



Climate Adaptation and Disaster Resilience (CADRE)

**Stakeholder Coordination, Advocacy, Linkages and Engagement
for Resilience – Phase 2
(SCALE - R)**

*Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana untuk
Ketahanan*

'API Perubahan phase 2'

FINAL REPORT



COUNTRY CONTACT	HEADQUARTERS CONTACT	PROGRAM SUMMARY
Danielle de Knocke van der Muelen Program Director Mercy Corps Indonesia Graha STK, F Floor Suite F01 Pasar Minggu Jakarta Selatan 12550 Phone: +62.21.788.42686 Fax: +62.21.788.42786 ddeknockevidm@id.mercycorps.org	Jared Rowell Senior Program Officer Mercy Corps 45 SW Ankeny Street Portland, OR 97204-3504 Phone: +1.503.896.5853 Fax: +1.503.896.5011 jrowell@mercycorps.org	Award no.: AID-497-G-14-00001 Start date: 27 March 2014 End date: 30 September 2015 Total award: \$470,000

Acknowledgements - Contributors to the Final Report

Willy Wicaksono, Program Manager, API Perubahan, Mercy Corps Indonesia

Andry Napitupulu, Monitoring and Evaluation Specialist, API Perubahan, Mercy Corps Indonesia

P. Raja Siregar, Program Director for DRR CCA, Mercy Corps Indonesia

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ACRONYMS AND TERMS

ACCCRN	Asian Cities Climate Change Resilience Network
Amasoa	Amahai Soahuku - <i>name of sub-districts in Maluku Tengah</i>
AMGPM	Angkatan Muda Gereja Protestan Maluku / Maluku's church youth
APBD	Anggaran Pendapatan dan Belanja Daerah / Local government budget
APEKSI	Asosiasi Pemerintah Kota Indonesia / Indonesian Municipality Association
API Perubahan	Adaptasi Perubahan Iklim Pengurangan Risiko Bencana untuk Ketahanan
Badan POM	Badan Pengawas Obat dan Makanan / Food and Drug Administration
Bappeda	Badan Perencanaan Pembangunan Daerah / Regional Development Planning Board
Bappenas	Badan Perencanaan Pembangunan Nasional / National Development Planning Board
BKPP	Badan Ketahanan Pangan dan Penyuluhan / Food Security Agency
BLH / BPLHD / KLH	Badan Lingkungan Hidup / Local environmental office
BMKG	Badan Meteorologi Klimatologi dan Geofisika / Board of Meteorology, Climatology and Geophysics
BNPB	Badan Nasional Penanggulangan Bencana / National Disaster Management Agency
BPBD	Badan Penanggulangan Bencana Daerah / Local Disaster Management Agency
BPPT	Badan Pengkajian dan Penerapan Teknologi / Agency for Assessment and Application of Technology
BRI	Bank Rakyat Indonesia / one of commercial bank
CADRE	Climate Adaptation and Disaster Resilience
CBDRM	Community Based Disaster Risk Management
CCA	Climate Change Adaptation
CCROM	Center for Climate Risk and Opportunity Management in Southeast Asia and the Pacific, Bogor Agriculture University (IPB)
DED	Detailed Engineering Design
DKPP	Dinas Kelautan, Perikanan dan Peternakan / Local agency for Marine, Fishery, and Livestock
DNPI	Dewan Nasional Perubahan Iklim / National Council of Climate Change
DPRD	Dewan Perwakilan Rakyat Daerah / Local legislative
DRR / PRB	Disaster Risk Reduction
Forum PRB	Forum Pengurangan Risiko Bencana / Disaster Risk Reduction Forum
GIS	Geographic Information Systems
GoI	Government of Indonesia
IDRC	International Development Research Canada
ISET	International Institute of Social and Environmental Transitions
Kabupaten	Regency
Kelurahan	Sub-district at municipality level (Village)
KEMDIKBUD	Kementerian Pendidikan dan Kebudayaan / Ministry of education and culture
KKP	Kementerian Kelautan dan Perikanan / Ministry of marine and fishery
KLHK	Kementerian Lingkungan Hidup dan Kehutanan / Ministry of environment and forestry
KNPRBBK	Konferensi Nasional Pengurangan Risiko Bencana Berbasis Komunitas / National conference for CBDRM
KOMPAS	Komunitas Pecinta Alam Seram / Seram Natural Activist Community
KSB	Kelompok Siaga Bencana / Emergency Response Group
LP2M	Lembaga pengkajian dan Pengembangan Masyarakat / Research and Community Development Institute
LRAP / RAK	Local Resilience Action Plan
MCCC	Mercy Corps Cacao Center
MCI	Mercy Corps Indonesia
MTs	Madrasah Tsanawiyah (islamic elementary school)
Musrenbang	Government annual planning and budgeting process
Nagari	Sub-district at regency in West Sumatra
NGO	Non Government Organization
PAC	Komite Penasehat Program / Program Advisory Committee
PAMS	Pengembangan Air Minum dan Sanitasi / Water and sanitation improvement

