

PROJECT EVALUATION SERIES

Final Project Evaluation: Indonesia Post-disaster Livelihood Recovery Project

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED
NATIONS
OFFICE OF EVALUATION
April 2017**

Food and Agriculture Organization of the United Nations

Office of Evaluation (OED)

This report is available in electronic format at: <http://www.fao.org/evaluation>

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned. The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO 2017

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be made via www.fao.org/contact-us/licence-request or addressed to copyright@fao.org.

For further information on this report, please contact:

Director, Office of Evaluation (OED)
Food and Agriculture Organization
Viale delle Terme di Caracalla 1, 00153 Rome
Italy
Email: evaluation@fao.org

Contents

Acknowledgements.....	ii
Acronyms and abbreviations.....	v
Executive Summary.....	vii
1 Introduction	1
1.1 Background and purposes of the evaluation	1
1.2 Purpose the evaluation.....	1
1.3 Methodology	4
1.4 Evaluation Limitation	9
2 Background and context of the project.....	10
2.1. Analysis of the logical framework	10
2.2 The theory of change	14
3 Evaluation Findings	16
3.1. Relevance	16
3.2. Effectiveness	17
3.3. Efficiency	34
3.4. Project Impact.....	36
3.5. Lesson Learned for Impact Encountered in Sinabung.....	47
3.6. Sustainability.....	51
3.7. Crosscutting issues: Gender analysis.....	58
4. Conclusions and recommendations	65
4.1. Conclusions	65
4.2. Recommendations	66
Appendices.....	68

List of Tables

Table 1 Project Expected Output.....	1
Table 2: Evaluation Framework.....	3
Table 3: List of FGDs.....	4
Table 4 Breadwinner.....	8
Table 5 The Output of Strategic supports.....	10
Table 6 Support to Mount Kelud Post-Eruption Recovery	11
Table 7 Project Output Activities Mt Sinabung.....	13
Table 8 Total Budget of SIRESUP (in USD).....	35
Table 9 Total Budget of Project in Kelud (in USD).....	36
Table 10 Description of roles.....	51
Table 11 Gender Segregated Data on Various Activities	60
Table 12 Number of communal livestock training participants.....	61

LIST OF FIGURES

Figure 1 Characteristics of the Respondents	7
Figure 2: Main Livelihoods in Kelud and Sinabung Areas	7
Figure 3 The Estimated Monthly Income of the Respondents	8
Figure 4 Location of the Survey Location	11
Figure 5 Mount Sinabung Eruption Affected Areas	13
Figure 6 The Theory of Change	14
Figure 7 Impact of Mt Kelud Eruption to the Respondents (left) and to the Three Districts(right)	16
Figure 8 Map Relocation Location of Siosar	19
Figure 9 Participation of the beneficiaries in project activities	35
Figure 10 Budget allocation for each output in Mt. Kelud project.....	36
Figure 11 Income after Participating in Programme	37
Figure 12 Perception of the respondents on the project activities on agriculture practices....	38
Figure 13 Perception on livestock support.....	38
Figure 14 The beneficiaries income at present compare to immediate after the eruption in 2013.	39
Figure 15 Financial Capital	40
Figure 16 Product Development.....	46
Figure 17 Ownership of Assets	46
Figure 18 Estimation of Households Economy	47
Figure 19 Sustainability of the FAO and UNDP project in Kelud (NCE Kelud, 2016)	56
Figure 20 Percentage of respondents experiencing shift in gender role	61
Figure 21 Land Access and Ownership	62
Figure 22 Land access & ownership of men and women in Mt. Kelud.....	62
Figure 23 Farming Tools Ownership in Mt Kelud	62
Figure 24 Training Participation in Mt Kelud	63
Figure 25 Decision maker in farming of men and women in Mt. Kelud	63
Figure 26 Decision maker in animal husbandry of men and women in Mt. Kelud	64

Acknowledgement

We are pleased for the opportunity to have undertaken this final evaluation of the Indonesia Post-Disaster Livelihood Recovery Project in Karo and Kelud.

The evaluation team would like to thank the wide range of FAO, ILO and UNDP stakeholders, who as respondents to this evaluation, gave their valuable time and contributed significantly to the body of information and analysis contained within this report. They included households and communities in FAO and ILO project areas, NGO partners, BNPB of North Sumatra and Kelud, BPBD Karo and Kelud Regency, Bappeda Karo and Kelud Regency, Dinas Tenaga Kerja Karo and Kelud Regency, Farmers Coffe Training Center Indo Cafco at Merek and donors throughout the region. The evaluation team would also like to acknowledge the considerable support it received from FAO, ILO and UNDP national and international staff as well as at regional and headquarters level, who facilitated the exercise and provided their own time and valuable insights. Particular mention should be made of the support provided by FAO and ILO team at Karo and Kelud in undertaking the arrangements for the Evaluation in Kabanjahe and parcircular area of Mt. Sinabung in March 2017.

We are highly appreciative also for the generous support and comments made in interviews and discussions with each of the national coordinators and Project Steering Committee members

Composition of the Evaluation Team

Evaluation team

Dr. Henri Sitorus

Elisabeth Rianawati (Ph.D. cand.)

Yasmina Wulandari

Yohanna

Umar Al Faruq

FAO Office of Evaluation(OED)

Acronyms and abbreviation

APBD	:	Regional Public Spending
Bappedda	:	Regional Development Planning Agency
BASARNAS	:	Badan SAR Nasional / National Search and Rescue
BKP3	:	Badan Ketahanan Pangan dan Pelaksana Penyuluhan / Food Sustainability and Agriculture Counseling Office
BNPB	:	Badan Nasional Penanggulangan Bencana / National Disaster Management Agency
BPBD	:	Badan Penanggulangan Bencana Daerah / Local Government Disaster Management Agencies
BPP	:	Badan Penyuluhan Pertanian / Village Agricultural Extension Office
BUMDES	:	Village-owned enterprise
C-BED	:	Community-Based Enterprise Development
DEKRANASDA	:	National and Regional Crafts Council
Destana	:	Desa Tangguh Bencana / Disaster Resilient Village
Dinas Perindag	:	Department of Industry and Commerce
DRM	:	Disaster Risk Management
DRR	:	Disaster Risk Reduction
FAO	:	Food and Agriculture Organization of the United Nations
FGD	:	Focus Group Discussion
FSC	:	Farmer Support Center
GAP	:	Good Agriculture Practices
GBKP	:	Tribal Church of Karo
GHP	:	Good Handling Practices
GMP	:	Good Manufacturing Processes
HACCP	:	Hazard Analysis Critical Control Point
HH	:	Household
IDF	:	Indonesia Disaster Fund
IDPs	:	Internally Displaced Persons
ILO	:	International Labour Organization
IMDFF-DR	:	Indonesia Multi Donor Fund Facility for Disaster Recovery
KESBANGLINMAS	:	Prosperity of Development and Protection of Society
KSU	:	Koperasi Serba Usaha / Multi Purpose Cooperative
MFI	:	Microfinance Institutions
Mt	:	Mountain
NCA	:	National Lead Agency
NGO	:	Non Government Organization
NZ-Aid	:	New Zealand Government Aid
OED	:	Office of Evaluation
ORARI	:	Organisasi Radio Amatir Republik Indonesia / Amateur Radio Organisation Republic of Indonesia
PBS	:	Perkebunan Besar Swasta / Private Owned Plantation
PDNA	:	Post Disaster Need Analysis
P-IRT	:	Perijinan Industri Rumah Tangga / Home Industry Product Permit
PMI	:	Palang Merah Indonesia / Indonesia Red Cross
PUNO	:	Participating United Nation Organization
RAPI	:	Radio Antar Penduduk Indonesia / Indonesia Inter-Citizen Radio
RENAKSI	:	Rencana Aksi / Action Plan for Rehabilitation and Reconstruction
Senkom	:	Sentra Komunikasi / Communication Center
SID/VIS	:	Sistem Informasi Desa / Village Information System
SIKK	:	Sistem Informasi Kebencanaan Kabupaten / District Disaster Information System
Simpade	:	Sistem Informasi Manajemen, Profil dan Administrasi Desa / Village Administration and Profile Management Information System

SIRESUP	:	The Sinabung Recovery Support Programme
SKPD	:	Governmental Units
SME	:	Small and Medium-Sized Enterprise
TOT	:	Training of Trainer
TPN	:	National Assistance Team
UN	:	United Nation
UNDP	:	<i>United Nations Development Programme</i>
UNJP	:	UN Joint Programme
UNRC	:	UN Residents Coordinator
UN-RCO	:	UN Resident Coordinator Office
VTNA	:	Vocational Training Needs Assessment

Executive Summary

Introduction

The Mount Kelud Recovery Support Programme is collaboration between National Disaster Management Agency (BNPB), National Development Planning Agency (Bappenas), implemented by FAO and UNDP under United Nation Joint Programme mechanism, and supported by New Zealand Aid Programme through Indonesia Disaster Fund. The programme was implemented to support post-disaster recovery in East Java region which was affected by the Mount (Mt.) Kelud eruption. In Kelud areas, FAO and UNDP Indonesia, under the coordination of UN Residents Coordinator (UNRC), has undergone a joint programme from January 2015 – August 2016.

Meanwhile, Mount Sinabung in Kabanjahe District in North Sumatera has erupted since 2010 and still continue to erupt. The eruption effects had caused at least three villages in radius 5 km relocated to safer area. It also caused numerous community members displaced and affected community livelihoods similar to Kelud eruption, in which agriculture sector has the biggest loss.

The Mt. Sinabung Recovery Support (SIRESUP) programme was also implemented under UN Joint Programme (UNJP) mechanism to support recovery after the eruption in 2013, with target areas in Kabanjahe District, North Sumatera. The projects are funded by New Zealand Government (NZ-Aid) and channeled through Indonesia Multi Donor Fund Facility for Disaster Recovery (IMDFF- DR) / Indonesia Disaster Fund (IDF).

The final evaluation of the Indonesia Post Disaster Recovery Project was carried out for the purpose of understanding and drawing lessons from what has been done and achieved by the project, with regard to the strategies, activities and results that had been planned and to the broader outcomes that were intended.

The main objective of this evaluation is to qualify the impact of UNJP intervention towards its beneficiaries both in local government and community level, and to seek the extent of the project outcome achievement. However, it is worth noted that if project performance and output delivery have substantial effect on the impact, then the evaluation should provide recommendation for the improvement of future project formulation.

The joint programme outcome is the improved livelihoods of communities affected by the Mount Kelud and Mount Sinabung eruption and strengthen the capacity building of government to coordinate and implement gender sensitive, pre and post disaster recovery planning process and practices based on disaster risk reduction (DRR) principles. The strategic supports were focused to achieve the output below.

Output	Implementing Agencies
--------	-----------------------

Output 1	The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened	UNDP (Kelud & Sinabung)
Output 2	The capacity of national and local authorities to plan and implement post-disaster recovery activities are strengthened	UNDP (Kelud & Sinabung)
Output 3	Rapid restoration of livelihoods and development of economic opportunities	FAO (Kelud) FAO& ILO (Sinabung)
Output 4	Risk-reduction principles incorporated in recovery Measures	UNDP & FAO (Kelud & Sinabung)

The evaluation study involves the collection of primary data through field studies, document review and analysis of secondary data. In order to obtain primary data, a field study was commenced in March 2017 in the Province of North Sumatra (for Mt. Sinabung), and the Province of East Java (Mt. Kelud). The data collection involved qualitative methods (interview, FGDs, observation and document reviews) and quantitative (survey).

Mt. Sinabung Recovery Support Programme (SIRESUP)

1. The SIRESUP Programme has contributed local community for livelihood recovery through promotion of organic horticulture, effective coffee cultivation and introduction for livestock based livelihoods. The survey in the evaluation confirm that assets of local communities have changed positively from the period of eruption in 2013.
2. The programme is relevant to the local and regional needs, particularly as model in disaster response. The the project has been able to promote the livelihoods of the community members in the relocation site in Siosar. In Siosar, adaptive livelihoods promoted include organic horticulture, livestock raising, sewing and automotive workshop/services.
3. Adaptive livelihood is also promoted through capacity building in coffee cultivation, production enhancement of coffee, and post-harvest processing. The commodity of coffee become strategic since this cash crop is resilient to volcano ash. Moreover, coffee has been practiced by farmer's community, with limited technology. Therefore, the project is strongly relevance in revitalizing community livelihood capacity.
4. The project is implemented jointly by three UN Agencies in collaboration with Bappenas and BNPB. Therefore, nationally, the project promotes multi-stakeholder project management and partnership including its strategic partnership with BPBD at Province and District level, and other technical government units in Tanah Karo District.
5. The capacity of local government is fundamental for effective disaster mitigation, rehabilitation, reconstruction including on livelihoods recovery. Therefore, the project has contributed toward building capacity of BPBD in coordination activities, Disaster Risk Reduction and livelihoods program. Similarly, the project enhanced the capacity of local government extension workers in managing livestock raising (chicken and cattle), organic horticulture and coffee cultivation techniques.
6. Effectiveness of the project was achieved in that project has been able to meet the output for building capacity of local government units in coordinating disaster recovery.

7. Project also met its output for livelihoods recovery, in that most activities promoted have resulted in positive impact to diversification of income which lead to potential sustainability such as coffee farming productive enhancement, small and medium enterprise development.
8. Project has contributed to sustainability such as environmental sustainability through agroecology (organic horticulture), terracing and soil conservation. In addition, for livelihoods sustainability capacity for livelihoods and sales of the product have been developed, including with linkages with private companies in the case of sustainable coffee farming.

Support to Mount Kelud Programme

1. BPBD officials in the three-district benefited from the UNDP project of increasing the officials' capacity in coordination, planning and implementing recovery measures
2. The UNDP projects are likely to withstand the high rotation of government officials as the projects have produced written documents such as action plan and contingency plan
3. The high success of livestock project, especially cow support, contributed to the high value of livestock support (i.e. cows) that was given to the beneficiaries who already have experience in rearing cows, in addition to the support received from the government program who put much interest in supporting local livestock sustainability
4. When the beneficiaries are sure of what they want, the possibility of success and sustainability of the project is higher, like in the case of cows support versus banana seeds support where the beneficiaries were indecisive of the choice of the support
5. The livelihood projects done by FAO are able to uphold the build back better principles by a series of activities and projects done to covers the material support. Not only the beneficiaries received livestock supports, they also were enriched by newfound skill such as basic veterinarian, waste management by biogas, organic farming, and processed food.

4.1. Recommendations

Mt. Sinabung Recovery Support Programme

1. Building capacity of beneficiaries in animal health management is pre-requisite in the livestock raising intervention. Therefore, prior to livestock placement, strong livestock management skills will be required.
2. To avoid case in high mortality of chicken, FAO may provide technical assistance to BPBD including involving Livestock Service Units in the breeding provision/procurement. Therefore, breeding's appropriateness and suitability will support the sustainable livestock raising.
3. Integration of livelihood recovery with strong access to financial services need to be integrated. Most farmers have access to micro-credits, savings mobilization, and loans from internally mobilized resources through Credit Unions, but limited access to micro-credit from bank. Strong access to micro-

- credit and loan administration, will enhance productive capacity of the beneficiaries. In addition, business development services need to be continued, to enable the SMEs to compete in the local market.
4. Most of the livelihoods activities observed in the study are small scale, micro and artisanal. Therefore, we recommend that moves should be made to improve productivity and quality. We also recommend that programs to enhance the entrepreneurial capacities of women should be prioritized. In line with this strategic business plans should be promoted for community groups, to assist them to identify potential commodities, market analysis and quality improvement.
 5. Since the areas are prone to natural disasters particularly volcanic eruption, the livelihoods of beneficiaries are often interrupted by harvest failure, loss of livestock and crop damage. There is a strategic need for advocating for the provision of social protection. This is because meeting the needs of the productive poor through livelihood and enterprise development can be an effective means for bringing about inclusive economic growth. Positive social assistance aims to promote sustainable livelihoods and effective small-scale enterprises. By advocating the needs for productive social assistance, protective and preventive attitude, to one that invests in and enhances poor people's capacities to achieve sustainable livelihoods, makes a great deal of economic sense.

Support to Mount Kelud Programme

The following proposes a set of strategic recommendations: With many achievements that has been mention, of course there is need area of improvement for the future, there are:

1. In communal livestock training project, there were some internal struggles between the two receiving farmers group in Kampungbaru village. This struggle caused the donations to be utilized less effectively. This problem could be avoided if FAO consulted with local agency beforehand to understand the local context and problem in the village it's targeting.
2. When introducing a new crop, collaboration with crop-based organization in the area such as AAC (Chili Agribusiness Association) would be a good entry point to introduce the crops.
3. Barn owl breeding met a problem delivering the output when barn owls stationed in one village fled. In order for the project to succeed, proper domestication for barn owls is needed, in terms of: population in one area, location of nest. Proper vigilance by expert is also needed until the owl is domesticated properly.
4. Better vendor would be needed in order for beneficiaries to receive the tools with appropriate specifications per their request.
5. In implementing Village Information System, it is important to recognize the existing limitation of village's infrastructure and geographical disadvantages in order for the project to sustain.
6. Women is still underrepresented in the training, although women participants admitted the project made them to be more confident in their abilities in their job; men admitted that they did not feel any changes at all. To achieve gender

equality, spreading awareness should be done not only to women but also to men.

1 Introduction

1.1 Background and purposes of the evaluation

The Mount Kelud Recovery Support Programme is collaboration between National Disaster Management Agency (BNPB), National Development Planning Agency (Bappenas), implemented by FAO and UNDP under United Nation Joint Programme mechanism, and supported by New Zealand Aid Programme through Indonesia Disaster Fund. The programme was implemented to support post-disaster recovery in EastJava region which was affected by the Mount (Mt.) Kelud eruption. In Kelud areas, FAO and UNDP Indonesia, under the coordination of UN Residents Coordinator (UNRC), has undergone a joint programme from January 2015 – August 2016.

Meanwhile, Mount Sinabung in Tanah Karo District in North Sumatera has erupted since 2010 and still continue to erupt. The eruption effects had caused at least three villages in radius 5 km relocated to safer area. It also caused numerous community members displaced and affected community livelihoods similar to Kelud eruption, in which agriculture sector has the biggest loss.

The Mt. Sinabung Recovery Support (SIRESUP) programme was also implemented under UN Joint Programme (UNJP) mechanism to support recovery after the eruption in 2013 with target areas in Kabanjahe District, North Sumatera. The projects are funded by New Zealand Government (NZ-Aid) and channeled through Indonesia Multi Donor Fund Facility for Disaster Recovery (IMDFF- DR) / Indonesia Disaster Fund (IDF).

The joint programme outcome is the improved livelihoods of communities affected by the Mount Kelud and Mount Sinabung eruption and strengthen the capacity building of government to coordinate and implement gender sensitive, pre and post disaster recovery planning process and practices based on disaster risk reduction (DRR) principles. The strategic supports were focused to:

Table 1 Project Expected Output

Output		Implementing Agencies
Output 1	The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened	UNDP (Kelud & Sinabung)
Output 2	The capacity of national and local authorities to plan and implement post-disaster recovery	UNDP (Kelud & Sinabung)
Output 3	Rapid restoration of livelihoods and development of economic opportunities	FAO (Kelud) FAO& ILO (Sinabung)
Output 4	Risk-reduction principles incorporated in recovery Measures	UNDP & FAO (Kelud & Sinabung)

1.2 Purpose the evaluation

The final evaluation of the Indonesia Post Disaster Recovery Project was carried out for the purpose of understanding and drawing lessons from what has been done and

achieved by the project, with regard to the strategies, activities and results that had been planned and to the broader outcomes that were intended.

The main objective of this evaluation is to qualify the impact of UNJP intervention towards its beneficiaries both in local government and community level, and to seek the extent of the project outcome achievement. However, it is worth noted that if project performance and output delivery have substantial effect on the impact, then the evaluation should provide recommendation for the improvement of future project formulation.

The specific objectives of the evaluation are as follows:

1. To review and critically evaluate the achievement of results as stated in the Joint Programme Documents;
2. To review each phase of the joint programme in relation to the stages of post-disaster early recovery, rehabilitation and reconstruction, and long term development of sustainable livelihood and determine what has worked well and has not worked well;
3. To review and contextualize the joint programme efforts as part of the Action Plan for Rehabilitation and Reconstruction (RENAKSI);
4. To distil and document lessons learned from the joint programme; including those pertaining to approaches, strategies, gender mainstreaming, management and partnerships, both in the context of country specific lessons and those relevant to other international post disaster programmes;
5. To assess the effectiveness of capacity development for National Disaster Management Agency (BNPB), Local Government Disaster Management Agencies (BPBD), communities, and the extent to which it contributed to overall implementation of RENAKSI;
6. To assess the short term economic impact on UNJP intervention particularly in agriculture-based sector.
7. To provide recommendations in light of the findings of the assessment to enable PUNOs to sustain the benefits of the joint programme and effectively respond to any future disasters both in Indonesia and globally.

