion to continue to improve their agriculture productivity – especially in food and cash crops. They have access to adequate land and labour. Markets generally are accessible, and with aggregated selling and improved value chain development, considerable profitability growth potential can still be captured by farmers. The key limiting factor for most SOLID farmers is access to seasonal and investment finance. The value chain developments of estate crops have been less successful for reasons outlined

above. As a result, the considerable potential to improve farmer returns from tree crops by improving product value chain efficiency remains largely un-tapped.

77. **Component 4: Project Management.** The project experienced some challenges during the early implementation phase. The project management team was appointed under a decree authorised by the Ministry of Agriculture Directorate of Food Availability and Vulnerability. It was formed as a separate unit under the supervision of Secretary to AFS. Initially, SOLID did not receive the adequate support and attention from the agency itself. During the first 4 years of implementation, the project had changed Project Coordinator 5 times, and this created serious constraints during project implementation. In addition, high staff turnover at all levels during early implementation affected the project stability to perform. Because of this, the financial management performance was compromised, and the Project experienced suspension 5 times by Ministry of Finance.
78. After the mid-term review, more attention was given to SOLID by the Government. The SOLID structure was re-housed under the Directorate of Food Vulnerability and Availability with better management and technical capacity. The Project also introduced a new management approach and implementation arrangements by separating the project financial management and project overall implementation. All financial matters were placed under the responsibility of PPK (*Pejabat Pembuat Komitmen*)^[6] with the guidance of the Project Coordinator.
79. The M&E system set up by the Project during the first years of implementation was too complex and ineffective to monitor outcomes and impact. It was not being utilized properly as an information source to support the knowledge and learning agenda. In addition, the project also had the problem of collecting data from the villages. Following the design change during mid-term review, the project had a new logical framework, which formed the basis of the M&E matrix and provided a plan for developing the new M&E system. The project focused on undertaking several key M&E activities to build the system and strengthen the management performance through: (i) Training and Workshops; (ii) Surveys and studies; (iii) Database Development in the Districts; (iv) Printing of material –District. There has been a considerable effort by the project to collect, analyse and report the data. The systems functioned well, and the project has been able to regularly report progress and achievements.
80. Since 2017, M&E reports were utilized to rate the performance, and as management tools to justify the provision of rewards to better performing districts. The M&E reports were also used in designing and proposing corrective recommendations to both PPMO and DPIU. The Project has developed detailed Annual Work Plans with scheduled activities from national, provincial and district level. The Project managed to complete 95% of activities according to the initial AWPB set earlier in the beginning of 2017 and 95% of the budget utilized as per AWPB.
81. **Natural Resource Management and Productive Rural Infrastructure Investment Component.** While the implementation of this component was discontinued after MTR, some outputs had been achieved by then, namely: (i) 20 irrigation schemes had been developed; (ii) 10.45 km of road in North Maluku has been attended to (no data for Maluku); (iii) 60 units of post-harvest equipment have been supplied, and (iv) 64 units of processing equipment had been supplied. Due to the lack of available data, and the fact that the component was dropped, the final Impact Assessment did not take this component into account.

D.2. Rural Poverty impact

82. The project followed the RIMS methodology and conducted Annual Outcomes Surveys (AOS), The AOS were conducted in regular intervals assessing both project and non-project villages to allow for a comparison with a control group. SOLID also conducted baseline, mid-term and completion studies, as well as a Final Impact Study (October 2018) that was undertaken by an external service provider. Results of all of these approaches to impact measurement have been utilized to substantiate the project outcomes and impacts.
83. **Overall rural poverty impact** is rated as *moderately Satisfactory (4)*, whereas. The project has made a substantive contribution to reducing rural poverty in the project target area. The rural poor, and their communities, have largely benefited from project implementation through income and productivity growth, as well as improved food security. The main deficiencies noted are due to some questions about sustainability of impact, especially with respect to village level SHGs and Federations. As will be detailed below, the project has succeeded in reducing poverty in a large proportion of the target group. This has been especially effective due to promoting farmers access to markets, and their specific planning in producing for those markets. The project also enabled asset accumulation and improvements in food security. There is good evidence that child malnutrition has been effectively addressed. The project has been less successful in promoting value adding at community level, and there is some evidence of elite capture.

i) Household income and assets

84. Project performance in building household incomes and assets is considered *satisfactory (5)*. The project has generated an increase in the incomes and physical and financial assets owned by rural poor women and men.
85. According to the final impact survey, the average monthly income per capita of SOLID beneficiaries had reached IDR

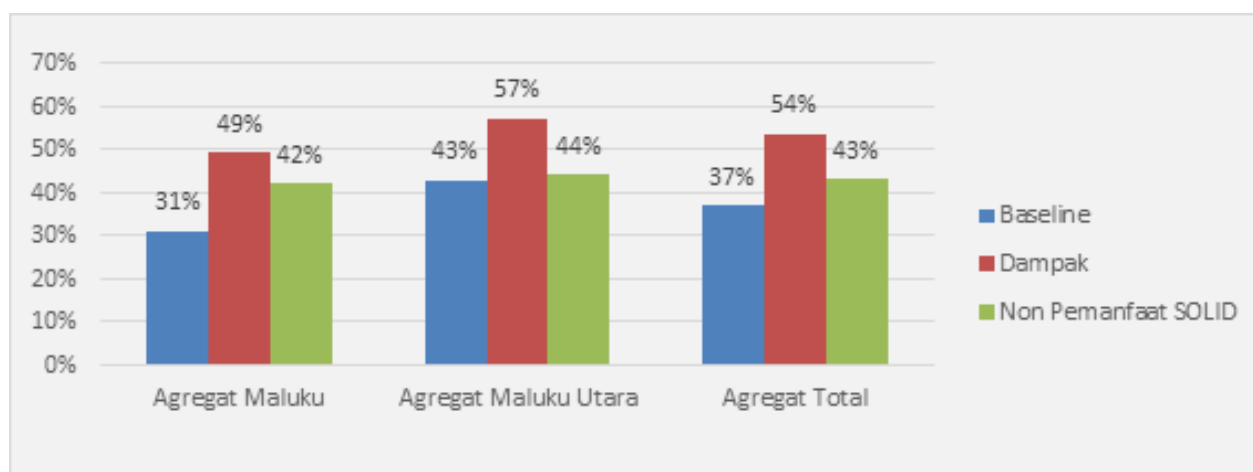
438,975 by 2018, an increase in real terms of 81% from 2012 to 2018 and by 54% from 2014 to 2018. To note, however, that the 2018 monthly income of SOLID beneficiaries was only 7% higher than non-SOLID respondents.

86. These increases in incomes were generated by:

- (a) increased sales of agricultural products, with at least 90% of HHs now selling crops. To achieve this, they have improved total output, improved yields and changed cropping patterns to include more saleable vegetables. The log frame target of increased income of 30% has been exceeded. There has been achievement of a 54% increase (real terms) since the mid-term review.
- (b) a positive impact on yields and outputs of the three priority tree crops. Cacao yields in SOLID HHs increased by 50% v. non-SOLID HHs by 10%. The output per HH in SOLID HHs increased by 71% compared with non-SOLID HHs by 58%. The results were similar for nutmeg.

87. Household assets growth has also shown strong performance as a result of the project. A large or very large improvement in HH assets attributable to SOLID was reported by 77% of those surveyed by the 2018 Final Impact Study. The survey also reported improvement in HH assets ownership index^[7]. Figure 1 below shows that there was a 17% points increase in ownership index of SOLID beneficiary household assets compared to the baseline survey. The asset ownership index of SOLID beneficiary villages is also 11% points greater than that of non-SOLID villages. It can thus be concluded that SOLID activities have a positive impact on increasing the asset ownership index of SOLID HH.

88. **Figure 1: Percentage of asset ownership index**



ii) Human and social capital

89. The project rating for Human and Social Capital Empowerment is *Moderately Satisfactory (4)*, whereas SOLID has provided for some improvement of the capacities of the SOLID HH, SHG and Federations.

90. For example, with regards to Human Capital, the main advances have been:

- (i) Farmers have been provided with enhanced knowledge and capacity for production of new crops, improvements to existing crops, and overall improved agronomic knowledge;
- (ii) Farmers have been enabled to produce for markets, and through this, to come to understand the main principles of commercial agriculture;
- (iii) The 2018 IS reports that 75% of respondents reported that SOLID provided them with a large or very large improvement in their capacity to exploit economic opportunities and develop stronger relationships with markets and external partners.

Social Capital:

- (i) SOLID beneficiaries have been enabled to form and operate coherent and viable SHGs. This has provided them with a platform for cooperation within their community, improving the efficiency of their farming and marketing operations, and improving community cooperation and coherence;
- (ii) The inhabitants of the project area have achieved a substantial recovery from the previous conflicts. SOLID has played a leading role in this at community, local government and provincial levels. The project has provided sound reasons for cooperation and tolerance between previously estranged communities;

- (iii) The 2018 IS reports that 81% of respondents reported that SOLID provided them with a large or very large improvement in their capacity for better social interaction, and 79% reported that SOLID provided them with a large or very large improvement in empowering them in sharing knowledge with those who hold social authority. The 2018 IS also revealed that 82% reported that SOLID provided a large or very large impact of empowering them to negotiate more effectively to improve their lives.

91. Empowerment. The main advances have been:

- (a) Gender. As noted above, SOLID has facilitated major advances in gender relations, to the point where a person's gender now has greatly reduced impact on the community, farming and business relationships that a person may engage in;
- (b) Localised decision-making procedures. The formation and operation of viable SHGs and Federations has significantly empowered rural people who were previously impotent with respect to business, community decisions and participation in local government;

92. These results are confirmed by the 2018 IS which shows a very strong trend towards gender equality due to SOLID. More than 90% reported that both genders have the same opportunity to get something they want, choose the position they want in SHGs, federations and business centres and choose the position they want in an organization other than SOLID. A similar percentage reported that men and women have equal opportunities in determining family decisions, determining decisions in SHGs, federations and business centres, making decisions in other institutions and determining decisions in carrying out activities in the village. Similarly, more than 90% of respondents also reported that men and women have equal opportunities to use family assets, use SOLID loan funds, utilize solid assets and assistance tools and utilize other loan funds. Finally, the data shows that men and women have the same authority in family decision making, decision making in SHGs, federations and business centres, making decisions in other activities and in determining the use of assets.

93. Nevertheless, there are some examples where the project has not delivered in terms of human and social capital. The PCR mission observed the following, which are essentially confirmed by earlier missions:

- (a) Most members of SHGs market their produce individually, and this both increases the costs of marketing (ultimately borne by the farmer), and reduces efficiency of market access;
- (b) There is some evidence of elite capture, especially within some of the Federations, where some members and leaders have unequal access to benefits; and,
- (c) Progress in building effective and trusted relationships in value chains for farmers' products is much slower than required, in part because of the reluctance of PPLs to foster and facilitate engagement with brokers, middlemen and traders, due to their belief that these entities are adversarial to farmers.

iii) Food security

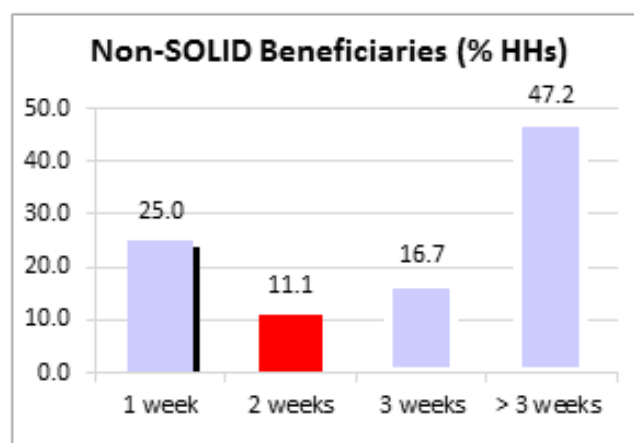
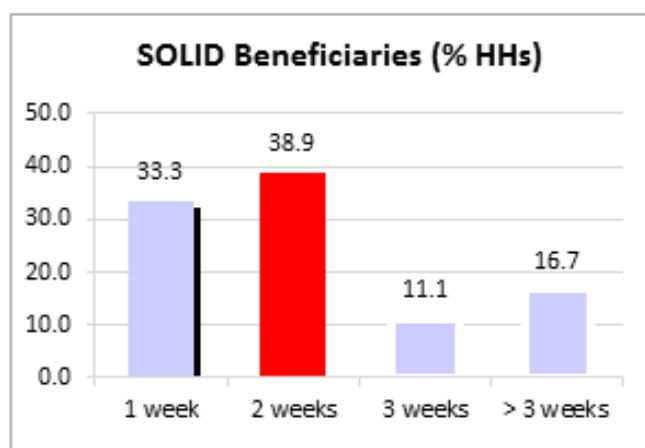
94. **Households reporting increase in Food Security and better nutrition** Project performance in enabling food security for the target population is rated as *satisfactory* (5), as the project generated an increase in the food security of rural poor men and women, and had an important impact on nutrition. In fact, the results of the 2018 impact study indicate an important reduction in stunting rates, with 61% of children stunted or severely stunted in 2012, down to only 6% in 2018. In comparison, stunting rates for non-SOLID HH in 2018 were estimated at around 19%.

95. With regards to food security, 98% of SOLID HH reported an acceptable Food Consumption Score (FCS)^[8] in the final impact survey against 50% at baseline and 70% at MTR. Although 98% non-SOLID HH also reported an acceptable FCS, the average score for SOLID HH was higher (89.9) than non-SOLID HH (81.3)^[9].

96. An accepted definition of food security is: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". (World Food Summit, 1996). There are four dimensions of Food Security under this definition: Availability, Access, Utilization and Stability. Each of these dimensions is briefly examined below with respect to the SOLID beneficiaries.

97. Availability. According to the 2016 AOS, 100% of SOLID HH enjoyed food security (no shortages) for at least 10 months of the year, against a target of 75%, while 75% enjoy food security over the entire year. Of the 25% of SOLID HH who reported food shortages, 72.2% suffered food shortages for 2 weeks or less, against 36% of non-SOLID HH. The average duration of the food shortage was about 1.4 weeks for a year, against about 4.8 weeks for non-SOLID HH. Figure 2 below shows the duration of food shortages for SOLID and non-SOLID HH in 2016.

98. **Figure 2: Duration of Food shortages (2016)**



99. **Access.** There have been major gains in average income generation as a result of the project. Average monthly cash incomes of SOLID beneficiaries have grown from IDR 242,000 at project commencement to IDR 438,975 in 2018, a gain of 81%. Anecdotal evidence from the PCR mission confirms that farmers who had switched to non-staple food production for sale had no difficulty in obtaining their family food requirements through cash transactions. In fact, according to the final impact survey, 75% of SOLID HH surveyed mentioned that SOLID had a large or very large impact on their ability to access food in the market.

100. **Utilization.** In addition to improved FCS, the final impact survey also highlighted a number of improvements on dietary diversity and consumptions. For example, a comparison of food consumption at MTR and project completion shows that SOLID HH have increased their consumption of vegetables by an incredible 537 kg per year, going from 137 kg per year in 2014 to 674 kg per year in 2018. Over the same period consumption of rice has decreased from 383 kg per year to 303 kg per year, while consumption of fruits, meat and fish has increased respectively by 50, 30 and 13.6 kg per year. In comparison, non-SOLID consumption of rice in 2018 was 367 kg per year while vegetable consumption was only 180kg per year.

101. **Stability.** The most secure way of maintaining stable access to adequate food for a family is for them to have assets that can be used in times of stress. In this respect, SOLID has been an outstanding success as mentioned in the previous section. Furthermore, the more infrequent food shortages, and the shorter duration of these shortages also show an improved stability in food security for SOLID HH.

102. Accordingly, the finding is that the project has had a major impact in providing food security for beneficiaries, and that this situation is likely to endure after project completion. The main contributors to this are that farmers have greatly increased their assets, their productivity is improved and they have been enabled to access good markets for their produce.

iv) Agricultural productivity

103. The project's impact on agricultural productivity is considered to be satisfactory (5) in terms of increasing the productivity of production of cash and food crops. The expected outcome of this Component is *"HHs with more food and cash crops available for both home consumption and/or sale"*. 90% of the households participating in SHGs experienced productivity increase due to SOLID interventions since mid-term review in 2015. In key crops (peanuts, vegetables, and maize) yield increases were approximately 4 times greater in SOLID HHs compared to non-SOLID HHs. Thus it is confirmed that the expected outcome was achieved.

104. **Table 1 Yield increases (% HHs and kg/HH)**

Crop	HHs increasing yield		Kg/HH					
	SOLID	Non-SOLID	SOLID			Non – SOLID		
	%	%	2013 (kg)	2017 (kg)	Increase %	2013 (kg)	2017 (kg)	Increase %

Rice	43	2	123	196	58	30	40	33
Maize	44	13	244	417	71	137	203	48
Peanut	53	13	60	180	200	30	76	153
Veg.	80	17	100	159	59	34	50	47
Cacao	50	10	69	118	71	76	117	54
Copra	75	38	441	685	55	346	547	58
Nutmeg	52	11	270	455	68	86	142	32

Source: SOLID AOS 2017.

105. The figures presented above show that:

- (a) Some 57% of SOLID HHs achieved yield increases, compared with only 15 % of non-SOLID HHs; and,
- (b) The average increase in yields for HHs that achieved yield increases was for 83% SOLID HHs compared with 61% for non-SOLID HHs.

106. The midterm survey reported that 67% of respondents reported a moderate increase in production, 31% a small increase and 2% a large increase after using Demonstration plot technology. According to 92% of respondents, the increase was attributable to SOLID support for technology adoption and demonstration plots.

107. The results of the midterm survey are in line with the results of the 2018 IS. This shows the presence of SOLID activities caused a very large and large impact on the agricultural activities of the families of the SOLID beneficiaries. SOLID activities have a positive impact on increasing agricultural production (large 49%, very large 23%), increasing yields (large 58%, very large 24%), and increasing the growing season ((large 58%, very large 22%). Moreover, these results show that the impact from SOLID support has built substantial positive momentum in the period from the mid-term survey.

108. These increases were achieved by: (i) ensuring improved performance or availability of the key factors of production (land, labour and capital); (ii) increasing the land area cropped, mostly as a result of improvements to labour productivity through mechanization; and (iii) changed cropping patterns to include more saleable vegetable especially tomatoes, chili, long beans and peanuts. Consistent cash income is achieved by sale of corn in the rainy season (44% HHs), peanuts in transition season (30% HHs) and cassava and cacao in the wet season (45% for each crop). Total production increases were a result of increased cropped area. Typically, SOLID farmers increased their farmed area from around 0.3ha to around 1ha resulting in greater production outputs of a greater range of cash crops with greater market relevance.

109. By comparison, non-SOLID HHs experienced productivity increases far lower than the SOLID HHs, ranging from only 0-40%. This clearly demonstrated the incremental the impact of SOLID interventions which consisted of enhanced technology transfer (FFS/demo-plots), farm machinery to enhance labour productivity and enhanced access to seasonal finance (RFLs).

v) Institutions and policies

110. The projects' impact on institutions and policies is rated as *moderately satisfactory* (4). In fact, while the institutions/ organizations supported under the project still require support although there are no serious transparency or governance issues. Furthermore the project did not yet have any influence on the policy or institutional framework even though it has managed to draw policy makers' attention on certain issues

111. The expected outcomes for institutional strengthening were: (i) village institutions and self-help groups and unions functioning effectively; (ii) target group farmers using improved, sustainable production systems and low levels of purchased inputs; (iii) target communities using improved natural resource management systems; (iv) self-help

groups (SHGs) and unions/Federations operating as successful elements of the value chains for the targeted commodities; (v) improved small-scale infrastructure available in the target villages with the community organisations undertaking their operation and/or maintenance.

112. There has been some important progress in institutional development. The 2018 IS reports that in aggregate, the majority of respondents valued the impact of SOLID activities on institutional and service improvement positively. Some 45% reported the impact to be large, and 16% said it was very large.
113. The work of village facilitators (VFs) has been greatly appreciated at all levels. There have been requests for VFs to continue to work in support of SHGs. Village heads appreciate their motivational presence. One important aspect of continuing the VF input is the post-SOLID potential to link with the Village Fund programme implemented by Ministry of Village. There is therefore a strong possibility that the VFs role may become institutionalised. The work of VFs has improved the functionality of various village institutions.
114. SHG Formation and Operation. The project has been successful in delivering the numerical targets for formation and operation of these village-level institutions. This has enabled close cooperation between community members in production and to some extent in marketing, as well as in the disbursement of Revolving Fund Loans (RFLs). SHG members believe that these groups will be sustainable. However, this success must be assuaged with the fact that repayments of loans are not at sustainable level, and that SHG members often market their produce individually rather than collaboratively.
115. Local Government. During implementation, SOLID worked closely and mentored local government agencies. As a result, SOLID interventions are supported with the APBD II (District Government local budget). The initiative to link with village fund to continue SOLID activities after project completion has been sponsored largely by local governments in the project areas. It is also apparent that SOLID activities have of themselves strengthened the capacity of local governments.
116. Nevertheless, there have been several less than expected outcomes in institutional development. Firstly, cohesion between PPLs and VFs has been a relative weakness of SOLID, as there has not been close cooperation between the permanently employed PPLs and the VFs, despite their commonality of purpose. This has meant that village institutions have not realised their full potential, especially in sustainable economic activities on behalf of their members. Secondly, there is not any significant evidence that there has been any systematic effort to engender improved natural resources management. Thirdly, little or no evidence has been presented to demonstrate that villages and community organisations are actually contributing to and paying for maintenance of improved infrastructure.
117. SOLID's contribution to policy making was expected to come from the experiences gained from implementation e.g. lessons learned, best practices etc. which the project would feed into the country portfolio review process rather than from financing any specific policy studies or undertaking and policy-specific activities.
118. Indeed, SOLID did not provide specific support for policy engagement. It has however demonstrated viable models for rural development and community empowerment in addressing poor remote villages such as those in Maluku and North Maluku. The knowledge from SOLID project implementation will be will provide useful lessons and experience to inform policy on pro-poor rural development approaches.

vi) Access to markets

119. The project contribution to increasing access to markets is rated *moderately satisfactory (4)*. Household income from market access for food and cash crops improved significantly. Compared with the mid-term review log frame target of an income increases of 30%, there has been achievement of a 98% increase (real terms) since the mid-term review. As a result of SOLID, farmers have been encouraged to move towards more planned engagement with food/cash crops, planting increased areas of a wider range of crops which are directly intended for the market – either as primary produce or for value adding prior to sale (e.g. tomatoes for tomato paste). What has not happened is a move towards aggregated selling by Self Help Group (SHGs) to reduce price volatility. The large majority of farmers still prefer to sell as individuals.
120. The impact study concluded that in general there was an increase in the quality of community accessibility to the market. This is indicated by an increase in the quality of market access, where the overall percentage of households that stated that "easy" market access increased from 11% at the time of the baseline survey to 17% at the time of the impact study and the percentage of households that stated that market access was "sufficient" "Increased from 18% at the time of the baseline survey to 36% when impact studies were carried out. However, the percentage of households that stated that "easy" market access in non-SOLID villages was higher (23%) compared to SOLID villages (17%) when the impact study was conducted.
121. After the mid-term review, SOLID focused on 3 priority tree/estate crops (copra, cacao and nutmeg). SOLID aimed to increased HH cash incomes from these 3 priority tree crops. While the was significant overall income increases

identified by the 2018 AOS, the assessment of HH income increases was not differentiated between cash crops and estate crops. However, disaggregated yield and production data clearly shows that SOLID HHs achieved yield increases of: (i) copra, 75%; (ii) cacao, 50%; and (iii) nutmeg, 52% which can be extrapolated to income increases. However, the intended post mid-term review strategy for income increases was to improve farmer returns from value chain engagement as well as increased productivity. Specifically, to: (i) under-take an international feasibility study to test the "hypothesis" that commercially-viable value chains did exist in Maluku/North Maluku. This was completed as planned; (ii) given such opportunities, to only focus on the three priority commodities; and (iii) to actively support the best performing 44 (20%) of Federations (at the time of mid-term review) to commercially engage with private sector partners who trade in all (or some) segments of identified viable value chains, but only once such opportunities had been quantified and included in business plans for promotion to the private sector. While individual business groups did engage to varying degrees, the intended process of cohesive market engagement was not achieved nor led by SOLID value chain staff at provincial level.