PB	<i>Penanggulangan Bencana</i> / Disaster management
Perda	<i>Peraturan Daerah</i> / Local regulation
<i>Perhimpni</i>	<i>Perhimpunan Masyarakat Pertanian Indonesia</i> / Indonesian Agriculture Society
PI	<i>Perubahan iklim</i> / Climate change
PLANAS PRB	<i>Platform Nasional PRB</i> / National platform for DRR
PLN	<i>Perusahaan Listrik Negara</i> / National electricity company
PMID	<i>Pusat Media Informasi Desa</i> / Sub-district information media center
PO	Program Officer
<i>Pokja</i>	Sub-District Working Group (SDWG)
POLRI	<i>Kepolisian Republik Indonesia</i> / Indonesian police
PRA	Participatory Rural Appraisal
PSDA	<i>Pengelolaan Sumber Daya Air</i> / Water resource management
ESDM	<i>Energi dan Sumber Daya Mineral</i> / Energy and mineral resources
PUPR	<i>Pekerjaan Umum dan Perumahan Rakyat</i> / Ministry of public works and housings
PUSDALOPS	<i>Pusat Pengendali Operasi</i> / Operation command center
RAPI	<i>Radio Antar Penduduk Indonesia</i> / Indonesian community radio
<i>Renbangdes</i>	<i>Rencana Pembangunan Desa</i> / Sub-district Development Plan
RPB	<i>Rencana Penanggulangan Bencana</i> / Disaster management plan
RPJMD	<i>Rencana Pembangunan Jangka Menengah Daerah</i> / Local Government Midterm Development Plan
RPJMDes	<i>Rencana Pembangunan Jangka Menengah Desa</i> / Sub-district Midterm Development Plan
RT	Rukun Tetangga / Neighborhood
RTRW	<i>Rencana Tata Ruang Wilayah</i> / Regional Spatial plan
SCALE-R	Stakeholder Coordination, Advocacy, Linkages and Engagement for Resilience
SCDRR	Safer Community through Disaster Risk Reduction
SDWG / POKJA / POKMAS	<i>Kelompok Kerja/Community Group</i> / Sub-district Working Group
SKPD	<i>Satuan Kerja Pemerintah Daerah</i> / Local Government Agency
TATTs	Technical Assistant and Training Teams, Program under Mercy Corps Indonesia
<i>Tim Kerja</i>	The name for the PAC in West Sumatra (changed from <i>Forum PRB</i>)
TNI	<i>Tentara Nasional Indonesia</i> / Indonesian military
UNDP	United Nations Development Program
UNNES	<i>Universitas Negeri Semarang</i> / Semarang state university
UNPATTI	<i>Universitas Pattimura</i> / Pattimura university
URDI	Urban and Regional Development Institute
USAID	United States Agency for International Development
VCA / KRB	Vulnerability and Capacity Assessment
Walhi	<i>Wahana Lingkungan Hidup</i> / Indonesian Forum for the Environment (environmental NGO)