The evaluation is based on the main research questions below.

Table 2: Evaluation Framework

Evaluation criteria	Key questions
Relevance	To what extent was project design consistent with national and local policies and priorities and the needs of intended beneficiaries? How did the project adapt to the changing development context?
Effectiveness	To what extent the project have achieved its intended interim results? What factors will have contributed to achieving or not achieving intended results?
	<p>Further Questions on Effectiveness</p> <ol style="list-style-type: none"> 1. Were stated outcomes or outputs achieved? <ul style="list-style-type: none"> • Whether the livelihood of communities affected by Mt Kelud Eruption had been improved and the government capacity in planning and implementing post-disaster livelihood recovery had been strengthened? • Whether the capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened? • Whether the capacity of national and local authorities to plan and implement post-disaster recovery activities are strengthened? • Whether the agriculture-based livelihood had been restored/improved and economic opportunities are developed?) • Whether risk-reduction principles had been incorporated in recovery measures? 2. Are there any unexpected results in addition to the planned output? 3. What are the local and national stakeholder's satisfaction and expectation level towards the joint programme (In community, local government, national government counterpart and donor)?
Efficiency	How efficiently were resources converted into interim results? Was project funding well spent?
Sustainability	Will the project's investments continue to deliver benefits beyond the life of the project? Are sufficient local capacities and resources available for the further development of DRR/DRM activities initiated by FAO?
Impact	What the main impact of the programmes?

1.3 Methodology

This study involves the collection of primary data through field studies, document review and analysis of secondary data. In order to obtain primary data, a field study was commenced in March 2017 in the Province of North Sumatra (for Mt. Sinabung), and the Province of East Java (Mt. Kelud).

1.3.1. Qualitative Approach

The study used qualitative method which is research efforts intended to interpret the holistic reality, the meaning of social action and economic behavior. Qualitative research is an investigation that aims to understand the broader social and economic phenomenon (Sarantakos, 2003)¹. Use of qualitative method is considered appropriate because the study is primarily related to the process and result or product (Creswell, 1994; Bogdan and Biklen, 1982). Qualitative methods are more focused on the perspective of the participants, and is expected to capture the significance of the various processes performed by the subject of research (Bogdan and Biklen, 1982).²

Below are qualitative research techniques used for primary data collection.

FGD (Focus Group Discussion)

FGD is a technical research that collect data through focus group discussions, which is guided by the researcher (Morgan, 1996)³. The study involved focus group discussion with farmers, FGDs with women's groups and youth groups, as indicated by the the following table:

Table 3: List of FGDs

Mt. Sinabung	<ol style="list-style-type: none">1. FGD of Beneficiaries (Women Only) in Siosar2. FGD of Beneficiaries Male Participants in Siosar3. FGD of Beneficiaries in Naman Terang Village4. FGD with Head of Villages and Village Administrators of Siosar (3 villages)5. FGD with Head of Villages and Village Administrators – Non Siosar (4 villages)
Mt. Kelud	FGD with BPBD Kab. Kediri, Dinas Peternakan dan Perikanan Kab. Kediri

In-depth Interview

¹ Sarantakos, S. (2003). *Sosial Research*. Basingstoke: Palgrave Macmillan.

² Bogdan R.C. and Biklen S.K. (1982). *Qualitative Research for Education: An Introduction to Theory and Methods*. Toronto: Allyn and Bacon Inc.

³ Morgan, D. L. (1988). *Focus groups as qualitative research*. London: Sage Publication.

In-depth interview is a qualitative research strategy to obtain the data guided by an interview guide (Babbie, 2012⁴, Mack et al, 2005⁵). During the field work, interviews were conducted for key informants consisting of

For The Kelud and Sinabung Project:

- Project Staff
- FAO Program Management,
- ILO Program Officer,
- UNDP Program Staff
- Bappenas
- BNPB,

Sinabung Project

- Bappeda of Tanah Karo
- BPBD of Sumatera Utara
- BPBD of Tanah Karo
- Agriculture Office of Tanah Karo
- Manpower and Social Office of Tanah Karo
- Indocafco
- Credit Union
- Extension Workers
- Civil Society Representative: GBKP
- Dinas of Tourism and Culture of Tanah Karo
- Head of the Village of Bekerah, Siosar
- Head of the Village of Simacem, Siosar
- Head of the Village of Suka Meriah, Siosar
- Head of the Village of Non Siosar (5 villages)

Kelud

- BPBD of East Java
- Agriculture Agency of East Java
- Food Crops Research Institute (BPTP) of East Java
- Bappeda of Kediri District
- BPBD of Kediri District
- Dinas Peternakan dan Perikanan Kediri District
- Dinas Pertanian dan Ketahanan Pangan Kediri District
- Dinas Koperasi, Industri, dan Perdagangan Kediri District
- Dinas Komunikasi dan Informasi Kediri District
- Balai Penyuluhan Pertanian Kecamatan Kepung – Mochtar Yudi, Agus, Bambang
- Asosiasi Agribisnis Cabai
- BPBD Malang
- Bappeda Malang
- Head of District Office Malang
- Animal Husbandry Agency Malang
- BPBD Blitar

⁴ Babbie, E. (2002). *The practice of sosial research*. Belmont, CA: Cengage Learning.

⁵ Mack, N., Woodsong, C., MacQueen, K.M., Guest, G., and Namey, E. (2005). *Qualitative research methods: A data collector's field guide*. North Carolina: USAID - Family Health International.

- Bappeda Blitar
- Agency of Cooperative and Small Medium Enterprises Blitar
- Industrial and Trade Agency Blitar

Observation

This evaluation used observation to enrich the data and findings. In particular, the evaluation team observed livelihoods activities of the beneficiaries such as livestock, farming, home industry and housing conditions.

Document Review

The evaluation team conducted an extensive review of documents listed in annex 3.

1.3.2. Quantitative Method (Survey)

The survey was conducted by distributing questionnaires to 120 respondents, based on quota Sampling: 60 respondents in Sinabung Project and 60 respondents in Kelud Project.

The questionnaire used containing both close-ended questions and open questions (but mostly are close-ended questions) covering the following sections:

- Demographic characteristics
- Perception on capabilities of national and local authorities
- Project impact on community livelihoods (income, assets, skills)
- Project impact on household food security and livelihoods resilience

1.3.3. Data Analysis:

Quantitative Data Analysis

Statistical analysis with descriptive analysis that aims to present data or observations succinctly and clearly in tables and graphs or charts statistical analysis will be conducted with SPSS and STATA.

Qualitative Data Analysis

According to De Vaus et al. (2002)⁶, qualitative data analysis is mainly done through categorization of data, sorting and acquisition of the essence of the data corresponding to the research question. Babbie (2004) further states that analysis of qualitative data can be done with thematic analysis. Therefore, in this study data analysis will involve several steps, including: (1) organizing data; (2) categorization of themes and patterns, (3) searching for an alternative explanation of the data; and (4) report writing (Marshall and Rosman, 2006)⁷.

1.3.4. Intender users

The intended users of the evaluation report are as follows:

⁶ De Vaus, D. (2002). *Surveys in sosial research*. Sydney: Allen and Unwin.

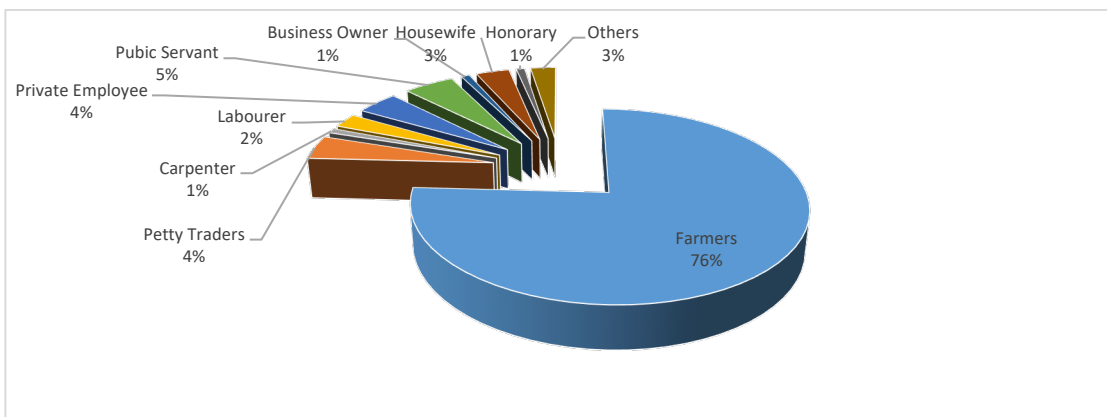
⁷ Marshall, C. & Rossman, G.B. (2006) *Designing qualitative research (4th. Ed)*. London: Sage.

- Donor (NZAID)
- IDF
- UNJP
- FAO
- UNDP
- ILO
- BNPB
- BPBD
- Province and District Government of the project sites

1.3.5. Characteristics of the respondents

The respondents of this evaluation, who are beneficiaries of UNJP project in Kelud and Sinabung areas mainly work as farmer for their main livelihood. As can be seen from the graph below, that 76% of the respondents are farmers.

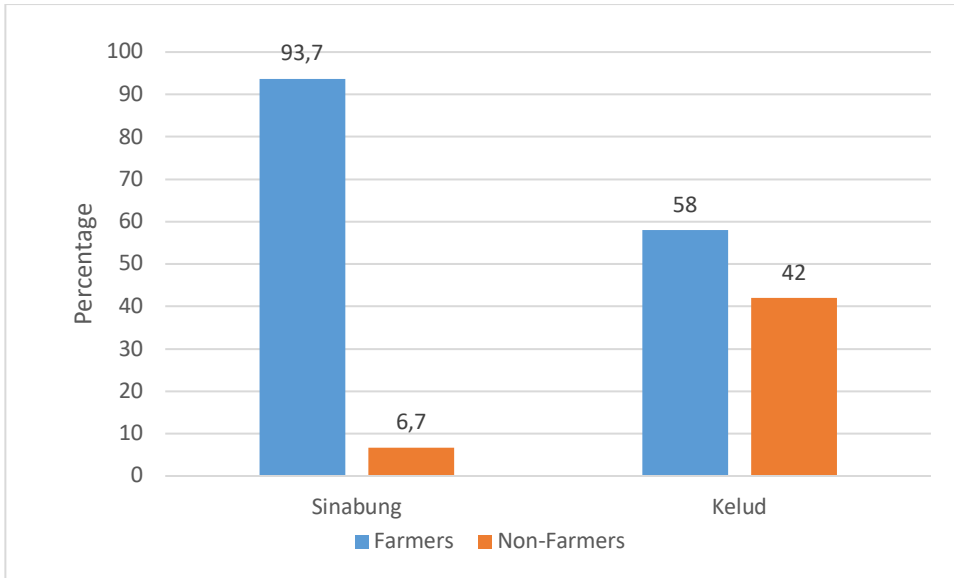
Figure 1 Characteristics of the Respondents



N=120

However, there is quite significant differences between main livelihoods in Kelud and Sinabung areas, as shown by the graph below.

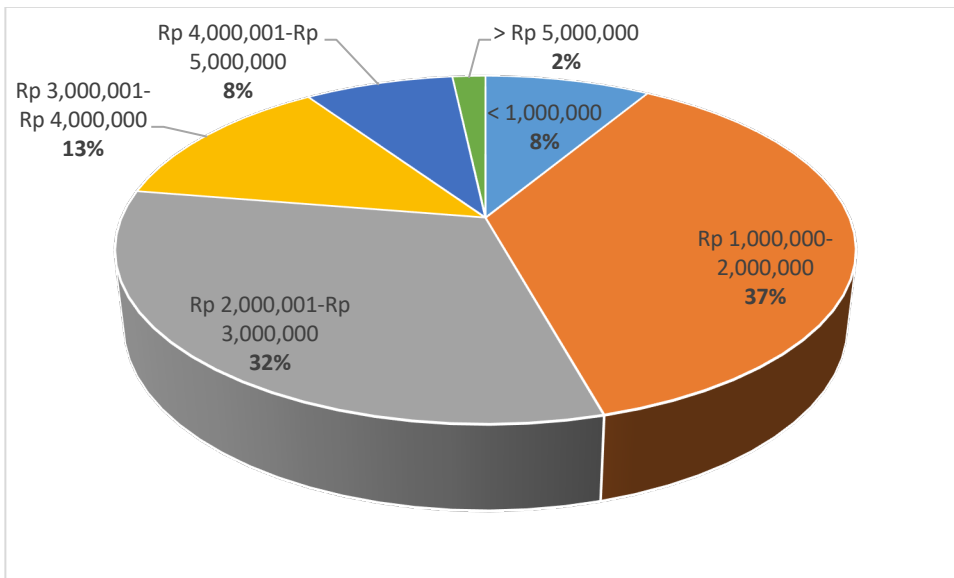
Figure 2: Main Livelihoods in Kelud and Sinabung Areas



The differences are that the vast majority of the respondents main livelihoods found in Sinabung areas, which reached 93%.

The estimated monthly income of the respondents in the two areas are as shown by thegraph below.

Figure 3 The Estimated Monthly Income of the Respondents



As can be seen from the above graph, majority of the respondents (37%) have income between 1 to 2 Million per month. The second biggest income category is between 2 to 3 million, with 32% of the respondents. While there are 8% of the respondents have income between 4 to 5 million.

Table 4 Breadwinner

Number of person as breadwinner	Sinabung	Kelud
1	23%	27%
2	67%	58%

3	10%	13%
4	0%	2%

1.4 Evaluation Limitation

The limitation in the evaluation are as follows:

- Time constraints

The field data collection was limited and was arranged in quite short time. This result in the selection of beneficiaries to be visited. However, the evaluation team has included the representation of beneficiaries.

- Post-Implementation Period in Kelud

This evaluation was done after the completion of the project. Some of the beneficiaries in the government official have already been rotated into new agency or new position; one head of division has retired. In general, when the new officials were interviewed, they provide limited or no information about the UNJP projects. Nonetheless, they sometimes could provide information on the on-going or up-coming program in their division or sections given they have been in their position for at least a month. Nonetheless, this evaluation tried to minimize the lack of information by interviewing the government officials that have been involved in the projects regardless of their current position.

On the other hand, interviewing beneficiaries in the field after the projects finished gives a closer approximation on the sustainability and the future profit of the projects.

2 Background and context of the project

The livelihood recovery project is strategic to Indonesia and the two regions, since they addressed the needs for recovery of affected population and revitalized disasters risk reduction which is still having many challenges and problems to overcome.⁸ The two projects were response to assisting community affected by the volcano eruption: Kelud in East Java and Sinabung in North Sumatera.

2.1. Analysis of the logical framework

To respond the disasters especially the eruption of Mount Kelud and Mount Sinabung, FAO, ILO and UNDP Indonesia, under the coordination of UN Residents Coordinator (UNRC), have undergone a joint programme from January 2015 – August 2016 (in Kelud) and January 2015 – December 2016 (in Sinabung). The two projects aimed at livelihoods improvement and recovery for communities in Mt Kelud and Mt Sinabung post-eruption area as well as enhancing institutional capacity of relevant disaster management stakeholders regarding post – disaster rehabilitation and reconstruction.

The programme was implemented under UN Joint Programme (UNJP) mechanism in project *Support to Mount Kelud Post-Eruption Recovery Programme (UNJP Kelud)* with target areas in Kediri, Malang and Blitar District; and *Support to Mount Sinabung Recovery Programme (UNJP Sinabung)* with target areas in Kabanjahe District, North Sumatera. The projects are funded by New Zealand Government (NZ-Aid) and channeled through Indonesia Multi Donor Fund Facility for Disaster Recovery (IMDFF-DR) / Indonesia Disaster Fund (IDF).

The joint programme expected outcome is the improved livelihoods of communities affected by the Mount Kelud and Mount Sinabung eruption and strengthen the capacity building of government to coordinate and implement gender sensitive, pre and post disaster recovery planning process and practices based on disaster risk reduction (DRR) principles. The strategic supports were focused to:

Table 5 The Output of Strategic supports

Output Statement		Implementing Agencies
Output 1	The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened	UNDP (Kelud & Sinabung)
Output 2	The capacity of national and local authorities to plan and implement post-disaster recovery activities are strengthened	UNDP (Kelud & Sinabung)
Output 3	Rapid restoration of livelihoods and development of economic opportunities	FAO (Kelud) FAO& ILO (Sinabung)
Output 4	Risk-reduction principles incorporated in recovery measures	UNDP & FAO (Kelud & Sinabung)

2.1.1. Mount Kelud Post-eruption Recovery Programme

The Mount Kelud eruption in 13 February 2014 had resulted in major damage and loss to Blitar, Malang and Kediri District in East Java province of Indonesia. The loss and

⁸ De Priester, L. (2016). An approach to the profile of disaster risk of Indonesia. *Emergency and Disaster Reports*, 3(2), 1-66.

damage stretched across multiple sectors ranging from housing, infrastructure, productive economy and social in varied scale.

In economic sector, agriculture and plantation suffered the most since a wide number of farm lands and crops were heavily damaged due to volcanic ashes. In the following aftermath, significant decrease in productivity in livestock sector and community livelihood also occurred.

Figure 4 Location of the Survey Location : 9 Villages (yellow box) within 7 sub-districts (circle) in Kediri District (blue), Malang District (Orange), and Blitar District (green), where the UN Project were Launched



The planned outputs were aimed to be achieved by implementing multi-activities as shows in the logical framework summary below.

Table 6 Support to Mount Kelud Post-Eruption Recovery

<p>Period: December 2014 – August 2016 Outcome: Communities affected by the 2013-2014 Mount Kelud Eruption recover with sustainable livelihoods and enhanced resilience</p>
<p>Output</p>
<p>Geographical Coverage: East Java</p>

Output 1: The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened	Output 2: Local authorities have the capacities to plan and implement post-disaster recovery activities	Output 3: Rapid Restoration of livelihoods and development of economic opportunities	Output 4: Risk Reduction principles incorporated in recovery measures
Activities			
1.1. Establish and conduct government-led stakeholders coordination supporting national and local early recovery effort; and 1.2. Support to recovery programming at national and local level	2.1. Support the national and local authorities, and civil society organizations to conduct periodic re-assessment of needs and progress of disaster recovery that will feed into existing recovery planning 2.2. Strengthen the capacity of local authorities to contribute to early recovery and recovery planning, budgeting, implementation and monitoring	3.1. Support to coordination efforts on livelihood concept, strategy and implementation 3.2. Creation of new income-generation activities which incorporate value chain approach as a basis for economic development 3.3. Restoring agricultural livelihoods initiatives through participatory land clearance, livestock post disaster recovery supports, seeds and livestock feed distributions, and provision of skills where necessary	4.1. Develop district disaster management plans to guide Renaksi implementation 4.2. Develop community based contingency plans including livestock management in emergency situation 4.3. Develop risk sensitive farming strategy

2.1.2. Mount Sinabung Recovery Support Program (SIRESUP)

The Sinabung Recovery Support Programme (SIRESUP) is a joint initiative of the Government of Indonesia and the key UN Agencies (UNDP, FAO, ILO) in supporting the post-disaster recovery of the regions affected by the 2013 Mt. Sinabung volcanic eruption in Karo District of the North Sumatera, which has erupting since 2010 and shows no signs of reducing or stopping. The eruption effects had caused 7 villages in radius 5 km relocated to safer area. It also caused numerous community members displaced and living in temporary shelters ever since. The eruption also creates economic impact and agriculture sector has the biggest loss.

Mt. Sinabung is a type B stratovolcano where its eruption history is unknown. It has never erupted since 400 years ago. For the first time, a phreatic explosion occurred on 27 August 2010. In the period of between 2010 to 2013, the eruptive activity has generated ash fall, ejected materials (minor) and water vapor emission. For most of case the beginning and end of eruptive period are unclear, however the short seismic swarm and tremor during several hours occurred before eruption but not always. Then in 15 September 2013 the Mt Sinabung erupted again causing more hazards and threats to local community. The eruption continues up to present which disrupted the

local community. On 18 September 2013, there were 12,950 people evacuated from the affected areas in Tanah Karo District.⁹

Figure 5 Mount Sinabung Eruption Affected Areas



Source: Pusat Vulkanologi dan Mitigasi Bencana Geologi, Kementerian Energi dan Sumberdaya Mineral (2013).

The four expected outputs are implemented with various activities as shown by Table below.