122. However, there has been some degree of achievement. SOLID has established and operationalised 53 business units and 5 federations which are value adding to SOLID crop outputs. However, the intended business planning has not been undertaken which greatly undermines sustainability. In addition, SOLID engagement with value chains has been by way of establishment of parallel value chain linkages on farmer's behalf, rather than establishing linkages with local traders. Further undermining this process was the fact that component 3 funds were disbursed to federations immediately prior to the 2015 mid-term review.

123. In summary, of the three C-3 output indicators, one has been fully achieved, one has been partially achieved i.e. *"25% of federations actively supporting growers via links to traders and other VC players and/or adding value to the 3 selected estate crops"*; and one has not been achieved i.e. *"50% of growers directly engaged in VC with Federation support & responding to market requirements"*.

D.3. Gender equality and women's empowerment

124. The project rating for Gender Equity and Women's Empowerment is *satisfactory (5)*. SOLID adopted a comprehensive approach from the commencement of implementation to increase the economic wellbeing and status of women, with over 53% of the targeted beneficiaries being women. The main elements of this were:

- (a) enhancing the value of production and processing activities dominated by women through skills training and introduction of new technology;
- (b) using a group approach (women only or mixed groups) for improving quality standards and marketing;
- (c) promoting women entrepreneurs to provide business development services and to venture into value chain activities often dominated by men, e.g. primary marketing;
- (d) building women's leadership skills to participate in the governance of groups and their unions;
- (e) sensitising men to support women's enhanced role in the value chain development; and,
- (f) building the capacity of groups and their unions and those of the local government institutions to ensure gender responsive service delivery.

125. Additional to these measures, SOLID sensitised and trained planners and sector staff at district and sub-district levels as well as key project staff to institutionalise gender mainstreaming into district and local level development planning and management practices. The project conducted gender analysis of district level planning, monitoring and evaluation frameworks and provided guidelines and checklists in community development and poverty reduction, agriculture and infrastructure.

126. SOLID has facilitated major advances in gender relations, to the point where a person's gender now has greatly reduced impact on the community, farming and business relationships that a person may engage.

127. The Final Impact Study examined Gender issues from four aspects, namely access, participation, benefits and control.

- (a) Access. The results of the study indicate that both men and women have the same opportunity to get access to their needs. Men and women also have the same opportunity to choose the position they want both in KM, federations and business centres. In addition, men and women also have the same opportunity to choose the position they want in an organization other than those promoted by SOLID.
- (b) Participation. Study results show that men and women have equal opportunities in determining family decisions, in determining decisions in KM, federations and business, in making decisions in other institutions and in determining decisions for carrying out activities in the village.
- (c) Benefits. The data shows that men and women have equal opportunities to use family assets, to use SOLID loan funds, in utilizing SOLID assets / assistance tools, in utilizing other loan funds, and to use facilities in the village.
- (d) Control. Data shows that men and women have the same authority in family decision making, the same authority in decision making in KM, federations and business centres, the same authority in making decisions in other activities, and the same level of control in determining the use of assets.

D.4. Adaptation to climate change

128. The project rating for adaptation and mitigation to climate change is *moderately satisfactory (4)*. Although adaptation to climate change was not an explicit project objective, the project has managed to strengthen the resilience of local communities vis-à-vis climate-related shocks and stresses. Through their increased asset ownership, increased incomes and higher agricultural productivity, SOLID HHs are more resilient to climate shocks and their potential impacts on food security and poverty.
129. The 2010-2014 National Medium-Term Priority Framework for Agriculture strategies include “developing sustainable agriculture in a climate-changing environment and using green technology and best practices”. The PDR noted that “recent experience seems to indicate that the most likely impact of climate change will be an increased variability in rainfall with longer drought periods but also an increased intensity of rainfall at other times. The implications are that the project should assist in assessing the drought tolerance of varieties of annual crops e.g. upland rice, ground nuts, maize etc. to enable smallholders to mitigate the impact of drought and especially the impact on household food security. An increased reliance of estate crops is a strategy that could help reduce the impact of an increasing incidence of periods of drought, although estate crop yields and hence household incomes from them would also be reduced to an extent. Finally, the introduction of conservation farming techniques (Component C) will help minimise the damaging impact of high intensity rainfall due to greatly increased soil erosion”
130. The Project does not have an explicit focus on climate change mitigation or adaptation, although there is an environmental assessment in the project design which rated the Project in category B. This Category B rating has been confirmed during implementation.
131. The project is contributing to adaptation and mitigation, largely as anticipated by the PDR. Through demonstration plots, farmers learn new methodologies and good agricultural practices, for instance effective use of fertilizer and pesticides, mixed cropping. In some cases precision and organic agricultural practices are being promoted. Crops such as upland rice, ground nuts and maize have indeed been promoted. Farmers are now also cultivating drought tolerant staple crops such as cassava and sweet potato. Through linking with CIAT, the project is also experimenting with raised bed cultivation of improved varieties of cassava, which should further enhance drought tolerance. The project emphasis on generating household savings is further reducing vulnerability. The income smoothening effect of savings and loan activities along with homestead gardens are allowing households to get through drought periods without prejudicing their food security. An increased reliance of estate crops, especially their commercialisation, has reduced the potential impact of drought. The introduction and promotion of conservation farming techniques will itself reduce carbon emissions, and thus contribute to mitigation of climate change.
132. On balance, the project has positively impacted on adaptation to climate change, and to some extent, mitigation.

D.5. Environment and natural resource management

133. The project rating for natural resources and environment is *moderately satisfactory (4)*. While the Project did not have an explicit focus on natural resources management and the environment, there has been some moderate improvement in the environment or the natural resource base in the project target area.
134. *High-standard environmental norms were followed for most project activities and there was no negative impact on the environment. Through demonstration plots, farmers learned new methodologies and good agricultural practices, for instance effective use of fertilizer and pesticides, mixed cropping. In some cases precision and organic agricultural practices were promoted. A further preventative effort to reduce negative environmental impacts has been the use of natural bi-products, such as coconut shell waste and coconut pulp as energy sources for cooking and fumigating fish. Coconut waste material is also used for pig feed, and organic fertilizer (compost) that supports organic farming. Protection of natural resources has also been promoted through the activities of SOLID user communities through planting trees and protective vegetation and constructing terraces on hillsides to prevent landslides and soil erosion.*
135. The agricultural production and marketing activities will have beneficial environmental impacts e.g. green manuring, composting and the proposed NRM activities. The construction of scattered, small-scale village post-harvest facilities will have no negative environment impact due to their small-scale while construction will avoid negative environmental impacts e.g. erosion, pollution of water resources etc.
136. There have been numerous agricultural business activities in facilitated by SOLID that has had the potential to have both positive and negative impact on natural resources and the environment. Activities have included the cultivation of food crops and plantation crops as well as the processing of agricultural products such as coconut cake, virgin coconut oil, cocoa, nutmeg and various other types of processed foods, including banana chips, taro chips, and others. These activities have been coupled with several initiatives through which the project has contributed to sustainable use of natural resources, and as a result, to environmental enhancement. This starts with village plans for the development of villages' agriculture sectors, generated through community-based natural resource planning activities.
137. The Final Impact Study reports that, in aggregate, the percentage of respondents who stated that SOLID activities

had a positive impact on natural resources protection was 60% greater than the percentage of respondents who stated otherwise. Overall, it is concluded that the risk of environmental degradation through project activities has been very low, and in general, the project has had a positive impact on natural resources management and environmental protection.

D.6. Targeting and outreach

138. The project rating for targeting and outreach is *satisfactory (5)*. At time of project design, it was agreed that the project would use a participatory approach in the selection of an estimated 49,500 households in the target villages using a gender-sensitive poverty and livelihood analysis e.g. participatory wealth ranking, identification of common interests etc.
139. However, by the time of the mid-term review, it was clear that these numerical targets could not be realized, due to remoteness from project services and markets and also some management weaknesses. The mid-term review proposed changes to targeting that included relaxation of targeting guidelines to ensure a greater number of “near poor” had access to the Project, and reduction on the number of SHGs that would be assisted. As noted above in Paragraph 51, the revised total of target beneficiaries was estimated at 40,350 households.

D.7. Innovation

140. The project's performance with respect to innovation is rated as *moderately satisfactory (4)*. A significant number of innovations have been implemented by SOLID. While many have been successful, they have not been consistently applied in all project areas.
141. In the management context, the coordination of day to day implementation at district/kabupaten level was innovative. Despite the initial general lack of capacity and confidence, even as late as mid-term review, by the close of SOLID, district implementation teams engaged with their role and exhibited a high degree of ownership and competence. Involvement of local government and coordination with various stakeholders in providing support packages to community was innovative in the context. This is a capacity which can be leveraged and replicated for future projects.
142. In the social and technical implementation context, against the backdrop of a fractured village social environment after the inter-religious fighting (1999-2003), SOLID introduced community, agriculture production and market linkage activities which in the context of Maluku and North Maluku, were both innovative and challenging. By using the participatory approach, placing farmers and community at the centre of the project, there was good progress in re-building social cohesion. The formation of SHGs with membership that crossed gender and religious lines was central to this. SHGs were facilitated and trained by in-village facilitators. The broad role of the village facilitator in social development was to prepare SHG members to take best advantage of for promoting improved livelihoods in poor coastal communities.
143. Using SHGs as an entry point for operating revolving fund loans (RFLs) and delivering agriculture and market linkage technology was innovative in the Maluku and North Maluku. Introduction of saving and lending at group level provided a new means of financing production and savings.
144. Farmer field schools (FFS) and demonstration plots being run by agriculture extension workers (PPLs) went from being a difficult to grasp concept to an everyday reality in SOLID villages. Introduction of new farm technologies through demonstration plots such as agricultural machinery and equipment for cultivation of food crops, horticulture and estate crops provided a basis for improved farmer capacity.
145. There have been a number of other innovations demonstrated by the project, but these are not consistently applied in all areas. These can provide useful innovative learning for application in other development projects in Indonesia and Internationally. Specific SOLID innovations identified are:
- (a) Developing business units and a good partnership initiatives in establishing market linkages;
 - (b) Development of a strategy of moving beyond production improvements towards a more comprehensive market linkage approach, with the goal of increasing farmer financial returns as well as for all participants in the value chain;
 - (c) Stronger group institutional development and more organized federations as service and input providers to SHGs;
 - (d) Introduction of new processed products and packaging, such as coconut oil, VCO, cocoa powder;
 - (e) Promoting post-harvest innovation and value chain approach;
 - (f) Several innovations to provide enhanced learning for all stakeholders, such as production of videos with stories from the field, and a book displaying experience and lessons learned from the project implementation.

D.8. Scaling up

146. The project rating for replication and potential for scaling up is *moderately satisfactory (4)*. The project has

demonstrated a successful model for rural development and community empowerment in poor remote villages in Maluku and North Maluku. The knowledge gained from SOLID project implementation will provide experience that can be replicated in other remote and poor rural communities.

147. The SOLID features suited for remote area development include the need to provide for incentives for high quality project staff and service providers to deliver long-term engagement for the project, and the need to commence project activities in a cautious manner, developing modalities and models for later replication. The prospects for scaling up the SOLID model into other districts and villages are significant. In particular, the “most scalable” parts of SOLID are C-1 and C-2 which are also the parts that have had the greatest development impact.

148. Additionally, elements of the SOLID strategic approach can be replicated. Replicable strategies include:

- (a) coordinated phasing between the empowerment process and physical and financial assistance;
- (b) the close involvement of local governments;
- (c) partnerships between projects/government and NGOs and the private sector;
- (d) integration of interventions with other programs, such as the Village Fund (BUMDES); and,
- (e) emphasis on effective community participation planning and implementation.

149. The following best practice experiences can also be replicated to other locations, namely: savings and loan activities, the federation activities for processing and marketing (industrial and food processing: coconut oil, VCO, cocoa powder, peanut, sagoo, coconut shell charcoal), demonstration plots in farmer field schools for application of technology used for cultivation of food crops, horticulture and estate crops.

150. There has already been some replication of the SOLID approach through the formation of 24 SHGs in 13 hamlets not included in the project area using district budget (APBD).

E. Assessment of project efficiency

151. The project efficiency and value for money is considered to be *moderately unsatisfactory* (3). Initial Project implementation was less than efficient, and at the time of the mid-term review, there had only been disbursement of 16% of available loan funds, and there were questions about the relevance of some of the project investments, especially in infrastructure. However, there has been marked improvement since the mid-term, and investments since then represent good value for money. The results of the economic and financial analysis confirm that expenditure produced strongly positive results at the national and beneficiary levels. In particular, this analysis and the 2018 Impact Study confirmed large increases in household income and assets attributable to the SOLID investments, as well as greatly enhanced food security and nutrition for the majority of beneficiaries. The project has achieved or exceeded all of its revised mid-term objectives, and available funds have been almost fully disbursed. In addition, the project has developed models which can be replicated and up-scaled in other similar localities in Indonesia.

E.1. Project costs and financing

152. The project financing agreement was signed on 5 July 2011. The total project financing is approximately equivalent with US\$ 65 million which consisted of an IFAD Loan US\$ 49.1 million and IFAD Grant US\$ 1.08 million and Government contribution of an estimated US\$ 14.81 million. The project cost was allocated by IFAD in Special Drawing Right (SDR) 30,300,000 for the loan and SDR 675,000 for the Grant. The initial structure of financing of the project is shown in Table 5 below.

153. **Table 2. Original allocation by categories**

No.	Category Description	Loan Amount Allocated (SDR)	Grant Amount Allocated (SDR)
I	Civil works	4 620 000.00	-
II	Vehicles, equipment and materials	7 770 000.00	-

III	Capacity building, studies and workshops	8 530 000.00	175 000.00
IV	Matching funds	4 360 000.00	-
V	International consultant	-	60 000.00
VI	Local consultant and NGO services	1 990 000.00	375 000.00
VII	Unallocated	3 030 000.00	65 000.00
TOTAL:		30 300 000.00	675 000.00

154. There were several funds reallocations made during the implementation period to accommodate the needs of project, which demonstrates active collaboration between the Government, Project Management and IFAD. The most recent reallocation was effectively applied on 13 July 2017. IFAD agreed with the reallocation of budget categories as proposed by the project that was made based on consultation during the joint review mission held in March 2017.

155. The latest structure of financing category is shown in the following table.

156. **Table 3. Revised allocation by categories**

No.	Category Description	Loan Amount Allocated (SDR)	Grant Amount Allocated (SDR)
I	Civil works	4 550 000.00	-
II	Vehicles, equipment and materials	5 175 000.00	-
III	Capacity building, studies and workshops	8 950 000.00	526 000.00
IV	Matching funds	7 625 000.00	-
V	International consultant	-	65 000.00
VI	Local consultant and NGO services	4 000 000.00	84 000.00
VII	Unallocated	-	-
TOTAL:		30 300 000.00	675 000.00

157. The utilization of project funds according to IFAD's records are:

158. **Table 4. Loan funds utilisation**

No.	Category Description	Allocated Loan	Disbursement	%	Available Balance
	Designated loan account - initial deposit	-	1 937 279.73		(1 937 279.73)
I	Civil works	4 550 000.00	4 301 539.62	95%	248,460.38
II	Vehicles, equipment and materials	5 175 000.00	4 799 444.35	93%	375,555.65
III	Capacity building, studies and workshops	8 950 000.00	7 670 384.92	86%	1,279,615.08
IV	Matching funds	7 625 000.00	7 445 846.72	98%	179,153.28
V	International consultant	-	-	-	179,153.28
VI	Local consultant and NGO services	4 000 000.00	2 974 796.51	74%	1,025,203.49
TOTAL		30 300000.00	29 129 291.85	96%	1,170,708.15

159. **Table 5. Grant Funds Utilisation**

No.	Category Description	Allocated Grant	Disbursement	%	Available Balance
	Designated grant account - initial deposit	-	114 675.18		(114 675.18)
I	Capacity building, studies and workshops	526 000.00	362 733.53	69%	163 266.47
II	International consultant	65 000.00	64 574.22	99%	425.78
III	Local consultant and NGO services	84 000.00	81 857.97	97%	2 142.03
TOTAL:		675 000.00	623 840.90	92%	51 159.10

160. **Accounting and audit.** The financial statements prepared by the project were in accordance with government accounting standards, applying a cash basis in recording project expenditures. Although the financial agreement with IFAD was in SDR and designated account in US\$, the record of transactions was made in IDR. The exchange rate applied to record the transactions was based on the current exchange rate for transaction that was applied by the Bank Central (*Bank Indonesia*) at the time of the transactions.

161. The BPKP has expressed the opinion that the latest audit report of SOLID for Financial Report year 2017 is presented fairly in all materials aspects for utilization of both the IFAD loan and the IFAD grant.

162. The audit recommendation addressed to project management noted that there have been ineligible expenditures identified by the Government Audit office (BPKP) during the audits since Fiscal Year (FY) 2011 up to 2017. SOLID

has now refunded the ineligible expenditure reported in audits for FY 2011 up to FY 2016 to the Project Designated Accounts (DA). The total amount of ineligible expenditure involved in this period amounted to IDR 1,042,805,974 (Approx. Equivalent to US\$ 71,269) for the loan and IDR 6,229,900 for the grant (Approx. Equivalent to US\$ 425). These ineligible expenditures have been refunded to respective Designated Accounts (DA), as advised by IFAD on 9 November 2018.

163. In the management letter from BPKP for the audit for FY 2017, BPKP has noted their finding of ineligible expenditure amounted to IDR 2,238,881,963 (Approx. Equivalent to US\$ 156,565). This finding was due to lack of supporting documents, and overpayment that leads to ineligible expenditures, and delays on implementation that leads to a reprimand and fine to the contractor, etc. This finding should be investigated further, to define the ineligible expenditure that involving IFAD's fund, identify the causes (and who is responsible), and calculate the required refund to the DA.
164. There is a lesson to be learned from the long delay of project management related to following up audit recommendations, i.e. since the audit year 2012 finding of ineligible expenditure, and the risk rating of project internal control assessment that was noted by the Auditor. This indicates that involvement and oversight by the Internal Audit (*Inspectorate General*) of the Ministry of Agriculture should be improved significantly. Moreover, the Inspectorate General is expected to be able providing technical advice and assurance of the project implementation.

E.2. Quality of project management

165. The Quality of project management is considered *moderately satisfactory* (4). Despite the constraints and management challenges during the early implementation, the project had managed to turn around the situation following the Mid-Term Review. There has been a number of key actions taken to improve project management performance, such as: (i) project management re-housed within the Ministry of Agriculture, Directorate of Food Availability and Vulnerability, with better management and technical capacity; (ii) a number of consultancy contracts were developed for supporting the project at different levels; (iii) strengthened coordination and communication between national, provincial and district staff, including consultants, and service providers (NGO facilitators and PPL) and mobilized them towards addressing the major issues; (vi) creation of simple targeted work plans that were easy to follow and use of a dashboard for monitoring progress; (vii) submission of key project documents (annual progress reporting, AWPB, AOS etc.) in a timely manner; (viii) provision of additional support to monitor finance and procurement progress to avoid delays.

i) Procurement

166. Project procurement managed through applying national procurement regulation that stipulated in Presidential Decree No. 54/2010.
167. The project had setting up procurement plan along with AWPB, however, some procurement was not implemented as scheduled. Project performance up until the MTR has been constrained by procurement delays. The main reasons for this included poor procurement planning and management by the Project management, insufficient knowledge and experience of the procurement committee of procurement procedures. The lesson is that project management/procurement committee needs to be made thoroughly aware of IFAD and GOI procurement requirements from the commencement of project implementation.
168. After the MTR, the performance of project procurement was rated moderately satisfactory by supervision mission in October 2016. Despite some improvement had been made, for instance, the Contract agreement with NGO at Provinces level had extended up to 2017 (initially ended on Oct 2015), and it's impacted to boost procurement of supplying equipment, e.g. laptop for village facilitators that deployed to the whole project district. Further, the contract for procurement of equipment for the farming group at villages signed in 2015, but this equipment was distributed in mid-2016. Further, from ISM on April 2017, there are some notes related to the performance quality of project procurement, i.e. recommendations on procurement from previous supervision have been followed up. For instance, all procurement contracts signed by the end of 2016. However, the mission also notes there are several issues related to contract that already signed, such as (i) some equipment were delivered late to villages and could not be used immediately due to (a) planting seasons have already passed; (b) training on the operation of the equipment has not been conducted; (c) some equipment was not in accordance with the actual community's needs and inappropriate with the local situations and conditions. This indicates in a poor planning, particularly on the scheduling.
169. The Despite at some extent the project procurement performance was related with internal project management. However it is noted, external factor out of project management was caused delay in carry out project planning in 2017. For instance the project activity was pending to implemented due to changes of nomenclature for the technical sector (*Dinas*) as Halmahera Tengah District. Previously the official name of SOLID Project implementer was *Badan Ketahanan Pangan* (Food Security Agency) and changed to *Dinas Ketahanan Pangan* (Food Security Office). This changing that occurred in 2016/2017 and impacted to the arrangement or setting up budget provision for activities (DPA) in the local budget system.

ii) M&E and KM

170. The ambitious objectives and the nature of the Project area are a challenge for the project M&E as well as for an analysis of causality, impact and attribution. In addition to the M&E system initially set up by the Project being too complex, the project had issues with the collection of data from the villages. The village facilitators (VFs) and extension workers (PPL) are the main actors responsible for data collection for reporting. The Participatory Self-Monitoring Evaluation (PSME) system is completed annually by the VFs. The PSME is oriented towards assessing SHG capacity to fulfil project requirements such as regular meetings, submitting proposals and managing resources and as such it is a good indication of progress. The PPLs have the responsibility to monitor and generate the agriculture productivity related data. However, the data quality is variable and incomplete, especially agricultural productivity data. PPLs generally do not have the capacity to respond to a complex monitoring form and have very limited time due to overloaded responsibility. In the case of Maluku and North Maluku, each PPL may be responsible for 5-7 villages (each village up to 10 groups). This has resulted in poor data quality and delayed submission of progress reports.
171. As a result of these complexities and constraints, the performance of M&E up until the mid-term review was below required standards. Project managers received little M&E information of value with which to re-orient or re-direct project implementation approaches. Data gathering was a burden for SHG members resulting in loss of interest in SOLID and its objectives. Data gathering was scheduled to be undertaken on a monthly basis which was much too frequent. The failure to recruit village facilitation support had meant PPLs were required to undertake the data gathering task, but at the expense of spending time on their main role of providing technical support. When data was gathered, there was no capacity in place to analyse and interpret it into meaningful management messages.
172. After the mid-term review, there were significant improvements made. By the time of the penultimate project supervision in April 2018, the performance of M&E system was assessed as moderately satisfactory. There had been considerable efforts to collect, analyse and report the data. The M&E systems were functioning and the project had been able to report regularly the progress and achievement, although there were continuing issues of data reliability and the utility of data and information as management and decision-making tools.
173. It is noteworthy and commendable that SOLID has produced Annual Outcome Surveys (2016 and 2017), and a Final Impact Study (October 2018). The Annual Outcome Surveys provided substantial information, although the quality of the analysis and the reports was mediocre. However, the information and analysis provided in the Final Impact Study is of high value and has contributed significantly to understanding the impact of the project.
174. **Knowledge Management** SOLID is designed to develop a model for development in remote and challenging areas such as Maluku and North Maluku. The objective for knowledge management should be to assist the project to build practical and actionable knowledge and know-how that leads to improved project performance and results, supports innovation, scaling up and country-level policy engagement. The project does not have a clear knowledge management strategy or plan within this context. However, it is noted that there has been effort to document and share project results, learning, and achievement through mix of tools and channels (social media, exhibitions, publications, books, documentary videos, traditional media, exchange visits, etc.) to ensure transparent access and sharing of knowledge and information among project stakeholders.
175. There have been several innovations and learning notes generated and documented by the project that can provide innovative learning for all stakeholders. Some examples are a number of videos with stories from the field. The project is preparing a book displaying experience and lesson learned from the project implementation.