1. EXECUTIVE SUMMARY AND OVERVIEW

This is the Final Report for the USAID funded program CADRE - Stakeholder Coordination, Advocacy, Linkage and Engagement for Resilience (SCALE-R) Phase 2. To promote more effective community engagement since Phase-1, the name of this project was changed to API Perubahan (*Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana untuk Ketahanan / Climate Change Adaptation and Disaster Risk Reduction for Resilience*). Throughout this report, this project is referred to as API Perubahan.

1.1 Program Overview

API Perubahan Phase 2 started on March 27, 2014 and was originally planned to end on September 30, 2015. However, in order to enable the program team to better monitor the impact of the program and ensure the sustainability of the pilot projects, USAID approved a two-month extension with a new completion date of November 30, 2015.

API Perubahan was designed to build on achievements gained from Phase 1 and strengthen the initial engagement with relevant national and local government agencies to integrate CCA-DRR into development planning and capacity building initiatives. The ultimate goal of the program was *to improve the resilience of populations in Indonesia that are vulnerable to natural hazards and the impact of the climate change through strengthening the capacity of government, civil society, and the private sectors to reduce risk of disaster and to adapt climate change.*

API Perubahan follows a two pronged strategy incorporating (i) locally-led (or bottom up approaches) where local initiatives influence national action; and (ii) nationally-led (or top down approaches) where enabling frameworks empower local players by establishing networks of stakeholders from multiple backgrounds at the provincial and local levels. This creates a platform for the uptake of ideas and initiatives, and builds capacity at the national level. The communities most vulnerable to the negative impacts of climate change, particularly poor and coastal populations, have the least recourse for dealing with its long-term effects. The effects of climate change are exacerbating the impact of many natural hazards, such as tsunamis, landslides, volcanoes, floods, droughts and storm surges. Climate change is also introducing new risks. For example, changes in rainfall patterns have implications for food security and drinking water supplies; storms and other weather patterns are becoming more severe; and sea level rise threatens lives and livelihoods in coastal communities.

API Perubahan has three general objectives that contribute to achieve its goal:

Objective 1: Better coordination between and inclusive planning by national, provincial and district-level government on disaster risk reduction and climate change adaptation.

Objective 2: Reduce the vulnerability to hazards and climate change impacts of targeted community members.

Objective 3: Replication of best practices promoted in new target vulnerable communities.

Program Area: API Perubahan Phase 2 applied an improved methodology on climate risk assessments and on the development of Local Resilience Action Plans (LRAPs), which were used during Phase-1 in two sub-districts (Kelurahan/Desa/Negeri) in Maluku Province and three sub-districts in Jawa Tengah Province. Project sites for Phase-2 also included five sub-districts in Maluku from Phase 1.

Through a rigorous and participative selection process with the local stakeholders, API Perubahan selected five new sub-districts located in Tirto District of Kabupaten Pekalongan and Amahai District of Kabupaten Maluku Tengah.

Figure 1: API Perubahan Phase 2 works in Kabupaten Pekalongan and Kabupaten Maluku Tengah



In total, API Perubahan Phase-2 assisted communities in the following ten sub-districts:

Table 1: API Perubahan Phase 2 Work Area

Jawa Tengah Province	Maluku Province	
Tirto district, Kabupaten Pekalongan	Amahai district, Kabupaten Maluku Tengah	Pulau Haruku district, Kabupaten Maluku Tengah <i>(continuation from the phase-1)</i>
Villages (sub-district):	Villages (sub-district):	Villages (sub-district):
<ul style="list-style-type: none"> • Desa Mulyorejo • Desa Tegaldowo • Desa Jeruksari 	<ul style="list-style-type: none"> • Negeri Amahai • Negeri Soahuku 	<ul style="list-style-type: none"> • Negeri Kabauw • Negeri Rohomoni • Negeri Sameth • Negeri Haruku • Negeri Oma

1.2 Activity Summary

Ultimately targeting 70,162 beneficiaries at the community, district and provincial levels, API Perubahan strengthened the capacity of local government officials, community members and informal leaders across ten vulnerable sub-districts (*kelurahan*) among two provinces in Indonesia: Jawa Tengah and Maluku as described in Table 1 above.