Table 7 Project Output Activities Mt Sinabung

<p>Period: 2015 – 2017 Outcome: Communities affected by the 2013-2014 Mt Sinabung Eruption recover with sustainable livelihoods and enhanced resilience</p>
<p>Output</p>
<p>Geographical Coverage: Tanah Karo District, North Sumatra</p>

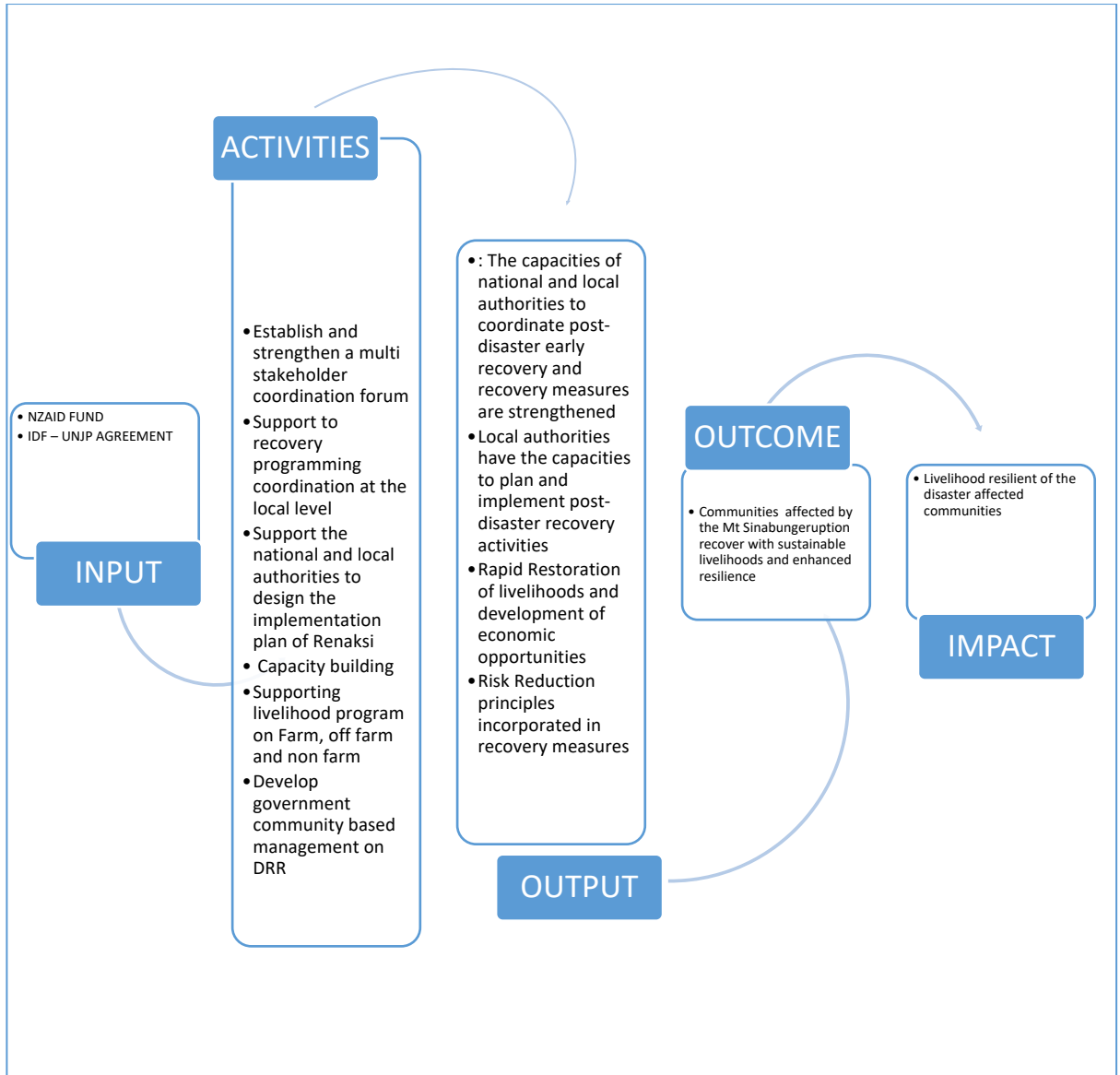
⁹ Pusat Vulkanologi dan Mitigasi Bencana Geologi, Kementerian Energi dan Sumberdaya Mineral (2013). Mt. Sinabung up to October 2013. https://docs.unocha.org/sites/dms/ROAP/Indonesia/Documents/PRESENTATION_sheet_Sinabung_hingga_Oktober2013%20FINAL.pdf

O1: The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened	O2: Local authorities have the capacities to plan and implement post-disaster recovery activities	O 3: Rapid Restoration of livelihoods and development of economic opportunities	O 4: Risk Reduction principles incorporated in recovery measures
Activities			
1.1. Establish and conduct participatory coordination mechanism to support national and local early recovery and recovery efforts, including support to capacity strengthening of BPBD 1.2. Support to recovery programming coordination at the local level	2.1. Support the national and local authorities to design the implementation plan of Renaksi 2.2. Training needs assessment 2.3. Design training course 2.4. Conduct training course 2.5. Evaluate training 2.6. Follow up remedial action	3.1. Support to coordination efforts on livelihood concept, strategy and implementation 3.2. Creation of income generation projects that incorporate value-chain approach as a basis for economic development 3.3. Restoring agricultural livelihoods initiatives through land clearance, agricultural inputs and seed distribution, and provision vocational and entrepreneurship skills, women and youth will have priority to receive vocational and entrepreneurship skill training and post-training support 3.4. Improving the capacity of micro and small enterprises started by IDPS through provision of financial education and training. Women and youth will have priority to receive training	4.1. Develop district disaster management plans to guide Renaksi implementation 4.2. Develop community based contingency plans 4.3. Develop risk sensitive farming strategy

2.2 The theory of change

Based on the logical framework, the evaluation reconstruct the theory of changes of the two projects, as follows:

Figure 6 The Theory of Change



3 Evaluation Findings

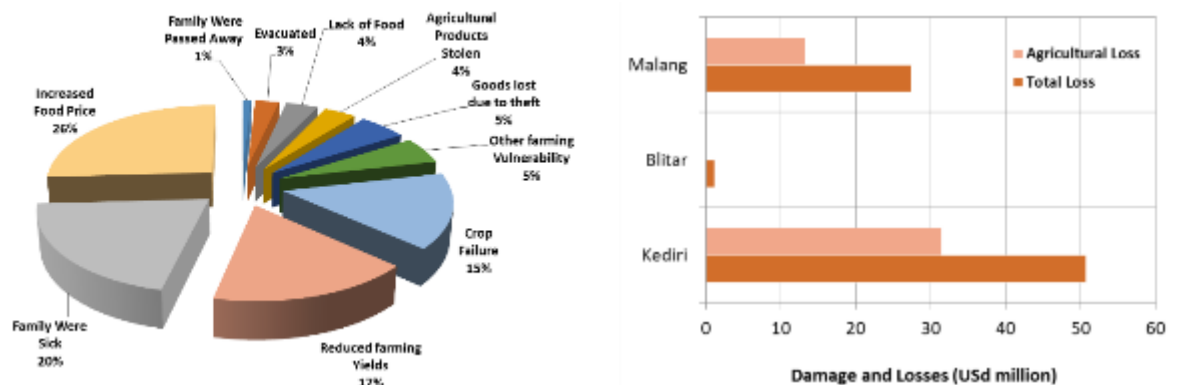
3.1. Relevance

The overall project objectives and its components are very relevant to address local development needs in Tanah Karo District. The relevances are identified as follows:

3.1.1 Rebuilding Agriculture Sectors after Disaster and Promoting Adaptive Livelihoods

The main impact that the respondents felt due to the eruption of Mt. Kelud was mainly related to agriculture, as the most of the respondents were farmers. The main impacts were increased food price (26%), member of family that became sick (20%), reduced farming yields (17%) and crop failure (15%). Malang and Kediri District are known as the center of chili farming in East Java. Dairy cows and their products are also one of the main products from Malang District.

Figure 7 Impact of Mt Kelud Eruption to the Respondents (left) and to the Three Districts(right)



The estimated damages and losses in agriculture was as high as USD 31.4 million (62%) in Kediri District and USD 13.3 million (49%) in Malang District (Figure 3). Blitar District was the least affected district; the loss from agricultural sectors was 'only' USD 46,000 (4%) (Prodoc UNJP Mt. Kelud, 2016). As such, the livelihood recovery project was focused on Kediri and Malang district.

Similar loss was observed in livestock sector, which contributed 0.91% to the total loss. This loss incurred from the damage of dairy cattle barn and cattle death (Prodoc UNJP Mt. Kelud, 2016). From this situational analysis, the livelihood recovery was then directed at supporting the agricultural and livestock sector in Malang and Kediri District, whereas developing community resilience through preparedness of the government agencies and community groups were designated for Malang, Kediri and Blitar district.

The impact of the Mt Sinabung eruption until December 2014 has reached IDR 1.49 Trillion. This includes damage and impact on productive economy of agriculture, plantation, livestock, trade, tourism, fisheries, SMEs of IDR 896.64 billion. While in the housing sector has damaged of IDR 501 billion, infrastructure of IDR 23,65 billion, social of IDR 53,43 billion and other sectors of IDR 18,03 billion. This did not include

the impact of cold lava. The relocation need for 2,053 Household or (6,179 population) in the 7 Villages which are prohibited for inhabitants.¹⁰

Therefore, the project has been able to promote the livelihoods of the community members in the relocation site in Siosar. In Siosar, adaptive livelihoods promoted include organic horticulture, livestock raising, sewing and automotive workshop/services.

Adaptive livelihood is also promoted through capacity building in coffee cultivation, production enhancement of coffee, and post-harvest processing. The commodity of coffee become strategic since this cash crop is resilient to volcano ash. Moreover, coffee has been practiced by farmer's community, with limited technology. Therefore, the project is strongly relevance in revitalizing community livelihood capacity.

3.1.2 Promoting multi-stakeholder approach to disaster rehabilitation

The project is implemented jointly by three UN Agencies in collaboration with Bappenas and BNPB. Therefore, nationally, the project promote multi-stakeholder project management and partnership including its strategic partnership with BPBD at Province and District level, and other technical government units in Tanah Karo District.

3.1.3 Enhanced local government capacity i.e. BPBD and extension workers

The capacity of local government is fundamental for effective disaster mitigation, rehabilitation, reconstruction including on livelihoods recovery. Therefore, the project has contributed toward building capacity of BPBD in coordination activities, Disaster Risk Reduction and livelihoods program. Similarly, the project enhanced the capacity of local government extension workers in managing livestock raising (chicken and cattle), organic horticulture and coffee cultivation techniques.

3.2. Effectiveness

This section answers the evaluation questions on effectiveness.

3.2.1. Mt. Sinabung Recovery Support Programme (SIRESUP)

Effectiveness on Achievement of Ouput 1:

¹⁰ BNPB (2015) Geliat Sinabung dan Aktifitas Gunung Raung. Info Bencana, June 2015.

The capacities of national and local authorities to coordinate post-disaster early recovery and recovery measures are strengthened

The activities to achieve the output 1 wa mainly implemented by the UNDP. The achievement of the target are as follows:

1.1. Establish and conduct participatory stakeholders coordination mechanism to support national and local early recovery and recovery efforts, including support to capacity strengthening of BPBD

1.2. Strengthening the BPBD of Tanah Karo

The BPBD in Tanah Karo was not presence when the Mt. Sinabung erupted in September 2013. The BPBD of Tanah Karo District was only established on 22 January 2014¹¹. Before its establishment, the role for disaster response was under the responsibility of KESBANGLINMAS of the Tanah Karo District.¹²

However, as a new agency, BPBD of Tanah Karo has limited resources and capacity (both organizational and personnel capacity). Therefore, the strategic role of the project was to build the capacity of the BPBD of Tanah Karo. This was done through technical assistance support either directly or through BPBD of North Sumatera Province.

- Resources support for the BPBD through Letter of Agreement for both BPBD Provincial and District of Tanah Karo. With the LoAs, the BPBD of North Sumatera Province was supported with IDR 505,412,000 and Tanah Karo District was supported with IDR 669,671,000.

1.2. Support to recovery programming coordination at the local level

- The project has supported the BPBD of Tanah Karo so that this instituion was able to run coordination mechanism.
- The Provincial BPBD was also supported for their role to monitor, visit and delivered technical assistance through its secretariat in the Tanah Karo District. The Provincial BPBD has also participated in the coordination meeting and provide technical assistance such as research and studies on Disaster Risk Reduction (DRR).

Achievement on Output 2:

Local authorities have the capacities to plan and implement post-disaster recovery activities

The SIRESUP Programme has been implemented and the achievement for the output 2 including the following:

2.1. Support the national and local authorities to design the implementation plan of Renaksi

¹¹ The establishment of the BPBD of Tanah Karo was regulated by the Local Government Regulation of the Tanah Karo District No. 1 of 2014.

¹² The mission statement of the BPBD of Tanah Karo are: (i) To accelerate the outreach of disaster management in the district; (2) To improve awareness and concern of the local community in disaster preparedness; (3) Improve readiness for disaster through facilities; (4) Improve professionalism of the governmental apparatus and community capacity in disaster responses; (5) Improve coordination and collaboration of inter-sectoral governmental units in the disaster response; (6) Develop information system, network, communication and coordination mechanism on disaster management.

The response toward disaster in Indonesia is the need for PDNA (Post Disaster Need Analysis) and the Preparation of Action Plans for Rehabilitation and Reconstruction (RENAKSI: *Rencana Aksi Rehabilitasi dan rekonstruksi*) as the framework for post-disaster recovery process.

The project provided support for the preparation of the RENAKSI through ensuring effective and comprehensive of the Action Plan. UNDP organized various workshops and facilitated the consensus building at the Province and District level. Similarly, UNDP facilitated civil society forum for participation in the disaster response.

2.2. Meetings on Disaster Risk Reduction coordinated by the BPBD, followed by the relevant stakeholders

UNDP provided support and facilitation of the coordination meeting on the Sinabung Eruption response, independent/self-relocation and its Technical Guide. These process was participated by SKPD (governmental units) and local communities and BNPB.

Moreover, UNDP supported the implementation of Presidential Decree No. 21 of 2015 concerning Task Force for Acceleration for Relocation of Affected Victim of Sinabung Eruption Disaster signed on 21 September 2015.

In addition, the facilitation of the TPN BNPB and BPBD District of Tanah Karo in mobilizing the relocation of 3 villages and mediation of the hesitation of some community members for relocation.

2.3. Enhanced Public Services

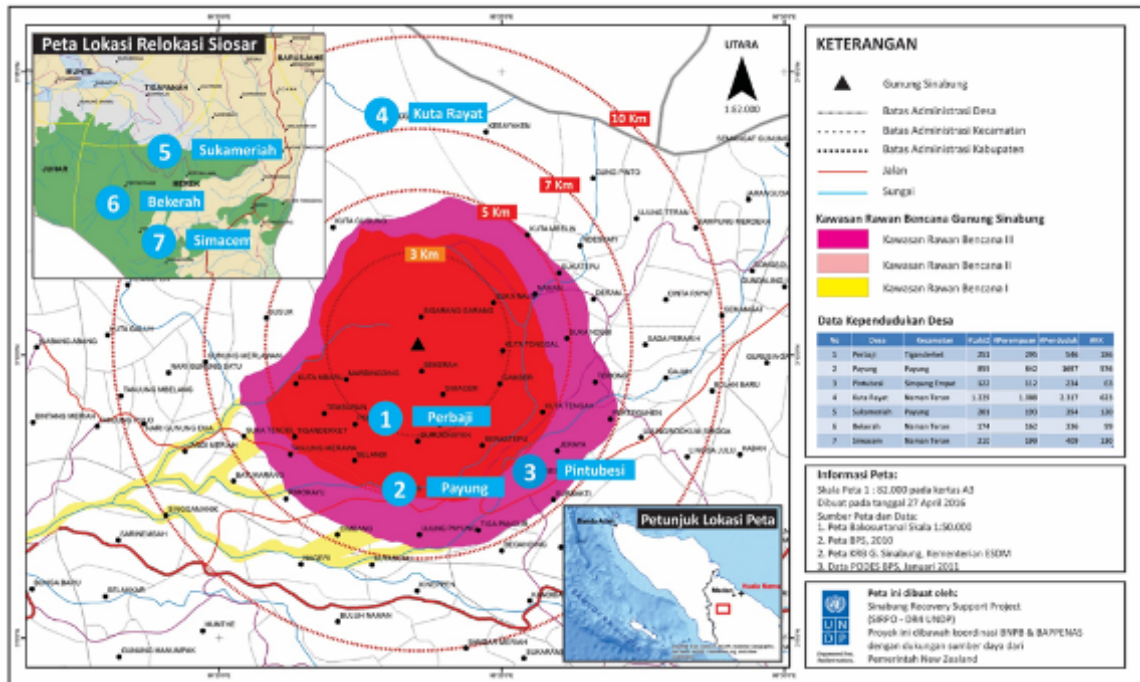
Public service is essential including in the event of disaster. In order to continue servicing the public, relevant institutions need to have adequate capacity.

- To support the continuation of the public service, the project implemented workshops on public services in 33 affected villages.
- In collaboration with BPBD and TPN BNPB, the project motivated the communities in the Siosar to be relocated.

2.4. Survey on Social Audit for Affected Communities and Capacity of local government

- The BPBD of North Sumatra was supported in conducting survey in collaboration with the University of North Sumatra on social audit and capacity of readiness of the district government in disaster response
- Implemented CBM training and SpatialRisk Mapping involving local community members in the 3 relocated villages.
- Enhancement of the village capacity of the 27 affected villages on Village Information System (SID: Sistem Informasi Desa) at the introductory level. The SID is modelled by 7 other villages of the 7 mainaffected villages.

Figure 8 Map Relocation Location of Siosar



**Effectiveness on Output 3:
Rapid Restoration of livelihoods and development of economic opportunities**

This output was jointly implemented by the FAO and the ILO. Strategic collaboration between FAO and ILO agreed on the division of on-farm activities were taken care by the FAO while non-farm and off-farm are taken care by the ILO.

Effectiveness of the FAO Programme

- FAO has established a demonstration plot for organic horticulture training in relocation areas in Siosar during June 2016. This has enabled farmers to learn more on organic farming. This encouraged farmers to changes farming practices from conventional with excessive use of chemical inputs into organic farming. The District of Tanah Karo is production center for horticulture (oranges and vegetables). However, farming practices use excessive pesticides and herbicides in crops management. Therefore, the project is effective in promoting measures for organic horticulture, though this will not be easily adopted.

The intervention also included distribution of agriculture inputs for horticulture in the newly distributed farming land to the new residents of the relocation areas in Siosar. Each household received 0.5 ha of agriculture land in addition to housing and compound in the relocation site.

Picture 1 Farming Land for Household



Source: FAO

- Coffee farmers training

The FAO has also promoted more resilient crop particularly coffee as part of livelihoods resiliency building. Coffee has been cultivated in the areas surrounding Mt Sinabung, but lack of intensification. The role of coffee is important for Tanah Karo District. In 2015, the Arabica Coffee farming areas reached 7,595 ha. Learning from farmers' experiences in Sinabung areas, coffee has been proven as more resilient crop against volcanic ash. Other previous dominant crops such as vegetables and oranges have been easily destroyed by the volcanic ash erupted from Mt. Sinabung.

Farmers training on coffee cultivation techniques started in September 2016 with the main focus on Good Agriculture Practices (GAP) in coffee farming. This was done in collaboration with Starbucks Farmer Support Center (FSC) in Berastagi. In addition, farmers are trained on coffee cultivation such as planting, fertilizing, pruning, harvesting and post harvest management. The trainings were implemented in collaboration with Coffee Farmers Training of INDOCAFCAO located in Simpang Bage, Simalungun District. Capacity building for 160 coffee farmers in 14 affected villages are supported with the provision of farming inputs such as sawing tools for pruning and desmucukering, scissors, compost and depulper coffee machine for group. Other areas of coffee farmers capacity building is Good Handling Practices (GHP) to improve quality and price of the harvested coffee.

In addition, FAO trained extension workers on coffee quality and productivity improvement. 11 of government extension workers were trained to support effective coffee cultivation in Sinabung eruption affected villages.

Picture 2 Demonstration Plot of Coffe





Picture 3 Mulching whole technology for organic fertilizer of the coffee



- Support for Livestock Livelihoods

The role of livestock in rural livelihoods is strategic. The functions of livestock in socio-economic lives have been identified by Dorward *et al.* (2004)¹³ and Itty *et al.* (1997)¹⁴ to include safety nets or buffering, saving, income generation, social currency, and most importantly for food consumption and nutrition. These are shown by the box below.

Box: Livestock Function

Buffering/Safety Nets

Livestock are a means of buffering under conditions of seasonality and uncertainty. They provide the opportunity to accumulate savings during periods when production or income exceeds consumption needs and to draw upon this investment later in the season. Livestock also function as safety nets when crisis happen such as droughts or other crisis situations.

As safety nets/insurance, livestock is used to absorb the shock of unexpected events. Livestock also serves as preparation for emergency, such as an accident or severe illness.

Income and Saving

Livestock can provide either regular or occasional cash flow through the sale of animals, and raw or processed products.