E.3. Quality of financial management

176. The overall performance of SOLID Project on financial management is considered *moderately satisfactory* (4). It's considering that NPMU has undertaken their responsibility to manage IFAD and Government Fund to run the project at national and sub-national level. NPMU had been successfully in managing special account of project and distribute the fund for the project intended purposes. It's including but not limited in managing initial deposit, replenish project through withdrawal application and also managing recovery of initial deposit that still undergo by project.
177. SOLID performance at initial stage of project was moderate unsatisfactory, it's reflected on the assessment of financial reporting. It's due to poor performance of National SOLID Management, hence its impacted to lack of internal control on financial management. However, eventually SOLID had improved their performance and IFAD acknowledged it by awarded SOLID performance on the assessment of financial reporting during period 2014 – 2017 with moderate satisfactory.
178. In term of internal control issues that indicated by BPKP since audit 2012, the improvement was made by SOLID management on the 4th year of project implementation, i.e. in 2015. Starting 2015, SOLID had been improved their internal control and acknowledged by BPKP with categorize it adequate internal control in general. However at some extent improvement is not suffice performed by project, as shown by number of audit finding that still happen and lead to ineligible expenditures.

179. In 1st quarter 2018, IFAD Client Portal (ICP) was launched in Indonesia. Together with Directorate of State Cash Management, Ministry of Finance, SOLID has enrolled and successfully as pilot project to implement ICP.

E.4. Project internal rate of return

180. The project performance fiscal performance is presented through the Financial Analysis and Economic Analysis. The Financial Analysis is used to document the expected return on investment for the owners/beneficiaries. In the case of SOLID, this will show the financial return to the beneficiaries, in aggregate. It compares the costs of the project/enterprises to the expected revenue over their lifespan. This includes costs of financing and accounting for taxes and subsidies, that is, all the real costs and revenues accruing. The goal of the financial analysis is to demonstrate the ability of the project to generate a sufficient return on investment to be viable for the owners. The results of the financial analysis are presented as the Net Present Value (NPV) and the Financial Internal Rate of Return (FIRR).

181. The Economic Analysis is used to determine if the project is a net benefit to the host country. It is an essential analysis in relation to publicly financed investments. An economic analysis includes external effects such as environmental and health impact. An economic analysis does not include taxes, tariffs, subsidies, etc., as these costs/revenues do not add to economic productivity and are merely transactions between entities within the economy. An economic analysis is always a comparison between a base case (or reference scenario) – the expected present and future situation without the project – and the project alternative. The term "benefit" used in an economic analysis refers to the change in external effects that can be attributed to the project. The Economic Analysis is presented as an Economic Internal Rate of Return (EIRR).

182. Economic Analysis and Financial Analysis is carried out by looking at all monetary benefits generated as a result of SOLID interventions. The main direct benefits generated are increased income and increasing food security.

183. The following tables present the result of estimating EIRR and FIRR for SOLID investment.

184. **Table 6. Estimation of EIRR and FIRR for SOLID**

Variable	Economic internal rate of return (EIRR)	Financial internal rate of return (FIRR)
Discount rate (5)	10	10
Tax (%)	10	-
Life span	15	15
NPV up to 2026	IDR 358,402,913,257.54	IDR 443,691,034,014.03
B/C ratio	5.99	7.31
IRR	41.1%	58.07%

185. The analysis shows that calculating cash flows for 15 years, both FIRR and EIRR have values greater than the normal interest rate of 10%, positive NPV, and B/C ratio greater than 1. Therefore, investment in SOLID activities is economically and financially viable.

186. Sensitivity Analysis

187. A sensitivity analysis has been conducted for estate crops using the following assumptions:

- (a) Decreasing the yield and the price of coconut and copra by 10 percent
- (b) Increasing the annual production costs by 10%.

188. This produces the changes in NPV, IRR and B/C ratio as shown below.

189. **Table 7. Change in economic and financial indicators on the change of yield and costs on estate crops**

No	Crops	Current price	Changes in			IRR (%)		NPV		B/C ratio	
			Selling price (-)	Annual cost (+)	Yield (-)	before	after	before	after	before	after
1	Cocoa	15000	10%	10%	10%	37.00%	27.00	128,140,011.00	81,731,868.86	3.63	2.11
2	Copra	2500	10%	10%	10%	94.00%	77.00	25,097,973.77	16,673,575.22	1.99	1.20

190. This analysis shows that the investment is quite robust, giving a reduction of only 10% and 17% in the IRR for Cocoa and Copra respectively from these effects. The IRR for each crop remains high, at 27% and 77% for each respective crop.

191. Sensitivity analysis was also performed for annual crops, as shown below.

192. **Table 8. Change in B/C ratio of the annual crops as a result in decreasing the price of crop production.**

No	Crops*	Revenue		B/C ratio	
		Price	Change in price (-10%)	Before price decrease	After price decrease
1	Upland Rice	6,000	5,400	3.96	3.56
2	Maize	4,500	4,050	2.85	2.56
3	Groundnuts	8,000	7,200	1.74	1.57
4	Soybean	3,300	2,700	1.25	1.12

193. **Table 9. Change in B/C ratio of the annual crops as a result in decreasing the yields of crop production.**

No	Crops*	Yield		B/C ratio		
		Yield	Change in yield	Before yield decrease	After yield decrease	
1	Upland Rice	1250	25.00%	3.96	2.97	
2	Maize	2000	32.00%	2.85	1.94	
3	Groundnuts	2200	16.70%	1.74	1.45	

4	Soybean	1200	20.00%	1.25	1.00	

194. This analysis shows robustness to price and yield reductions. All of the crops continue to show a sound positive B/C ratio with a price reduction of 10%, as well as with substantial yield reductions.

195. In addition, SOLID activities also provide non-monetary benefits to the community in the form of:

- (a) Education improvement;
- (b) Improved nutritional status of infants and children;
- (c) Improved environmental status;
- (d) Increased community independence;
- (e) Improving the quality of public and social facilities;
- (f) Improving the quality of market services;
- (g) The building of trust in financial institutions with the community;
- (h) Improved relationships with commercial entities important in value chains.

F. Partners' performance

F.1. IFAD's performance (Quality of supervision and implementation support)

196. IFAD's performance is considered *moderately satisfactory (4)*. IFAD provided substantial support for initial project implementation, but this was of limited effectiveness. The Fund's engagement with the project was through providing consistently high quality of implementation support and direct supervision services such as in financial management and procurement. It maintained this responsiveness over entire duration of project design and implementation, and was able to provide more effective support in the latter years of implementation; this was at least partly due to improved calibre and performance of Project Management staff. The GOI/IFAD supervision missions were provided approximately twice per year, which was consistent with project needs. The provision of supervision and implementation support was of adequate quality and timely in accordance with the project financing agreement. The establishment of a local IFAD office enabled IFAD to engage more closely and to immediately address issues arising. The follow-up on supervision agreed actions and the provision of targeted implementation support was increasingly effective. An important aspect of IFAD support which contributed to the quality of the engagement was the consistent use of the same expert personnel from the project design, through the mid-term review to the completion.

F.2. Government's performance

197. The Government's performance is assessed as *moderately satisfactory (4)*. Government performance was initially inadequate, but it improved over the period of implementation, to the point where it was satisfactory. The provision of counterpart funds and compliance with loan covenants by the Government was satisfactory. Also, Government was generally responsive to IFAD's recommendations. However, the support from senior management of Ministry of Agriculture Directorate of Food Availability and Vulnerability to the various appointees as Project Director was inadequate and was not generally proactive during initial years of implementation. There was high turnover of Project Directors, with a total of four being appointed and subsequently leaving the Project after a limited period of service during the first years of implementation. Project management advisers also provided only limited impact. Financial management was lacking at times with the designated project account in Ministry of Finance being overdrawn on 3 occasions. However, these issues were ultimately addressed when the current Project Director was appointed and NPMO management was significantly improved.

198. Contributions by government outside of the NPMO, province and district included active engagement by BAPPENAS, National Audit Office and the Ministry of Finance in the project design, review and supervision missions during implementation. These other agencies also displayed commitment to follow-up of the recommendations of supervision and implementation support missions.

F.3. Other partners' performance (including co-financiers)

199. The Partner's performance is assessed as *satisfactory (5)*. While initial performance was not to the standard required, performance improved steadily to achieve outstanding results during the latter period of implementation, and most targets were achieved or exceeded. Given the size, original design limitations, the remoteness of project sites, and the limited capacity at district level, it was important for the project to facilitate and to maintain effective partnerships in order to achieve the overall project objectives. Implementing partners at the village level were primarily the SHG beneficiary groups established by SOLID but also included local government village

administrations. At the time of mid-term review, village SHG engagement was weak due to excessive administration focus required of PPLs, at the expense of useful outcome activities intended to benefit SHG members^[10]. SOLID invested considerable effort and resources after the mid-term review in building the capacity of production groups during implementation, supported by village facilitators (VF) and government extension staff (PPL). Performance thereafter of both VFs and PPLs was mixed but generally satisfactory. There were some limitations on performance, due to a number of reasons including over-worked and poorly trained PPLs and the challenges faced by young VFs in village environments. However, village enterprise groups did not enjoy so much success, being limited mainly by weaknesses in business training. It can be highlighted that post mid-term review, local village government administrations increasingly engaged with the Project once they recognised the benefits and opportunities for villagers. This was due largely to the work of VFs and PPLs becoming more effective as a result of improved role clarity post mid-term review.

200. The districts administrations became increasingly involved in implementation of SOLID while provinces took on greater coordination roles. Despite an initial lack of capacity and confidence, district government partners performed well. In fact the improvement in performance, commitment and quality of district management was a noteworthy aspect of SOLID as a lesson for future project designs. The performance of contracted NGO partners at provincial level was mixed. The NGO at Maluku (YPPM) generally performed well, collaborating well with their local government employer. However, the NGO collaboration in North Maluku (El Sil Kie Raha) was constrained by personality issues. In summary, it is reasonable to suggest that NGO collaboration performance was variable, dependent on the quality and professionalism of the personnel engaged.

G. Assessment of sustainability

201. The sustainability of SOLID impact is assessed as *moderately satisfactory* (4). While the project has demonstrated financial and environmental sustainability, there needs to be further investment to ensure sustainability of key local institutions such as SHGs and Federations.

202. Sustainability was assessed across five dimensions: (i) institutional; (ii) social; (iii) technical; (iv) economic-financial; and (v) environmental.

203. **Institutional Sustainability.** During implementation, SOLID worked closely and mentored local government agencies. As a result, SOLID is supported with the APBD II (District Government local budget) and was promoted by local government to link with village fund to continue support to the SHGs and Federation. The project trained community members and facilitated the establishment of self-help groups (SHG) and federations. However, the institutional capacity of SHGs and federations needs to be further strengthened and enables them to become eligible to transform into cooperatives.

204. **Social Sustainability.** The Social sustainability of project benefits is linked closely to the ongoing performance of SHGs and Federations. There are positive indications of sustainability, especially the cohesion of many of these groups, their willingness to work together on production activities, and their inclusiveness in decision-making. There are some risks to social sustainability however. In particular, the tendency for SHG members to market produce as individuals, as well as the relatively poor loan repayment performance of group members can lead to internal tensions and generate forces that could lead to group failure.

205. **Technical Sustainability** will be closely linked to the longevity of the SHGs. Drawing on the project participatory planning process, and the mid-term review design changes to ensure a better reflection of beneficiaries' capabilities and priorities, SOLID selected and introduced appropriate technologies within targeted communities.

206. As a result, most SHGs achieved greater food security, especially during the severe drought of 2016, and improved their HH incomes through increased market engagement. These now have the confidence and capacity to continue. Many SHG members have explicitly confirmed preference for working together in a group environment.

207. Conversely, there two important factors which have the potential to undermine technical sustainability. There are the low and slow rates of RFL repayments and the lack of commitment to machinery operations and maintenance. Mission assessments are that only 25% of the RFLs are being regularly repaid, and further that interest rates being charged are insufficient to maintain the purchasing power of the RF. Service fees for SHG equipment and machinery is not sufficient to cover operating costs (wages, fuel, repairs) and replacement costs. The failure to introduce these costs is a significant risk to technical sustainability.

208. **Economic/Financial Sustainability** The Final Impact study has revealed that factors affecting SOLID sustainability are: i) Regular repayment of capital/loan funds; ii) Local government support by allocating regional budget to continue assistance, monitoring and evaluation; iii) The activeness and resilience of SHG management; iv) Continuous mentoring/assistance to ensure that SHG/Federation/Business Centres will continue to operate; v) Availability of capital access from banking and cooperatives for SHGs; vii) Continued capacity building and infrastructure support

from relevant agencies (Agriculture, Fisheries, Plantation and Industry); viii) The provision of cooperative legal entities from the Cooperative Office; and ix) Responsible post-program support from local government.

209. It is apparent from this that the project's financial and economic sustainability largely depends on the financial viability of SHG groups, repayment of Revolving Funds and viability of Business Units. While the performance of SHGs has been variable, their improvement in cohesion, confidence and effectiveness over the life of SOLID has been a noteworthy aspect of the Project. However, the capacity of existing SHGs to evolve and grow will depend to some degree on their continuing access to loans which can be funded from the ARFs. While RFL repayment rates are improving (currently 25%), the risk of losing access to this financial resource will undermine future SHG investment sustainability. The 53 Business Units established all have some level of potential, but their viability is constrained by the absence of business planning.

210. The general sustainability of SOLID investments is weakened by the lack of consistent support from District Mayors and Local Government in committing greater local government investment in post closure SOLID.

211. A central factor in economic and financial sustainability is the apparent financial viability of most investments supported by SOLID, as shown in the Economic and Financial Analysis. This provides all stakeholders with a strong motivation to continue operations and activities in the post project scenario.

212. **Environmental Sustainability.** Project investments are not considered to have had any significant negative environment impact. The village and district level investments were small in scale and screened to mitigate environmental impact. The Project did not support any large-scale infrastructure or farming investments. Although SOLID did not have an explicit focus on environmental sustainability, it is contributing to sustainable use of agricultural and natural resources. Through demonstration plots, farmers learn new methodologies and good agricultural practices, for instance effective use of fertilizer and pesticides and mixed cropping. In some cases, precision and organic agricultural practices are being promoted.

213. In summary, environmental sustainability has been enhanced through:

- (a) the switch from shifting to settled agricultural systems;
- (b) promotion and development of organic agriculture to meet market demand;
- (c) mangrove planting to prevent sea water erosion in SOLID villages;
- (d) the reduction of pesticide and herbicide use;
- (e) technical training on compost making at the farm level, and use of compost from cacao waste for vegetable crops;
- (f) re-plantation and rejuvenation of estate crops; and,
- (g) the switch from small-scale mining to the farming sector after SOLID was introduced.

214. The risk of environmental degradation through project activities is very low. Moreover, the emphasis on production of some perennial crops, especially leading to the rejuvenation of cocoa and coconut plantations, will undoubtedly provide significant positive environmental effects in terms of carbon capture, increased biomass and reduced soil erosion.

215. However, there are some continuing potential environmental hazards that have been identified. These have a potential for significant negative impact in localised sites, but as yet there has been little actual impact. Some examples of these potential risks are:

- (a) the use of inorganic fertilizers in areas vulnerable to excessive run-off and subsequent stream and sea-water contamination; and,
- (b) the use of sloping land for crop cultivation, which has the potential to cause excessive soil erosion.

216. **Exit Strategy.** The IFAD Supervision Mission of April 2018 noted that preparation of an exit strategy was not sufficiently advanced, and recommended urgent action be undertaken. Subsequently, the Project has prepared its draft PCR, which does have details of an exit Strategy included. A summary of the main points detailed for the proposed Exit Strategy follows:

- (a) Support of Local Government Budget/ APBD II for sustainability facilitation and other technical facilitation;
- (b) Support of Local Government Budget/ APBD II for SOLID replication in other villages;
- (c) Sustainability of cooperation facilitation through Dinas Koperasi dan UMKM;
- (d) Monitoring of group activities sustainability and business centres by districts;
- (e) Integration of activity with village fund, VDP (Village Development Program) and Bumdes;
- (f) Increasing of marketing network through retail partners, outlets and marketing cooperation with distributors outside the province;
- (g) Support of Local Government (Health Dinas) and Local Indonesian Ulama Council (MUI) for the issuance of licences for SHG's and Business Centre Products.

217. In addition to the above, it is critical for the project to generate the right information and data for the status of the revolving fund from each SHGs, based on their performance category. The data should show the status of RF in

each SHGs which includes the total capital, purposes of fund utilization, repayment rates and savings. This data will be the basis of the project to develop an agreed repayment schedule for each RF, likely to be over 3 years. This will enable a proper exit strategy to ensure sustainability of most RFs. Thus, the overall goal is the sustainability of the RF to the highest level possible.

218. One important aspect of continuing the VF input is the post-SOLID potential to link with the Village Fund programme implemented by Ministry of Village. Socially engaged and empowered SOLID villages would be a logical and reliable starting point for Village Fund activity. It is encouraged that each District starts to include the SOLID group into village plan and explore the possibility to utilize the empowerment allocation under the village fund to recruit the VFs. IFAD is currently preparing a new design with Ministry of Village, Village Development Programme Phase 2. The dialogue with MoV has been to expand the project location to Maluku and North Maluku where it could be possibly linked to continue support to SOLID group. In anticipation of this, the Village facilitators should be given additional training to ensure their continuing relevance and effectiveness as well their likelihood of recruitment by local government post SOLID.
219. Project Completion Workshop. It is recommended that the Ministry of Agriculture/ Centre of Food Availability and Vulnerability convenes a Nation Project Completion Workshop as soon as the final PCR is available. This would be to reflect on project performance, and especially to impart the experience and lessons from the largely positive implementation of SOLID.

H. Lessons learned and knowledge generated

220. The following is a summary of the main lessons, derived from the SOLID PCR, Mission Observations and IFAD implementation experience.
221. (a) *Design Approach for Remote Area Projects* The project experience provides lessons on the design for projects with features suited for remote areas. Several key features that are seen as necessary for projects such as SOLID, are:
- (i) *Village level cooperation and coherence is vital.* There is an important role for village leaders and to cooperate with the village implementation teams for planning, implementation and evaluation of interventions at community level. This is particularly important for commercially oriented interventions and investments. It is also critical that village facilitators and PPL cooperate and coordinate their activities. In addition, they should be equipped with right tools to help facilitation in remote areas where education levels are low and illiteracy common.
 - (ii) *Inclusive Focus on Farmers.* An exclusive focus on poor farmers is counter-productive and reduces the likelihood of good leadership and innovation. This is because more leadership and commercial experience can be provided by those farmers who are more naturally innovative and commercially minded. Project experience shows that it is unlikely that the poorest will have experience in application of innovations of a commercial nature. It is therefore more appropriate to focus on all farmers, including the poor. In any case, there are almost no wealthy farmers in the project area.
 - (iii) *Facilitation and Mentoring.* As far as the mentoring of SHGs, Federation and PRA-based Business Centres is concerned, adequate training prior to their deployment of facilitators/mentors and as well as refresher training periodically during the program implementation is crucial. Both mentoring and facilitation should be carried out more intensively and sustainably by involving champions/activists from the community and village facilitator (PPL/extension workers or local NGOs), who are experienced and have sufficient knowledge on community empowerment.
 - (iv) The need to commence project activities in a cautious manner, developing modalities and models for later replication.
222. The challenges to greater success for both RFLs and FFS was the over commitment of PPLs and the lack of current technical skills. Instead of there being one PPL per village as envisaged, PPLs were supporting 2-3 SOLID villages and as many villages again outside of the project. Further very few PPLs had received meaningful in-service training in the decade prior the SOLID implementation.
- (a) *Project Management and M&E.* Leadership and consistency is crucial and a foundation for strong and stable implementation. This will largely determine the quality of project management, and the capacity of the project management team. These include the need to provide for incentives for high quality project staff and service providers to deliver long-term engagement for the project. The introduction of reward and punishment, for example reducing budget allocation for non-performing districts, should have been considered to improve their performance and obeying the rules of implementation, and this should also form part of the modality for future projects' management. There is a need to avoid complex management structures and focus on strong leadership and capacity of personnel. This should be complemented by clear guidance on project sequencing and clear roles and responsibilities.
 - (b) *Lead Agency Commitment.* SOLID experience indicates the importance of getting strong commitment for the

project from high level officials within the Lead Agency. In its early years, SOLID suffered from high turnover of staff that disrupted the implementation and resulted in inconsistent management.

- (c) *Financial and Procurement Management*. Project performance up until the mid-term review has been constrained by financial management issues and procurement delays. The main reasons for this included poor procurement planning and management by the Project management, insufficient knowledge and experience of the procurement committee of procurement procedures. As noted above, there were major improvements in Project Management after the mid-term review when these constraints were addressed. The lesson is that project management/procurement committee need to be made thoroughly aware of IFAD and GOI procurement requirements from the commencement of project implementation.
- (d) *Value Chain Development*. There needs to be a different approach of introducing value chain concepts and development. It is important to integrate production and value chain activities into one consolidated extension message. Support should be provided incrementally, with clear guidance and constant capacity building to all levels from project managers to the community level. There is a need to provide PPLs with business and financial training to support this. A key message should be that traders and middlemen are a key components of any value chain. They should be encouraged to interact with farmers to build trust and mutual understanding. Coaching and mentoring for agri-business development that should be done in partnership with Private sector, through PPP arrangements.

223. *Local Government Support*. Support from the local government should be secured and monitored. Although MoUs were created between the local government and the Agency for Food Security at the commencement of SOLID, local government support in terms of local funding and stakeholders' coordination were still limited. The MoUs should be renewed every time the regional election takes place to enable continuous local government support and ownership.

224. *Village Institutions Development*. The village level institutions such as SHGs and Federations supported by a project need to have strong social foundations. The experience of SOLID indicates that these factors include: (i) identifying existing trusted leaders with a villager; (ii) enabling them to freely choose their own group members; (iii) allowing them the freedom to discuss their interests, with mentoring from project officials. This will strengthen the participation of each member, encouraging strong internal group cooperation. Thereafter, the groups would be empowered through regular training and field school activities with specific subjects of relevance to the group members. and allow the group to plan and manage of their resources

I. Conclusions and recommendations

225. The Project has achieved most of its targets, especially those that were revised at the mid-term review. The most prominent achievements have included: (i) The revised project target of 26,848 households benefiting through SHGs, as well as the target of 6,750 lead farmers, has been achieved; (ii) Household income from market access for food and cash crops improved significantly, and exceeded the mid-term review target with an income increase of 98% compared with the target increase of 30%; (iii) The project has made important gains in terms of availability of food. It is reported that only 14% of SOLID HHs experience food shortages of three weeks or more annually, compared with 45% of non-SOLID HHs who experience this situation.

226. Moreover, as average monthly cash incomes of SOLID beneficiaries have grown from IDR 242,000 at project commencement to IDR 479,000 in 2018, farmers who had switched to non-staple food production for sale had no difficulty in obtaining their family food requirements through cash transactions;

227. The incidence of infant stunting is greatly reduced, as now, only 6% of children under 5years are stunted, compared with the statistic of 61% with stunting pre-SOLID, of whom most, 60%, had severe stunting. Additionally, HH assets have increased, with 39% of HH reported a large increase in assets, and 38% reported a very large increase due to the impact of the project. The improved assets greatly enhanced HH ability to withstand shocks to their income and production. As a result of the income growth and growth of HH assets, there has been a significant decrease in poverty within the target group;

228. SOLID has facilitated major advances in gender relations, to the point where a person's gender now is not a main driver of perception and impact on the community, farming and business relationships that a person may engage. Rather, it is the quality of the person's participation that is important, irrespective of gender. This is an important finding of the recently concluded 2018 Impact Study.

229. Key Success Factors. There have been a number of key factors that contributed to the improved performance and recent success of SOLID. Those factors are:

- Greatly improved project management and coordination, with consistent deployment of competent personnel, especially since the mid-term review (see para 173 above);
- Re-design at mid-term review;
- Effective recruitment and deployment of VFs;

- More effective extension with respect to improved crop husbandry and management;
- Coherence and mutual support within SHGs membership.

230. The success of the project interventions has greatly enhanced the prospect of substantial replication and scaling-up of project activities. It is therefore recommended that preparation of further success stories, coupled with detailed financial information on the viability of the activities, be prepared and disseminated.

231. It should be noted that the PCR is essentially a document prepared and owned by the Government. The IFAD team provides this detailed revised draft PCR, largely derived from the existing draft PCR, as a resource for use by the SOLID project team and the Government. It is consistent with the accepted IFAD guidelines on format and content. Thereafter, IFAD will provide further personnel resources to provide a final review of the document prior to finalisation and presentation to IFAD.