In these areas, API Perubahan established two Program Advisory Committees (PAC) that formed as the local forum at regency (*Kabupaten*) level that is concerned with disaster risk reduction and climate change adaptation; and four sub-district working groups (SDWGs, or *Pokja*). The PAC engaged representatives from Kabupaten down to sub-district governments, academia and local NGOs. API Perubahan provided training in the areas of climate analysis; climate change adaptation (CCA) and disaster risk reduction (DRR) for PAC and SDWG members utilizing the training curriculum and modules used by the National Disaster Management Agency (*Badan Nasional Penanggulangan Bencana, BNPB*) (which was improved by API Perubahan); training on advocacy and local development planning for SDWG; and entrepreneurship training for SDWG and community entrepreneur.

Climate-risk integrated assessments were conducted in Pekalongan and Maluku Tengah, as well as community-based risk assessments in all five replication sub-districts. These findings were then used to develop Local Resilience Action Plans (LRAPs) for each sub-district. LRAPs provide parallel advocacy to integrate CCA-DRR into local government plans and budgets, which API Perubahan then provided advocacy training for SDWGs so that they would have a proper understanding of the government and development planning processes as well various advocacy approaches.

At the national level, API Perubahan strengthened the *BNPB's engagement* on most aspects such as improved CCA DRR training curriculum, significantly involving them in working groups to develop the framework on CCA DRR convergence with several CSOs, individuals, the Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan, KLHK*), *BNPB* and the United Nations development program - SCDRR (Safer Community through Disaster Risk Reduction). API Perubahan also provided support to the Ministry of Education and Culture on the development CCA DRR reading materials for high school students. After the Local Resilience Action Plans (LRAPs) from each sub-districts were developed, API Perubahan bridged communication to relevant ministries by gaining support to implement the action plan.

The program continued its regular communications outputs, including newsletters, one-pagers, and other campaign materials. API Perubahan helped beneficiaries contribute to numerous CCA-DRR training and advocacy events throughout Indonesia, including the National Conference on Community-Based Disaster Risk Reduction, the Annual Scientific Meeting of Indonesian Disaster Expert Association, and National Disaster Risk Reduction Day.

SDWGs led pilot projects in each sub-district. Ten pilot projects were completed which helped create leverage for ongoing integration of CCA-DRR issues into government planning and community awareness. For example, the local environmental office of Maluku Tengah is providing funds for mangrove conservation in Haruku, Amahai and Soahuku Village and the public works of Pekalongan is providing waste containers to support the operationalization of the waste bank system in Tegaldowo sub-district.

Major challenges during the implementation of this program are as follows:

- Getting appropriate data for climate analysis and risk assessments was challenging. The climate analysis only covered rainfall projection since it was the only climate data available. Risk assessments at kabupaten-level of Maluku Tengah are not yet completed due to the lack of sub-district primary data and the huge geographic area covered.
- It was difficult to maintain the commitment of the local government officials in this program. Some government staff engaged in the program was transferred to another unit. In many cases, government staff would receive training and participate in the PAC or SDWG expecting to be promoted to a new area or department. Turnover in positions in the regional government required Mercy Corps to re-build communication with new government staffs and share the information repeatedly.
- Social conflict in Pulau Haruku occurred during program period causing several delays in delivering the pilot project.