As saving, livestock represent assets that are reserved for use in the future. For instance, animals are often accumulated to provide for expected major expenditures, such as school fees or social events. Additionally, livestock serve savings that are safest from inflation.

Social currency

Livestock are necessary to fulfil social obligations and are a requirement for entering into marriages. Livestock continue to be part of bride-wealth¹⁵, and are also essential for showing generosity and making gifts to poor relatives or members of the community and thereby obtaining status and social recognition.

Consumption

Livestock contribute to food security and nutrition whereby the products of livestock are consumed by people. Therefore, livestock make important contributions to the nutritional security of a household and provide high-value nutrients.

Dorward *et al.* (2004); Itty *et al.* (1997) and FAO (2012)¹⁶

Livestock is not new for the communities in the Karo District. Raising livestock is part of the common practices for both livelihood and customary activities. Livestock is also source for livelihood diversification, therefore through FAO, the project supported building resilient livelihoods through livestock raising, as follows:

¹³ Dorward, A.R., Anderson, S., Paz, R., Pattison, J., Sanchez Vera, E., Nava, Y. & Rushton, J. 2004. *A guide to indicators and methods for assessing the contribution of livestock keeping to the livelihoods of the poor*. London, Department for International Development (available at <http://www.ilri.org/html/Guide16Dec.pdf>).

¹⁴ Itty P, Ankers P, Zinsstag J, Trawally S and Pfister K 1997 Productivity and Profitability of Sheep Production in The Gambia: Implications for Livestock Development in West Africa. *Quarterly Journal of International Agriculture* 36 153-172.

¹⁵ Payment by the groom family to the bride family for the legitimation of marriage. Can be done in the forms of money, livestock and other valuable goods. Is common tradition in NTT.

¹⁶ FAO (2012). *Invisible Guardians - Women manage livestock diversity*. FAO Animal Production and Health Paper No. 174. Rome, FAO..

- Support for BPBD of Karo District in Livelihoods Diversification through Raising Chicken

Diversification of income source has strategic role in the livelihood recovery of the disaster affected communities. The BPBD of Tanah Karo District integrated chicken raising support for relocated community members in Siosar. The support of BPBD is allocated from “on call budget” (*Dana Siap Pakai*) of the BNPB. The BPBD integrate economic recovery as part of the transition from emergency to recovery with the support for chicken farming for 370 of households in Siosar, the relocation areas. The chicken farming support allocated IDR 2 billion from the “on call budget” of the BPBD of Tanah Karo.

FAO supported the technical assistance of the implementation of chicken farming program of BPBD. The support of FAO include community group activation whereby groups in the 3 villages in new relocation areas in Siosar were facilitated with bylaw formulation. Following this, the FAO facilitated capacity building on chicken stall management. The scheme is to allocate each households with 50 chicken and it was planned that the chicken will be raised in cages. These support was continued to technical assistance in chicken farming.

Picture 4 Chicken Farming



Chicken Supported by the BPBD in Siosar

Cattle Support for Siosar Relocation Site

The intervention for livelihood recovery included cattle fattening scheme. The beneficiaries was organized in groups based on 3 villages in the relocation site. Each group (village) received 5 cattle and the collective community pen. In addition, FAO supported the fodder land prepared by the Livestock Services. Technical assistance was facilitated by FAO staff for feeding, waste management and health control.

Picture 5 Livestock Services



Effectiveness of ILO Programme on Output 3:

To enhance the sustainability of livelihoods in the Karo District, the ILO has applied comprehensive approaches in local economic development, as illustrated below.

1. Support a livelihood concept, strategy and implementation, with specific targets and strategies or the IDP's and returnees;

For this, achievement are as follows:

- ILO implemented activities to enhance the capacity of local trainer on financial management and entrepreneurship.

The trainings reached 24 local trainers from government officials (Social and Manpower Office; Cooperative, Trade and Industry Office, Local NGOs and Microfinance Institutions (MFIs). One of the trainer from the , Trade and

Industry Office joined the Course (online course) on Agriculture Cooperative Management organized by ILO Training Unit in Turin, Italy.

- Facilitated trainings for beneficiaries of Ministry of Cooperative and SME (Small Medium Enterprises) for total of 180 Mt Sinabungaffected communities.
- Enhanced skills of Internally Displaced Persons (IDPs) in 7 villages¹⁷ including those who were relocated to Siosar on financial management.

2. Vocational skills for Non-farm and off-farm livelihoods recovery

ILO strengthen recovery of non-farm and off-farm livelihoods through vocational skills development. With this intervention, 50 participants were trained on automotive workshop services (15 participants), food processing skills (20 participants) and sewing trainings (15 participants). In addition, the participants who later set small business, were supported with equipment modalities for application of the skills into livelihoods activities.

Picture 6 Food Processing Product



3. Improving the capacity of micro and small enterprises started by IPDs through provision of financial education and entrepreneurship training including women and youth.
 - Beneficiaries skills on marketing is enhanced since the key for income generating is marketable products and services. These are supported with available tools at the ILO such as Financial Education, Community-Based Enterprise Development (C-BED), Training Package on Managing Agricultural Cooperative (My.Coop).
 - The local MFIs capacity is enhanced through trainings and technical assistance provision. A total of 20 cooperatives were trained by the ILO including the activation of a cooperative in the relocation site which already has 132 members.

Effectiveness on Output 4

Integrated Risk Reduction Principles in Recovery Measures

¹⁷ Bekerah, Simacem, Sukameriah, Berastepu, Gamber, Gurukinayan and Kuta Tonggal.

The activities on this part have been implemented and they are effective in achieving the target, as follows:

4.1. The 7 Villages affected facilitated with Village Information System which was integrated with early warning system

- The facilitators from 5 government units (BPBD, Population and Registration Unit, Village Governance Unit, Community Empowerment Unit, Information and Communication Services Unit, have been trained on Village Information System.
- The 7 villages were selected as pilot and were facilitated with technical assistance, and the Village Information System have been integrated with the website of the District of Karo.
- Training on early warning system with SMS Gateway Basis for the village prone to cold lava

4.2. Villages that are prone to cold lava have contingency plan which were prepared through participatory method

- There have been prepared map on cold lava vulnerability in Sinabung areas including in 5 most vulnerable villages and 3 villages in Siosar
- The team for contingency plan was formed and formulated the contingency plan

4.3. District Contingency Plan developed

Various activities have been implemented and the draft of the DRR document has been prepared.

3.2.2. Support to Mt. Kelud Post-Eruption Programme

1.3.6. Output 1 - Coordination capacity of BPBD

The coordination capacity of BPBD was achieved by targeting by convening series of meetings with stakeholder from the national, provincial and district level. Through this meeting the BPBD in district staffs gained understanding of the emphasize of the recovery program set by the national level officials.

The BNPB and Bappenas officials particularly gave appraisals to UNDP on how the project had been managed. They commended that UNDP was able to established routine communication with them in term of reporting and updating. Through this close affiliation; BNPB stated that they were more readily to help out UNDP in coordinating meetings with other stakeholders in provincial and district level.

1.3.7. Output 2 – Planning and implementing capacity of BPBD for recovery measures

With the series of training and meetings, BPBD in provincial and district level was benefited. The staffs in division of Rehabilitation and Reconstruction in BPBD East Java province stated that for a year they hosted a staff from UNDP to work with the head of division. The staffs did not know what the project was about, as there was limited interaction with the UNDP officers.

Nonetheless one of the BPBD officers who were involved in the project, Mr. Satrio (Head of Rehabilitation Section), was enthusiastically shared about the progress of rehabilitation

and reconstruction measures that were currently ongoing (i.e. PDNA, rehabilitation and reconstruction training in Batu City and development of psychosocial recovery program). Contrast with his colleagues that were not involved in the UNDP project, Mr. Satrio, was obviously more confident in explaining the future of rehabilitation and reconstruction program in East Java BPBD.

Similarly in district level, all the head of BPBD stated that they empowered by their involvement in UNDP project.

It seemed that district level BPBDs are facing trouble in planning measures and program partly because they do not have a good database, as stated below:

We are planning to develop more contingency planning in Blitar and in doing so, we relied on academician in university; but the data quality that they collected is far beneath the data collected in the contingency report made by UNDP, so we decided to not using the report.

— Sabar Ariani, Head of Mitigation Section, BPBD Blitar

As the result, their activities are focused on training and dissemination activities such as Disaster Resilient Village (*Destana*). In fact, *Destana* was the featured program in BPBD; all the respondents of BPBD district stated that their main activity in the respective year was *Destana* program. For instance, in BPBD Kediri, the action plan (*Renaksi*) at the local level already exists with *Destana* as the entry point, although it is still in the stage of socialization.

1.3.8. Output 3 – Livelihood support

Cattle

As an effort to restore livelihood and develop economic opportunities at the villages affected by Mt. Kelud FAO have organized a set of training to develop a communal livestock management.

Communal livestock development has succeeded ultimately in Kampungbaru village, Kediri District—specifically in Estu Karya Jaya farmer group. In Kampungbaru village there are two farmer group: Estu Karya Jaya and Wijaya Karya Karya Mandiri. Both farmer groups are able to manage the communal barn, however, in terms of member participation Estu Karya Jaya is better than Wijaya Karya Karya Mandiri—for it has more members than Wijaya Karya Mandiri (now consists only 3 members) and is the original farmer group before it split in two farmer groups due to internal dispute.

EKJ barn is maintained very well, and it is regularly cleaned; biogas reactor has been utilized well in terms of waste management, although the slurry hasn't been utilized and processed in to fertilizer. However, they do plan to build a compost house to process the slurry into fertilizer; the plan has not yet been implemented due to budget constraint. On the other hand, WKM admitted that they have not received any biogas even though they have submitted the request for biogas reactor for their barn.

Picture 7 Estu Karya Jaya (left) and Wijaya Karya Mandiri (right) Communal Barn in Kampung Baru Village



“Before FAO came, I only knew about agriculture and no knowledge on livestock at all. My knowledge on waste management has increased, now I understand animal behavior even better. I can now predict which cows are in heat, later I can predict when will the calf born.”

– Sukatun, Head of Estu Karya Jaya

Picture 8 Estu Karya Jaya member maintaining the animal waste to be used as biogas fuel



The communal livestock program also bore good result in Pondokagung Village, Malang District, of Gesang Mulyo farmer group. The member admitted they have learned a lot especially about waste management and fodder fermentation. The farmer group in Pondokagung has only one active woman member.

Even though the farmer group has learned how to process animal fodder from animal waste, they admitted their hesitation on the ethic of feeding their animals

from their own wastes. The farmer group has also utilized the biogas reactor, but like in Kampungbaru it has not processed and utilized the slurry yet.

“Biogas is very useful to process the animal waste. We have implemented that, but since it’s quite expensive, not many people are interested in installing it in their own barn. ... I hope that in the future there will be more training on how to process animal waste in to renewable energy, and process them (the slurry) in to fertilizer so it has economic value.”

– Ahmad Effendi, Member of Gesang Mulyo

Meanwhile in Besowo Village (Kediri) and Pandansari Village (Malang) they received goats and sheep accompanied with their livestock management training. In both areas, communal livestock management has been a success as well. Farmer groups are enthusiastic in managing the cattle. Even though they admitted that the goats and sheep haven’t bred, communities are optimistic of the prospect of community livestock management in the future.

“For now we there are no increase in household income yet, since the goats have not breed or give birth. But I am optimistic this will bring good economic changes in the future. Goats are good, they are easy to handle.”

– Parno, Head of Gesang Mulyo

Despite Pak Parno’s statement, however, some people in Besowo and Pandansari admitted that they experience difficulties raising the goats since they are prone to illness and their market values are low. In both location women participation is low. Even someone in Besowo even admitted there has been no women participation yet in the management. In Pandansari it is a bit ironic since the head village is a woman and she’s the one who insisted that all farmer groups in the village benefits from FAO.

Farmers group in Besowo admitted that the training on organic fertilizer processing has helped them a lot since their soil quality has decreased due to prolonged chemical-substance use such as insecticide and synthetic fertilizer; they are hoping there will be more training on fertilizer processing from animal waste in the future.

Banana

In Kebonrejo village and Puncu village—both in Kediri District, however, not many people rely on animal product; most of them are chili farmers. Both in Puncu and Kebonrejo, farmers have admitted that the banana plantation have helped their economy. People in Puncu have more positive response towards banana plantation at the time compared to the people in Kebonrejo.

“Banana is good. The prices are stable. It also has improved our community’s relationship with each other after the disaster. However, I am hoping there will be farming technology help. And if there will be any continuation on this request, I hope it will be owned communally rather than individually.”

– Suhadi, Head of Tani Sukotani Farmer Group

“This training has given me so much. Other than knowing how to plant banana from seeding to harvest, now I have better understanding and knowledge about prices and value chain, capital budgeting and management”

– Sunardi, Member of Tani Sukotani Farmer Group

Meanwhile, people in Kebonrejo admitted that even though the banana has helped them economically, they are somewhat disappointed by the quality of fruit given to them for they easily bruised and quick to rot; a farmer even said that they received banana variety which they did not request. These complain are caused by a plant disease which lowers the fruit's quality. However, Mr. Yusuf from Kediri District Agriculture Agency said that farmers have been taught to prevent this problem by injection and trimming.



Picture 9 Banana plantation in Kebonrejo village

The disagreement from the community regarding the type of banana seeds was also stated by Ibu Wahyu (BTP), who said that in when the banana seeds were deployed, some of the beneficiaries complained about the type of the banana (Yellow Ambon). Although Yellow Ambon banana has higher price in the market and is used as a symbol of high status in weddings (a stem of Ambon banana could be valued as USD 22.5), the community prefer TW Ambon which can be used as ingredients for a local commodity of *gethuk* and has shorter planting season (15 months) compared to Yellow Ambon Banana (20 months).

In addition, few of the beneficiaries followed the correct procedures of planting banana and thus gain unsatisfactory result in term of quality and quantity; and when being compared in the market with banana from Tulung Agung and Blitar District, who were the main supplier of banana, the banana from Kediri could not compete.

To conclude, the reason why banana was not as successful compared to communal livestock project is because it is introducing something new in the community as opposed to expanding what the community already have. Most of the beneficiaries of banana seeds had been planting chili previously and only started to plant banana after the FAO project.

Pest Control with Barn Owl

In Ngancar sub-district, Kediri, FAO focuses on pest control by introducing barn owl (*Tyto alba*) breeding in the three villages (Babadan, Manggis, and Sempu). The project aims to reduce rat pests which are plaguing the area. The effort, however did not run smoothly as planned. Although people have admitted that the owls have been useful, in Sempu the owl project hasn't been very effective in a while. Although the owls are able to fend off domestic rats. But for rat attacks from outside the village the owls are unable to protect the crops.

“Owls need friends too, you know. Imagine you, being alone in place you don't know, where you can't speak the language. Of course you'd run away to look for a friend or someone else you can relate with. Owls are the same.”

– Sardi, Farmer at Sempu Village

Another farmer suspected that the location of the nest is too hot and bright for the owl, making them uncomfortable and left the village. It is said the owl fled to Manggis village and settled there. Sempu farmers are hoping in future they



Picture 10 Owl nest in Sempu village

will get more owls in one village to make the owls more accustomed to the location.

Agriculture-based Processed Products Development

Kediri District and Malang District are rich with horticulture and has high development potential. The training aims to promote these potentials and enrich the local's economic resilience. This has proven to be quite a success in terms of innovation and product development. Although in Babadan village (Kediri), there are many complaints on the equipment granted by FAO are not consistent with their request (e.g stove); making the equipment rather useless, especially if they are to produce in large quantities.

“We requested a clear and exact specification, but when we received the equipment they are not what we need, they were of lower scale. For example, we requested a large stove for production purposes but we received a small one with lower performance, making this less optimal. We can’t use that. ... however, the ones we received from local government is appropriate to our request and we are thankful for that.”

– Karniah, Entrepreneur at Babadan Village

Other people who received the equipment are also complaining about the inappropriate equipment such as Mr. Koleksi of Babadan Village who is producing pineapple essence. However, the training has indeed shown to inspire people to develop their own products such as *tape* candy in Pondokagung village (Malang), banana *dodol* in Kebonrejo village (Kediri), pineapple essence & pineapple chips in Babadan village.

Picture 11 Mrs. Anjar’s banana dodol (left) in Kebonrejo and Mrs. Karniah’s pineapple dodol (right) in Babadan



Although some people complained about the banana quality, the people in Kebonrejo are quite creative with the food manufacturing. Mrs. Ika and Mrs. Widayati are trying to manufacture banana syrup, however they have not marketed them yet since they did not know how to package them correctly and they don't know how long until the syrup expires.

Mrs. Anjar is another businesswoman who is successful in manufacturing *dodol*, or candied banana—she used bananas who are deemed to not pass the quality assurance to be sent over to the village's partnering hospital. The interesting thing about this is that Mrs. Anjar did not participate in the training, instead she watches other people who participated in the training and developed her own

recipe. These women are hoping that FAO will give more training on marketing and processing in the future if they are to introduce new crops in an area.

1.3.9. Output 4 – DRR in recovery measures

According to Law no. 6 year 2014 about Village, village administrators are required to have a village information system, here UNDP developed a village information system in 6 villages: Modangan and Karangrejo villages in Blitar; Sempu and Kebonrejo villages in Kediri; Pandansari and Pondokagung villages in Malang. The project also aims to develop local economic resilience through promoting local products such as melon. VIS development is a success in both villages in Blitar, both villages in Malang, and Sempu village. VIS in the five villages is well maintained and updated frequently, especially in Pandansari village and Sempu village.

“Personally this training has improved my computer skill. But collectively, this has improved the service quality of our village administration. We find no problem maintaining this system, just with the data collection in order to supply information to the website.”

– Darianto, VIS administrator in Modangan village

In Kebonrejo village, however, VIS administrators who are also village administrators—have to divide their time to manage village administration and neglected the VIS. Other than that, Kebonrejo village has one more problem regarding infrastructure and geographical location. Its location is quite high up the hill with rocky terrains, and there is no internet service provider. The provider actually was willing to erect a tower for internet provider if there are more than three customers in the area.

Infrastructure-wise, in the other villages they have not encountered any problems, especially Modangan and Karangrejo villages in Blitar—especially with Modangan often referred to as ‘cyber village’ due to almost every villager in Modangan are equipped with good internet access. Sempu village (Kediri District), however, admitted that they are having some trouble with the software since the letter format is off and not compatible to their standards; but they did not know how to fix the problem. Karangrejo VIS administrators however, are more tech-savvy and are able to fiddle with the software coding to change the letter format. The success of VIS implementation in these area is also supported by the fact that beneficiaries trained are from younger generations and are enthusiastic in learning more about technology.

3.3. Efficiency

This part will assess the extent to which resources have been used wisely to achieve the intended results; extent to which strategy has leveraged other resources or initiatives that have contributed to project’s intended outcomes.

The project has been efficient in terms of its expense and use of resources.

Mt. Sinabung Recovery Support Program (SIRESUP)

The total budget of the SIRESUP Programme is USD 1,000,000. Of these,

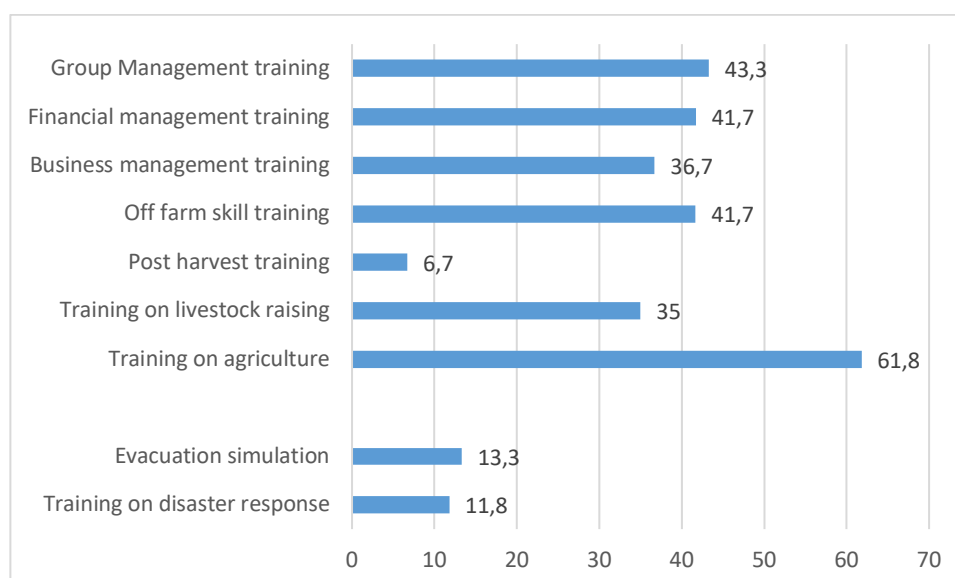
Table 8 Total Budget of SIRESUP (in USD)

Category	UNDP	FAO	ILO	Total	%
1. Supplies, commodities, equipment and transport	33.000	25.000	10.000	84.065	8,41
2. Personnel (staff, consultants and travel)	85.000	60.000	94.900	206.500	20,65
3. Trainings/Workshops	172.000	150.000	151.000	467.000	46,70
4. Contracts	43.000	25.000	4.874	96.500	9,65
5. Other direct costs	39.000	19.000	19.600	76.000	7,60
6. Total Programme Costs	372.000	279.000	280.374	930.065	93,01
7. Indirect Support Costs	28.000	21.000	19.626	69.935	6,99
Total	400.000	300.000	300.000	1.000.000	100,00
Percentage (%)	40	30	30		

The efficiency is reflected that personnel budget and operation is less than 30% (20.65%) for personnel and 8.41% is other operation.