232. Overall Assessment: The PCR Rating Matrix prepared shows that all criteria for assessment have been assigned a “4” (Moderately Satisfactory) or a “5” (Satisfactory). It is therefore recommended that the project be given an Overall Assessment of “4” (Moderately Satisfactory), with a bias towards being Satisfactory.

Footnotes

[1] Population in Maluku is 1.358 million and 0.995 million in North Maluku. Data from BPS.

[2] A joint effort of *Bappenas*, Ministry Of Agriculture, Ministry of Forestry, and the Ministry of Marine Affairs and Fisheries with FAO.

[3] Project design report.

[4] Note Matching Funds (Rp 18m) were also disbursed to each SHG to ensure social protection.

[5] Average 6 yr. inflation (2013 – 2018) – 5.6% & 5% in Maluku and North Maluku respectively. Source: AOS 2018

[6] PPK is the Deputy of Project Coordinator

[7] The “Food consumption score” (FCS) is a score calculated using the frequency of consumption of different food groups consumed by a household during the 7 days before the survey. There are standard weights for each of the food groups that comprise the food consumption score.

[8] For Indonesia, where consumption of oil and sugar is high, FCS scores are categorized into three groups, namely: poor (0-28), borderline (28.5-42) and acceptable (> 42). <https://www1.wfp.org/publications/comprehensive-food-security-and-vulnerability-analysis-cfsva-guidelines-first-edition> (Chapter 6)

[9] Asset Ownership Index is a proxy for assessing household economic status using asset ownership indicators to replace expenditure indicators for consumption (if not available). The asset ownership index used is the Principle Component Analysis (PCA) method and analyzed by comparing information on the baseline report

[10] Due to failure to recruit Village Facilitators until after MID-TERM REVIEW.

Indonesia

Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 1: Project logical framework

Document Date: 30/07/2019
Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

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Smallholder Livelihood Development Project in Eastern Indonesia

Logical Framework

Results Hierarchy	Indicators							Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Annual Result (2019)	Cumulative Result (2019)	Cumulative Result % (2019)	Source	Frequency	Responsibility	
Outreach	1.a Corresponding number of households reached							Progress Reports	Annual	Project	
	Non-women-headed households										
	Women-headed households										
	Households			33 600							
	1 Persons receiving services promoted or supported by the project							Progress Reports	Annual	Project	
	Females			16 800							
	Males			16 800							
	Total number of persons receiving services			33 600		26 907	80.1				
	Groups receiving project services							Progress Reports	Annual	Proejct	
	Group			2 240							
	1.b Estimated corresponding total number of households members										
	Household members					129 153					
Project Goal To enhance food security and increase incomes in beneficiary household	Households with improvement in HH assets ownership index							Impact Assessments	3 x	project	Project Managers at all levels are effective and engaged in SOLID implementation.
	Households			33 600							
	40% reduction in the prevalence of child malnutrition							Impact Assessments	3 x	project	

Results Hierarchy	Indicators							Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Annual Result (2019)	Cumulative Result (2019)	Cumulative Result % (2019)	Source	Frequency	Responsibility	
	Reduction in the prevalence of child malnutrition			40							
Development Objective Improve livelihoods and to reduce the incidence of poverty	HHs reporting increase in food security							Impact Assessment	Annual	Project	Project Managers at all levels are effective and engaged in SOLID implementation.
	Households			26 880		21 504	80				
	Households					80					
Outcome Communities with enhanced capacity for households food security and agriculture income planning											
Output SHGs capable of managing and sustaining group resources (both human & financial)	SHG trained and operational							Progress Reports	Annual	Proejct	Facilitation NGO operational by 1.11.14; VFs are respected and effective in facilitating the CD process; PPLs and VFs work together effectively
	SHG trained and operational			2 240							
Output SHGs capable of planning and implementing their production and post-harvest activities	Village/community plans formulated							Project	Annual	project	Facilitation NGO operational by 1.11.14; VFs are respected and effective in facilitating the CD process; PPLs and VFs work together effectively
	Plan			330							
	Community groups with women in leadership position							RIMS	Annual		
	Groups with women in leadership position			850							
	People in saving and credit groups formed/strengthened							RIMS	Annual	Project	
	Males			16 800							
	Females			16 800							

Results Hierarchy	Indicators							Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Annual Result (2019)	Cumulative Result (2019)	Cumulative Result % (2019)	Source	Frequency	Responsibility	
	People accessing advisory services facilitated by the project							RIMS	Annual	Project	
	Males			16 800							
	Females			16 800							
	1.1.5 Persons in rural areas accessing financial services							RIMS	Annual		
	Women in rural areas accessing financial services - credit			16 800							
	Total persons accessing financial services - savings										
	Total persons accessing financial services - credit										
	Saving groups formed/strengthened							Progress Reports	Annual	Project	
	Saving groups			2 240							
	50% HHs reporting regular market sales of food and cash crops										
	Households			50							
	75% of HHs reporting 30% increase in annual cash income from sale of food and cash crops										
	Households			75							

Results Hierarchy	Indicators							Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Annual Result (2019)	Cumulative Result (2019)	Cumulative Result % (2019)	Source	Frequency	Responsibility	
Outcome Households with more food and cash crops available for both home consumption and/or sale	50% HHs reporting regular market sales of food and cash crops							Annual Outcome Survey	Annual	Project	Adequate support provided by NGO, extension staff (PPL), traders and SOLID Project District Staff. Favourable seasons & growing conditions (pest, disease, drought).
	Households			50							
Output Increase in household income as a result of increased sales of agricultural products.	75% of HHs reporting 30% increase in annual cash income from sale of food and cash crops.							Outcome Surveys	3 x	Project	PPLs actively engaged in implementation; PPLs equipped with full set of skills; Farmers actively engage in activities; S&L funds operate transparently for all members with borrowers willing to repay loans in full, on time.
	Households			75							
	1.1.4 Persons trained in production practices and/or technologies							Progress Reports	Annual	Project	
	Women trained in crop			16 800							
	Men trained in crop			16 800							
	Total persons trained in crop			33 600							
Outcome Increased household incomes from sales of 3 selected estate crops (coconut, cacao & nutmeg)	50% of village crop producers reporting a 20% increase in monthly cash income from sale of estate crop related products							Annual Outcome Survey	Annual		Market stability in 3 selected VCs.
	Village crop producers (SHGs)			1 120							
Output Farmers with improved market linkages & understanding of market requirements	2.1.5 Roads constructed, rehabilitated or upgraded							RIMS	Annual		
	Length of roads			330							
	2.1.2 Persons trained in income-generating activities or business management							RIMS	Annual		
	Females			16 800							

Results Hierarchy	Indicators							Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Annual Result (2019)	Cumulative Result (2019)	Cumulative Result % (2019)	Source	Frequency	Responsibility	
	Males			16 800							
Output Federations established as sustainable business units with capacity to represent farmer interests in the market place and/or add value to any or all of the 3 selected products	2.2.3 Rural producers' organizations engaged in formal partnerships/agreements or contracts with public or private entities							Progrees Reports	Annual	Project	Market stability in 3 selected VCs.
	Number of POs										
	Women in leadership position										
	2.1.3 Rural producers' organizations supported							Progress Reports	Annual	Project	
	Rural POs supported										
	Females										

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Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 2: Summary of amendments to the financing agreement

Document Date: 30/07/2019
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Appendix 2: Summary of amendments to the financing agreement

1. **February 2017:** The FA was amended to reflect the changes suggested by the MTR mission as described in section C.3 of this report.
2. **August 2017:** The FA was amended in order to redistribute the unallocated funds (budget Category VII) to different expenditure categories. The same amendment reduced the budget allocation for consultants and NGO services which was redistributed to categories I (Civil works), II (equipment and materials), III (capacity building) and IV (matching funds).

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Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 3: Actual project costs

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Appendix 3: Actual Project costs

Table 1. Loan funds utilisation (SDR)

No.	Category Description	Allocated Loan	Disbursement	%	Available Balance
	Designated loan account - initial deposit	-	1 937 279.73		(1 937 279.73)
I	Civil works	4 550 000.00	4 301 539.62	95%	248,460.38
II	Vehicles, equipment and materials	5 175 000.00	4 799 444.35	93%	375,555.65
III	Capacity building, studies and workshops	8 950 000.00	7 670 384.92	86%	1,279,615.08
IV	Matching funds	7 625 000.00	7 445 846.72	98%	179,153.28
V	International consultant	-	-	-	179,153.28
VI	Local consultant and NGO services	4 000 000.00	2 974 796.51	74%	1,025,203.49
TOTAL		30 300000.00	29 129 291.85	96%	1,170,708.15

Table 2. Grant Funds Utilisation (SDR)

No.	Category Description	Allocated Grant	Disbursement	%	Available Balance
	Designated grant account - initial deposit	-	114 675.18		(114 675.18)
I	Capacity building, studies and workshops	526 000.00	362 733.53	69%	163 266.47
II	International consultant	65 000.00	64 574.22	99%	425.78
III	Local consultant and NGO services	84 000.00	81 857.97	97%	2 142.03
TOTAL:		675 000.00	623 840.90	92%	51 159.10

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Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 4: Project internal rate of return (detailed analysis)

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Appendix 4: Project internal rate of return (detailed analysis)

A. Introduction and Background

1. The Smallholder Livelihood Development Project in Eastern Indonesia (SOLID) was approved by IFAD's Executive Board in May 2011 and the loan closing date is 31 July 2019. The objective of the Project is to improve the livelihoods (incomes and food security) and reduce the incidence of poverty for people in the targeted villages both in Maluku and North Maluku Province. Pre mid-term review, the Project had five components: (i) community empowerment; (ii) productivity improvement and integrated farming systems; (iii) value chain development and marketing; (iv) productive rural infrastructure investment; and (v) institutional strengthening and Project management. This was reduced to four components at Mid-Term Review, namely: (i) Community Development and Gender; (ii) Support for Agriculture Production and Marketing; (iii) Support for Estate Crops Value Chains Development and Marketing; and (iv) Project Management. The expected outcomes of the project were: (i) village institutions and self-help groups and unions functioning effectively; (ii) target group farmers using improved, sustainable production systems and low levels of purchased inputs; (iii) target communities using improved natural resource management systems; (iv) self-help groups (SHGs) and unions/Federations operating as successful elements of the value chains for the targeted commodities; (v) improved small-scale infrastructure available in the target villages with the community organisations undertaking their operation and/or maintenance; and (vi) Project completion on time and within agreed budget.
2. The total budget of SOLID project is US\$65 million, consisting of US\$14.81 million of Government of Indonesia (GoI) budget, US\$49.11 million of IFAD loan, and US\$1.08 million of IFAD grant. Post Mid-Term Review project financing remaining was US\$43.1 million, consisting of an IFAD loan of US\$28.06 million, an IFAD grant of US\$0.8 million and a contribution by the Government of Indonesia of US\$14.23 million.
3. The project covers two provinces in eastern Indonesia, namely Maluku and North Maluku provinces. In Maluku province, the project implemented in five (5) districts of Central Maluku, West Seram, East Seram, Buru and Buru Selatan, while in North Maluku province it is executed by six (6) districts of East Halmahera, South Halmahera, West Halmahera, North Halmahera, Halmahera Tengah and Sula Island. Until November 2018, the project has established 2,240 Self-Help Groups (SHGs) and benefited around 33,600 household in 224 villages. The project has benefited the SHGs and households mostly in terms of capacity development, technical skill and capital support.
4. The main project goal is to enhance food security and increase incomes in beneficiary households (HH), by fulfilling its objectives on improving livelihoods (both food security and income) and reducing the incidence of poverty (by providing poor farmers with sustainable access to appropriate technologies, management skills and commercial linkages). The realization of project objective is made through the four outcomes: (i) communities with enhanced capacity for HH food security and agriculture income planning; (ii) HHs with more food and cash crops available for both home consumption and/or sale; (iii) increased household incomes from sales of 3 selected estate crops (coconut, cacao & nutmeg); and (iv) effective implementation and monitoring of SOLID. These outcomes are directly linked to the four components of SOLID projects as mentioned above.
5. Village Implementation Team. Village Implementation Teams (VITs) were formed in each village, consisting of 5 people, from Extension Workers elements, Village Facilitator-NGOs, village marketing cadres or Village Commercial Officer (VCO), food crop farm contact and estate crop farm contact or Farm Facilitators (FFs). Marketing cadres, food crop farm contacts as well as estate crop farm contact are proposed from SHG members or administrators or federations or community leaders in the villages who have the ability, experience, extensive relationships and

- entrepreneurial spirit, understand agriculture, and take part in providing services to community members in their village.
6. Referring to the impact study on SOLID activities that measure: how much impact has been achieved by Activities with indicators of changes in asset ownership, food security, and nutritional status of children under 5 years of age, and generally measuring the level of welfare of beneficiaries of Activities. Indicators of success as outlined in the Project Logical Framework: (i) an increase in the asset ownership index in 33,600 households, and (ii) a decrease in the prevalence of malnutrition in children by 40%.
 7. Social Capital and Empowerment. SOLID activities have been able to build the collective capacity of the poor, strengthen local organizations and non-governmental organizations, promote gender equality. Therefore, SOLID beneficiary households can interact more fairly, negotiate more effectively, so that they can improve their power. SOLID activities also directly have an impact on increasing women's participation in family economic activities. Institutions and Services. SOLID activities are carried out by providing community capacity building and providing facilities / infrastructure assistance through a container of independent groups (KM) and federations. The community as SOLID beneficiaries are incorporated as members of KM and in groups improve agricultural technical capabilities and managerial abilities in managing KM and assistance from SOLID. SOLID assistance facilities / infrastructure are managed by the federation and can be utilized by KM members with certain rules. However, most federations do not have written rules regarding the rules of the use of facilities / infrastructure owned. They are told atura in the use of assistance facilities / infrastructure but have not made their own rules on how assistance is used. At present the utilization of facilities / infrastructure is running well enough, although there is no written agreement that has been mutually agreed upon.
 8. Distribution of Revolving Funds for Agricultural Production Enterprises. The revolving fund for agriculture or the Agriculture Revolving Fund (ARF) has been allocated since 2015 and is given to SHG members who are 2 years old, and are prepared with business plans for production, post-harvest handling and / or processing of products. The amount of the fund is approximately IDR. 20,000,000, which can be utilized for maximum consumer needs of 20%, and for strengthening the capital of production, post-harvest, processing of food/horticulture and Estates commodities by 80%. This revolving fund is provided for hatchery activities, nurseries, purchasing production facilities (seeds, seedlings, fertilizers, pesticides) and simple equipment needed by SHG members. On average each SHG member gets the opportunity for a revolving fund of IDR. 1,500,000. For those who do not have farm land, they have the opportunity to do agricultural products processing business. For trading business or non-agricultural processing, they could utilize 20% of their loan, while the other 80% must be for agricultural production. Competition among members is created so that business motivation develops. Loan management is flexible according to the conditions and agreement of SHG members.
 9. Training. Extension Workers and NGOs-Village Facilitator are given technical training in production, post-harvest, processing of products including the use of machinery and equipment for food/horticultural commodities and Estate commodities. Training material depends on the results of identification of training needs by adjusting the priorities of business development carried out by SHG members. Trainers can be asked from relevant technical agencies, including research institutions, universities and partner companies or other non-governmental organizations that have expertise in their fields.
 10. Equipment. The SOLID program provides 1-2 types of supporting tools for production, post-harvest or product processing activities, as examples or models that can be used jointly from several groups that join according to the choice of similar commodities. For example the purchase of a multipurpose threshing machine (power thresher) will be used by 3-5 SHGs which some of its members cultivate grains commodities such as rice, corn and / or beans. Procurement of these equipment is flexible depending on the type of commodity that is sought

by SHG members and is only allocated to one package per village which can be bought more than one type of equipment.

11. Marketing. Marketing services produced by SHG members are facilitated by village marketing cadres who are members of the VITs, for food and horticultural commodities as well as Estate commodities. Marketing cadres help each SHG member by organizing and connecting to traders or entrepreneurs to make sales transactions for SHG members. Marketing cadres provide guidance and service on product demand information, price information, including product criteria that are market demanded and promote the production of SHG members by establishing extensive relationships with marketing networks, both inside and outside the target villages.
12. It was reported in Final Impact Study of SOLID activity, following the updated Logical Framework, the success indicators were set that in December 2018, the Activity should result in (i) an increase in the asset ownership index in 33,600 households, and (ii) a decrease in the prevalence of malnutrition in children by 40%. The impact study reveals that there was an increase in the ownership index of the SOLID beneficiary household assets during the impact study compared to the baseline survey. It was also reported that the asset ownership index in Maluku Province was 49% higher than the baseline of 31% and in North Maluku Province 57% higher than at the baseline of 43%. The report ensured that asset ownership index in a number of SOLID beneficiary households has been achieved.
13. Accessibility to the market is essential in SOLID activity. The impact study concluded farmers and SHGs have experienced improvement in the quality of market access, that shows overall percentage of households that stated that "easy" market access increased from 11% at the time of the baseline survey to 17% at the time of the survey and the percentage of households that stated that market access was "sufficient" increased from 18% at the time of the baseline survey to 36% when impact studies were carried out. Beside accessibility to the market, all SOLID activities should improve accessibility to obtain information on the product types as well as prices of the products being traded. This would be a reference for SOLID beneficiaries to determine the commodity to be cultivated.
14. Economic and financial analysis was calculated using all benefits resulted from SOLID activity. The analysis has indicated that SOLID activities have benefited targeted households. It was calculated SOLID activities provide great benefits through increasing agricultural production at target villages. The economic and financial analysis indicated that SOLID activities were feasible. It was resulted both FIRR and EIRR have values greater than the normal interest rate of 12%, positive NPV, and B/C ratio greater than 1. As the economic life of SOLID project is expected for 15 years, the following section will present the EFA applying discount rate of 10 percent throughout 15 years of project cash flow.
15. The following section will provide economic and financial analysis during 15 years of economic life and observe the sustainability of SOLID project. It will also discuss SOLID activities from production and market model approach to observe the changes in economic and financial indicators assuming there are some improvement in production management and market accessibility.

B. Approach, Assumptions and Data

B.1. Approach

16. In rural development perspective, SOLID projects aim to increase access financial services by smallholder farmers, their families and other off-farm rural small and microentrepreneurs. Financial services include short-term productive loans such as Revolving Fund (RF) and Matching Fund (MF). SOLID interventions in rural finance enhance access by poor rural people to such services to improve livelihoods and to foster local economic development. Financial and economic analysis is implemented in order to observe whether the SOLID project and its

interventions has resulted the improvement of the livelihood of the small farmers (beneficiaries) as well as expected return to Government.

17. Financial and economic analyses serve two different purposes. The financial analysis is used to document a reasonable expected return on investment to prospective investors. The economic analysis is used to document that the project is a net benefit to society as a whole – this is especially interesting in relation to public investments. A financial analysis estimates the profitability of a project, from an investor's perspective. In a financial analysis one compares the costs of the project to the expected revenue over the project lifespan. This includes costs of financing and taxes/subsidies. The financial analysis must consider the market demand for the products, how tariff regimes function for each product, and how this will affect the cash flow. The revenue consists of sale of one or more production outputs. The goal of the financial analysis is to demonstrate the ability of the project to generate a sufficient return on investment to be interesting for investors. The results of the financial analysis are typically presented as the Net Present Value and the Internal Rate of Return. Investors will also be interested in the Debt Service Coverage Ratio to assess the financial risk of the project.
18. An economic analysis takes a broader view of the profitability of the project. In an economic analysis, one includes external effects such as environmental impacts and health impacts. The value of external effects is typically assigned using economic opportunity costs or shadow prices. An economic analysis does not include taxes, tariffs, subsidies, etc. These costs do not add to economic productivity and are merely transactions between entities within the economy. An economic analysis is always a comparison between a base case (or reference scenario) – the expected present and future situation without the project – and the project alternative. Without this comparison, it would be impossible to assess whether the external effects are an improvement or not. The term "benefit" is used in an economic analysis it refers to the change in external effects that can be attributed to the project. The goal of the economic analysis is to demonstrate that the project is a net gain for society. This is typically mandatory whenever there is an element of public financing or regulation, e.g. tariffs. Economic analysis is also more and more frequently being used to brand private investments as being socially responsible. The importance of this type of analysis varies significantly with the project size.
19. Approach used in this economic and financial analysis is Production and market model by performing sensitivity analysis that assesses the impacts of uncertainty/risk by varying one or more uncertain parameters at a time. Sensitivity analysis was performed to observe the impact of these variations on the results of the financial and economic analyses in order to identify whether there is the greatest sources of risk or benefit in the project. In this section, some parameters will be explored in sensitivity analyses are the following: (i). Investment costs, (ii) expenditures (changes in crop management), (iii) selling price of crops and (iv) potential benefit from SOLID activity.
20. B.2. Assumptions
21. As reported in Impact Analysis Study, SOLID activity was difficult to identify due to: (1) current project databases that do not include any classification of groups by commodity/activity, (2) outcome indicators, such as technology adoption rates, increases in yields or sales volumes are not being monitored. It is unlikely to conduct a conventional economic and financial analysis which needs to include a number of identified financial parameters in the analysis. Other reasons are a number of unknown parameter - such as the exact cropping patterns and farmer's profiles in a project area that was yet to be defined - and demand driven nature of the project. By December 2018, there have been 2,240 SHG and 224 federations from 224 villages were established and trained, and a number of matching grants has been disbursed, however, the impacts of all these activities in farmer's livelihoods remain uncertain, as M&E system that does not provide any pertinent data. The demand- driven nature of SOLID still stands: SHG and federations could choose any mix of crops, equipment, post-harvest facilities and infrastructure that suit their individual and collective need.

22. Financial and Economic Analysis. Benefits obtained as a result of SOLID activities were classified into 2 categories, namely direct and indirect benefits. Direct benefits are all benefits that are directly generated by SOLID activities either as a result of activity activities that are directly aimed at producing these benefits or not. Which include direct benefits including (a) increasing production, (b) decreasing production costs, (c) increasing knowledge, (d) adoption of technology, (e) decreasing marketing costs, (f) increasing added value, (h) increasing prices selling and others that ultimately increase people's income; (ii) Non-direct benefits are all benefits that are indirectly generated by SOLID activities either as a result of activity activities that are directly aimed at producing these benefits or not. The indirect benefits include (a) improving the quality of the environment, (b) increasing the independence of the community, (c) improving the quality of public and social facilities, (d) improving the quality of market services, (e) building trust in financial institutions with the community, (f) a decrease in the dependence of the community on brokers / bondholders and others. In general, SOLID activities provide great benefits for increasing agricultural production of communities in the target villages.
23. Economic and financial analysis is conducted using data on Table 6 and Table 7 of PCR. In this study, economic internal rate of return (EIRR), Net Present (NPV) model, Benefit to cost ratios (BCRs) and financial internal rate of return (FIRR) were calculated. Data presented including: Solid Investment, Expenditures and the project benefit. There is no detail explanation or source of data to calculate the benefit for each crop, i.e., amount of crop production and its selling price. Detail data on the business profit per commodity per individual/ group/ federation were not available in the report. Cash flow of investment ere available from the analysis was conducted applying: (i) discount rate of 10%, (ii) time span 15 years (2011- 2026); (iii) annual SOLID investment up to 2018; (iv) tax rate of 10%.

B3. The Data

Table 1: SOLID investment budget

Composition of SOLID budget	US\$ million	in %
GOI	14.81	22.78
IFAD loan	49.11	75.55
IFAD grant	1.08	1.66
	65.00	100.00

Benefits and Beneficiaries

24. Key project benefits targeted from SOLID investment were (i) enhanced community empowerment, (ii) increased crop yields following the use of improved management techniques, and (iii) higher commodity prices due to better quality of production and some value addition. Other target benefits were also enhancing food security and nutrition benefits, developing effective and inclusive value chains that enabled farmers to maximize their profits especially from estate crop commodities. Overall, the project would improve household's livelihoods, both in terms of incomes and food security, and reduce the incidence of poverty (Table 1) In accordance with the second phase design of SOLID, the target number of Independent Groups (KM) formed was 2,240 km in 224 villages. The details are available districts in North Maluku and Maluku as presented in Table 2.
25. The total number of beneficiaries has been modified from the appraisal target (29,500 households). More focused project interventions following the new design will require more resources be invested in each of the 108 existing villages plus the additional 106 that will be incorporated in 2014. Therefore, Phase II will consider SHGs expansion within the existing villages but not geographical expansion. SOLID will continue to support 14,280 members of 952 existing SHGs and 476 SHGs included in 2014 and will create 812 additional groups in 2015-2018. These figures add up to 2,240 SHGs and 33,600 households that will mainly be

supported through components one and two. In addition, there will be a number of non-SHG members and non-poor households benefiting directly from component 3 – estimated to be about 6,750 lead farmers. Thus, total target beneficiaries are estimated at 40,350 households

Table 2. Realization of the number of beneficiaries of SOLID activities in North Maluku Province and Maluku Province.