1.2.1. Summary Table

Objective 1: Better coordination between and inclusive planning by national, provincial and district-level government on disaster risk reduction and climate change adaptation.

Output	Program Target	Output Achievements
Output 1.1: National engagement is improved	National government institution contribute to CCA-DRR implementation at local level	<ul style="list-style-type: none"> Improved BNPB's direct assistance to Local Disaster Management Agencies (BPBD) in developing Kabupaten-level risk assessment; Maluku Tengah was selected to receive assistance from BNPB's experts on disaster risk assessments. Expression of commitment from BPPT (Agency for Assessment and Application of Technology) to support food security campaigns through the application of the latest technology to process sago, an indigenous food from Maluku. The Ministry of Fishery and Marine Affair (KKP) included Maluku Tengah and Pekalongan in their assistance list. A development of small cold storage in the assisted village is being offered by KKP. Maluku Tengah as a small island community that will focus on the fishery, while Pekalongan will implement coastal restoration. The local agency on water resource management (PSDA) of Kabupaten Pekalongan and Jawa Tengah Province initiated dialog with the assisted community to manage tidal floods in Pekalongan with possible funding from Directorate General SDA from the Ministry of Public Works and Housing (Ministry of PUPR).
Output 1.2: Program Advisory Committees (PACs) are established and functioning	Two PACs established and legal statement, integrated work plan, and activities implemented	<ul style="list-style-type: none"> One Forum PRB PACs in Maluku Tengah and one Forum PRB (PAC) Pekalongan and consists of individuals from relevant government agencies and non-government organizations. Strategic plans of each PAC were developed and implemented, as well as periodically revisited to ensure their function as an advisory body to implement the DRR-CCA agenda.
Output 1.3: Sub-District Working Groups (SDWGs) are established and functioning	Four new SDWGs established and legal statement, integrated work plan and activities implemented	<ul style="list-style-type: none"> Four new SDWGs were formally established, and API Perubahan assisted the SDWGs in meeting their role. Each SDWGs developed strategic plans and are revisited periodically to implement their action plan on CCA-DRR in partnership with the government and private sector. Each SDWGs has a better understanding about the local development planning process and is able to build engagement with local government agencies particularly on CCA and DRR
Output 1.4: Collaborative actions are improved between	<ul style="list-style-type: none"> Up to 13 regular meetings involving PAC and SDWG 	<ul style="list-style-type: none"> PAC and SDWG meetings were conducted at least once per month to discuss recent CCA DRR related issues. By the end of the Phase 2, there were 13 formal meetings recorded involving PAC and SDWG. There were several informal meetings conducted between PAC and SDWG as well.

PAC and SDWG	<ul style="list-style-type: none"> Up to seven joint activities conducted by PAC & SDWG 	<ul style="list-style-type: none"> There were at least 13 joint PAC and SDWG activities recorded.
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Objective 2: Reduce the vulnerability to hazards and climate change impacts of targeted community members

Output	Program Target	Output Achievements
Output 2.1: Improved knowledge of communities and local government on CCA-DRR	<ul style="list-style-type: none"> Up to five training topics conducted for each province CCA-DRR campaign materials in place 	<ul style="list-style-type: none"> Five training topics were conducted. One training topic for Desa Tangguh was dropped. Awareness campaigns through radio and printed materials were produced, distributed and measured.
Output 2.2: Improved CCA-DRR development plan in local government and community	<ul style="list-style-type: none"> Six risk assessment documents Four LRAP documents were produced Up to four CCA-DRR initiatives implemented by local government and communities 	<ul style="list-style-type: none"> Six risk assessment document were developed: <ul style="list-style-type: none"> Five community participatory risk assessments One Kabupaten-level risk assessments Five LRAP documents developed Four CCA DRR initiatives were implemented with government resources. 25 actions were identified for LRAPs for Pekalongan and Maluku Tengah and were accommodated at Kabupaten-level Musrenbang (deliberative bottom-up development plan), which will potentially be included in the next year(s) local development agenda.
Output 2.3: Five pilot projects implemented in five targeted sub-districts	Five pilot projects implemented with 20% shared contribution	Ten pilot projects were implemented with 20% match contribution from other parties

Objective 3: Replication of best practices promoted in new target vulnerable communities.