The efficiency can be seen that beneficiaries were able to participated effectively in various activities of the project in Sinabung, as indicated by the following graph.

Figure 9 Participation of the beneficiaries in project activities



Support to Mount Kelud Programme

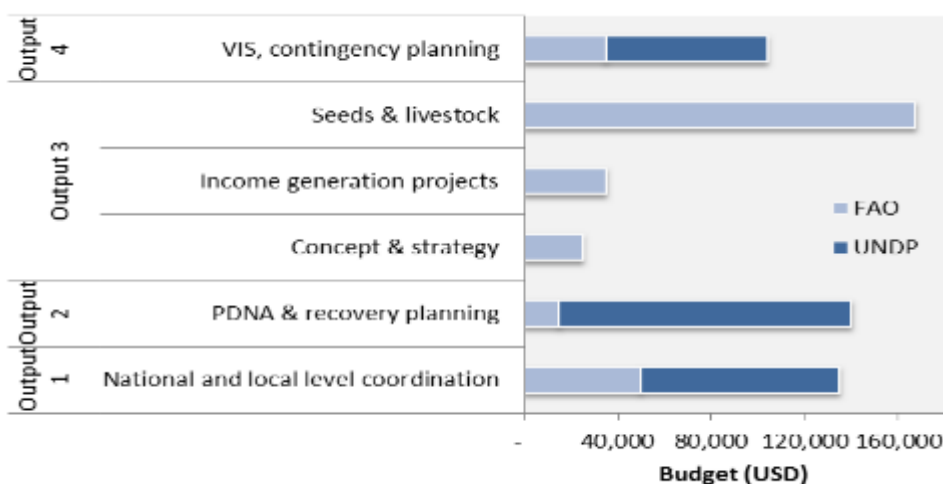
The efficiency is also happen with the project in Kelud. The total budget is USD 650,000

Table 9 Total Budget of Project in Kelud (in USD)

Category	UNDP	FAO	Total	Percentage
1. Supplies, commodities, equipment and transport	29.000	75.000	104.000	16,00
2. Personnel (staff, consultants and travel)	73.000	78.000	151.000	23,23
3. Training of counterparts	86.000	38.000	124.000	19,08
4. Contracts	76.000	104.000	180.000	27,69
5. Other direct costs	15.000	32.500	47.500	7,31
6. Total Programme Costs	279.000	327.500	606.500	93,31
7. Indirect Support Cost	21.000	22.500	43.500	6,69
Total	300.000	350.000	650.000	100,00
Percentage	46,15	53,85		

The allocation for each output is as follows:

Figure 10 Budget allocation for each output in Mt. Kelud project



The budget allocation for the UN projects can be seen in, which depicts that Output 3 had the highest budget allocation (**Error! Reference source not found.**). This is reasonable as Output 3 had goal to restore the community livelihood rapidly. Fascinatingly, the total budget of the UN Project (USD 650,000) is only 1% of the total loss incurred by agriculture sector from Mt. Kelud eruption

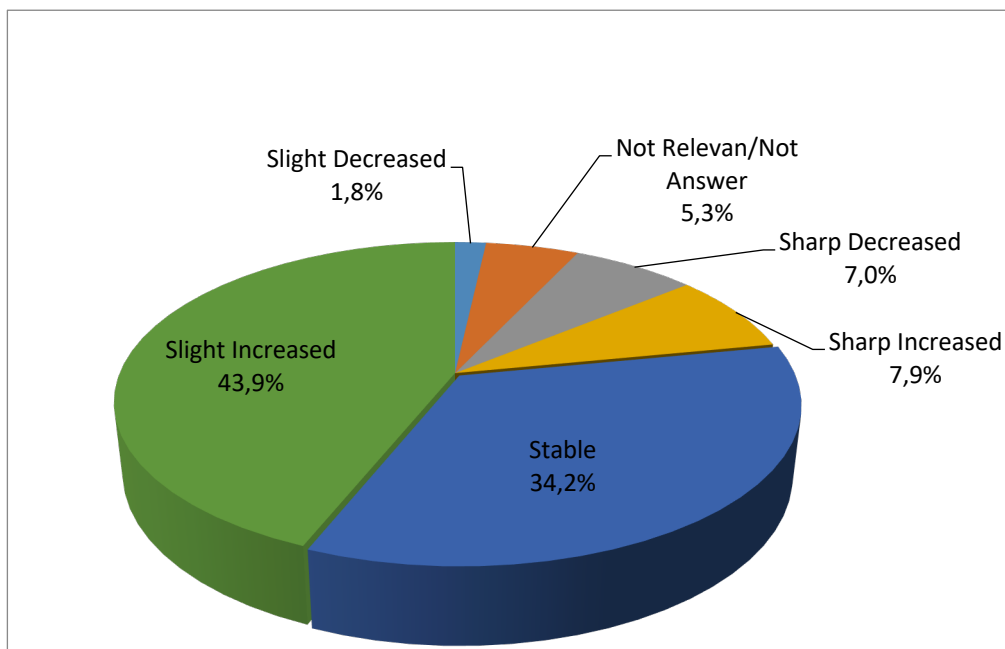
3.4. Project Impact

This section will assess the current and foreseeable positive and negative impacts produced as a result of the project/programme, directly or indirectly, intended or unintended. This section answer the evaluation questions of: (1) Have the livelihood of communities affected by Mt. Kelud and Mt Sinabung improved and the government capacity in planning and implementing post-disaster livelihood recovery strengthened? (2) Have the agriculture-based livelihood been restored/improved and economic opportunities developed? (3) What was the exit / long term strategy for the recovery programme? (4) Were there any unintended positive or negative impacts?

Impact for Income of the Two Projects (Kelud and Sinabung)

The project has impacted the increase of income among beneficiaries in the two project sites.

Figure 11 Income after Participating in Programme



N = 120

As can be seen from the above graph, there are 7% of the respondents reported that they have sharp increase of income at the time of the evaluation (2017) compare with when the eruption took place. This was followed by slight increase of 44% of the respondents.

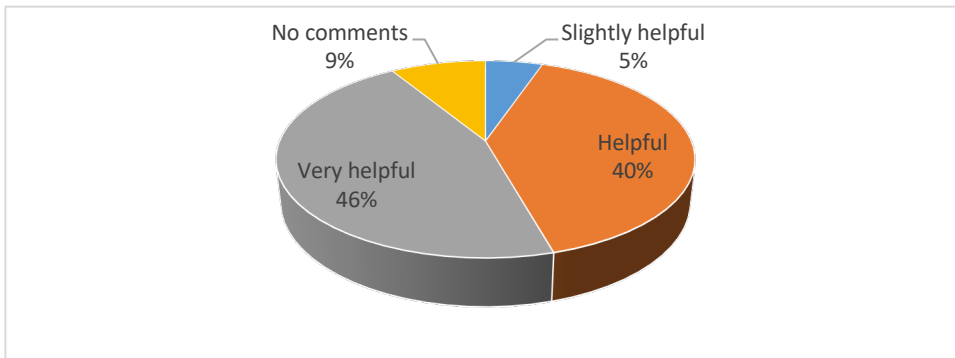
Another impact is the integration of Village Information System with the Disaster Risk Reduction both in Kelud and Sinabung areas. Village Information System or *Sistem Informasi Desa* (SID) is a follow-up from Law no. 6/2014 on Village, which requires a village to have its own information system. VIS is not the first project related to village information system, before VIS there were Simpade or Village Administration and Profile Management Information System.

3.4.1. Impact of Mt. Sinabung Recovery Support Programme

Impact on Livelihoods of Communities

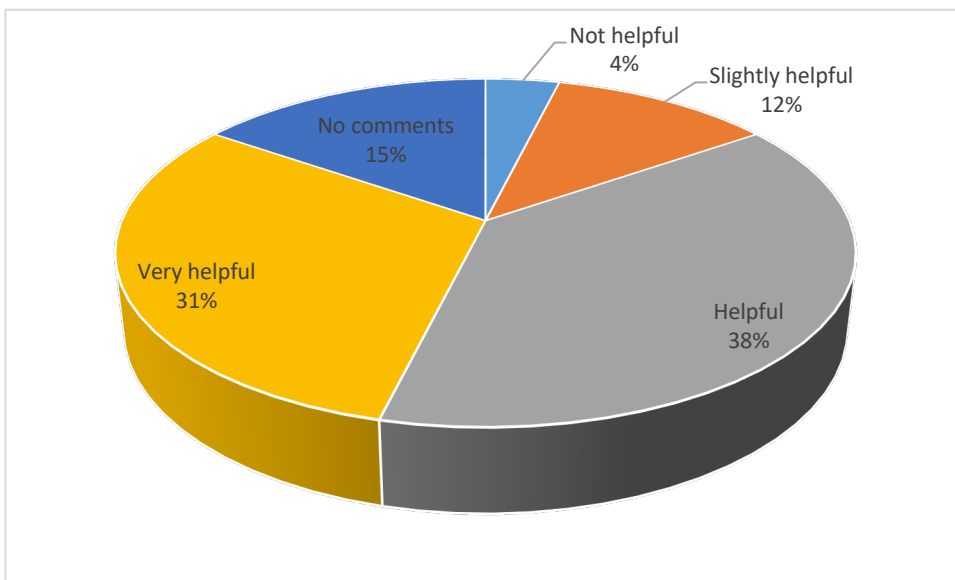
The impact of the activities have been considered as strategic. 86 % of the respondents in Sinabung areas considered that the project activities and interventions are helpful. Of these, 46% reported that their participation are very helpful and 40% reported as helpful, as illustrated by the Figure below.

Figure 12 Perception of the respondents on the project activities on agriculture practices



Similarly, the interventions on the livestock are considered as helpful by 69% of the respondents, as shown by the graph below.

Figure 13 Perception on livestock support



The impact for community livelihoods is visible in the coffee sub-sector. The interventions included training on cultivation (fertilizing, pruning and composting), harvesting, post-harvest processing have been considered by the farmers that produce most impact. Coffee plants are considered to be the most resilient to volcanic ash compared to other crops previously cultivated by farmers.

The qualitative data from FGD and interview revealed the following.

“Training on effective coffee cultivation was implemented on planting, pruning, soil processing, fertilization, etc. As a result, pruning the coffee has been practiced by farmers, in the past no such activities were done. The pruning has produced more coffee bean and more efficient operation. In the past we even use ladder to harvest the coffee. The quality of the coffee is also better.”

Head of the Village of Cimbang

“ In Kutambelin, coffee has been promoted. In the past farmers grow orange and vegetable which were all damaged by the the ash. Now that we are trained on coffee farming, more villagers have started to grow coffee.”

Head of the Village of Kutambelin

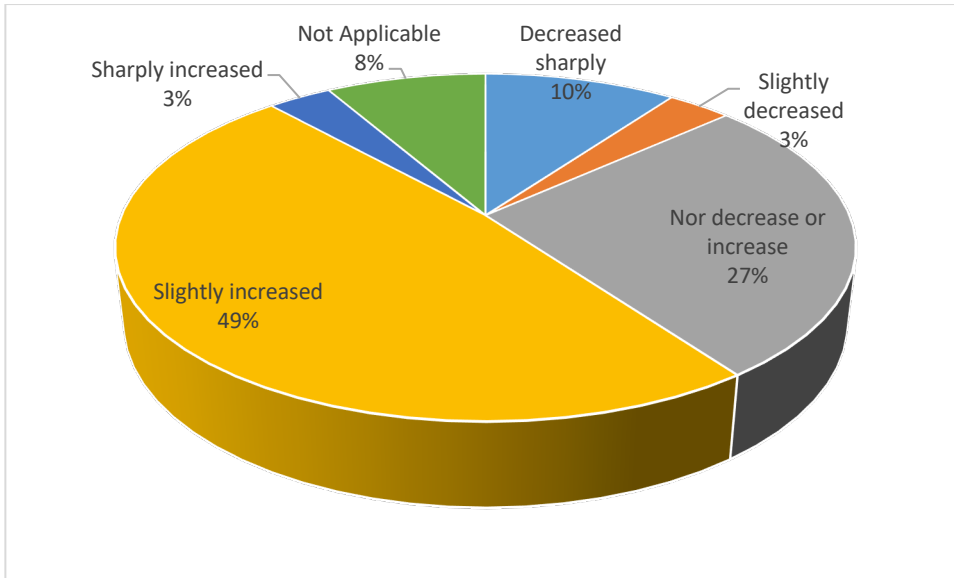
“One of the impact is capability of farmers to control pest. In the past our villages and crops were attacked by lalat buah, but now that we have been trained how to control the pest.”

Head of the Village of Kutambelin

Impact on Income and Financial Capital

After participating in the project, the income of the beneficiaries has increased slightly, as indicated by the following figure. There are 49% of the respondents reported that their income has increase slightly compare with the eruption in 2013.

Figure 14 The beneficiaries income at present compare to immediate after the eruption in 2013.



Financial Capital

On financial capital, there have been increased skills in financial management among the beneficiaries of SIRESUP Programme. About 81% of the respondents informed that their livelihoods skills have been better. This is supported by enhanced skills in financial management.

The interview with Officials of Dinas of Social and Manpower has confirmed this as below.

“Entrepreneurship training by the ILO has enabled the participants to gain better knowledge and skills to manage their small enterprises. The impact include alternative livelihoods for community members, improved capability in financial management, and expanded horizon and motivation for sustainable livelihoods.”

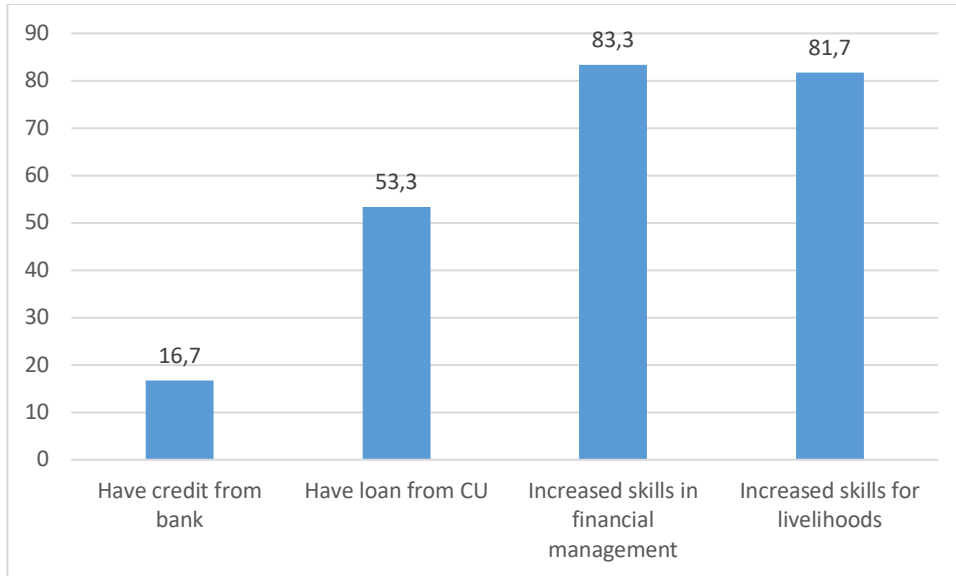
Interview with Ibu Eva Susanti, Staff of Dinas Ketenagakerjaan dan Sosial

More than 83% of the respondents reported that after their participation, financial management such as skills in household economic book keeping, assets management have increased.

Enhancement of financial capital

The project has enhanced financial capital of the beneficiaries. Financial capital is key to sustainable livelihoods.

Figure 15 Financial Capital



In terms of access to financial services, more than 16% of the respondents have credit from bank. Similarly, 53.3% of them have credits from Credit Unions.

Impact on Government Capacity

The project has increased the capacity of government particularly the extension workers in building adaptive livelihoods capacity of farmers. The training for the extension workers have enabled them to serve the Mt Sinabung eruption the affected population on sustainable coffee farming.

As the interview with the Head of Dinas of Agriculture of Tanah Karo Distirct, as below:
“The FAO programme has enabled the extension workers to increase their awareness, knowledge and skills on effective coffee cultivation that integrate good agriculture practices on coffee planting, coffee fertilizing and composting, pest control, inter-crop, shade tree and weed control, pruning, grafting and soil and water conservation”

Interview with Mr. Sarjana Purba, Head of Dinas of Agriculture of Tanah Karo District

Impact on Local Civil Society Capacity

The project has also resulted in enhanced capacity of local civil society organization (CSO) such as through SEKBER SINABUNG (Joint Secretariat for Sinabung responses). This joint secretariat has function as articulation interest for civil society in the government response for emergency, relocation and reconstruction phases.

Similarly, individual CSO organization has also enhanced such as expressed by Church leader in an interview as below.

“The program of the ILO has involved church leaders, including youth groups. They are trained on TOT on financial education for household. Then, they have capacity to provide technical assistance on financial literacy which is useful for our services. “

Interview with Ibu Florendina Pinem, Representative of GBKP for Sinabung Response

3.4.2. Impact of Support to Mount Kelud Programme

Impact on Coordination capacity of BPBD

To increase the coordination capacity of BPBD, UNDP convened several coordination meetings with all stakeholders from all level of governance. Through this approach, the UNDP managed to showcase the nature of Disaster Management coordination to the government officials in District Level. Through these meetings, at least two goals were achieved: increasing the connectivity between all level of government officials, and increasing the confidence of district level officials to perform coordination internally and externally with other agencies as they aware how much support they received from the national level and from UN agency.

Nonetheless, as the participants of the meetings could be rotated to another agency or section, the investment could be considered ineffective as UNDP should invest in the new staff all over again if they want to maintain the achievement.

On the other hand, the District Head of Malang has established a financial system to boost the coordination capacity of BPBD among agencies. It was established that the other agencies should get the approval of Head of BPBD in order to tap into either disaster endowment (*Dana Siap Pakai*) or special allocation fund (*Dana Alokasi Khusus*) for disaster relieve efforts. Through this approach, BPBD has higher bargaining position among other agencies regardless of BPBD young age.

In coordinating with provincial level, there were delay in the implementation due to unavailability of relevant focal point, this situation is added by postponement of activities to accommodate holiday season.

According to the interview to the BPBD officials, as one of the newly established agency in the government offices, coordination is one of the main hurdles especially coordination between government agencies as stated by the head of Rehabilitation and Reconstruction Sector in Malang District, Mr. Joni Hadi.

Coordination with other agencies is one of the biggest challenges for us (BPBD). We usually invite the related head of agency to come to discuss about coordination during contingency, but instead the head, those who came were the staffs who were not in capacity to take decision of what their agency would responsible for during emergency. So there was not much to be concluded from the meetings.

- Mr. Joni Samsul Hadi

Therefore, he stated that through the meetings that was conducted by UNPD, BPBD in Malang District gained more acknowledgment from other agencies.

Similarly in Blitar District, Mr. Sabar (Staff of Rehabilitation and Reconstruction) learned a lot from how to connect and collaborate with community and CSO (i.e Jangkar Kelud, Sapu Jagad).

On the other hand BPBD in Kediri District has managed to start collaborate closely with Animal Husbandry Agency in developing livestock contingency planning.

Planning and implementing capacity of BPBD for recovery measures

As newly established agency, BPBD Kediri benefited tremendously from UNDP capacity enhancement project. Even Blitar BPBD that is already established in 2010 was grateful for the support from BPBD, especially for the contingency planning

“We learnt a lot from UNDP: how to collect data from the field (PDNA), how to make risk map, how to engage with other stakeholder in establishing DRR Forum, particularly community to participate in project development. Now we are connected with local CSO like Jangkar Kelud and Puspo Jagad in establishing village DRR Forum.”

The capacity of planning and implementing recovery measures was increased by involving the BPBD officials in developing action plans for rehabilitation and reconstruction. As there are many stages involved in the planning to implement recovery measures, the involvement of BPBD staffs in every stage is crucial. In Blitar District, the staff still had difficulties in conducting the planning stage; consequently they chose to outsource the planning activities. Nonetheless, as they had seen how the UNDP team conducted the planning stage, they became more critical to the standard of planning documents that were presented by the consultant. In this sense, the capacity of BPBD officials in evaluating the planning documents have been increased.