No	District	Beneficiaries												
		KMW		KMP		KMC			TOTAL KM				Federation	
		KM	Mbrs	KM	Mbrs	KM	Members		KM	Member			Staff	
							Women	Men		Woman	Men	Total	Woman	Men
	Maluku Utara													
1	Halmahera Tengah	80	820	66	692	54	274	273	200	1,094	945	2,039	20	40
2	Halmahera Utara	59	739	52	665	88	537	538	199	1,276	1,203	2,479	25	34
3	Halmahera Timur	76	772	42	414	64	363	301	182	1,135	715	1,850	32	28
4	Halmahera Selatan	67	716	61	623	69	398	342	196	1,114	965	2,079	22	38
5	Halmahera Barat	69	693	43	410	81	449	353	193	1,142	763	1,905	43	56
6	Kepulauan Sula	43	487	38	427	105	576	505	186	1,063	932	1,995	30	27
	Total	394	4,227	302	3,231	461	2,597	2,312	1,156	6,824	5,523	12,347	172	223
	Maluku													
1	Maluku Tengah	109	1,635	80	1,172	91	593	772	280	2,335	1,865	4,200	29	82
2	Seram Barat	57	734	58	737	105	648	572	221	1,382	1,309	2,691	114	134
3	Seram Timur	49	693	58	710	79	472	606	185	1,161	1,334	2,495	21	27
4	Buru	71	1,053	60	881	89	630	660	220	1,683	1,541	3,224	340	452
5	Buru Selatan	26	390	20	300	84	572	688	130	962	988	1,950	32	65
	Total	312	4,505	276	3,800	448	2,915	3,298	1,036	7,523	7,037	14,560	536	760
	Grand Total	706	8,732	578	7,031	909	5,512	5,610	2,192	14,347	12,560	26,907	708	983

26. Based on the results of the 2017 Annual Outcome Survey, the initial participation of farmers in SOLID activities varied, but most of them joined the SOLD Activities in 2014 (26.4%) and 2014 (24.1%). Most farmers (92%) were involved or participated in SOLID activities during the past year.

Table 3. Total matching fund (MF) and revolving fund (RF)

No.	District	KM	Households	Total Matching Fund (IDR)	Total Revolving Fund (IDR)
1	Halmahera Tengah	200	2,039	3,600,000,000	8,000,000,000
2	Halmahera Utara	199	2,422	3,582,000,000	7,960,000,000
3	Halmahera Timur	181	1,864	2,673,000,000	7,280,000,000
4	Halmahera Selatan	196	2,079	3,399,503,750	7,840,000,000
5	Halmahera Barat	193	1,905	3,474,000,000	6,755,000,000
6	Kepulauan Sula	186	1,965	3,330,000,000	7,440,000,000
Total					
	IDR 65,333,503,750	1,155	12,274	20,058,503,750	45,275,000,000

Table 4. Value Chain Commodity Priority Crops for Provinces and Districts

North Maluku						Maluku					Rank		
South Halmahera	West Halmahera	East Halmahera	Central Halmahera	North Halmahera	Sula Island	Central Maluku	West Serum	East Serum	Buru	South Buru	Key Estate Crop		
Main Commodities with Value Chain Potential											Coconut	Cacao	Nutmeg
Cassava	Coconut	Coconut	Nutmeg	Banana	Coconut	Cacao	Coconut	Coconut	Cacao	Coconut	6	2	1
Banana	Banana	Cassava	Coconut	Maize	Cacao	Clove	Banana	Cacao	Coconut	Cassava	2	2	
Coconut	Cassava	Peanut	Maize	Coconut	Cashew	Nutmeg	Peanut	Nutmeg	Peanut	Banana	2		2
Minor Commodities with some Value Chain Potential											10	4	3
Maize		Maize		Cassava	Clove	Vegies	Long bean	Clove	Vegies	Cacao	first	second	third
Nutmeg		Clove		Nutmeg	Nutmeg	Root crops	Cacao	Sago	Mel oil	Clove			
Cabbage		Paddy		Clove	Coffee		Sago			Hotong			
Clove		Nutmeg		Cabbage	Sago		Coconut			Root crops			
		Soya bean		Sago	Banana					Campada			
		Banana		Peanut	Cassava					Nutmeg			
		Cabbage		Paddy	Vegies					Peanut			
		S. potato			Cassava					Long bean			
		Sago			Red onion					Tomato			

Coloured cells indicate the three key estate crops - coconut, cacao and nutmeg

Source: Table 11, page 25, SOLID's 2013 Annual Report.

C. Production and Market Models

27. The production and market model calculates production, damage and monitoring and control variables based on the information added to the model. Production and market model is based on sustainability principles as well as national and regional self-sufficiency. Production and market model that should be encouraged for in this analysis:
 - (i) control in market price of estate crops
 - (ii) increasing the yield of annual crops by improving crop management, e.g., the use of technology, training, farm improvement, etc.
 - (iii) improvement on traders and middlemen are a key components of the value chain by interacting with farmers and building trust and mutual understanding.
 - (iv) Coaching and mentoring for agri-business development that should be done in partnership with Private sector, through PPP arrangements.

D. Economic Analysis

28. Economic Analysis is carried out by looking at all economic benefits generated during SOLID activities which include direct benefits and indirect benefits. Direct benefits generated includes increasing income and increasing food security and unseen benefits, namely increasing knowledge and skills and other benefits such as ease of access, time efficiency, reduced costs and more. Indirect benefits include improving toddler nutrition, decreasing cases of malnutrition and other benefits such as increased education and environmental benefits.
29. Based on the results of a survey conducted in the Final Impact Study of SOLID Activities, some direct benefits received by the community were obtained in the form of:
 - Increased production,
 - Decrease in production costs,
 - Increasing knowledge,
 - Technology adoption,
 - Decrease in marketing costs,
 - Increased added value,
 - Increased selling prices and others which ultimately increase people's income.
 - In addition, SOLID activities also provide indirect benefits to the community in the form of:
 - Education improvement
 - Improving the nutritional quality of toddlers
 - Improving environmental quality,
 - Increased community independence,

- Improving the quality of public and social facilities,
- Improving the quality of market services,
- The building of trust in financial institutions with the community,
- Decreasing dependency on middlemen / bonded labour and others.

30. The following tables present the result of estimating EIRR and FIRR for SOLID investment. The analysis shows that calculating cash flows for 15 years, both FIRR and EIRR have values greater than the normal interest rate of 10%, positive NPV, and B/C ratio greater than 1, therefore, investment in SOLID activities is economically and financially feasible.

Table 5. Estimation of EIRR and FIRR on SOLID investment

Variable	Economic internal rate of return (EIRR)	Financial internal rate of return (FIRR)
Discount rate (5)	10	10
Tax (%)	10	-
Life span	15	15
NPV up to 2026	IDR 358,402,913,257.54	IDR 443,691,034,014.03
B/C ratio	5.99	7.31
IRR	41.1%	58.07%

E. Sensitivity Analysis

31. The Sensitivity analysis is carried out to observe the effect of yield changes (-10%), prices (-10%) and annual costs (+ 10%) on cocoa and copra crops on NPV, IRR and B/C ratio. The results of sensitivity analysis of the above factors are presented in the following table.

Table 6. Changes to the IRR, NPV and B/C ratio on cocoa and coconut crops.

No	Crops*	Current price	Changes in			IRR (%)		NPV		B/C ratio	
			Selling price (-)	Annual cost (+)	Yield (-)	before	after	before	after	before	after
1	Cocoa	15000	10%	10%	10%	37.00%	27.00	128,140,011.00	81,731,868.86	3.63	2.11
2	Copra	2500	10%	10%	10%	94.00%	77.00	25,097,973.77	16,673,575.22	1.99	1.20

*calculation presented on "cocoa recalculation-1" and "coconuts recalculation-1" sheets

32. Sensitivity analysis for annual crops, e.g. corn, peanut, soybean and rice plants were carried out to see the effect of changes in the price of crops that had experienced "improved crop management" treatment. Sensitivity is measured by comparing the B/C ratio of "improved crop management" with the B/C ratio if the selling price decreases by 10% for each plant.

Table 7. Changes to the IRR, NPV and B/C ratio on Annual Crops with price changes.

No	Crops*	Yield		B/C ratio		Incremental	
		Price	Change in price (-10%)	Before price decrease	After price decrease	Gross Margin	B/C ratio
1	Upland Rice	6,000	5,400	3.96	3.56	4,220,000	8.28
2	Maize	4,500	4,050	2.85	2.56	5,241,500	12.19
3	Groundnuts	8,000	7,200	1.74	1.57	3,312,500	7.28
4	Soybean	3,300	2,700	1.25	1.12	691,000	2.59

*calculation presented on "annual crops-price" sheet. The figures were presented in yellow, purple and blue filled colour respectively

33. Sensitivity analysis on maize, peanut, soybean and rice plants were carried out to see the effect of yield changes (with variations in the percentage of each crop) on crops that had experienced "improved crop management". Sensitivity was measured by comparing changes in B/C ratio after a decrease in yield for each plant.

Table 8. Changes to the IRR, NPV and B/C ratio on Annual Crops with Yield changes.

No	Crops*	Yield		B/C ratio		Incremental	
		Yield	Change in yield	Before yield decrease	After yield decrease	Gross Margin	B/C ratio
1	Upland Rice	1250	25.00%	3.96	2.97	2,420,000	5.17
2	Maize	2000	32.00%	2.85	1.94	3,081,500	7.58
3	Groundnuts	2200	16.70%	1.74	1.45	2,672,500	6.07
4	Soybean	1200	20.00%	1.25	1.00	316,000	1.73

**calculation presented on "annual crops" sheet. The figures were presented in yellow, purple and blue filled colour respectively*

Table 9. Sensitivity Analysis on the change of price of Annual Crops (per ha)

Crop	Upland Rice				Maize				Groundnuts				Soybean			
	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost
Without Project																
Inputs																
Seed	kg	7,000	40	280,000	kg	4,500	18	81,000	kg	10,000	18	180,000	kg	8,500	15	127,500
Pesticide	packets	15,000	0	0	packets			0				0	packets			0
Ploughing	day	265,000	2	530,000	day	265,000	2	530,000	day			0	day			0
Labour	day	40,000	41	1,640,000	day	40,000	60	2,400,000	day	40,000	120	4,800,000	day	40,000	61	2,440,000
Total Inputs				2,450,000				3,011,000				4,980,000				2,567,500
Output	kg	6,000	1,000	6,000,000	kg	4,000	800	3,200,000	kg	8,000	600	4,800,000	kg	3,000	750	2,250,000
Gross Margin				3,550,000				189,000				-				-
B/C Ratio: 1				2.45				1.06				180,000				317,500
												0.96				0.88
With Project																
Inputs																
Seed	kg	15,000	40	600,000	kg	9,000	18	162,000	kg	15,000	18	270,000	kg	8,500	15	127,500
Pesticide	packets	15,000	4	60,000	packets	12,500	15	187,500	packets	43,750	10	437,500	packets	85,000	0	34,000
Ploughing	day	265,000	2	530,000	day	265,000	2	530,000	day			0	day			0
Labour	day	40,000	46	1,840,000	day	40,000	65	2,600,000	day	40,000	120	4,800,000	day	40,000	71	2,840,000
Total Inputs				3,030,000				3,479,500				5,507,500				3,001,500

Crop	Upland Rice				Maize				Groundnuts				Soybean			
	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost	Unit	Cost per unit	No. of unit	Total Cost
Output	kg	6,000	2,000	12,000,000	kg	4,500	2,200	9,900,000	kg	8,000	1,200	9,600,000	kg	3,000	1,250	3,750,000
Gross Margin				8,970,000				6,420,500				4,092,500				748,500
B/C Ratio: 1				3.96				2.85				1.74				1.25
Incremental Gross Margin				5,420,000				6,231,500				4,272,500				1,066,000
Incremental B/C Ratio :1				10.34				14.30				9.10				3.46
Sensitivity Analysis Reduced with Project Yield																
Output	kg	5,400	2,000	10,800,000	kg	4,050	2,200	8,910,000	kg	7,200	1,200	8,640,000	kg	2,700	1,250	3,375,000
Gross Margin				7,770,000				5,430,500				3,132,500				373,500
B/C Ratio: 1				3.56				2.56				1.57				1.12
Incremental Gross Margin				4,220,000				5,241,500				3,312,500				691,000
Incremental B/C Ratio :1				8.28				12.19				7.28				2.59

Table 10. Sensitivity Analysis on change of yield of Annual Crops (per ha)

Crop	Upland Rice				Maize				Groundnuts				Soybean			
	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost
Without Project																
Inputs																
Seed	kg pack	7,000	40	280,000	kg pack	4,500	18	81,000	kg pack	10,000	18	180,000	kg pack	8,500	15	127,500
Pesticide	ets	15,000	0	0	ets			0	ets			0	ets			0
Ploughing	day	265,000	2	530,000	day	265,000	2	530,000	day			0	day			0
Labour	day	40,000	41	1,640,000	day	40,000	60	2,400,000	day	40,000	120	4,800,000	day	40,000	61	2,440,000
Total Inputs				2,450,000				3,011,000				4,980,000				2,567,500
Output	kg	6,000	1,000	6,000,000	kg	4,000	800	3,200,000	kg	8,000	600	4,800,000	kg	3,000	750	2,250,000
Gross Margin				3,550,000				189,000				-180,000				-317,500
B/C Ratio: 1				2.45				1.06				0.96				0.88
With Project																
Inputs																
Seed	kg pack	15,000	40	600,000	kg pack	9,000	18	162,000	kg pack	15,000	18	270,000	kg pack	8,500	15	127,500
Pesticide	ets	15,000	4	60,000	ets	12,500	15	187,500	ets	43,750	10	437,500	ets	85,000	0	34,000
Ploughing	day	265,000	2	530,000	day	265,000	2	530,000	day			0	day			0
Labour	day	40,000	46	1,840,000	day	40,000	65	2,600,000	day	40,000	120	4,800,000	day	40,000	71	2,840,000
Total Inputs				3,030,000				3,479,500				5,507,500				3,001,500
Output	kg	6,000	2,000	12,000,000	kg	4,500	2,200	9,900,000	kg	8,000	1,200	9,600,000	kg	3,000	1,250	3,750,000
Gross Margin				8,970,000				6,420,500				4,092,500				748,500

Crop	Upland Rice				Maize				Groundnuts				Soybean			
	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost	Unit	Cost per unit	No. of units	Total Cost
B/C Ratio: 1				3.96				2.85				1.74				1.25
Incremental Gross Margin				5,420,000				6,231,500				4,272,500				1,066,000
Incremental B/C Ratio :1				10.34				14.30				9.10				3.46
Sensitivity Analysis Reduced with Project Yield																
Output	kg	6,000	1,500	9,000,000	kg	4,500	1,500	6,750,000	kg	8,000	1,000	8,000,000	kg	3,000	1,000	3,000,000
Gross Margin				5,970,000				3,270,500				2,492,500				-1,500
B/C Ratio: 1				2.97				1.94				1.45				1.00
Incremental Gross Margin				2,420,000				3,081,500				2,672,500				316,000
Incremental B/C Ratio :1				5.17				7.58				6.07				1.73

F. Fiscal Analysis

34. The Survey on the Final Impact study has revealed that Factors affecting SOLID sustainability are: i) Regular return of capital / loan funds; ii) Local government support by allocating regional budget to continue assistance, monitoring and evaluation; iii) The activeness and regeneration of SHG management; iv) Continuous mentoring/assistance to ensure that SHG / Federation / Business Centres will continue to run; v) Existence of capital access from banking and cooperatives; vii) Capacity building and infrastructure support from relevant agencies (Agriculture, Fisheries, Plantation and Industry) and the provision of cooperative legal entities from the Cooperative Office; and viii) Post-program responsibility (the local government).
35. PCR survey in December 2018 has observed that engagement between members of the group would influence the sustainability of the group and their business activities. To the extent, group sustainability will affect the financial and economic sustainability (see the following table).
36. Both in Maluku and North Maluku Province, a stable and feasible price of copra (Rp 5,000) are very important. As can be seen from the sensitivity analysis that changes in copra as well as cacao price are sensitive to the performance of NPV, IRR and B/C ratio. A sustainable support from SOLID group of beneficiaries in agricultural business activities, e.g., seeds and other materials procurement, the continuity of village fund support (both MF and RF) as well as accessibility to the market would also influence the sustainability of SOLID investment.
37. Annual crops activities are dominant in North Maluku. Economic and Financial sustainabilities can be seen from: i) the availability of basic food reserves at the farm level due to commodities variation and different planting schedules in each village; ii) the existence of vegetable demonstration plots in each SOLID village as complementary food reserves, etc. A business group of coconut processing (VCO, soap etc.) have influence economic activity of the village due to the widely sales of their products.

G. Conclusions

38. The SOLID project demonstrates strong performance in both Economic and Financial terms. The Economic Analysis is strongly positive, with an EIRR of 41.1%, demonstrating that SOLID has produced excellent returns from this public investment. Similarly, the Financial returns are excellent, with a FIRR of 58.07%. Moreover, the sensitivity analysis shows that the investments are quite robust, and provide a sound basis for improved income generation for the beneficiaries into the future.

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Appendix 5: Environmental social and climate impact assessment (detailed analysis)

Document Date: 30/07/2019
Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

This document will be publicly disclosed unless there is written dissent on its disclosure by the Borrower at the time of this document submission to IFAD or no later than the project closing date.

Appendix 5: Environmental assessment

1. At project design, the SOLID was classified as Environmental Category 'B' and as such no formal Environmental Impact Assessment (EIA) was needed at the inception of the project. This Category B rating has been confirmed during implementation.
2. There have been numerous agricultural business activities facilitated by SOLID that have had the potential to have both positive and negative impact on natural resources and the environment. These activities have been coupled with several initiatives through which the project has contributed to sustainable use of natural resources, and as a result, to environmental enhancement. There is little or no evidence that the project implementation to date has added to environmental risks. On the contrary, several interventions have had specifically positive environmental impacts. These include:
 - (i) Reduction of shifting agriculture, through promotion of effective cropping technology;
 - (ii) Promotion of improved techniques for production on sloping land, including promotion of tree crops;
 - (iii) Promotion of organic and conservation agriculture techniques;
 - (iv) Commercial use of waste products such as coconut shells;
 - (v) Increased bio-mass as a result of promotion of perennial crops.
3. There were some concerns raised during implementation phase which have a potential for significant negative impact in localised sites. Some examples of these potential risks are:
 - (i) the use of inorganic fertilizers in areas vulnerable to excessive run-off and subsequent stream and sea-water contamination; and,
 - (ii) more intensive use of sloping land seasonal crop cultivation, which has the potential to cause excessive soil erosion.
4. As yet, there is little or no discernible impact of these risks. The expectation is that as farmers have now been trained to use environmentally favourable techniques to provide them with sustainable profitable production, they will continue to apply this approach. In the past, it has been a combination of poverty and lack of knowledge that has contributed mostly to environmental degradation.

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Appendix 6: Dates of supervision mission and follow-up missions

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Report No. 5129-ID
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Asia and the Pacific Division
Programme Management Department

This document will be publicly disclosed unless there is written dissent on its disclosure by the Borrower at the time of this document submission to IFAD or no later than the project closing date.

Mission	Date Completed
Supervision Mission 1	25 April 2012 - 12 May 2012
Impl. Sup/Follow Up Mission 1	19 November 2012 - 25 November 2012
Supervision Mission 2	18 November 2012 - 30 November 2012
Supervision Mission 3	22 April 2013 - 07 May 2013
Impl. Sup/Follow Up Mission 2	29 August 2013 - 30 September 2013
Mid-Term Review 1	02 June 2014 - 20 June 2014
Supervision Mission 4	16 March 2015 - 27 March 2015
Supervision Mission 5	23 November 2015 - 10 December 2015
Impl. Sup/Follow Up Mission 3	07 February 2016 - 13 February 2016
Supervision Mission 6	17 October 2016 - 01 November 2016
Impl. Sup/Follow Up Mission 4	14 December 2016 - 16 December 2016
Impl. Sup/Follow Up Mission 5	20 March 2017 - 05 April 2017
Impl. Sup/Follow Up Mission 6	11 October 2017 - 25 October 2017
Supervision Mission 7	16 November 2017 - 29 November 2017
Supervision Mission 8	19 March 2018 - 28 March 2018

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Appendix 7: Terms of Reference of the completions review mission

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Asia and the Pacific Division
Programme Management Department

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Appendix 7: Terms of Reference of the completion review mission

Terms of Reference for Consultants and other persons hired by IFAD to participate in missions under a non-staff contract .

COUNTRY OF ASSIGNMENT/LOCATION: Republic of Indonesia

MISSION NAME: Project Completion Mission for the Smallholder Livelihood Development Project (PCR)

MISSION START AND END DATES: 26 November – 20 December 2018 (in-country, plus report writing)

REPORT TO: Ron Hartman, Country Director Indonesia, APR/PMD

MISSION COMPOSITION:

(Team members full name and specialization)

- Andrew Macpherson, Team Leader
- Tony Ryan, Agriculture Specialist
- Sahat Pasaribu, Sociologist
- Rislina Febriani Sitompul, Economist
- Anissa Lucky Pratiwi, Country Programme Officer
- Muhammad Iskandar, Country Programme Analyst

BACKGROUND:

The Smallholder Livelihood Development Project in Eastern Indonesia (SOLID) was approved by IFAD's Executive Board in May 2011. The Project is jointly funded by an IFAD loan of US\$49.11 million, an IFAD grant of US\$1.08 million and a contribution by the Government of Indonesia of US\$14.81 million. SOLID was approved by IFAD's Executive Board in May 2011 and the loan closing date is 31 July 2019.

The objective of the project is to improve the livelihoods (incomes and food security) and reduce the incidence of poverty for people in the targeted villages in both Maluku and North Maluku. The project has five components: (i) community empowerment; (ii) productivity improvement and integrated farming systems; (iii) value chain development and marketing; (iv) productive rural infrastructure investment; and (v) institutional strengthening and project management. Its expected outcomes are: (i) village institutions and self-help groups and unions functioning effectively; (ii) target group farmers using improved, sustainable production systems and low levels of purchased inputs; (iii) target communities using improved natural resource management systems; (iv) self-help groups and unions/federations operating as successful elements of the value chains for the targeted commodities; (v) improved small-scale infrastructure available in the target villages with the community organisations undertaking their operation and/or maintenance; and (vi) project completion on time and within agreed budget.

The project management team has been preparing for project exit and completion, including through a set of workshops, assessments and studies. Knowledge products have been developed. While it is the Government's responsibility to prepare the Project Completion Report (PCR) IFAD will be fielding a mission to support validation and finalisation of that report.

MISSION OBJECTIVES AND OUTPUTS:

The Mission will support the implementing agency in validating and reviewing the project completion review and report. It will assess the performance of SOLID in a number of areas, as defined in IFAD's guidelines for project completion reporting. All ratings will be based on sound quantitative data, enriched with qualitative findings.

The Mission will in particular

- (i) assess the relevance of project interventions at the time of project design and in today's context;
- (ii) assess the effectiveness of project implementation, or the extent to which project objectives were met, and to document the immediate results and impacts of project interventions;
- (iii) In reference to the logical framework (as revised during the mid-term review), document performance and achievement of performance indicators;
- (iv) Assess the costs and benefits of the project by re-doing the Economic Financial Analysis undertaken at design;
- (v) Assess performance of all project partners;
- (vi) Document good practices and lessons learned for future interventions;
- (vii) Review opportunities for scaling up and make practical recommendations on how to enhance the likelihood of SOLID model and good practices being scaled up in national programmes or by other development partner; and
- (viii) Review likelihood of sustainability and make practical recommendations on how to strengthen the sustainability and continuity of project-initiated activities beyond completion.