Livelihood support

Cattle

Communal livestock in Kampungbaru village, Kediri District, shows two different results, whereas Estu Karya Jaya group achieved more compared to Wijaya Karya Mandiri. Efficiency-wise, EKJ is better than WKM due to higher number of active members. EKJ is also superior due to higher solidarity within the community. In Pondokagung, communal livestock handling has also achieved success but with slightly less activities compared to EKJ in Kampungbaru within the same length of training time.

Group solidarity is shown to be more apparent in groups that handle cows compared to goats and sheep. However, there are no significant delays in term of permit or project implementation.

Banana

The number of complaints given by farmers regarding fruit quality and plant disease shows that farmers need more guidance and assistance. Output-wise, other trainings such as “good manufacturing practices” and “good handling practices” have delivered more output in the same training length as the “good agricultural practices”, which is two days. Good agriculture practices obviously take time; two days are not enough. The mixed up on seed variants and distribution also shows a less efficient process in the need assessment process. There were also delay in the program implementation due to climate change since there were shift in predicting rainy season.

Pest Control with Barn Owl

The owl that fled from Sempu village to neighboring village has shown the project to fail in meeting the objective. In order for the project to succeed FAO needs more human resources and constant vigilance to domesticate the owl. Routine

monitoring by experts or extensive training for the farmer after the project ends is needed as there are many aspects that should be maintained in domesticating barn owl (i.e have a large aviary, monitoring of the owl weight, regulating the food intake).

Agriculture-based Processed Products Development

The training on packaging and handling goods has proven to be successful; a beneficiary in Babadan Village, Kediri District, was able to improve her product value and expiry date. A beneficiary of the training project stated her problem with licensing, which makes her unable to distribute her goods to wider market. Further assistance on licensing and dealing with bureaucracy is needed, FAO has the influence to smoothen the process. There were also mismatch in the equipment which beneficiaries requested and receive, making them less used than they could have been.

Beneficiaries who receives communal livestock management project admits that the project has helped them nurture a better sense of community within the group. Women who participated in the training even admitted that it empowers them and make them feel more confident and active. Members of Estu Karya Jaya even realize the importance of investing in their livestock, by insuring their cattle with support of local government.

“I can feel that we (men and women) are getting closer, better sense of camaraderie. Before this we rarely meet face to face, we rarely discuss the groups’ problems. Some of the members even said that their household affairs are getting less tense, the husband rarely gets angry when they get home now.”

– Sukatun, Head of Estu Karya Jaya

“Now men can see that they really can’t underestimate women (laugh).”

– Suwarmi, Member of Estu Karya Jaya

“I get to learn a lot of things. How to organize groups, how to manage it. I realize that you can’t live alone. Mutual cooperation is getting stronger.”

– Ahmad Effendi, Member of Gesang Mulyo

In Besowo, sheep are aiming to develop a tourism village *Kampung Domba*, where they will host a village and sell sheep-related products. However, this initiative has not been supported by the local government yet. The training even opens a livelihood alternative, a beneficiary in Besowo village admitted that before the training he is a sand miner and handling livestock has given him a more stable income.

Banana

Banana is still deemed as a secondary income to chili due to their market prices. The new crop has pushed the village to be creative and manufacture new products such as banana *dodol*. This also gives them the idea to initiate a *Kampung Pisang*, where they will host a village and sell banana-related products similar to *Kampung Melon* and *Kampung Kopi*.

Pest Control with Barn Owl

Before the barn owl is introduced, villagers often catch and sell them. They did not realize that barn owl could help them with pest control. Now people understand that barn owl are useful for pest control rather than just selling them entirely.

Agriculture-based Processed Products Development

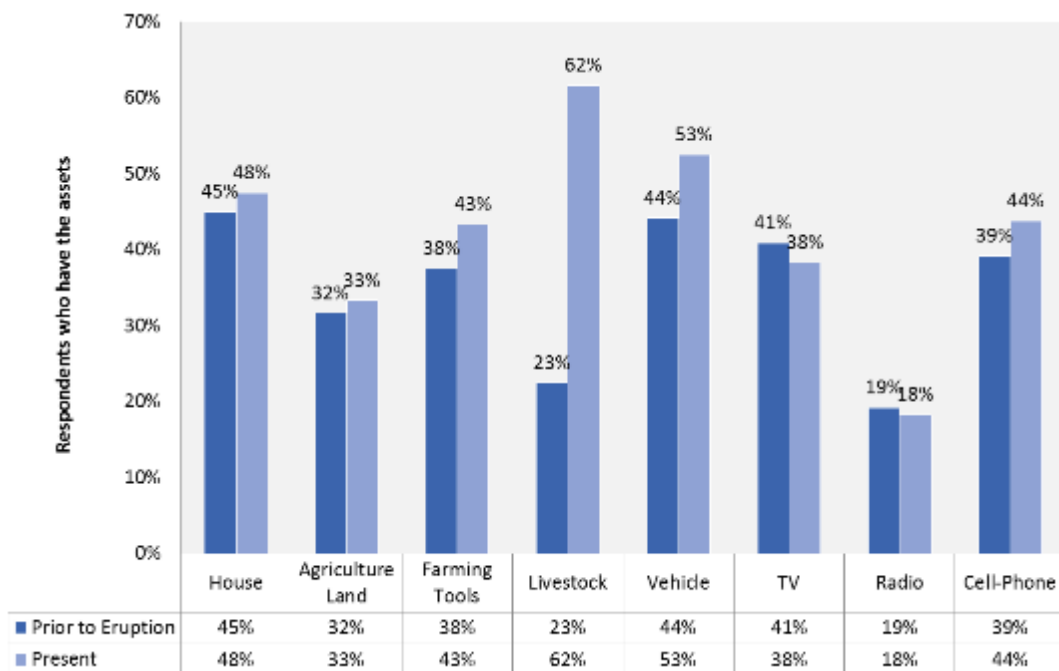
Beneficiaries in Babadan village attested that the training from FAO helped them to be more confident in marketing their product. They also say that the training helped them to understand the market even more. The highest benefit that the respondents felt is that through FAO training they became better in financial management (57%), in reading and counting (56%) and on strategies for small medium business (57%). Considerable respondents also stated that these increased skills beneficial for them in job seeking (61%) (**Error! Reference source not found.**).

Figure 16 Product Development



it managed to give significant increase to direct beneficiaries as discussed below.

Figure 17 Ownership of Assets

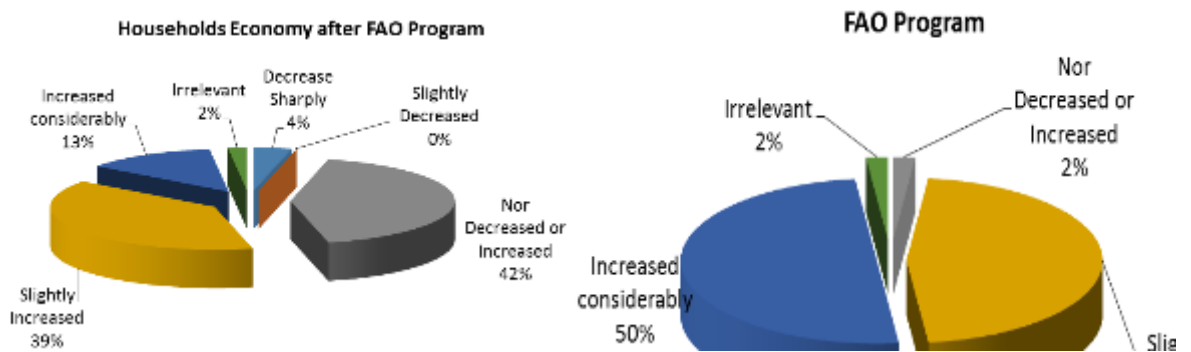


In general, the assets of community increased after the FAO project (**Error! Reference source not found.**). These respondents represented the total direct beneficiaries of 567 people for output 3 and 4. The biggest increase was observed for livestock (39% increases) and vehicle (9%). Many of the respondents reported increase in the number of their livestock as some of the respondents change from mammals (e.g cows, goat, sheep) to poultry (e.g chicken, duck), thus the increase

did not correspond to the same type of livestock. Nonetheless, the increase in the number of other assets (i.e house, agriculture land, farming tools, vehicle and cell phone) indicates significant increase of the respondents' welfare.

The majority of respondents (42%) stated that their household economy was either decreased or increased, which due to some of the agriculture support that was received have not produced the first harvest (banana) or the livestock have not multiplied. Nonetheless, when asked about the projection in the following two years, the majority (50%) were optimistic that their household income will increased considerably (**Error! Reference source not found.**).

Figure 18 Estimation of Households Economy



3.4.3. DRR in recovery measures

Human resources are well-trained and enthusiastic; trainees are able to teach other people what they learned in their training. Within the same training period, VIS has proven to be quite successful especially in Sempu (Kediri), Pandansari (Malang), and Modangan (Blitar). However, the same could not be said for Kebonrejo village (Kediri) where it faces geographical challenges—being the only village located in mountainous area and lack of internet infrastructure.

3.5. Lesson Learned for Impact Encountered in Sinabung

The above section has illustrated the impact visible observed during the evaluation. However, as the disaster rehabilitation is a bit more complex compare with other development programme, some challenges encountered by the project.

Limited Capacity of BPBD in Coordination

There is still limited capacity of the BPBD in leading coordination among government and non-government agencies in disaster response, as indicated by the following interview quotes.

“The coordination for disaster rehabilitation is considered as weak. This is because each government unit still tend to work separately, work on its own. Including the budgeting coordination.”

Interview with Bapak Amal Sembiring, Kabid Fisik dan Prasarana Bappeda

The limited capacity in coordinating actions, is also caused by limited capacity or personnel in BPBD, as indicated by an interview with the BPBD as follows.

“Human resources of BPBD is still weak. There is tendency for staff transfer inter units of the District office. As a result, more new people are now on board which implies with limited competency on disaster management”

Interview with BPBD Karo (Bapak Suharta Sembiring and Aswin Ginting)

Limitation of resources

The evaluation notes that the limited resources has consequence in term of outreach. In that, there was limited coverage of the programme and the government relocation program

“Up to now, there are still 8 posts of IDPs which have not been reached by the relocation programme of the government and the UN Programme.

Interview with the Head of BPBD Tanah Karo

Livestock Based Livelihoods Adaptation

The farmers in Sinabung areas are not specialised in raising livestock. They have limited skills in livestock since they are used to horticulture farming. Though they involve in animal husbandy, but this is small scale and non-intensive livestock raising. Therefore, when they are supported with the chicken, significant number of chicken experience high mortality.

This is reflected by an interview with Livestock Service Unit below.

“Livestock based livelihoods so far has not been main income for communities surrounding Mt Sinabung. Their scale of livestock is very small and the husbandy is traditional. Farmers usually have limited knowledge and skills on livestock raising.”

Interview with Bapak Very Karo-Karo (Dinas Peternakan)

Chicken in Bekerah was attacked by disease. We did not know how to handle the disease. There is also limited resources for feeds, inadequate chicken housing management skills. All of these cause high mortality of the chicken.

Head of the Village of Bekerah

Small Size of SMEs

The beneficiaries have been trained and facilitated with home industry, workshop and sewing for income generation. Some beneficiaries have been active in producing goods and services such as creakers production, sewing and automotive services. However, this service is still small scale and therefore business service development may be needed.

As an interview with the Village Officials reflects:

“Limited enterprise site, since all of the participants active in SMEs use their home to produce and sell the goods and services”

FGD with Village Apparatus of Siosar (Relocation Site)

Another challenges that are being encountered is limited financial resources for scaling up economic production for improved profitability.

Lesson Learned on Impact - Support to Mount Kelud Programme

Output 1 - Coordination capacity of BPBD

Choosing the right beneficiaries is the most important part of a project that target capacity building. Even though the beneficiaries will be rotated or move out to other agency, the investment will stay as he/she will apply the principles she/he learnt in the project. In term of coordination capacity, the beneficiaries should have at least a good visionary ability, as he/she would need it during coordinating his/her colleagues.

Nonetheless to really secure the investment in a targeted agency, the process and outcome of the projects should be well documented, so that the new officials who will be stationed in the BPBD can easily learn about the project from the documents.

Output 2 – Planning and implementing capacity of BPBD for recovery measures

In recovery measures, planning plays important roles, as only through planning, one can understand what programs to be prioritized during the recovery implementation as more often the available budget is far less than ideal. And, in order to have a sound planning, a good database is required. The BPBD should understand about this issues and learn how to do a good documentation of a project.

Output 3 – Livelihood support

Cattle

Monitoring the vendor of livestock is important in order to maintain the quality of the livestock as stated in the project documents. With high quality of livestock, the enthusiasm of beneficiaries would be higher and increase the project output and sustainability.

Communal livestock management has been working well cows, goats and sheep. Collaboration with local government such as Animal Husbandry Agency or subdistrict agricultural extension center is important before starting the project to understand more about the local context of smaller scope such as political intricacies of farmer groups in one village.

In animal farm, waste management is very important, the decision to include biogas adaptation is a good one. However, it would be better if the biogas implementation is accompanied with training on processing slurry in to fertilizer to even reduce waste and enhance economic resilience.

Banana

Beneficiaries struggle in keeping up their crops' health. Many of the farmers are complaining on how their production quantities and values dropped due to plant sickness. This indicates the need of more training and practice invested towards crops' health management.

Pest Control with Barn Owl

According to beneficiaries that benefits from barn owl as pest control, barn owls are rather proficient in controlling rat population in the area. However, the problem lies in domestication. In Sempu village, the owls assigned at the village fled. There are two possible causes: the owls are lonely, or the location of the nest is uncomfortable for the owls (too hot and bright). The problem could be fixed through two possible solutions of either assigning more owls in one location, or moving the nest. Another lesson learned is that the barn owl could not fend off all types of rats; only local rats could be fend off by barn owl.

Agriculture-based Processed Products Development

Training wise, the communities admitted that they the project is beneficial. However, beneficiaries in Babadan village said that the equipment they are receiving are not up to the specification they requested, instead the equipment are lower in specification. This leads to the equipment not being used optimally or even used at all. In the future it would be better if FAO switch their tool vendor whom are able to provide equipment that are appropriate in specifications.

Output 4 – DRR in recovery measures

In general VIS has no problem in its implementation, since people are welcoming it very positively and eager to continue working towards maintaining it. Only one location in which VIS did not run as smoothly as hoped, Kebonrejo village—compared to the other beneficiaries, is located quite remotely. The village has less access to internet compared to other villages, especially if compared to the ones in Blitar. The geographical aspect often hinders the signal, and no internet provider is willing to set one up in the area due to lack of demand.

3.6. Sustainability

This part will assess the extent to sustainability strategy, including capacity development of key national stakeholders, has been developed or implemented; Financial and economic mechanisms in place to ensure the ongoing flow of benefits once the assistance ends; Suitable organizational (public or private sector) arrangements have been made. Policy and regulatory frameworks are in place that will support continuation of benefits; Requisite institutional capacity (systems, structures, staff, expertise, etc.) exists.

Key questions to assess the project's sustainability are: Will the project's investments continue to deliver benefits beyond the life of the project? Are sufficient local capacities and resources available for the further development of DRR/ DRM activities initiated by FAO?

3.6.1. Mt. Sinabung Recovery Support Programme

The project has shown indicators for sustainability which will be discussed as follows.

Institutional Sustainability: Multi-Stakeholder Disaster Response

In terms of partnership strategies, the project exemplified multi-agency in the disaster response project. The UN project team is coordinated by the The UN Joint Program (UNJP) which involves UNDP, FAO and ILO. At the national level, the project is collaborated with IDF-Bappenas and BNPB.

The project management at the beginning is coordinated by the UNDP, then when the UNDP project duration ended in August 2016, the project coordination was passed on to the FAO team. In general, there is a good coordination among the 3 UN Agencies since there was monthly meeting of the UNJP in Jakarta. Similarly, the coordination in the field/implementation was good since the project has joint secretariat facilitated by local government in Kabanjahe (Capital City of Tanah Karo District).

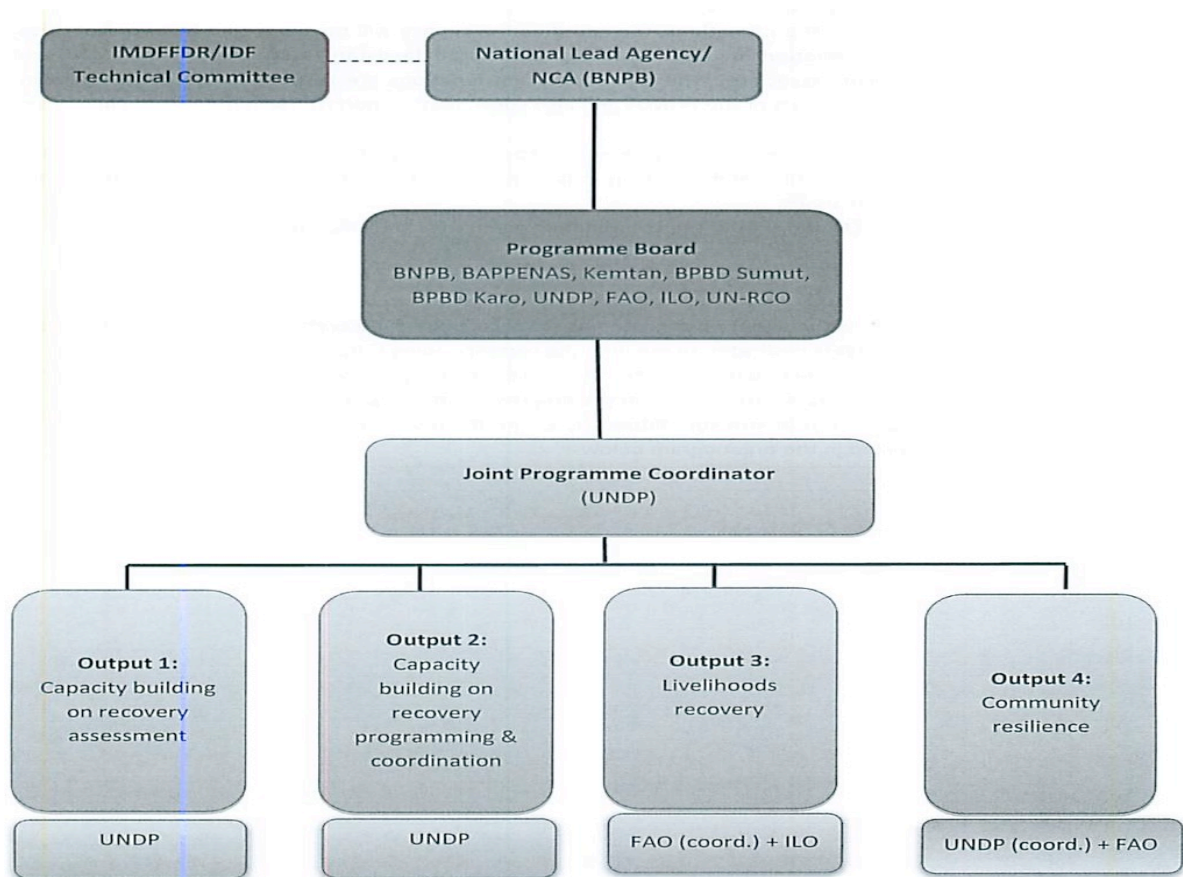
However, in terms of value chain analysis conducted by the FAO, there was delay in the implementation and the study did not cover the off-farm and non-farm livelihoods. This resulted in the decision by the ILO to have additional Vocational Training Needs Assessment (VTNA).¹⁸

Table 10 Description of roles

No.	Agency	Main Role
1.	IDF/IMDFF-DR Technical Committee	Setting general priorities, policy making, strategic direction for programme; and performing oversight based on the report from BNPB as national coordinating agency
2.	BNPB, National Lead Agency	BNPB became national lead agency of the programme, provide policy guidance to achieve expected output/outcome of the project and ensure strong coordination with SC and TC IDF/IMDFF-DR on purpose to colosely aligned IMDF-DR programme

¹⁸ Interview with Project Team of ILO, March 2017.

		intervention with the government programme for rehabilitation and reconstruction
3.	Programme Board	<p>Forum that oversees the joint programme, comprise of the national government agencies, PUNOs and local government agencies. Members consists of UN Resident Coordinator Office (UN-RCO), UNDP, FAO, ILO, Bappenas and BNPB, Ministry of Agriculture, BPBD North Sumatera, BPBD Tanah Karo</p> <p>Programme Board met on the quarterly basis to review progress of the joint programme, including challenges, constraints, risks and provide advice for improvement/corrections</p>
4.	Coordinating Agency	<p>Perform coordination roles among the PUNOs and liaison roles with the RC Office, IMDFF-DR Secretariat, and Programme Board.</p> <p>Facilitate regular coordination meeting, quarterly field monitoring</p> <p>During the first stage, UNDP was designated as Coordinating Agency, then transfer to FAO since the UDP programme ended earlier</p>
5.	Output Coordinator	<p>Is the agency designated as focal point for a certain output based on the size of activities and budget</p> <p>UNDP was the output coordinator for output 1, 2, and 4, while FAO and ILO are coordinators for Output 3</p>