The Mission will summarize its findings in an Aide Memoire, to be presented and agreed upon at the Mission's wrap up meeting. Following the wrap up, the Mission will prepare the validated PCR, based on the Government's PCR and the mission findings. The mission team will also prepare a brief blog summarizing the learnings of SOLID for publication on IFAD's website.

The missions will undertake consultations in Jakarta before moving to a sample of two project districts to undertake field visits to review project activities on the ground and to consult with local stakeholders and partners.

INDIVIDUAL RESPONSIBILITIES, EXPECTED OUTPUTS AND REQUIRED COMPLETION DATES

Andrew Macpherson, Team Leader

The Team Leader will lead and guide the mission work in close collaboration with the IFAD Country Director. He will ensure broad consultation and participation in mission activities and lead the conversation with the Government. He will lead the preparation of mission outputs, in collaboration with the respective team members, following IFAD's guidelines and rating standards.

In particular the Team Leader will undertake the following tasks:

- (i) Assess relevance of project within the external context, the internal logic and the adequacy of adjustments made to the design during the mid-term review;
- (ii) Assess project performance, impact and quality of implementation in line with the defined result objectives, impact indicators as well as legal and financial agreements; review the quality of project management, including financial management;
- (iii) Review the PCR prepared by the Government of Indonesia and validate its findings;
- (iv) Ensure that the PCR is aligned with IFAD's requirements for Project Completion Reporting. In particular, ensure that all findings are backed up by solid quantitative numbers and add qualitative findings when possible;
- (v) Review the status and effectiveness of the exit strategy as well as prospective for scaling up of SOLID good practices through national and local programmes;
- (vi) Review the sustainability and likelihood of continuity of project activities beyond project completion;
- (vii) Capture and document project lessons, good practices, success stories and innovations;
- (viii) Review the value chain linkages and the private sector partnerships that were established by the project and identify any outstanding issues to be addressed prior to completion;

- (ix) Review performance by all implementation partners (incl. against commitments under the Financing Agreement);
- (x) (Assess timeliness and adequacy of financing contributions from IFAD, government, domestic and/or external co-financiers. Note significant revisions to the financing arrangements also highlight any evidence of cost savings made during implementation, or of expenditures that could have been avoided or minimized;
- (xi) Assign and agree with mission members on division of labour for the required outputs, guide members during their work and coordinate contribution to the outputs;
- (xii) Any other tasks as assigned by the Country Director.

Outputs: The team leader will prepare the aide memoire and project completion report, including required appendixes. Submission of complete PCR by 23 December.

Tony Ryan, Agriculture Specialist

- (i) Review the overall implementation progress of the project relative to targets set at appraisal/refined at mid-term, particularly in the areas agricultural value chain and food security;
- (ii) Assess and document implementation modalities, including lessons learned;
- (iii) Identify and document innovations piloted under the project related to food security and value chain development and document lessons learned related to this area;
- (iv) Any other tasks as assigned by the Country Director.

Outputs: Inputs to the aide memoire and project completion report as discussed and agreed with the team leader. Prepare appendix on logical framework.

Sahat Pasaribu, Sociologist

- (i) Review the project performance in undertaking social mobilization and community facilitation activities, including the quality of women's participation and engagement Assess the quality and effectiveness of awareness raising and community mobilization and the community physical, social inventory and poverty mapping activities;
- (ii) Review the targeting approach and assess maturity of community organisations and if current exit strategy will support them to sustain their activities;
- (iii) Any other tasks as requested by the Team Leader.

Outputs: Inputs to the aide memoire and project completion report as discussed and agreed with the team leader.

Rislima Febriani Sitompul , Economist (home-based)

- (i) Conduct a detailed economic and financial analysis of project activities, including project IRRs with sensitivity analysis, discounting, representative production models linked to the selected value chains; and a return to government;
- (ii) Summarize the final project cost;
- (iii) Assess the adequacy of the financial projections included in the original design, highlighting significant cost deviations from original estimates and the reasons for such deviations;
- (iv) Compare findings with projections made during project design; and
- (v) Any other tasks as required by team leader.
- (vi) Outputs: Updated EFA for CCDP, other inputs to the aide memoire and project completion report as discussed and agreed with the team leader. Prepare (i) appendix on actual project cost; and (ii) appendix on EFA.

Anissa Pratiwi, IFAD Country Programme Officer

- (i) Review the status of RIMS and other impact studies conducted by the project; make recommendations on the completion report and presentation of information with regards to key performance indicator;
- (ii) Ensure compliance with IFAD's PCR processes and requirements, including that all ratings are backed up by quantitative impact data and enhanced with qualitative findings;
- (iii) Document the SOLID approach to M&E and KM, as well as how SOLID used these tools for management decisions;
- (iv) Discuss with the project how data and information will be stored to ensure accessibility for future projects.
- (v) Document good practices and approaches relevant to other development interventions in Indonesia and globally;
- (vi) Support the review of project management;
- (vii) Support the mission logistics and arrangements; and
- (viii) Any other tasks as required by team leader.

Outputs: Inputs to the aide memoire and project completion report as discussed and agreed with the team leader. Prepare a blog post summarizing impact and learnings for IFAD's website/blog. Prepare appendix on RIMS data.

Muhammad Iskandar, Country Programme Analyst (Procurement and FM)

- (i) Review the financial execution of the current AWPB and obtain from the PIU explanations for significant budget-to-actual variances. Comment on the project's budget monitoring system and review the financial performance by expenditure category and component to assess the project's overall financial performance to date
- (ii) Review procurement arrangements. (i) Review the procurement function and procedures, and assess procurement staff ability to plan, execute and monitor procurement actions (ii) review the execution of the approved procurement plan and obtain explanations for significant variances compared to planned amounts or delays in procurement; (iii) select a sample of post review procurements and verify conformity with applicable procurement rules and procedures and the approved PP, noting down any deviation
- (iii) Support the FM specialist in reviewing the latest external audit report and project's audit log, assess status of implementation of management letter recommendations
- (iv) Review action taken to address recommendations of previous FM-related mission;
- (v) Contribute to relevant sections of the mission Aide Memoire and SM report as per agreement with the team leader.
- (vi) Any other tasks as requested by the Team Leader.

Outputs: Inputs to the aide memoire and project completion report as discussed and agreed with the team leader.

DOCUMENTATION

The following documentation will be made available to consultants prior to the assignment:

- SOLID Design Document
- SOLID Mid Term Review 2015
- SOLID Mission Reports
- Annual Outcome Surveys
- Impact assessments
- IFAD Project Completion Guidelines

MISSION SCHEDULE:

15-24 November	Pre-mission home base work (agricultural specialist)
25 November	Arrival in Jakarta
26 November	Kick off and technical meetings
27 November - 3 December	Field Work
4-11 December	Meetings and report writing in Jakarta
7 December	Pre-Wrap up
10 December	Wrap up meeting
11 December	Departure
21 December	Report submission to IFAD
22-25 December	Follow-up report writing (agriculture specialist)

Clearance by COM if TORs include communication activities (see section 4.7(iii)):

Name:Signature.....

Date:.....

Clearance by CFS if TORs include financial management responsibilities:

Name:Signature.....

Date:.....

IMPORTANT NOTE:

IFAD will accept only reports that have been properly formatted by using the template, which will be provided separately. The team leader is responsible for preparing the main report and annexes in the required format and ensuring that the working papers submitted by the individual team members are consolidated in one single document and in the correct format. He will compile the full report, including his own contributions and those of all the mission members into one consistent final and complete Report and submit it to IFAD on or before the agreed deadline.

Indonesia

Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 8: List of person met and mission's programme

Document Date: 30/07/2019
Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

This document will be publicly disclosed unless there is written dissent on its disclosure by the Borrower at the time of this document submission to IFAD or no later than the project closing date.

Appendix 8: List of person met and mission's programme

	Name	Institutions/ Title
Food Security Agency, Ministry of Agriculture	Agus Hendriadi	Director General for Food Security Agency
	Ms. Diah Chandraaryani	SOLID project manager
	Ms. Hariyanti	Planning Division, Food security Agency
	Mr. Imron Fuadi	SOLID Deputy Manager
	Mr. Wawan Setiawan	Finance Officer
	National Project Management Consultants:	
	Djadi Purnomo	Team Leader
	Djodi	M&E Specialist
	Jakar Suryana	Project management and planning
	Edi	FM specialist
MoA	Ekky	Bureau For International Cooperation, MoA
Bappenas	Rosianna Sianipar	Multilateral Foreign Funding
	Zaenal Arifin	Multilateral Foreign Funding
Ministry of Finance	Syaeful	Loan and Grants
	Alsyah	Loan and Grants
Maluku Province		Head of Provincial Food Security Agency
	Basir Watimlehu	Head of Provincial SOLID Office
	Abdul Gani	Coordinator NGO Maluku
		SOLID Marketing and Value Chain Specialist
West Seram District	Self Help Group	
	Village Federation	
	Women Self Help Group	
	Agriculture extension officer	
	Village facilitator team from NGO	
North Maluku Province		Head of Provincial Food Security Agency
	Mr. Isra	Head of North Maluku SOLID Provincial Office
	Ms. Wati	Community Empowerment Officer
	Mr. Thamrin	NGO Coordinator for North Maluku
North Halmahera District		Bupati of North Halmahera District
	Self Help Group	
	Village Federation	
	Women Self Help Group	
	Agriculture extension officers	
	Village Facilitator from NGO	

Republic of Indonesia
 Smallholder Livelihood Development Programme
 Project completion report
 Appendix 8: List of persons met

Date	Activity	Remarks
Day 1: Monday, 26 November 2018		
09.00 - 12.00 WIB	Kick Off Meeting in FSA - MOA Office	Chaired by Head of FSA
12.00 - 13.30 WIB	Lunch	
13.30 - 15.00 WIB	Meeting with SOLID Project	MoA, SOLID Office
15.00 - 17.00 WIB	Team debrief as necessar	
Day 2: Tuesday, 27 November 2018		
08.15 WIB - 13.55 WIT	Departure from Jakarta to Ambon By Plane GA 646, Arrive in Ambon	
14.00 - 15.00 WIT	Travel from Pattimura Airport to Provincial Office	
15.00 - 17.00 WIT	Initial meeting with Maluku Province Team	SOLID Province Office
	Overnight in Ambon (Swissbell/Everbright/Pacific Hotel)	
Day 3: Wednesday, 28 November 2018		
08.00 - 09.00 WIT	Travel by car from Ambon to Ferry port (SBB District)	
09.00 - 10.30 WIT	Travel by Ferry/ship from port to Waypirit	
10.30-12.00 WIT	Travel to Sanahu Village	
12.00-13.00 WIT	Lunch break	
13.00-17.00 WIT	Discussion with SHGs in Sanahu Village, Maize and Vegetables	
17.00-19.00	Travel back To Hotel	
19.00-	Overnight in Central Maluku	
Day 4: Thursday, 29 November 2018		
07.00 - 08.00 WIT	Breakfast	
08.00 - 10.00 WIT	Travel to Village 2 (copra and bricket)	Namalena Village
10.00 - 12.00 WIT	Field visit and discuss with SHGs	
12.00 - 13.00 WIT	Lunch break	
13.00 - 14.00 WIT	Travel to Village 3	Soulang Village
14.00-17.00 WIT	Field visit and discuss with SHGs	
17.00-18.00 WIT	Travel to Waypirit Port	
18.00 - 20.00 WIT	Travel To Liang Port in Maluku	
20.00 WIT	Dinner and Overnight stay in Ambon	
Day 5: Friday, 30 November 2018		
07.00 - 09.00 WIT	Breakfast	
09.00 - 12.00 WIT	wrap up meeting Maluku Province Team	SOLID District Office
12.00	Free Time	
Day 6: Saturday, 1 December 2018		
08.00 - 09.00 WIT	Breakfast	
09.00 - 10.00 WIT	Travel to Pattimura Airport in Maluku	
11.55 - 13.20 WIT	Departure To Ternate by Garuda airline ATR 72	GA7642
13.20 - 14.30 WIT	Travel to Bela/Emerald Hotel (include lunch break)	
14.30- 17.00 WIT	Initial meeting with SOLID Team North Maluku Province	Bela/Emerald Hotel
21.00 WIT	Overnight in Bela / Emerald Hotel (include dinner)	
Day 7: Sunday , 2 December 2018		
07.00 - 08.00 WIT	Breakfast	
08.00 - 09.00 WIT	Travel to Sofifi	Meeting room in Hotel
09.00-13.00	Travel to North Halmahera by Car	
13.00-14.00	Lunch Break	
14.00-17.00	Discuss with SHG Ngidiho	
17.00	Travel To Hotel	
Day 8: Monday ,3 December 2018		
07.00 - 08.00 WIT	Breakfast	
08.00 -9.00 WIT	Travel to Katana Village	
9.00- 11.30 WIT	Discuss with SHGs	
11.30 - 13.30 WIT	lunch break	
13.30 - 14.30 WIT	Travel to 3rd Village	
14.30 - 17.00 WIT	Discuss with SHGs	District Office
17.00-18.00	Back to Hotel	
19.30	Meeting with Bupati North Halmahera	Sofifi Hotel
Day 9 Tuesday, 4 December 2018		
07.00 - 08.00 WIT	Breakfast	
08.30-10.00	Wrap up meeting with District team	All team members
10.00-14.00	Travel to sofifi	
15.00-16.00	Travelling to ternante	
17.00	travelling to hotel	
18.30-21.00	Meeting with North Maluku Province	
Day 10: Wednesday, 5 December 2018		
06.30-07.30	Travel to TTE Airport	Report Writing
08.15 WIT-09.45 WIB	Travel back to Jakarta	
Day 11: Thursday, 6 December 2018		
		Report Writing
Day 12: Friday, 7 December 2018		
		Report Writing
Day 13: Saturday, 8 December 2018		
		Report Writing
Day 14: Sunday, 9 December 2018		
		Report Writing
Day 15: Monday, 10 December 2018		
		Report Writing
Day 16: Tuesday, 11 December 2018		
		Wrap up meeting in SOLID Office (attending by SOLID National, Province, District) includes Bappenas, CIC MoA, MoF

Indonesia

Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Appendix 9: Final wrap-up/stakeholder workshop findings

Document Date: 30/07/2019
Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

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Appendix 9: Final wrap-up meeting minutes

Aide memoire

Republic of Indonesia

Smallholder Livelihood Development Programme (SOLID)

Joint Project Completion Mission: 26 November – 10 December 2018

A. Introduction¹

1. The Smallholder Livelihood Development Project in Eastern Indonesia (SOLID) is jointly funded by an IFAD loan of US\$49.11 million, an IFAD grant of US\$1.08 million and a contribution by the Government of Indonesia of US\$14.81 million. SOLID was approved by IFAD's Executive Board in May 2011 and the loan closing date is 31 July 2019. Post Mid-Term Review project financing remaining was US\$43.1 million, consisting of an IFAD loan of US\$28.06 million, an IFAD grant of US\$0.8 million and a contribution by the Government of Indonesia of US\$14.23 million.
2. The objective of the project is to improve the livelihoods (incomes and food security) and reduce the incidence of poverty for people in the targeted villages in both Maluku and North Maluku. The project originally had five components: (i) community empowerment; (ii) productivity improvement and integrated farming systems; (iii) value chain development and marketing; (iv) productive rural infrastructure investment; and (v) institutional strengthening and project management. This was reduced to four components at mid-term review, namely: (i) Community Development and Gender; (ii) Support for Agriculture Production and Marketing; (iii) Support for Estate Crops Value Chains Development and Marketing; and (iv) Project Management. Its expected outcomes were: (i) village institutions and self-help groups and unions functioning effectively; (ii) target group farmers using improved, sustainable production systems and low levels of purchased inputs; (iii) target communities using improved natural resource management systems; (iv) self-help groups and unions/federations operating as successful elements of the value chains for the targeted commodities; (v) improved small-scale infrastructure available in the target villages with the community organisations undertaking their operation and/or maintenance; and (vi) project completion on time and within agreed budget.
3. A Joint Project Completion Mission (JPCM) by IFAD, Kementerian Pertanian (Ministry of Agriculture) and the Ministry of National Development Planning/BAPPENAS was undertaken from 26th November to 10th December 2018.
4. The Government of Indonesia (GoI) has prepared a comprehensive Draft Project Completion Report (PCR), with inputs from Project Management, Partners, Beneficiaries and Local and Central Government institutions. This report has been provided to the mission team. The draft PCR presents substantial detail on project design and modifications, progress in project implementation and delivery of outputs and achievement of outcomes. There is also substantial information on project management, financing, monitoring and evaluation, knowledge management and lessons learned. The review mission is studying the document and using the field visits and other analysis to verify and enhance it.
5. The SOLID has been a prominent intervention in developing and applying modalities for sustainable economic development of communities in Maluku and North Maluku Provinces in Eastern Indonesia. It is thus important that the PCR effectively promotes the innovations and outcomes to enable wide replication where they have been successful. Equally, it is important

¹ IFAD mission composition: Andrew Macpherson, Team Leader (IFAD Consultant); Sahat Pasaribu, Sociologist (IFAD Consultant); Rislina Sitompul, Economist (IFAD Consultant); Tony Ryan, Agriculture Specialist (IFAD Consultant); Anissa Lucky Pratiwi, IFAD Country Programme Officer; Muhammad Iskandar, IFAD Country Programme Analyst (Financial and Procurement). The mission was supported by Ron Hartman, IFAD Country Director. The IFAD team was accompanied during field visits by staff and consultants from the NPMO, *Kementan*, and BAPPENAS.

that lessons derived from the implementation process are identified, analysed and presented for future reference by the Government, IFAD and project stakeholders. Accordingly, in partnership with the Government, IFAD has provided the services of an expert team to work within the JPCM as a means of further strengthening the PCR. IFAD wishes to emphasise that this does not detract from the excellent effort that the GoI has made in preparation of the draft PCR.

6. Within this context, the JPCM supported KP in validating and reviewing its draft PCR. This Aide Memoire is thus in a different format to the Aide Memoires from earlier joint review missions and is intended to provide some general comment on the validity of the draft PCR and some issues which the GoI may wish to reflect in the final version of PCR. The Aide Memoire does not attempt to capture all points made in the draft PCR, but rather just emphasizes a few issues considered by the mission team to be of particular importance.
7. The JPCM was conducted in close consultation with key stakeholders at national, district, sub-district and village levels, and undertook field visits to West Seram District in Maluku Province and North Halmahera District in North Maluku Province. Pre-wrap up and wrap up meetings were held on the 7th and 10th of December respectively, and the Aide Memoire reflects the discussion at those meetings.

Mission Observations:

Project Overall Impact and Rating.

8. The PCR reviews the relevance, effectiveness, efficiency and sustainability of the project and its outcomes. The SOLID project is rated to be highly relevant for its locality and the needs of the population in the project area. Its design provided the necessary tools to improve livelihoods and reduce rural poverty in this remote region. The implementation of the project was largely effective in achieving its objectives. Progress was impressive after the project mid-term review, when the pace and accuracy of interventions was greatly improved. The efficiency of SOLID in delivering planned outcomes was satisfactory. Efficiency was somewhat reduced by the slow start to implementation and by lack of coordination of efforts by key implementing entities. The likely sustainability of impact from project interventions is also assessed as being satisfactory. Many outcomes, especially the changes from subsistence to commercial production orientation by farmers are expected to endure. There are some doubts however concerning the durability of some of the Self-Help Groups (SHGs), especially those that do not engage in significant production and commercial activities.

The Overall Rating for the project is assessed at 4, moderately satisfactory, with a higher bias.

Design and Mobilisation.

9. The SOLID Project location is in remote islands in Eastern Indonesia. These location present significant implementation challenges with respect to market access, provision of services, availability of specialist personnel for project support and transport infrastructure. All of these factors had an impact on project implementation, especially in the initial years. As such, the project implementation has provided valuable insights and experience into future design considerations for remote localities in Indonesia.
10. The PCR notes that Maluku is post-conflict area. At the time of design and early stages of implementation, the conflict was still very recent. The intervention activities of project implementation, specifically the work of Facilitators with SHGs, have had a positive impact in reconciliation between groups that had previously been party to the conflict. The project provided a strong rationale for the differing groups to cooperate, and to develop their commitment to community livelihood improvements. This factor should not be under-estimated and represents a major non-financial outcome of project implementation.

11. The initial implementation of SOLID was slower than planned. Given the poverty levels and remoteness of SOLID target location, it has taken time and efforts to develop understanding and commitment to SOLID design, approaches and activities. Various constraints were noted at the Mid Term Review, including a requirement for clarifying Project design documentation, weak Project implementation guidelines, and management bottlenecks (including staff quality, staff quantity, staff deployment and staff immobility). In the absence of facilitators in the ground, extension workers (PPL) assumed responsibility for social mobilization and community development. Although the quality of community mobilisation was being compromised, the project managed to establish a platform on which to build. In addition, an ineffective M&E system with an excessively administrative and burdensome process, a lack of linkage between the various Project components and activities, and a continued lack of understanding of value chain concepts had the effect at village level of providing less than required attention to food production and value chain activities and burdening SHG members with procedures that left some of them at risk disengaging with the Project.
12. Despite some issues, the Project has made significant progress and achievements since the mid-term review. A significant re-design at the mid-term review has assisted with this. Management and staffing has been improved. NGOs to support village facilitation activities have been recruited, and the community development activities have had a positive impact in establishing a solid platform for engagement at village levels. At the time of mid-term review, the project performance was considered moderately unsatisfactory; the last supervision mission in April 2018 rated the performance as moderately satisfactory. Improvements in performance are notable at all levels with the benefits of a strengthened leadership from national, provincial and district. SOLID continues to deliver good progress in establishing and implementing the key elements of the Project, such as community development, agriculture production enhancement and establishing market linkages for either raw or processed crops.
13. By the time of completion, SOLID has achieved a high percentage of its targets. The impact survey shows more than 75% of households fully experience food sufficiency; ii) More than 20% reduction in the incidence of stunting in SOLID HH; iii) More than 75% of households enjoy a 30% increase in income from the sale of food crops.

Project Outputs.

Project Component 1: Community Development and Gender

14. The objective of this component is to provide communities with enhanced capacity for household food security and agriculture income planning. The expected outputs are: (i) enhanced capacity of SHG members to sustain and manage group resources and (ii) group capacity to plan and implement agricultural production activities.
15. The project was successful in meeting its target of Self-Help Groups (SHGs) formation and training, with 98% of the target achieved. Moreover, the capacity of SHGs as well as individual beneficiaries has clearly been improved.

Table 1: Logframe Review Component 1.

	LF Indicators of Achievement.	Actual PCR Assessment. <i>(based on AOS Report)</i>
Outcome 1: Communities with enhanced capacity for HH food security and agriculture income planning.	2240 SHGs re-oriented or trained in PRA, S&L group management.	2192 SHGs trained by October 2018. 98% of target.
Outputs SHGs capable of managing and sustaining group resources (both human & financial). SHGs capable of planning & implementing their production and post-harvest activities.	1428 existing SHGs re-trained and operational by August 2015 812 new SHGs trained and operational by August 2016 1428 existing SHGs & 800 new SHGs implementing production & post-harvest plans	In 2018 AOS ² . 50% SHGs assessed as very good 44% SHGs assessed as good 6% assessed as poor. HH Assets Increase due to SOLID 39% had large increase 38% had very large increase

16. In particular, it is noted by the 2018 Annual Outcome Survey (AOS) that 94% of SHGs were assessed as having either “good” or “very good” performance. It is also important to note that this has impacted very positively on participating households (HH) assets. A large or very large improvement in HH assets attributable to SOLID was reported by 77% of those surveyed. Most SHGs met by the mission stated that they expected to remain operational after project completion. Nonetheless, there are concerns over the long-term institutional sustainability of the SHGs and Federations mainly due to the poor quality of group revolving fund (RF) management. Groups with good performance showed strong institutional capacity, strong cohesion, clear group vision and intuitive business planning. However, many also have high rates of outstanding loans and low repayment rates by most members. As there have indeed been substantial improvements in incomes of SHG members, they should have had the capacity to repay all loans. The mission notes that there has been some recent progress in this respect.
17. The task of social empowerment in the project area was important. SOLID has been an excellent intervention to prepare SHGs to shift to a market-oriented production and also to strengthen social cohesion in areas that previously experienced social conflict.
18. The work of village facilitators has been effective despite the considerable delays in engaging NGOs immediately after the mid-term review. There have been requests for VFs to continue to work in support of SHGs. One important aspect of continuing the VF input is the post-SOLID potential to link with the Village Fund programme implemented by Ministry of Village. Socially engaged and empowered SOLID villages would be a logical and reliable starting point for Village Fund activity.