Coffee Productivity Enhancement for Sustainable Livelihoods

The productivity enhancement of coffee in Sinabung areas is strengthen sustainable livelihoods of the eruption affected farmers. The coffee is strategic but the low production constrain more profitability of coffee farming. Therefore, the trainings for coffee farmers is strategic for sustainable livelihoods. Indeed, coffee productivity enhancement is needed in Indonesia because, coffee production is considered low, with in average only 750 kg/hectares/year. Indonesia's farm productivity is significantly lower in comparison to Vietnam. In Vietnam, farm sizes are similar (about 1 hectare per household) but average yields are more than three times higher than yields for Indonesia's "active" farmers. The level of productivity of Indonesian coffee farmers still less than Brazil, which reached around 2,000 kg per hectare per year and Vietnam.¹⁹

Link with Market

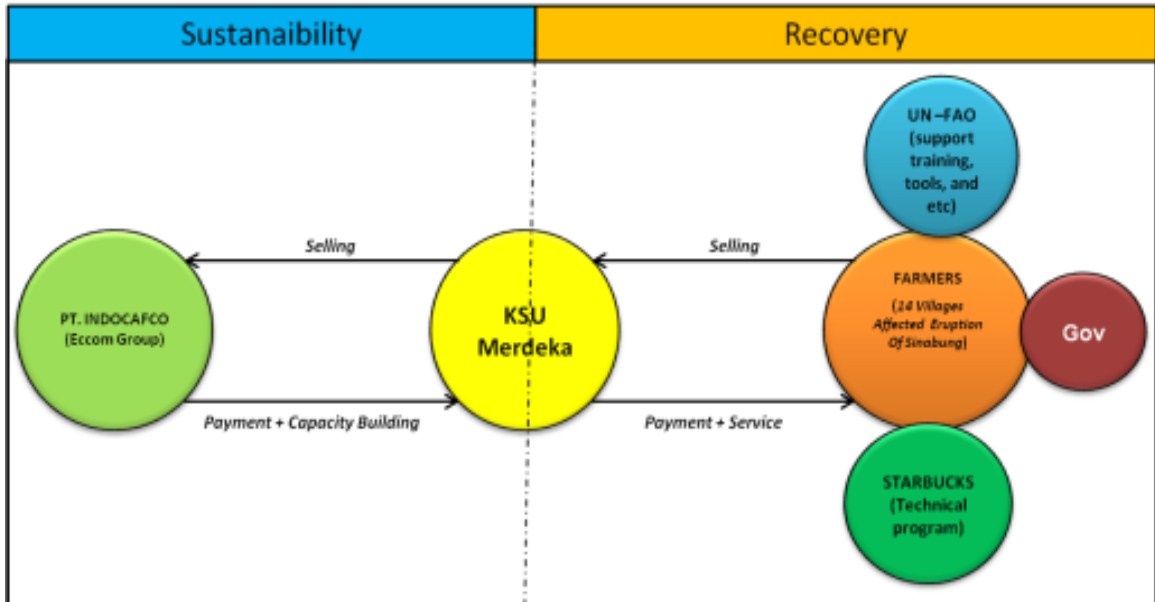
The partnership with corporate sector. As part of strengthening value chain of coffee, FAO has facilitated link between community cooperative with INDOCAFECO (coffee exporting company) through Memorandum of Understanding mechanism signed in October 2016. Through the MoU, INDOCAFECO is committed to purchase coffee produced by farmers surrounding Sinabung areas. At the first round, the MoU was agreed with 100 tons but the sales by the cooperative exceeded 120 tons for the period of three months (up to December 2016).

Similarly, beneficiaries of the ILO were facilitated with market link where they sent products to be marketed in cafe, restaurant and government outlets. The products

¹⁹ Tempo, 01 October, 2015 .Indonesia 3rd World Coffee Producer, Under Brazil

produced by ILO beneficiaries are linked with DEKRANASDA (Dewan Kerajinan Nasional Daerah- National and Regional Crafts Council) which has outlet in Berastagi for sales of home industry product in the Tanah Karo District.

Picture 12 Linkages to Provate Companies



Potential Integration with ADD and BUMDES

ILO has initiated trainings for village leaders for potential integration of livelihoods empowerment/recovery with the ADD (village fund) and BUMDES Programme. Based on the Village Law No.6 of 2014, the central government allocated significant funds for village development that is managed directly by the villages. This can be potentially linked to the needs on livelihoods recovery. Similarly, the Village Law No. 6 of 2014 has clearly mandates the presence of village enterprise entity. This business unit is profit making entity that is controlled by the village for the welfare of the villagers. Currently, more than 12,000 of BUMDES have been created across Indonesia. The training by the ILO build awareness of the village leaders to integrate the needs for livelihoods empowerment and recovery to the Village Development Fund and BUMDES programme.

Small Medium Enterprise Growing

The ILO has trained both male and female beneficiaries for home industry (food processing and sewing) and motorbike repairing. The participants have been active in producing and selling snacks, crackers and sticks made of available materials in the villages. The small business has been growing for more than 15 participants. Their small business has proven to be effective in diversification of income source for the household. With strong linkage developed to the market, SMEs are predicted to sustain their economic activities.

3.6.2. Sustainability in the Support to Mount Kelud Programme

The evaluation notes some indicator for sustainability in Kelud, as indicated below.

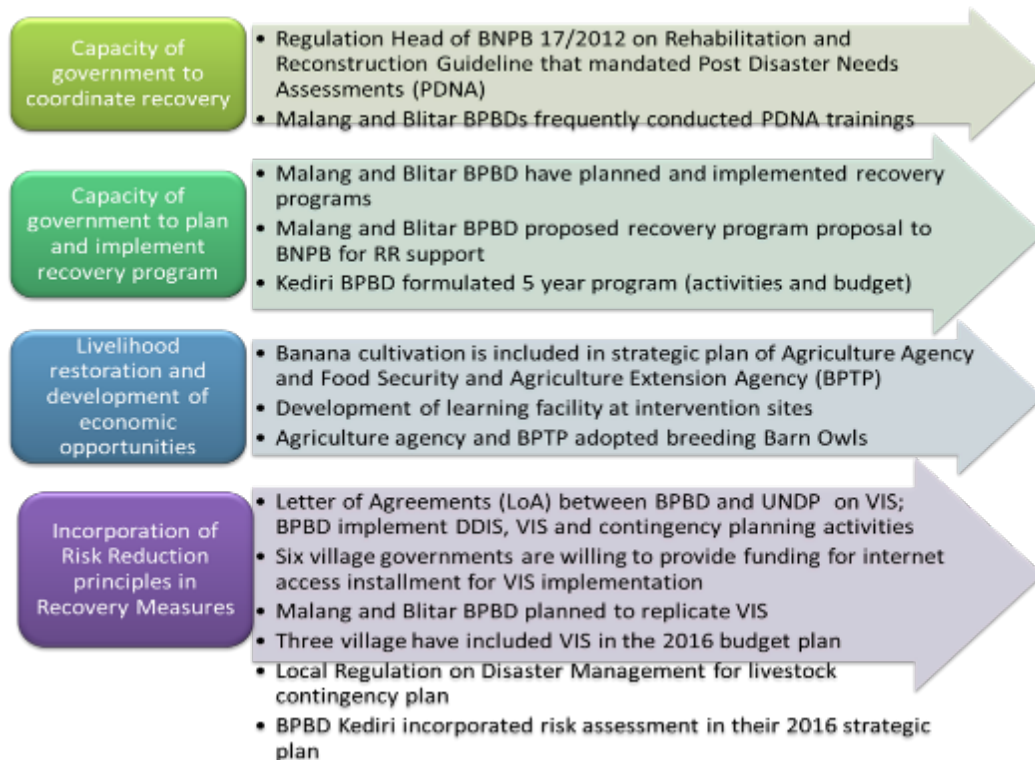
Enhanced Coordination capacity of BPBD

As with other government agencies in Indonesia, BPBD also faced high staff rotation, which stated as one of the biggest threat in the sustainability of almost all humanitarian programs that work closely with the government. Similarly, in BPBD East Java Province, six months after the UNDP project in Mt. Kelud came to completion, the head of BPBD of East Java was transferred to other division in BPBD. The new division head, Mr. Agus even stated that he has not received any information yet about the UNDP project.

In short, when a program targets only on government officials as individuals, it would likely to fall short. Nonetheless, UNDP skillfully eliminate this threat by crystalizing the essence of the program in documents such as risk map and recovery planning (**Error! Reference source not found.**). Thus although, some of the staffs stated that they were not familiar with the UNDP project, they could easily referred back to the documentation of the project.

Upon understanding how an action plan was formulated, the BPBD in the three districts were keen on replicating the action plan for areas with high disaster risk. Through the project they became aware that there were areas with high risk of cold lava and thus, contingency planning for those areas were crucial. BPBD Blitar is currently developing cold lava contingency planning for Badak river. Likewise, BPBD Kediri is developing contingency planning for cold lava in Mogo River in addition to plans to exercise simulation of the action plan through Disaster Resilient Village Program (*Destana*).

Figure 19 Sustainability of the FAO and UNDP project in Kelud (NCE Kelud, 2016)



Livelihood support

Communal livestock program in Kampungbaru village (Kediri) has good sustainability potential, especially in Estu Karya Jaya farmer group. EKJ members have learned the importance of future investment by having their livestock insured with help from Animal Husbandry Agency support. The local government has subsidized insurance fee per year so that farmers only need to pay Rp. 40.000,00 (USD 3,00) per animal per year—the insurance fee will help cover animal medical bill and will compensate for death or loss. Farmer group members' motivation with help of local government support will sustain the program in the long run. However, the same could not be said for its counterpart, Wijaya Karya Mandiri. With the declining number of members and interest, WKM's sustainability is questionable. In Pondokagung (Malang), communal livestock program also has a chance to go on based on members' enthusiasm.

Meanwhile communal livestock program with goats and sheeps in Besowo village (Kediri) also runs smoothly, members are enthusiastic with routine agenda. The farmer group in Pandansari village (Malang) also showed good organizing and have good capacity in managing animal waste—they also utilize CSR from Sampoerna. However, in Besowo village there hasn't been any support by local government to develop their group, and there is no training related to animal waste management yet.

Kediri Animal Husbandry Agency also has routine monitoring every month. For farmer groups who handle cows such as Estu Karya Jaya, the monitoring is scheduled every Wage Wednesday (every 35 days), meanwhile monitoring for

goats is scheduled every 10th of the month (Rodjo Mulyo) and 15th of the month (Sumber Rejeki). Malang local government also supports with routine animal health check-up as well. Although there were some complaints in Malang District about the communality of the livestock, they wished for them to be granted individually instead

However, the only thing lacking is waste management training. Not all of the beneficiaries receives biogas reactor—even though in Kediri, local government also grants biogas reactor. There is no training to process biogas slurry in to fertilizer. Up until now slurries are not used and discarded as it is.

Banana

Kepung subdistrict has been Kediri chili farm center and is projected to keep being one in the future. Primary crops in the area will always be chili, banana is seen as an alternative and secondary income. Local Agriculture Agency also admitted that they have no specific project for banana plantation.

“People in Kebonrejo are still focusing on chili and not banana—yet. Since chili’s market price is still very good. Chili is our focus on sustainable crops. Banana, they could reproduce themselves, they could even sell the seedlings but the people prefer to buy instead of making the seedlings themselves.”

– Ir. Yusuf Wibisana, Kediri District Agriculture Agency

There was a scuffle regarding budget with agriculture ministry, the ministry threatens to cut their budget if there are no decree letter. But the problem is solved since they have the decree letter finished and legalized, the budget is saved again.

Pest Control with Barn Owl

Mr. Yusuf from Kediri District Agriculture Agency admitted that there is no specific budget to continue the barn owl project, he only says there is a barn owl farm but there is no support from local government yet. In order for the project to sustain, constant vigilance is needed in order for the owls to be fully domesticated. The owl that fled from Sempu village also indicated that more owls will be needed in one area and appropriate location assessment for the nest.

Agriculture-based Processed Products Development

There was no official handover from FAO to local Industry and Trade Agency. FAO’s training however, is something that has also been within the agency’s program. Although the program from local government is more directed towards participant’s discipline in following existing standard operating procedure.

“We have similar programs, but it is more directed towards SOP. We usually assist them and teach them about product standardization—especially packaging, such as the existence of IRT code, barcode, expiry date. Back then SOP were directed towards good product, now we added Good Manufacturing Processes (GMP). Licensing process experienced by participant is heading towards quality control. Other than product and packaging training, we also do Hazard Analysis Critical Control Point (HACCP).”

– Rosa, Kediri District Industry and Trade Agency

Mrs. Rossa also said, right now SOP is deemed as weak and many participants are not following the correct procedure. Although there is no direct collaboration between FAO and Industry and Trade Agency, people can still benefit and the

agency's program can act as a follow through of FAO project. Some people who aren't direct beneficiaries such as Mrs. Anjar in Kebonrejo admitted that she's been having problem with licensing, assistance in licensing product will be needed.

3.6.3. Output 4 – DRR in recovery measures

VIS

Out of all the projects, VIS seems to be one of the more sustainable ones. There is a law requiring villages to have their own information system, which can back up the project in the long run. The project is also supported by Communication and Information Agency with their '1000 domains'. Out of three districts, however, only the ones in Kediri district can be accessed, the others can't be accessed at all via browser. Even though the local government says that VIS in all villages (except Kebonrejo village) are being well-maintained and updated often.

Before VIS there is a similar program called Simpade (Village Administration and Profile Management Information System). VIS is considered as an improvement Simpade and both program will be integrated in the near future according to BPBD Kediri District. Future VIS development will be done in two villages every year, now BPBD is organizing a Training for Facilitator, the next step is to develop VIS in Besowo and Sugihwaras village (Kediri District).

There is also some informal training that happened due to people's curiosity such as what happened in Blitar. In Modangan village, VIS administrator informally teaches other people about VIS software and information technology. People from neighboring village occasionally visits Modangan to learn. In Modangan village, village administrators are also very supportive of VIS and plan to grant one laptop to village administrators whom are contributing in VIS development. In Karangrejo village, VIS administrators are also considered to be more tech savvy compared to Sempu village; Karangrejo VIS administrators are able to fix the problem with letter formatting where the people in Sempu village is having difficulties with.

Contingency Plan

BPBD in Kediri District was keen to push forward the formulation of livestock contingency plan, as BNPB has assigned them specifically to protect the livestock support that had been given to the community from BNPB and FAO. In this way, sustainability of livestock contingency plan in Kediri District is guaranteed.

3.7. Crosscutting issues: Gender analysis

The volcanic eruption of Sinabung and Kelud has impacted the livelihoods of male and female population in East Java and Tanah Karo District, North Sumatera. Damages to livelihoods assets affect both male and female farmers. However, the impact is not equally among male and female population.

In addition, there is still ongoing marginalization of employment and livelihoods is related to constraints in accessing resources, including time poverty because of the unequal division of labour within households. Cultural domination manifests in the persistent division of women's and men's tasks, so that women's roles are associated with household and caretaking work, while men dominate market interactions and production. As a result, women have multiple burdens and workloads, and their labour contributions are not being acknowledged, such as in the agriculture sector. At the household level, women have less bargaining power compared to men in making political and economic decisions.

In a study on gender mainstreaming in agriculture in the Indonesian context, Bappenas (2001) concluded that the heritage system in most societies in Indonesia restricts access to and control over resources for Indonesian women. This is because customary law, based on religious and other traditions, tend to privilege inheritance to male siblings.

Gender discrimination also manifests in terms of decision making at the community level. At the community level, tradition entails unequal access and control by women of productive resources. There is also less access for training and extension services. Extension services are still male dominated, resulting in less opportunity for women to enhance their livelihoods skills in the areas of agriculture. Extension workers are predominantly men, and often there is male bias in the extension service provision, though significant numbers of farmers are women. This is also related to state policy, which requires male household heads. Similarly, access to credit is still low, particularly to the formal banking system.

What Moser identifies as women's triple work load is visible at all research sites. A triple role for low income women is identified by Moser as productive, reproductive and community management roles.

Triple roles of Women

Productive work: This is work that produces goods and services for consumption by the household or for income and is performed by both men and women. Women's productive work is often carried out alongside their domestic and childcare responsibilities (reproductive work) and tends to be less visible and less valued than men's productive work.

Reproductive work: This work involves the bearing and rearing of children and all the tasks associated with domestic work and the maintenance of all household members. These tasks include cooking, washing clothes, cleaning, collecting water and fuel and caring for the sick and elderly. Women and girls are mainly responsible for this work, which is usually unpaid.

Community roles: Women's community activities include provisioning and maintenance of resources which are used by everyone, such as water, healthcare and education. These activities are undertaken as an extension of their reproductive role and are normally unpaid and carried out in their free time.

Source: Summarized from Moser, C.N. (1993)

Women's domestic work also includes a caring role, for instance if within the household they have elderly or sick people. Domestic tasks heavily burden women when added to their income generating activities. Girls also help with domestic work, with boys providing some assistance. Work includes procuring household necessities, preparing meals, cleaning in and around the home, collecting water (few villages have piped water), boiling drinking water, collecting firewood and washing clothes.

Gender Mainstreaming Strategies of Mt. Sinabung Recovery Support Programme

Specific interventions was designed to address livelihoods issues to minimize burden on women and children, such as:

- Conducted specific needs assessment which integrates impact on women, including women-headed household
- Women's need and cultural sensitivities were taken into account in the planning of activities
- Better representation of women in decision making process in terms of recovery planning and implementation

- Monitoring the recovery interventions that were targeting vulnerable groups including women
- Integrated participation of women in planning and implementing livelihoods interventions

As an example is project encourage participation of women in various activities, as reflected in the following table.

Table 11 Gender Segregated Data on Various Activities

No.	Activities	Total Participants	Female	Male
1.	Villagecontingency plan	45	0	45
2.	Training on VIS strengthening facilitators and utilization for village promotion	29	5	24
3.	VCA Workshop	39	10	29
4.	Training on organic chicken farming	39	12	27
5.	Training on GAP and GHP Coffee	25	7	18
6.	Training on organic horticulture farming	20	20	0
7.	Trainingon marketing	60	39	21
8.	Training on financial education for families	80	15	65
9.	Training on enterprenurship using "GETAhead"	84	54	30
10.	Food processing training	20	20	0
11.	Motorbike reparation training	15	0	15
12.	Sewing training	15	15	0
13.	Cooperative and micro-finance training	19	6	13
14.	Youth @Work Training	25	8	17
	Total	513	217	296
	Percentage	100	42.30	57.70

As can be seen from the above table, that in the selected 14 trainings/major activities, 42.30% of the participants were female. Though there are some variations of the

activities where women did not join for instance in the activities of “contingency plan team training and village contingency implementation out of 45 participants, no female participants joined. This is because most of the village leaders are male dominated.

Gender Mainstreaming Strategies of Support to Mount Kelud Programme

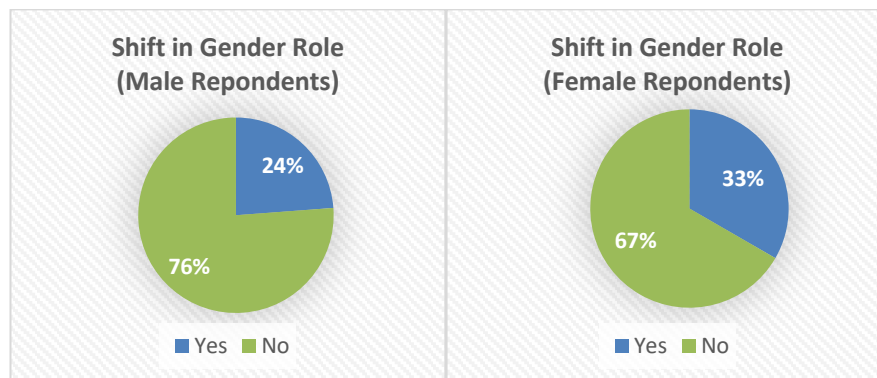
Resilience can be enhanced through gender equality and women empowerment. Although not stated as an objective, livelihood recovery project has tried to incorporate gender perspective in its project implementation. In Mt. Kelud, however, patriarchy culture is still thick and present in farmers’ daily life. Women participants are also underrepresented throughout the training, below is an example of men and women participants in communal livestock training:

Table 12 Number of communal livestock training participants

NO	DATE	VILLAGE	Number of Participant	ME N	WOME N
1	24 February 2016	Pondokgung	25	25	0
2	19 April 2016	Kampung Baru	34	26	8
3	10 May 2016	Besowo	24	24	0
4	12 May 2016	Pandansari	23	22	1

There were many gender issues found in agriculture, which can be reflected from women participation in decision making, access towards opportunities, control towards mean of production, also development benefits. During the evaluation, all 60 respondents (42 men and 18 women) were asked if the project has changed their perspective or any gender role at all in their daily life. The objective would be to empower women to be more active in economic activities, and shift patriarchal values for men to be more appreciative of women’s capabilities in economic development.

Figure 20 Percentage of respondents experiencing shift in gender role



The result has shown that up to 76% of the male population (32 men) admits that the project hasn’t bring any changes at all in the dynamics between men and women in the area; while 24% of the male population (10 men) admits that the project has brought them to be more appreciative of women and their role in economy. However, of all 76% male, not all of them have patriarchal views, a few of them already shares a more egalitarian view of men and women in economy.

Meanwhile, 67% of the female population (12 women) admits that the project did not bring any changes towards men and women dynamic in the area; while 33% of them (6 women) admits the project did bring changes between men and women in the area. But of course, not all women who answered they don't feel any changes have been oppressed or any lesser than men—some already perceived a more egalitarian way of thinking in their household where responsibilities and rights are already shared equally between them and their husband.

Figure 21 Land Access and Ownership

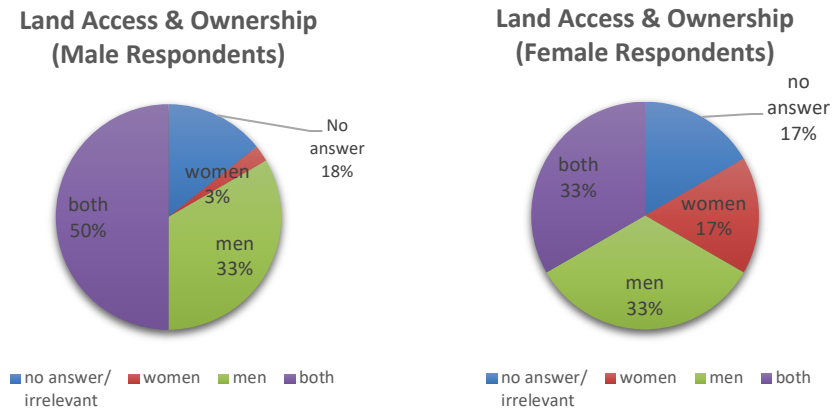
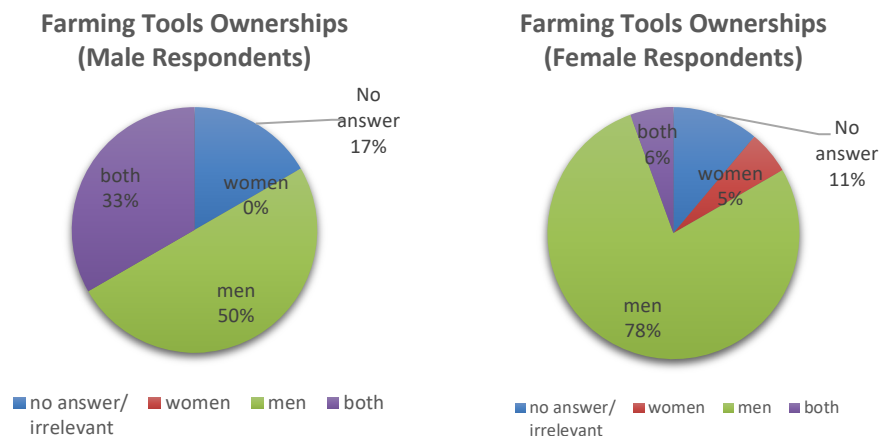


Figure 22 Land access & ownership of men and women in Mt. Kelud

According to men, women and men have equal access and ownership in land (50%), followed by men (33%). Meanwhile, women respondents have more varied answers about women's access towards land and its ownership. According to these answers, most of the people in the area already share their land ownership within their household, followed by men.

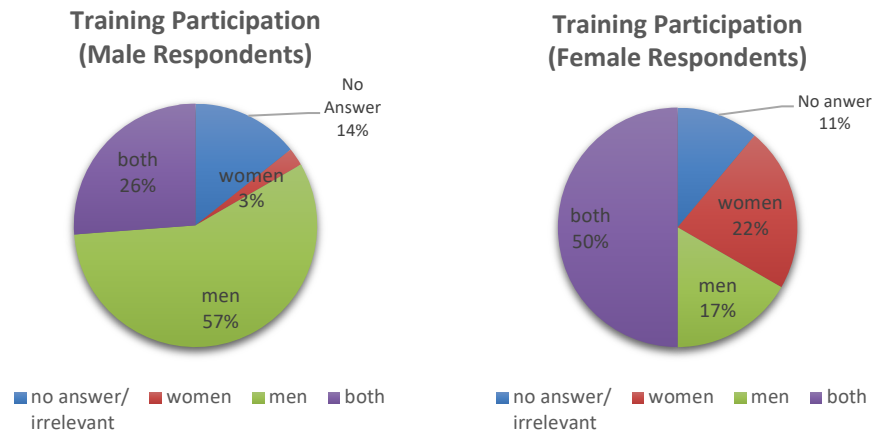
Figure 23 Farming Tools Ownership in Mt Kelud



Farming tools represent ownership towards means of production. In male respondents, there aren't any men who answered women are has ownership towards farming tools, and half of them answered only men has ownership over farming tools. Meanwhile in female respondents, 78% answered that only men have ownership over farming tools. These results showed that farming tools ownership are mostly dominated by men,

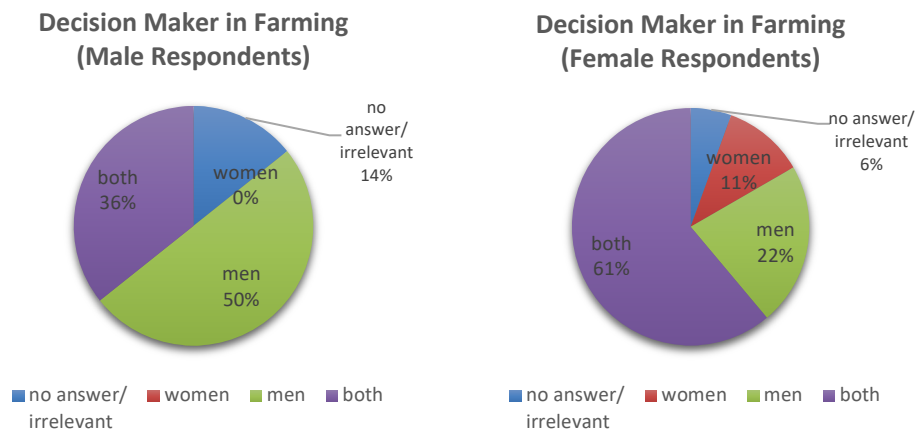
although there are a few portions that share their farming tools ownership within the household.

Figure 24 Training Participation in Mt Kelud



Since the respondents are beneficiaries, this training participation within the household are quite varied. In male respondents, 57% of the respondents answered in their household only men participate in training or other capacity building activities. Meanwhile women respondents are more varied in this answer, especially because they are beneficiaries of the project, half of the female respondents answered ‘both’, which often means: “it depends on the theme and type of activities”. Although access towards opportunities within household are still dominated by men, the number of women who has the opportunities to participate in trainings—shared or not—(25) is still lower than the number of respondents who answered only men participate in training (27). This shows disparities between men and women in terms to access towards opportunities.

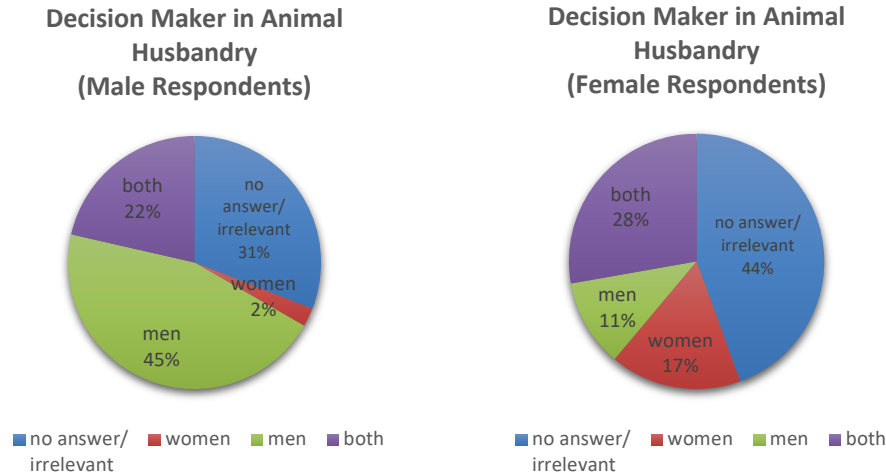
Figure 25 Decision maker in farming of men and women in Mt. Kelud



In making decision related in the type of crops will be planted and when. Half of the male respondents answered that the husbands are the ones doing the decision making when it comes to farming and agriculture, and the rest (36%) makes the decision together with their wife. Meanwhile, most of the female respondents (61%) say that the decision is made together. This indicates that female respondents tend to hold more egalitarian view on decision making in their household, meanwhile half of male

respondents still dominates this area within their household, there are significant portion of men who are willing to make their decision in farming with their wife.

Figure 26 Decision maker in animal husbandry of men and women in Mt. Kelud



Decision maker in animal husbandry in one household is related to livestock breeding, animal health, animal production, etc. Many of these are not answered since not all of the respondents have cattle. In male respondents, 45% answered decision maker on animal husbandry are men, 22% answered the decision making is done together. Meanwhile female respondents tend to answer the decision in animal husbandry is done together, or done by women only.

Overall, in Mt. Kelud men are still dominating decision making, access towards opportunities, and control towards mean of production. Clear distribution of role and responsibilities in one household exists in some beneficiaries, for example: even though farming tools ownership is being held by the husband, the wife is responsible in making decision in farming. However, it can be seen that female beneficiaries tend to share these with their partners more than letting one dominates over the other. Although it is not shown significantly, some women beneficiaries admitted that the trainings have helped them to be more confident and active in their household.

“I think men and women are now closer, friendlier, and more unified. Back then we seldom meet up, and rarely gather in forum. Households become more harmonious, the husbands don’t get angry as much.”

— Sukatun, Head of Estu Karya Jaya

“Now they can’t underestimate women, women can also work hard.”

— Diah, Treasurer of Estu Karya Jaya

“Changes are inevitable between men and women relation in household. When we receive the donation and project we need more work, and from there, cooperation with wife became important.”

— Leksi, Member of Maju Jaya

4. Conclusions and recommendations

4.2. Conclusions

Mt. Sinabung Recovery Support Programme (SIRESUP)

9. The SIRESUP Programme has contributed local community for livelihood recovery through promotion of organic horticulture, effective coffee cultivation and introduction for livestock based livelihoods. The survey in the evaluation confirm that assets of local communities have changed positively from the period of eruption in 2013.
10. The programme is relevant to the local and regional needs, particularly as model in disaster response. The the project has been able to promote the livelihoods of the community members in the relocation site in Siosar. In Siosar, adaptive livelihoods promoted include organic horticulture, livestock raising, sewing and automotive workshop/services.
11. Adaptive livelihood is also promoted through capacity building in coffee cultivation, production enhancement of coffee, and post-harvest processing. The commodity of coffee become strategic since this cash crop is resilient to volcano ash. Moreover, coffee has been practiced by farmer's community, with limited technology. Therefore, the project is strongly relevance in revitalizing community livelihood capacity.
12. The project is implemented jointly by three UN Agencies in collaboration with Bappenas and BNPB. Therefore, nationally, the project promote multi-stakeholder project management and partnership including its strategic partnership with BPBD at Province and District level, and other technical government units in Tanah Karo District.
13. The capacity of local government is fundamental for effective disaster mitigation, rehabilitation, reconstruction including on livelihoods recovery. Therefore, the project has contributed toward building capacity of BPBD in coordination activities, Disaster Risk Reduction and livelihoods program. Similarly, the project enhanced the capacity of local government extension workers in managing livestock raising (chicken and cattle), organic horticulture and coffee cultivation techniques.
14. Effectiveness of the project was achieved in that project has been able to meet the output for building capacity of local government units in coordinating disaster recovery.
15. Project also met its output for livelihoods recovery, in that most activities promoted have resulted in positive impact to diversification of income which lead to potential sustainability such as coffee farming productive enhancement, small and medium enterprise development.
16. Project has contributed to sustainability such as environmental sustainability through agroecology (organic horticulture), terracering and soil conservation. In addition, for livelihoods sustainability capacity for livelihoods and sales of the product have been developed, including with linkages with private companies in the case of sustainable coffee farming.

Support to Mount Kelud Programme

6. BPBD officials in the three district benefited from the UNDP project of increasing the officials' capacity in coordination, planning and implementing recovery measures
7. The UNDP projects are likely to withstand the high rotation of government officials as the projects have produced written documents such as action plan and contingency plan
8. The high success of livestock project, especially cow support, contributed to the high value of livestock support (i.e. cows) that was given to the beneficiaries who already have experience in rearing cows, in addition to the support received from the government program who put much interest in supporting local livestock sustainability
9. When the beneficiaries are sure of what they want, the possibility of success and sustainability of the project is higher, like in the case of cows support versus banana seeds support where the beneficiaries were indecisive of the choice of the support
10. The livelihood projects done by FAO are able to uphold the build back better principles by a series of activities and projects done to covers the material support. Not only the beneficiaries received livestock supports, they also were enriched by newfound skill such as basic veterinarian, waste management by biogas, organic farming, and processed food.

4.3. Recommendations

Mt. Sinabung Recovery Support Programme

6. Building capacity of beneficiaries in animal health management is pre-requisite in the livestock raising intervention. Therefore, prior to livestock placement, strong livestock management skills will be required.
7. To avoid case in high mortality of chicken, FAO may provide technical assistance to BPBD including involving Livestock Service Units in the breeding provision/procurement. Therefore, breeding appropriateness and suitability will support the sustainable livestock raising.
8. Integration of livelihood recovery with strong access to financial services need to be integrated. Most farmers have access to micro-credits, savings mobilization, and loans from internally mobilized resources through Credit Unions, but limited access to micro-credit from bank. Strong access to micro-credit and loan administration, will enhance productive capacity of the beneficiaries. In addition, business development services need to be continued, to enable the SMEs compete in the local market.
9. Most of the livelihoods activities observed in the study are small scale, micro and artisanal. Therefore, we recommend that moves should be made to improve productivity and quality. We also recommend that programs to enhance the entrepreneurial capacities of women should be prioritized. In line with this strategic business plans should be promoted for community groups, to assist them to identify potential commodities, market analysis and quality improvement.

10. Since the areas are prone to natural disasters particularly volcanic eruption, the livelihoods of beneficiaries are often interrupted by harvest failure, loss of livestock and crop damage. There is a strategic need for advocating for the provision of social protection. This is because meeting the needs of the productive poor through livelihood and enterprise development can be an effective means for bringing about inclusive economic growth. Positive social assistance aims to promote sustainable livelihoods and effective small-scale enterprises. By advocating the needs for productive social assistance, protective and preventive attitude, to one that invests in and enhances poor people's capacities to achieve sustainable livelihoods, makes a great deal of economic sense.

Support to Mount Kelud Programme

The following proposes a set of strategic recommendation: With many achievements that has been mention, of course there is need area of improvement for the future, there are:

7. In communal livestock training project, there were some internal struggles between the two receiving farmers group in Kampungbaru village. This struggle caused the donations to be utilized less effectively. This problem could be avoided if FAO consulted with local agency beforehand to understand the local context and problem in the village it's targeting.
8. When introducing a new crop, collaboration with crop-based organization in the area such as AAC (Chili Agribusiness Association) would be a good entry point to introduce the crops.
9. Barn owl breeding met a problem delivering the output when barn owls stationed in one village fled. In order for the project to succeed, proper domestication for barn owls is needed, in terms of: population in one area, location of nest. Proper vigilance by expert is also needed until the owl is domesticated properly.
10. Better vendor would be needed in order for beneficiaries to receive the tools with appropriate specifications per their request.
11. In implementing Village Information System, it is important to recognize the existing limitation of village's infrastructure and geographical disadvantages in order for the project to sustain.
12. Women is still underrepresented in the training, although women participants admitted the project made them to be more confident in their abilities in their job; men admitted that they did not feel any changes at all. To achieve gender equality, spreading awareness should be done not only to women but also to men.

Appendices

1. List of People Interviewed in Sinabung

No.	Name	Institution	Location
1	Kuswiyanto	BAPPENAS	Medan
2	Diah Lenggogeni	BAPPENAS	Medan
3	Hermani Wahab	BAPPENAS	Medan
4	Wartono	BNPB	Medan
5	Tania Resita	BNPB	Medan
6	R Hutomu	BNPB	Medan
7	AdrivenoYL Pitoy	BNPB	Medan
8	Rudi Pakpahan	IDF Bappenas	Medan
9	Danifensen	IDF Bappenas	Medan
10	Eva Lumbangaol	Manpower and Social Agency, Karo Regency	Kabanjahe
11			
12	Darius Sinulingga	BPBD North Sumatera	
13	Amal Sembiring	Development Planning Agency at Sub-National Level, Karo Regency	Kabanjahe
14	Aswin Ginting	Regional Disaster Management Agency, Karo Regency	Kabanjahe
15	Suharta Sembiring	Regional Disaster Management Agency, Karo Regency	Kabanjahe
16	TotokBudiharjo	Office of Tourism and Culture	Kabanjahe
17	Sarjana Purba	Office of Agriculture of Tanah Karo	Kabanjahe
18	Verysoni	Livestock Service Unit of Tanah Karo	Kabanjahe
19	Surip Mawardi	Starbuck Support Center	Berastagi
20	Vinood Kumar	Indocafco	Medan
21	Junita Siboro	Indocafco	Simalungun
22	Markasta Sinulingga	CU Merdeka	Kabanjahe
23	Zaini	Facilitator FAO	Kabanjahe
24	Akhmad Rikun	FAO Project Manager	Kabanjahe
25			
26	Aidil Azhari	Project Manager ILO	Kabanjahe
27	Udin Suryana	Field Facilitator ILO	Kabanjahe
28	Budiman	Field Facilitator FAO	Kabanjahe
29	Agus Sastra Ginting	Village Leader: Desa Simacem	Tanah Karo
30	Danto Satrya S.Pelawi	Village Leader: Desa Simacem	Tanah Karo
31	Senen Sitepu	Village Leader: Desa Simacem	Tanah Karo
32	Lesanto Sitepu	Village Leader: Desa Simacem	Tanah Karo
33	Mhd.Abidan	Village Leader: Desa Simacem	Tanah Karo
34	Lilin Ginting	Village Leader: Desa Simacem	Tanah Karo
35	Sudimudu Sembiring	Village Leader: BPD Sukameriah	Tanah Karo
36	Yani Ginting	Village Leader: Desa Suka Meriah	Tanah Karo

37	Agus Sitepu	Village Leader: Desa Suka Meriah	Tanah Karo
38	Julia Sputra S	Village Leader: Desa Suka Meriah	Tanah Karo
39	Ngasup Sembiring	Village Leader: Desa Suka Meriah	Tanah Karo
40	Lorensius Ginting	Village Leader: Desa Bekerah	Tanah Karo
41	Sulaiman Ginting	Village Leader: Desa Bekerah	Tanah Karo
42	Dasi Sitepu	Village Leader: Desa Bekerah	Tanah Karo
43	Kasman Sitepu	Village Leader: Desa Bekerah	Tanah Karo
44	Hema br.Pelawi	Beneficiaries:Desa Bekerah	Tanah Karo
45	Dengdengan Br Sitepu	Beneficiaries:Desa Bekerah	Tanah Karo
46	Asna br Ginting	Beneficiaries: Desa Bekerah	Tanah Karo
47	Cita Br Sembiring	Beneficiaries: Desa Bekerah	Tanah Karo
48	Yuni Astuti	Beneficiaries: Desa Bekerah	Tanah Karo
49	Sri Ulina Br Ginting	Beneficiaries:Desa Bekerah	Tanah Karo
50	Risnawawi Br Sitepu	Beneficiaries: Desa Suka Meriah	Tanah Karo
51	Ati Rohati	Beneficiaries:Desa Suka Meriah	Tanah Karo
52	Hartono Purba	Beneficiaries:Desa Bekerah	Tanah Karo
53	Feriheluanta Ginting	Beneficiaries: Desa Suka Meriah	Tanah Karo
54	Sulaiman Ginting	Beneficiaries:Desa Suka Meriah	Tanah Karo
55	Basmadi Kapri	Beneficiaries: Desa Simacem	Tanah Karo
56	Sastria Stp	Beneficiaries:Desa Suka Meriah	Tanah Karo

List of People Consultant in Kelud: to be completed

List of Key Documents Reviewed