² Source: Final Impact Study Report of SOLID October 2018

Component 2: Support for Agriculture Production and Marketing

19. The evaluation of performance in Component 2 must reflect on the achievements as well as the degree to which the project management team adhered to the principles of the Mid-Term Review project design document. The mid-term review re-design logframe and details of actual achievements are outlined in Table 1 below:

Table 2: Logframe Review Component 2.

MID-TERM REVIEW Logframe Measures	Logframe Indicators (2014)	Actual Outcome ³ .
C-2 Outcome: <i>HHs with more food and cash crops available for both home consumption and/or sale.</i>	By Dec. 2018: 80% of households reporting at least 20% increase in food available for home consumption. By Dec. 2018, 50% of households reporting regular market sales of food and cash crops.	<i>85% of SOLID HHs are fully food secure (v. 74% non-SOLID HHs)</i> <i>Changed crop patterns to "market ready" cash crops. Basically 90% plus of HHs are regularly engaged with the market.</i>
C-2 Outputs: <i>Households food secure 80% of season</i> <i>Increase in HH income from increased sales of agricultural products.</i>	By Dec 2018, 75% of HHs is fully food secure 80% of the time. By Dec. 2018, 20% reduction in incidence of stunting in SOLID HHs By Dec. 2018, 75% of HHs enjoy a 30% lift in annual cash income from sale of food and cash crops.	<i>14% of SOLID HHs experience food shortages of 3wks or more v. 45% of non-SOLID HHs.</i> <i>6% of under 5yrs are stunted v 61% pre-SOLID (incl. 60% with severe stunting)</i> <i>Before Solid – Rp 242,100</i> <i>MID-TERM REVIEW Solid – Rp 285560 (+18%)</i> <i>Post Solid – Rp 479,000 (98% & + 68% since MID-TERM REVIEW).⁴</i>

20. Based on the results reported in the 2017 & 2018 Annual Outcome Survey (AOS), all of the logframe indicators have been achieved and well exceeded in most cases. The main outcome targets for SOLID at mid-term review were: (i) food security; and (ii) regular market sales.
21. Food security has largely been addressed with 85% of HHs being secure compared with the target of 80%. Further, 14% of SOLID HHs experience food shortages of 3 weeks or more – compared to 45% for non-SOLID HHs. During the severe drought of 2016, SOLID HHs was noticeably more resilient as well.
22. In terms of child nutrition and stunting, SOLID HHs have made significant progress. Only 7% of children under 5 years in SOLID HHs experience poor nutrition compared with 25% in non-SOLID HHs. Further, in terms of stunting, before SOLID, 61% of children under 5 years were stunted, and 60% were severely stunted. This has now been reduced to 6% in SOLID HHs.
23. Regular engagement with the market for food and cash crops has also been achieved. At least 90% of HHs are selling crops. To achieve this, they have improved total output, improved yields and changed cropping patterns to include more saleable vegetable especially tomatoes, chili, long beans and peanuts. Consistent cash income is achieved by sale of corn in the rainy season (44% HHs), peanuts in transition season (30% HHs) and cassava and cacao in the wet season (45% for each crop). With a target of an income increase of 30%, there has been achievement of a 68% increase in real terms since the start of SOLID and a 98% increase (real

³ Source: 2018 Annual Outcome Survey for SOLID Project. Min. Agriculture Directorate of Food Availability and Vulnerability.

⁴ Figures in real terms – adjusted for provincial inflation.

terms) since the mid-term review. In reality, before SOLID, farmers engaged with the market in an opportunistic way, when all farmers would have crop surpluses as a result of favourable growing conditions, and therefore simultaneously flood the market and drive prices downwards. As a result of SOLID, farmers have been encouraged to move towards more planned engagement, planting increased areas of a wider range of crops which are directly intended for the market – either as primary produce or for value adding prior to sale (e.g. tomatoes for tomato paste). What has not happened is a move towards aggregated selling by Self Help Group (SHGs) to reduce price volatility. The large majority of farmers still prefer to sell as individuals.

24. There were several aspects of the revised post mid-term review SOLID design that were either not implemented, or partially implemented. In particular, formation and operationalizing of Village Implementation Teams (VITs), preparation and implementation of Agriculture Production Plans (APPs), use and application of Revolving Fund Loans (RFLs), skills and performance of agriculture extension staff (PPLs), managing market engagement with aggregated product to reduce market volatility, and ensuring individual farmers possess the capacity to make sound production decisions based on both market and crop profitability. Had these aspects been better addressed, the mission believes outcomes for SOLID farmers would have been even stronger with greater sustainability prospects.
25. The Mission noted that cohesion between PPLs and Village Facilitators (VFs) was not always strong, resulting in sub-optimal outcomes for SHGs. Had the VITs been formed as intended, there would have been a forum for village leadership to monitor and discuss the results of PPL and VF activity and lead them towards more effective teamwork and collaboration.
26. APPs were intended to ensure each SHG had a common plan within which each SHG member could outline their production goals and the inputs required to achieve those goals. There was a design weakness in that APPs should also have addressed market engagement plans. The IFAD supervision mission in 2016 discussed this matter and recommended broadening the plans to include market development planning. The APPs were intended to be the plans which were to guide the use of RFLs.
27. Each SHG received funds of Rp. 40m as capital to establish a revolving fund which would finance RFLs for the 15 SHG members⁵. The design clearly stipulated that RFL funds were not to be disbursed to SHGs without a prepared APP. It was also intended that the interest charged would be sufficient to “grow” the RF capital over time. Neither of these features was implemented as intended. Interest rates have typically been around 2.5% per year – which is well below the inflation rates in both provinces⁶, meaning the purchasing power of the capital continues to diminish over time. Management of SHG RFLs was to be transparent, clearly outlining the loan fund use and repayments (principal and interest) of each SHG member. Funds have been disbursed and used for a variety of purposes, some of which were related to agriculture production. Repayments of loan principal (to ensure the fund revolves) have been extremely variable, with many repayments outstanding. This uncertainly could have been avoided if PPLs and VFs had worked together with the Village Head. However, most SHGs claim to still hold some of their original RF capital. Ensuring this is protected is an important project management task for the remainder of the implementation period, as well as enabling sustainable use after project completion.
28. The capability and performance of PPLs in SOLID villages is variable. PPLs receive very limited in-service training, and the quality and relevance of that training is questionable. However, SOLID PPLs did receive training in specific agronomic and business topics. The application and outcomes of those lessons was variable. PPLs successfully implemented Farmer Field Schools (FFS) and associated Demonstration Plots which were vital in transferring new agronomic

⁵ Note Matching Funds (Rp 18m) were also disbursed to each SHG to ensure social protection.

⁶ Average 6 yr. inflation (2013 – 2018) – 5.6% & 5% in Maluku and North Maluku respectively. Source: AOS 2018

methods to SHG members. Conversely, they generally failed to build skills in simple crop financial analysis to assess profitability. The Mission observed that SHGs had little or no concept of profit or loss of their new production enterprises. Despite these shortcomings, the PPLs and the VFs were an integral element of the success and achievement in agriculture productivity.

29. Despite less that optimal support, the increases in agricultural productivity achieved by SOLID farmers is noteworthy. These increases were due to significant increases in cropping areas (at least double) and, to a lesser extent, increases in yields per ha. These significant achievements have provided a basis for farmers to build their productivity and value chain engagement. There are now opportunities for simple value adding within SHGs (aggregation, simple packaging, grading of produce) and for sound engagement in commercial value chains.

Table 3: Yield increases (% HHs and kg/HH)

Crop	HHs increasing yield		Kg/HH					
	SOLID	Non-SOLID	SOLID			Non – SOLID		
			2013 (kg)	2017 (kg)	Increase %	2013 (kg)	2017 (kg)	Increase %
Rice	43	2	123	196	58	30	40	33
Maize	44	13	244	417	71	137	203	48
Peanut	53	13	60	180	200	30	76	153
Veg.	80	17	100	159	59	34	50	47
Cacao	50	10	69	118	71	76	117	54
Copra	75	38	441	685	55	346	547	58
Nutmeg	52	11	270	455	68	86	142	65

Source: SOLID AOS 2017.

Component 3: Support for Estate Crops Value Chains Development and Marketing

30. The SOLID mid-term review reduced the range of estate crops down to the three main tree crop products – cacao, copra and nutmeg. The mid-term review also moved the value chain development of food crops to C-2. This was to endeavour to integrate production and local/short value chains into one “farming and value chain system”. Development of the longer value chains associated with estate crops was confined to Component 3 (C-3).

Table 4: Logframe Review Component 3.

MID-TERM REVIEW Measures	Logframe	Logframe Indicators (2014)	Actual Outcome ⁷ .
Outcome 3: Increased household incomes from sales of 3 selected estate crops (coconut, cacao & nutmeg)		By Dec 2018, 50% of village crop producers enjoy a 20% lift in monthly cash income from sale of estate crop related products.	Income increases (see C-2 outputs above). Lack of disaggregation in AOS data.
Outputs 3.1 Up to 3 value chains (VC) assessed as feasible for sustainable increases to HH incomes 3.2 Farmers with improved market linkages & understanding of market requirements 3.3 Federations established as sustainable business units with capacity to represent farmer interests in the market place and/or add value to any or all of the 3 selected products		By Dec 2015, 3 quality VC studies completed to international standards. 50% of growers directly engaged in VC with Federation support & responding to market requirements By Dec 2018, 25% of federations actively supporting growers via links to traders and other VC players and/or adding value to the 3 selected estate crops.	<i>3 studies completed (cacao, nutmeg, copra).</i> <i>Not achieved. Focus on Fedn & business unit development BUT NOT on value chain responses from the market.</i> <i>53/5 business units/Federations functioning. But very limited benefit to growers e.g. small discounts on fertilizer & seed purchases but no cash pay-outs as yet.</i>

⁷ Source: 2018 Annual Outcome Survey for SOLID Project. Min. Agriculture Directorate of Food Availability and Vulnerability.

31. SOLID had a positive impact on yields and outputs of the three priority tree crops. Cacao yields in SOLID HHs increased by 50% v. non-SOLID HHs by 10%. The output per HH in SOLID HHs increased by 71% v. non-SOLID HHs by 58%. The results were similar for nutmeg. However, while SOLID HHs increased copra yield, there was little change in total copra output per HH between SOLID and non-SOLID HHs (Table 2). This is likely to reflect the fact that SOLID farmers had developed other associated coconut products e.g. charcoal or virgin coconut oil (VCO) which was more profitable – in particular for farmers who had no coconut trees and were obliged to purchase nuts. Given the SOLID focus on the poor, most SHG members therefore did not have access to coconut trees of their own. As a result, SOLID had limited impact on the re-generation of senile coconut trees.
32. Generally, tree crop product processing was undertaken as a group (SHG), but marketing was mixed between individuals and SHGs. Marketing by a federation is the exception unless there was some value adding dimension undertaken by a federation. In these situations, although nominally members of the federation, SHG members had little understanding of the financial aspects of “their” federation. Federations and business groups which are engaged in value adding to tree crop products do so with enthusiasm and energy but an equally notable lack of business acumen. Financial management (cashflow) and medium-term business planning are weaknesses which seriously undermine sustainability prospects.
33. While institutionally estate crops are under a separate Directorate of MINISTRY OF AGRICULTURE, tree crop extension is delivered by PPLs. Some PPLs are food crop specialists, others are livestock specialists, and some are tree crop specialists. As a result, not all PPLs had the technical skillset to support estate/tree crops.
34. Traders and middlemen are an important element of the value chain for tree crops. Despite this, there was a reluctance by SOLID staff to engage with them as a resource. The opportunity to establish market information and feedback flows to SOLID SHGs via traders was largely missed. As a result, product quality especially in cacao and nutmeg has not markedly improved. In the case of nutmeg, trees generally grow wild in the forests near the village. Harvesting is often competitive between villagers with the result that nuts are picked before they are fully ripe, and then not properly dried, resulting in significant loss of quality and therefore value.
35. In summary, SOLID SHGs generally now have the confidence and cohesion to continue to improve their agriculture productivity – especially in food and cash crops. They have access to adequate land and labour. Markets generally are accessible, and with aggregated selling and improved value chain development, considerable profitability growth potential can still be captured by farmers. The key limiting factor for most SOLID farmers is access to seasonal and investment finance. The value chain developments of estate crops have been less successful for reasons outlined above. As a result, the considerable potential to improve farmer returns from tree crops by improving product value chain efficiency remains largely un-tapped.
36. **Component 4: Project Management.** There have been numerous challenges facing project management during the implementation. High staff turnover at all levels during early implementation has affected the project stability to perform properly. In addition, the complexity of project structure required a consolidated effort by all project management, consultants and service providers and a focused accountability framework for SOLID to achieve the overall objectives. The mission finds that strong leadership and good management capacity is key factor to strong and effective project management. Following the recommendation of mid-term review, the project has been able to improve leadership and strengthened the coordination, both vertically and horizontally. There has been a number of key actions taken to improve project management performance, such as: (i) project structure is re-housed within the Food Security Agency (BKP) institutional structure, with better management and technical capacity; (ii) a number of consultancy contracts were developed for supporting the project at different levels; (iii) strengthened coordination and communication between national, provincial and district staff, including consultants, and service providers (NGO facilitators and PPL) and

- mobilized them towards addressing the major issues; (vi) creation of simple targeted work plans that are easy to followed and use a dashboard for monitoring progress; (vii) submission of key project documents (annual progress reporting, AWPB, AOS etc.) in timely manner; (viii) provision of additional support to monitor finance and procurement progress to avoid delays.
37. However, the mission was informed that some service providers fail to understand their role. This has resulted in tensions between these service providers and the project management, highlighting an opportunity to enhance the planning and coordination of inputs, particularly to strengthen the integration of services being provided to project beneficiaries. For example, in a number of villages visited by the mission, the lack of service delivery integration was apparent between the village facilitators delivering social mobilization support, the agricultural extension workers delivering extension support, and the project consultants providing technical inputs. All had been working in isolation from the others.
38. **Knowledge management.** SOLID is designed to develop a model for development in remote and challenging areas such as Maluku and North Maluku. The objective for knowledge management should be to assist the project to build practical and actionable knowledge and know-how that leads to improved project performance and results, supports innovation, scaling up and country-level policy engagement.
39. The project does not have a clear knowledge management strategy or plan. However, the mission notes that there has been effort to document and share project results, learning, and achievement through mix of tools and channels (social media, exhibitions, publications, books, documentary videos, traditional media, exchange visits, etc.) to ensure transparent access and sharing of knowledge and information among project stakeholders.
40. There have been several innovations and learning notes generated and documented by the project that can provide innovative learning for all stakeholders. The mission was provided with a number of videos with stories from the field and was informed that the project is preparing a book displaying experience and lesson learned from the project implementation.
41. **Monitoring and Evaluation.** The ambitious objectives and Project area are a challenge for the project M&E as well as for an analysis of causality, impact and attribution. Aside from the M&E system set up by the Project being too complex, the project had issues with the collection of data from the villages. The mission was informed that village facilitators (VFs) and extension workers (PPL) are the main actors responsible for data collection for reporting. The Participatory Self-Monitoring Evaluation (PSME) system is completed annually by the VFs. The PSME is oriented towards assessing SHG capacity to fulfil project requirements such as regular meetings, submitting proposals and managing resources and as such it is a good indication of progress. The PPLs have the responsibility to monitor and generate the agriculture productivity related data. However, the data quality is variable and incomplete, especially agricultural productivity data. PPLs generally do not have the capacity to respond to a complex monitoring form and have very limited time due to overloaded responsibility. In the case of Maluku and North Maluku, each PPL may be responsible for 5-7 villages (each village up to 10 groups). This has resulted in poor data quality and delayed submission of progress reports.
42. The data flows from the VFs and PPL, to the district level (DPIU). While VFs report to the NGO coordinator, PPLs report directly to DPIU. DPIU M&E officer verifies and compiles the NGO report (received from VFs) and PPL data and compiles it for submission to PPIU which is then consolidated at NPMO. The M&E unit at NPMO is made up of the GoI M&E Officer and M&E Advisor. RIMS studies were carried out during baseline (2012), midterm (2014) and endline (2018) and Annual Outcome Surveys (AOS) were carried out in annually from 2014 -2018 to monitor the outcomes and impact of the project. Logframe indicators have been slightly modified during Mid Term Review to respond to the new implementation approach and reduced targets.

43. SOLID has adopted CCDP's successful monitoring dashboard showing both physical and financial progress. The dashboard has been simplified and is updated monthly rather than weekly. However, the monthly dashboard was not widely shared within and outside the project. In addition, the project also applied a performance-based incentive system (reward and punishment) based on the use of M&E data during the last years of project implementation.
44. **Innovation:** There have been a number of small innovations demonstrated by the project, but these are not consistently applied in all areas. These can provide useful innovative learning for application in other development projects in Indonesia and Internationally. The mission recommends further elaboration and discussion on innovation and lessons learned in the PCR. Specific SOLID innovations identified are:
- Participatory approach, placing farmers and community at the centre of the project;
 - Involvement of local government and coordination with various stakeholders in providing support packages to community;
 - Developing business units and a good partnership initiatives in establishing market linkages;
 - Development of a strategy of moving beyond production improvements towards a more comprehensive market linkage approach, with the goal of increasing farmer financial returns as well as for all participants in the value chain;
 - Stronger group institutional development and more organized federations as service and input providers to SHGs;
 - Introduction of new farm technologies through demonstration plots such as agricultural machinery and equipment for cultivation of food crops, horticulture and estate crops;
 - Introduction of new processed products and packaging, such as coconut oil, VCO, cocoa powder;
 - Promoting post-harvest innovation and value chain approach;
 - Introduction of saving and lending at group level.
45. **Financial and Economic Analysis.** SOLID interventions are designed to benefit farmer households, with both direct and indirect benefits. The prime means of providing benefits is through increasing agricultural production which in turn increases farmer's income. For accurate financial analysis, all costs and benefits should be itemised and included in the analysis. In calculating farm-level business profit, the amount of farm family labour spent in the farm production enterprises needs to be counted as part of expenditure or production cost. This is one strong reason to empower SOLID farmers with the capacity to create a proper business plan prior to the commencement of any commercially-oriented production activity.
46. Financial and economic analysis of the project is carried out by looking at all economic benefits obtained as a result of SOLID activities. The economic impact that can be analysed from SOLID activities is to look at the benefits generated during SOLID activities which include direct benefits and indirect benefits. This calculation will be presented in the main report.

Project Financing.

47. The total project financing is approximately equivalent with US\$ 65 million which consisted of an IFAD Loan US\$ 49.1 million and IFAD Grant US\$ 1.08 million and Government contribution of an estimated US\$ 14.81 million.
48. The project costs were allocated by IFAD was in Special Drawing Right (SDR) 30,300,000 for loan and SDR 675,000 for Grant. The initial structure of financing of project was:

No.	Category Description	Loan Amount Allocated (SDR)	Grant Amount Allocated (SDR)
I	CIVIL WORKS	4 620 000.00	-
II	VEHICLES, EQUIPMENT AND MATERIALS	7 770 000.00	-
III	CAPACITY BUILDING, STUDIES AND WORKSHOPS	8 530 000.00	175 000.00
IV	MATCHING FUNDS	4 360 000.00	-
V	INTERNATIONAL CONSULTANT	-	60 000.00
VI	LOCAL CONSULTANT AND NGO SERVICES	1 990 000.00	375 000.00
VII	UNALLOCATED	3 030 000.00	65 000.00
TOTAL:		30 300 000.00	675 000.00

49. Several reallocations were made to accommodate needs of project. The final reallocation was applied on 13 July 2017 based on consultation during the joint review mission of March 2017. The latest structure of financing category is as follows:

No.	Category Description	Loan Amount Allocated (SDR)	Grant Amount Allocated (SDR)
I	CIVIL WORKS	4 550 000.00	-
II	VEHICLES, EQUIPMENT AND MATERIALS	5 175 000.00	-
III	CAPACITY BUILDING, STUDIES AND WORKSHOPS	8 950 000.00	526 000.00
IV	MATCHING FUNDS	7 625 000.00	-
V	INTERNATIONAL CONSULTANT	-	65 000.00
VI	LOCAL CONSULTANT AND NGO SERVICES	4 000 000.00	84 000.00
VII	UNALLOCATED	-	-
TOTAL:		30 300 000.00	675 000.00

The utilization of project funds according to IFAD's record are:

Loan

No.	Category Description	Allocated Loan	Disbursement	%	Available Balance
	DESIGNATED LOAN ACCOUNT - INITIAL DEPOSIT	-	1 937 279.73		(1 937 279.73)
I	CIVIL WORKS	4 550 000.00	4 301 539.62	95%	248,460.38
II	VEHICLES, EQUIPMENT AND MATERIALS	5 175 000.00	4 799 444.35	93%	375,555.65
III	CAPACITY BUILDING, STUDIES AND WORKSHOPS	8 950 000.00	7 670 384.92	86%	1,279,615.08
IV	MATCHING FUNDS	7 625 000.00	7 445 846.72	98%	179,153.28
V	INTERNATIONAL CONSULTANT	-	-	-	179,153.28
VI	LOCAL CONSULTANT AND NGO SERVICES	4 000 000.00	2 974 796.51	74%	1,025,203.49
TOTAL		30 300 000.00	29 129 291.85	96%	1,170,708.15

Grant

No.	Category Description	Allocated Grant	Disbursement	%	Available Balance
	DESIGNATED GRANT ACCOUNT - INITIAL DEPOSIT	-	114 675.18		(114 675.18)
I	CAPACITY BUILDING, STUDIES AND WORKSHOPS	526 000.00	362 733.53	69%	163 266.47
II	INTERNATIONAL CONSULTANT	65 000.00	64 574.22	99%	425.78
III	LOCAL CONSULTANT AND NGO SERVICES	84 000.00	81 857.97	97%	2 142.03
TOTAL:		675 000.00	623 840.90	92%	51 159.10

50. **Accounting and Audit.** The financial statements prepared by project are in accordance with government accounting standards with applying cash basis in recording project expenditures. Despite the financial agreement being in SDR and the designated account in US\$, the record of transactions was made in IDR. The exchange rate applied to record the transaction was based on the current exchange rate of transaction that applied in Bank Central (Bank Indonesia).
51. Referring to the latest audit report of SOLID Financial Report year 2017, BPKP has expressed that the financial statements of SOLID Project are presented fairly in all material aspects both for utilization of loan and grant.
52. In term of audit recommendations that are addressed to project management, there are some ineligible expenditures that identified by BPKP during the audit from the audit of Fiscal Year (FY) 2011 up to 2017. SOLID has refunded these ineligible project expenditures that reported in audit FY 2011 up to FY 2016 to Project Designated Accounts. Total amount of ineligible expenditure involved in this period was amounted IDR 1,042,805,974 (Approx. Equivalent to US\$ 71,269) for the loan and IDR 6,229,900 (Approx. Equivalent to US\$ 425) for the grant. These ineligible expenditures have been refunded to respective Designated Account (DA) as advised by IFAD on 9 November 2018.
53. The management letter from BPKP for audit FY 2017 has noted their findings amounted IDR 2,238,881,963 (Approx. Equivalent to US\$ 156,565) of ineligible expenditure. This finding was due to lack of supporting documents, overpayment that leads to ineligible expenditures, delay on implementation that lead to a reprimand and fine to the contractor, etc. Therefore, there is a need to define the ineligible expenditure that involving IFAD's fund and the required refund to DA.
54. **Lessons:** The following is a summary of the main lessons, derived from the SOLID PCR, Mission Observations and IFAD implementation experience.
55. Design for Remote Area Projects. The project experience provides lessons on the design projects with features suited for remote areas. These include the need to provide for incentives for high quality project staff and service providers to deliver long-term engagement for the project, and the need to commence project activities in a cautious manner, developing modalities and models for later replication.
56. Lead Agency Commitment. SOLID experience indicates the importance of getting strong commitment for the project from high level officials within the Lead Agency. This will largely determine the quality of project management, and the capacity of the project management team. In its early years, SOLID suffered from high turnover of staff that disrupted the implementation and resulted in inconsistent management.
57. Village level cooperation and coherence is vital. There is an important role for village leaders and to cooperate with the Village Implementation Teams in this respect. It is also critical that village facilitators and PPL cooperate and coordinate their activities. Crop Focus. The would have been better results if the focus at each community level was on either food/cash crops or Tree/Estate crops. Focussing on both usually meant that there was

- dilution of effort, not least because most PPL staff would not have expertise in both areas. Inclusive Focus on Farmers. An exclusive focus on poor farmers is counter-productive and reduces the likelihood of good leadership and innovation. It is more appropriate to focus on all farmers, including the poor. In any case, there are almost no wealthy farmers in the project area.
58. Value Chain Development. There needs to be a different approach of introducing value chain concepts and development. It is important to integrate production and value chain activities into one consolidated extension message. Support should be provided incrementally, with clear guidance and constant capacity building to all levels from project managers to the community level. There is a need to provide PPLs with business and financial training to support this. A key message should be that traders and middlemen are a key components of any value chain. They should be encouraged to interact with farmers to build trust and mutual understanding. Coaching and mentoring for agri-business development that should be done in partnership with Private sector, through PPP arrangements.
59. SHG and Federation Mentoring. The mentoring of SHGs, Federation and PRA-based Business Centres should be carried out more intensively and sustainably by involving champions/activists from the community and village facilitator (PPL/extension workers or local NGOs), who are experienced and have sufficient knowledge on community empowerment. The selected champion, village facilitator and PPL needs adequate training prior to their deployment and as well as refresher training periodically during the program implementation. They should be equipped with right tools to help facilitation in remote areas where education levels are low and illiteracy common.
60. Financial and Physical Support for SHGs and Federations. Groups should receive financial and physical support according to the group's development progress. The amount of financial support to Federations should be sufficient to sustain their duty in supporting the marketing of SHGs produce.
61. Strengthened Project Management. Management can be improved by assigning competent personnel, with periodic evaluation of each staff member and changing personnel as indicated by the evaluation. There is a need to avoid complex management structures and focus on strong leadership and capacity of personnel. This should be complemented by clear guidance on project sequencing and clear roles and responsibilities.
62. Local Government Support. Support from the local government should be secured and monitored. Although MoUs were created between the local government and the Agency for Food Security at the commencement of SOLID, local government support in terms of local funding and stakeholders' coordination were still limited. The MoUs should be renewed every time the regional election takes place to enable continuous local government support and ownership.
63. Monitoring and evaluation. M&E should be conducted in a simple way using simple platform which can be easily used and accessed by local staff. The dashboard model which is now used is considered effective and should have been implemented at commencement.
64. Reward and Punishment. During SOLID implementation, the reward and punishment system was implemented only in the final year. The introduction of reward and punishment, for example reducing budget allocation for non-performing districts, should be considered to improve their performance and obeying the rules of implementation.
65. Funding of Ineligible Expenditure. There was a long delay of project management on following up audit recommendation of ineligible expenditure, leading to a risk rating of project internal control assessment noted by Auditor. This indicates that involvement of Internal Audit (Inspectorate General) Ministry of Agriculture should be improved significantly. The Inspectorate General is expected to be able to provide technical advice and assurance of the project financial implementation.

66. **Procurement Management.** Project performance up until the mid-term review has been constrained by procurement delays. The main reasons for this included poor procurement planning and management by the Project management, insufficient knowledge and experience of the procurement committee of procurement procedures. The lesson is that project management/procurement committee need to be made thoroughly aware of IFAD and GOI procurement requirements from the commencement of project implementation.
67. **Exit Strategy and Sustainability:** The project should adopt the following exit strategy to provide for enhanced sustainability.
68. **Project Completion Workshop.** It is recommended that the Ministry of Agriculture/ Centre of Food Availability and Vulnerability convenes a Nation Project Completion Workshop as soon as the final PCR is available. This would be to reflect on project performance, and especially to impart the experience and lessons from the largely positive implementation of SOLID.
69. Encourage each host District for the project to include SOLID groups into village plans and explore the possibility to utilize the empowerment allocation under the village fund to recruit the VFs.
70. Village facilitators should be given additional training to ensure their continuing relevance and effectiveness as well their likelihood of recruitment by local government post SOLID.
71. IFAD is currently preparing a new design with Ministry of Village, Village Development Programme Phase 2. The dialogue with MoV has been to expand the project location to Maluku and North Maluku where it could be possibly be linked to continue support to SOLID group.

Project Assessment

72. **Key Success Factors.** The mission acknowledges a number of key factors that contributed to the improved performance and recent success of SOLID. Those factors are:
 - (i) Improved management and coordination;
 - (ii) Re-design at mid-term review;
 - (iii) Effective recruitment and deployment of VFs;
 - (iv) More effective extension with respect to improved crop husbandry and management;
 - (v) Coherence and mutual support within SHGs membership.
73. **IFAD Performance.** The draft PCR states that the Project implementation has been enhanced through satisfactory IFAD support and assistance. IFAD implementation support was generally perceived to be of assistance and sufficiently flexible to allow for necessary changes in design, budgets and methodology.
74. **Overall Assessment:** The draft PCR Rating Matrix provides an overall project assessment of 4, Moderately Satisfactory.

Recommendations and Way Forward

75. It should be noted that the PCR is essentially a document prepared and owned by the Government. The IFAD mission team will provide a detailed revised draft PCR, largely derived from the existing draft PCR, during the forthcoming 14 days. This will be consistent with the accepted IFAD guidelines on format and content. It will also provide detailed recommendations on the process of finalising the PCR. Thereafter, IFAD will provide further personnel resources to provide a final review of the document prior to finalisation and presentation to IFAD.
76. IFAD and the Government of Republic of Indonesia endorse the findings of the JPC mission.

Jakarta, 10 December 2018,

Ron Hartman

IFAD Country Director, Indonesia

Tri Agustin Satriani

Acting Director for Centre of Food
Availability and Vulnerability

Anang Noegroho

Director for Food and Agriculture

Bappenas

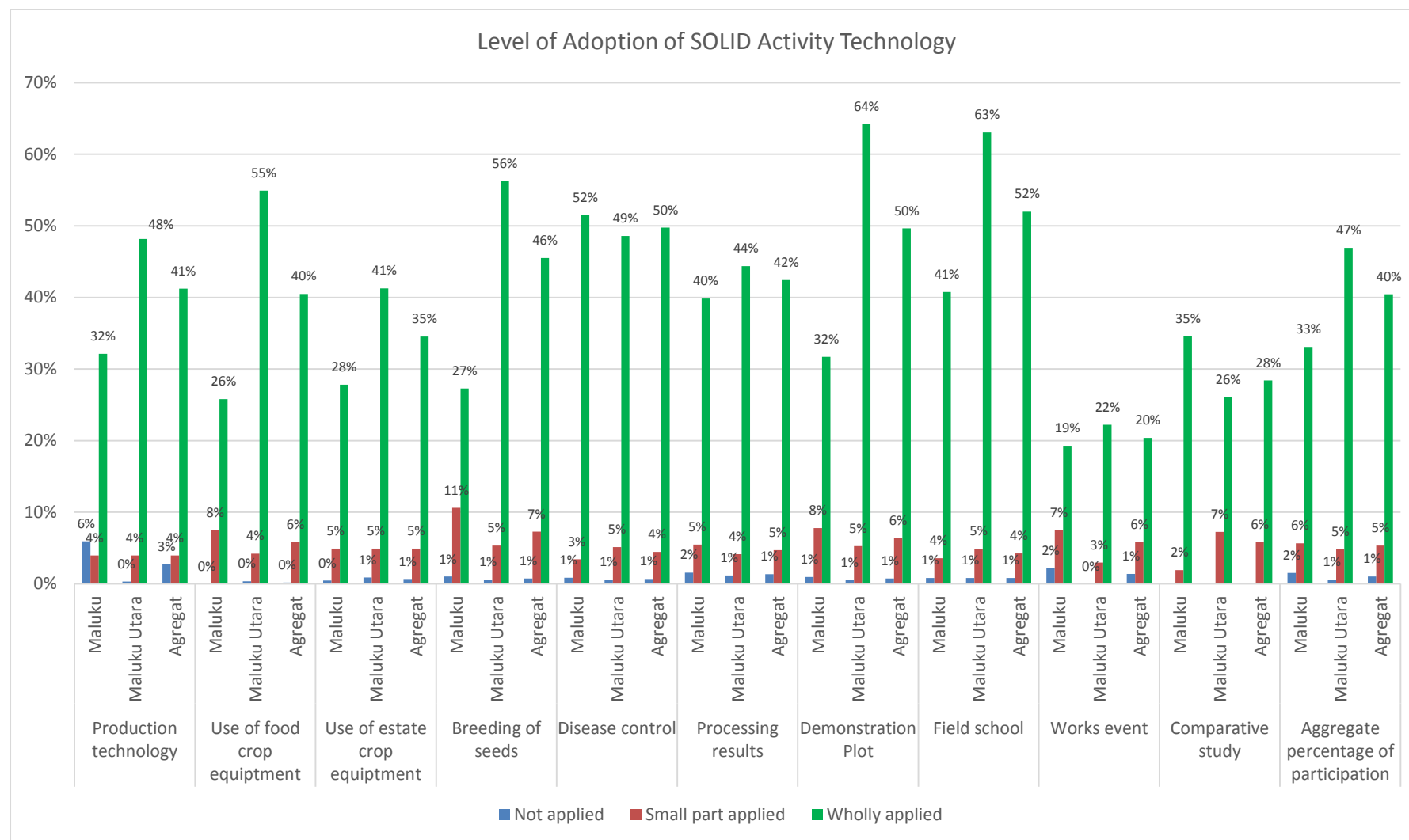
PCR rating matrix

THE PCR ASSESSMENT SCORES

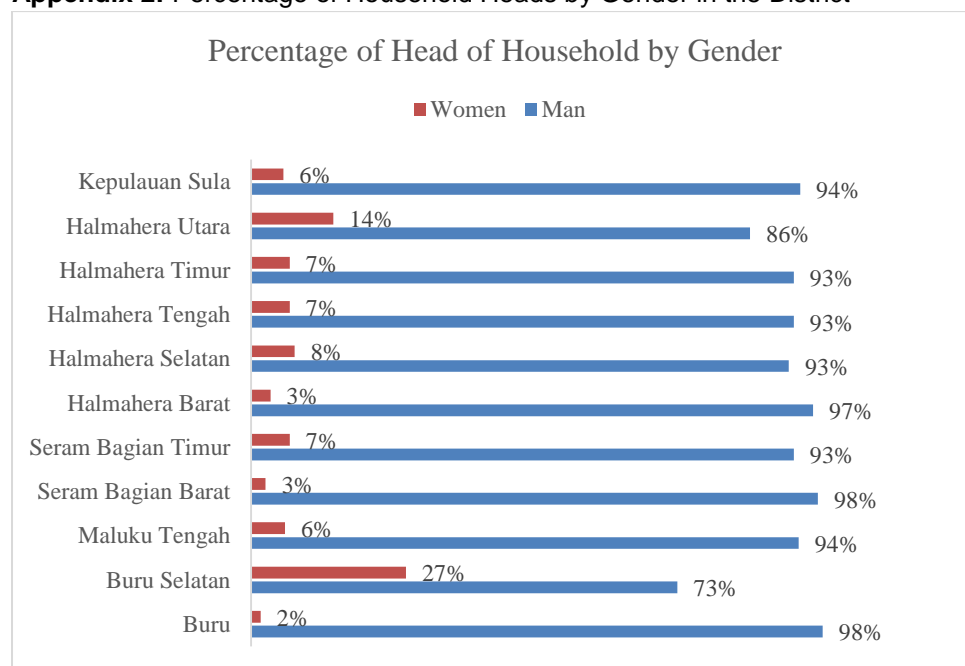
Using the score descriptors provided in the following paragraphs, the PCR will include, as an Appendix, a table that summarizes the scores provided by the completion review team for all main evaluation criteria and performance assessment questions, as follows:

PROJECT NAME: Smallholder Livelihood Development Project in Eastern Indonesia (SOLID)	
PROJECT ID: L-I-835-ID	
BOARD APPROVAL DATE: May 2011	
ENTRY INTO FORCE: 5 July 2011	
PROJECT COMPLETION DATE: 31 January 2019	
LOAN CLOSING DATE: 31 July 2019	
IFAD LOAN AND GRANT (US\$ MILLION): 50.19	
TOTAL PROJECT FINANCING: 65.0	
IMPLEMENTING AGENCY: KP/Ministry of Agriculture: Agency for Food Security	
Criterion	PCR Rating
Project Performance	
Relevance	5
Effectiveness	5
Efficiency	4
Sustainability	4
Rural poverty impact	
Households' incomes and assets	5
Human and social capital and empowerment	4
Food security	5
Agricultural productivity	5
Institutions and policies	4
Overall rural poverty impact	4
Additional evaluation criteria	
Gender equity and women's empowerment	5
Access to markets	4
Innovation	4
Potential for scaling up	4
Environment and natural resource management	5
Adaptation to climate change	5
Targeting and outreach	5
Partners performance	
IFAD's performance	5
Government performance	5
Overall project achievement:	4

Appendix 1



Appendix 2: Percentage of Household Heads by Gender in the District



Appendix 3: Comparison of percentage of Asset Ownership Index per District

District	Average Asset Index		
	<i>Baseline</i>	<i>Impact</i>	<i>non-SOLID</i>
Buru	26%	51%	47%
Buru Selatan	18%	61%	33%
Maluku Tengah	27%	51%	50%
Seram Bagian Barat	34%	44%	41%
Seram Bagian Timur	48%	45%	38%
Agregat Maluku	31%	49%	42%
Halmahera Barat	85%	61%	36%
Halmahera Selatan	48%	56%	27%
Halmahera Tengah	24%	57%	53%
Halmahera Timur	43%	56%	50%
Halmahera Utara	12%	65%	56%
Kepulauan Sula	45%	45%	42%
Agregat Maluku Utara	43%	57%	44%
Agregat Total	37%	54%	43%

Appendix aa: Impact Value of SOLID on Institutions and Services

No	Impact Category	Impact Indikator	The percentage of the number of respondents who answered				Average Value
			Very Small	Small	Large	Very Large	
	Institutional and Service. Includes changes that occur in sector and national policies that affect the rural poor, 'rules of the game', namely laws, laws, and regulations that are able to create a conducive environment for economic and social activities. The level of decentralization also is	There are main rules of the game ', namely laws, laws, and regulations that are able to create a conducive environment for economic and social activities	1.7 %	19.6%	52.6%	26.2%	3.0
		Is there a decentralization policy that allows decision making to take place at the local level?	1.9%	17.2%	57.1%	23.8%	3.0
		There are special 'rules of the game' that affect SOLID activities, such as:					
		land rights	17.1%	20.9%	48.4%	13.6%	2.8
		credit rules	15.1%	22.7%	46.7%	15.6%	2.6
		interest rates based on law	15.3%	27.4%	43.6%	13.7%	2.6
		marketing rules	17.4%	30.7%	40.1%	11.8%	2.6
		cooperative law	18.7%	30.8%	39.0%	11.6%	2.4
		rules on user association	17.2%	34.7%	36.6%	11.6%	2.4
		price / subsidy for production facilities and products / products	13.0%	41.8%	35.0%	10.2%	2.4
		Average game rules	13.0%	27.3%	44.3%	15.3%	2.6
		There are traditional and social activities that limit the equality of access to the benefits of activities,	19.3%	29.6%	39.4%	11.7%	2.4
		There are divisions between ethnic groups and ethnic groups	19.6%	28.7%	39.0%	12.8%	2.5
		There are social restrictions on women's activities,	20.6%	26.4%	41.1%	11.9%	2.4
		There is a traditional allocation based on gender by implementing village tasks and income from various types of plants and livestock.	17.9%	28.7%	41.3%	12.1%	2.8
Total Average			13%	25%	45%	16%	2.7

Source: Primary data Final Impact Study of SOLID 2018 activities

Appendix xy: Number of SOLID Beneficiary households

Tahun	Maluku Utara		Maluku		Total
	M	F	Male	Female	
2011	698	698	808	826	3.030
2012	1.784	1.784	1.886	2.293	7.747
2013	1.796	1.796	1.915	2.350	7.857
2014	3.450	3.450	4.486	4.781	16.167
2015	3.674	3.674	4.584	4.867	16.799
2016					24.216
2017	5.532	6.688	7.274	7.354	26.848
2018					27.179

Source: processed from SOLID 2017 database and TOR Final Impact Study of SOLID 2018.

Appendix xx: Comparison of percentage of Asset Ownership Index per District

District	Average Asset Index		
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Buru	26%	51%	47%
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Kepulauan Sula	45%	45%	42%
Agregat Maluku Utara	43%	57%	44%
Agregat Total	37%	54%	43%

Appendix YY: Changes in access to goods and services

District	Produce	
	Before SOLID	This Time
Buru	2.1	2.2
Buru Selatan	2.0	3.0
Maluku Tengah	2.9	2.9
Seram Bagian Barat	1.6	1.9
Seram Bagian Timur	2.0	3.0
Agregat Maluku	2.1	2.6
Halmahera Barat	2.0	3.8
Halmahera Selatan	1.1	3.8
Halmahera Tengah	1.0	4.0
Halmahera Timur	2.1	3.5
Halmahera Utara	1.1	3.6
Kepulauan Sula	1.0	1.2
Agregat Maluku Utara	1.4	3.4
Agregat Total	1.8	3.0

Indonesia

Smallholder Livelihood Development Project in Eastern Indonesia Project Completion Report

Annex: Annexes

Document Date: 30/07/2019
Project No. 1100001509
Report No. 5129-ID
Loan ID 1000004014

Asia and the Pacific Division
Programme Management Department

This document will be publicly disclosed unless there is written dissent on its disclosure by the Borrower at the time of this document submission to IFAD or no later than the project closing date.

PCR rating matrix

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Households' incomes and assets	5
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Food security	5
Agricultural productivity	5
Institutions and policies	4
Overall rural poverty impact	4
Additional evaluation criteria	
Gender equity and women's empowerment	5
Access to markets	4
Innovation	4
Potential for scaling up	4
Environment and natural resource management	4
Adaptation to climate change	4
Targeting and outreach	5
Partners performance	
IFAD's performance	4
Government performance	4
Overall project achievement:	4

Annex 2: Physical progress table

Component/ Sub-component or Output	Indicator	Unit	Cumulative Actual	Appraisal/Logframe Target	%
Component 1 Communities with enhanced capacity for HH food security and agriculture income planning.	No SHGs and operational	No	2,192 SHG	2, 240	98%
Sub-component 1.1 SHGs capable of managing and sustaining group resources (both human & financial).	existing SHGs re-trained and operational	No	1428	1428	
	new SHGs trained and operational	No	796	812	
Sub-component 1.2 SHGs capable of planning & implementing their production and post-harvest activities.	existing & new SHGs implementing production and post-harvest plans	No	2192	2240	
Component 2 HHs with more food available for both home consumption and/or sale.		%		50	
Sub-component 2.1 Improved infrastructure and services supporting small scale fishing and marine activities established in the project districts	% of HHs are fully food secure 80% of the time	%		75%	
	% reduction in incidence of stunting in SOLID HHs			20%	
Sub-component 2.2 Increase in HH income as a result of increased sales of agricultural products	HHs enjoy a 20% lift in monthly cash income from sale of food crop related products	%.	83	75	
Component 3 Increased household incomes from sales of 3 selected estate crops (coconut, cacao & nutmeg)	% of village crop producers enjoys a 20% lift in monthly cash income from sale of estate crop related products.	%		50	
Sub-component 3.1 Up to 3 value chains (VC) assessed as feasible for sustainable increases to HH incomes		No.			
		%			
		No.			
Sub-component 3.2 Replication and scaling up of the		No.			

project facilitated Farmers with improved market linkages & understanding of market requirements		No.			
		No.			
Sub-component 3.3 Federations established as sustainable business units with capacity to represent farmer interests in the market place and/or add value to any or all of the 3 selected products					
Component 4 Effective implementation and monitoring of SOLID					
Sub-component 4.1 Consistent, transparent and functional Project management arrangements at all levels					
Sub-component 4.2 Functional M&E system operating in timely manner, with useful data analysis giving positive changes in management					

Annex 3: RIMS data

Results Hierarchy	Indicators				Final Cumulative Results
	Name	Baseline	Mid-Term	End Target	
Outreach	1.a Corresponding number of households reached				
	Non-women-headed households - Number				
	Women-headed households - Number				
	Households - Number			33 600	26 907
	1 Persons receiving services promoted or supported by the project				
	Males - Number			16 800	12 560
	Females - Number			16 800	14 347
	Total number of persons receiving services - Number of people			33 600	26 907
	Groups receiving project services				
	Group - Number			2 240	2 192
	1.b Estimated corresponding total number of households members				
	Household members - Number of people				129 153
Project Goal To enhance food security and increase incomes in	Households with improvement in HH assets ownership index				
	Households - Number			33 600	
	40% reduction in the prevalence of child malnutrition				

beneficiary household	Reduction in the prevalence of child malnutrition - Percentage (%)			40	40
Development Objective Improve livelihoods and to reduce the incidence of poverty	HHs reporting increase in food security				
	Households - Number			26 880	21 504
	Households - Percentage (%)				80
Outcome Communities with enhanced capacity for households food security and agriculture income planning					
Output SHGs capable of managing and sustaining group resources (both human & financial)	SHG trained and operational				
	SHG trained and operational - Number			2 240	2 192
Output SHGs capable of planning and implementing their production and post-harvest activities	Village/community plans formulated				
	Plan - Number			330	896
	Community groups with women in leadership position				
	Groups with women in leadership position - Number			850	706
	People in saving and credit groups formed/strengthened				
	Males - Number			16 800	12 560
	Females - Number			16 800	14 347
	People accessing advisory services facilitated by the project				
	Males - Number			16 800	12 560
	Females - Number			16 800	14 347
	1.1.5 Persons in rural areas accessing financial services				

	Women in rural areas accessing financial services - credit - Number			16 800	14 347
	Total persons accessing financial services - savings - Number of people				
	Total persons accessing financial services - credit - Number of people				
	Saving groups formed/strengthened				
	Saving groups - Number			2 240	2 192
	50% HHs reporting regular market sales of food and cash crops				
	Households - Percentage (%)			50	89
	75% of HHs reporting 30% increase in annual cash income from sale of food and cash crops				
	Households - Percentage (%)			75	66
Outcome Households with more food and cash crops available for both home consumption and/or sale	50% HHs reporting regular market sales of food and cash crops				
	Households - Percentage (%)			50	
Output Increase in household income as a result of increased sales of agricultural products.	75% of HHs reporting 30% increases in annual cash income from sale of food and cash crops.				
	Households - Percentage (%)			75	
	1.1.4 Persons trained in production practices and/or technologies				
	Men trained in crop - Number			16 800	12 560
	Women trained in crop - Number			16 800	14 347

	Total persons trained in crop - Number of people			33 600	26 907
Outcome Increased household incomes from sales of 3 selected estate crops (coconut, cacao & nutmeg)	50% of village crop producers reporting a 20% increase in monthly cash income from sale of estate crop related products				
	Village crop producers (SHGs) - Number			1 120	
Output Farmers with improved market linkages & understanding of market requirements	2.1.5 Roads constructed, rehabilitated or upgraded				
	Length of roads - Length (km)			330	69
	2.1.2 Persons trained in income-generating activities or business management				
	Males - Number			16 800	12 560
	Females - Number			16 800	14 347
Output Federations established as sustainable business units with capacity to represent farmer interests in the market place and/or add value to any or all of the 3 selected products	2.2.3 Rural producers' organizations engaged in formal partnerships/agreements or contracts with public or private entities				
	Number of POs - Number				
	Women in leadership position - Number				
	2.1.3 Rural producers' organizations supported				
	Rural POs supported - Number				
	Females - Number				

Source: ORMS, 29.03.19