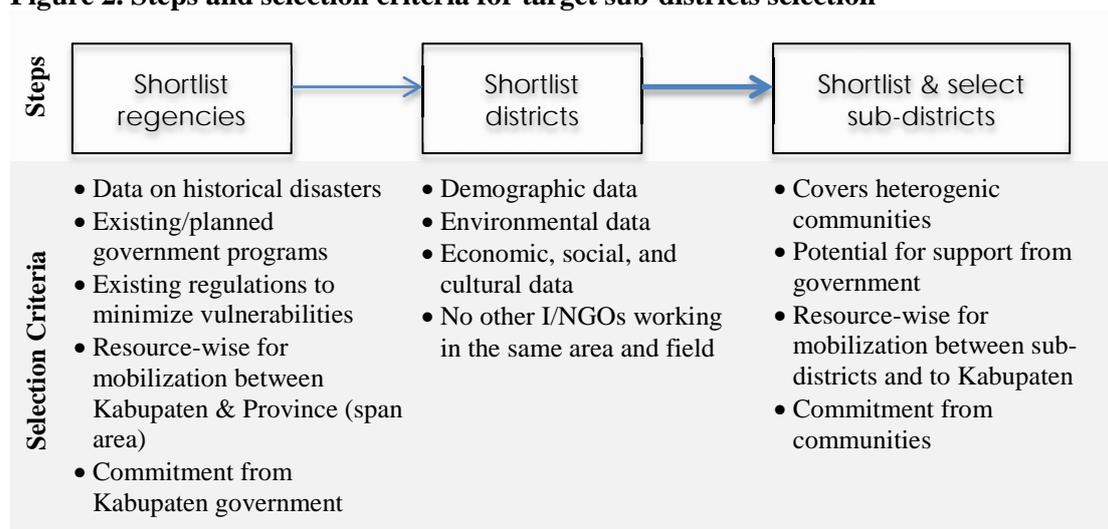
Output	Program Target	Output Achievements
Output 3.1: CCA-DRR model	CCA-DRR model documented and promoted	CCA-DRR resiliency models were developed, capturing experiences from Phase 1 and 2, and has been consulted and promoted to various actors at the national and local level.

2. PROJECT IMPLEMENTATION

2.1 REGIONS SELECTED FOR API PERUBAHAN PHASE 2 ACTIVITIES

API Perubahan Phase 2 was designed to strengthen and replicate efforts in Maluku’s sub-districts, including one sub-district from Phase 1 and replicate the integrated DRR CCA activities in three new Jawa Tengah sub-districts. The selection of target sub-districts was made following the below steps and criteria:

Figure 2. Steps and selection criteria for target sub-districts selection



Together with local partners, both Maluku and Jawa Tengah PACs in August 2014 selected five new sub-districts in Maluku Tengah regency and Pekalongan regency for the Phase 2 replication. Including sub-districts in Pulau Haruku, the API Perubahan Phase 2 intervention assisted communities in ten sub-districts as described in below table:

Table 2. API Perubahan Phase 2 work area

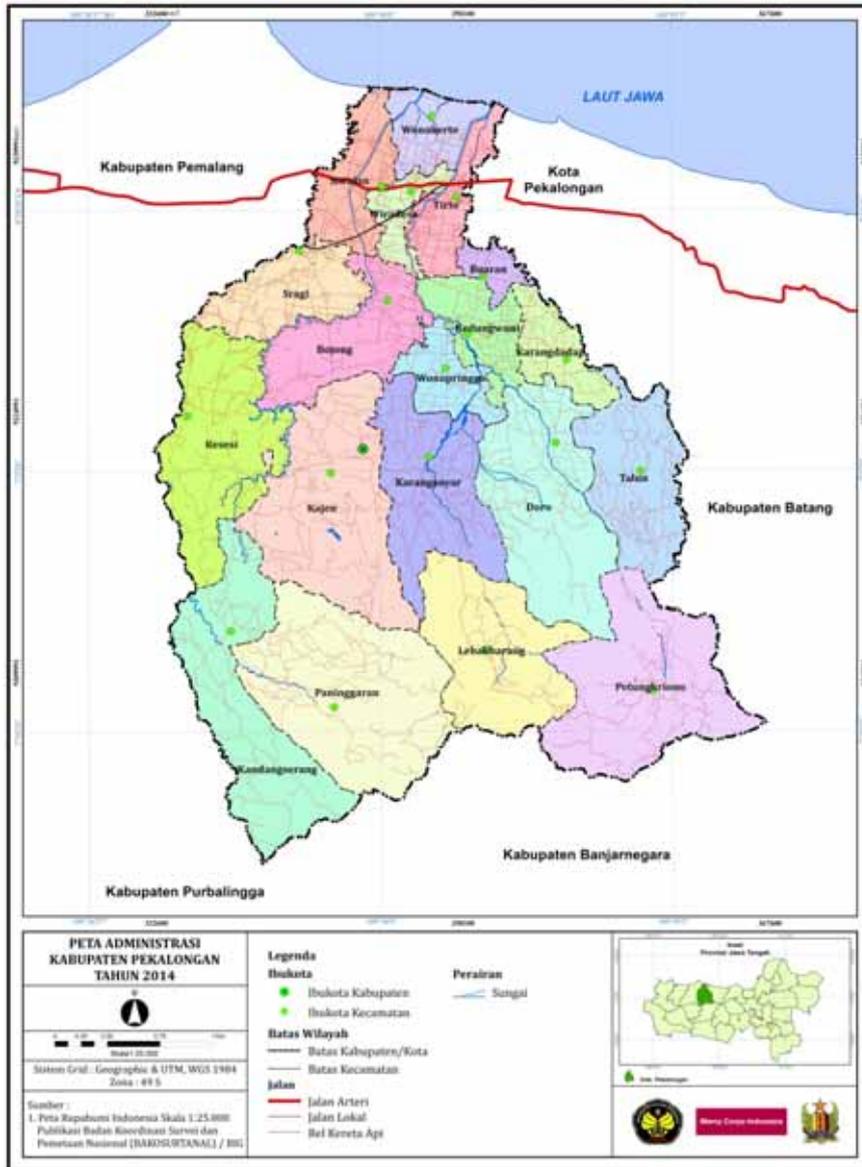
Central Java	Maluku	
Tirto district, Kabupaten Pekalongan	Amahai district, Kabupaten Maluku Tengah	Pulau Haruku district, Kabupaten Maluku Tengah
<ul style="list-style-type: none"> • Desa Mulyorejo • Desa Tegaldowo • Desa Jeruksari 	<ul style="list-style-type: none"> • Negeri Amahai • Negeri Soahuku 	<ul style="list-style-type: none"> • Negeri Kabauw • Negeri Rohomoni • Negeri Sameth • Negeri Haruku • Negeri Oma

API Perubahan Phase 2 was originally designed to select four new sub-districts, three in Jawa Tengah and another in Maluku, but the decision was made to add another sub-district in Maluku, once agreed to with local partners and after assurances for commitment were made.

2.1.1. Maluku Tengah Regency

The Maluku Tengah regency in Maluku province is an archipelago located in eastern Indonesia. The total span of Maluku Tengah is about 275,907 Km² where 95.80% is covered by sea – the land is only 11,595.57 Km². In 2014, Maluku Tengah had a total population of 368,289 living in 17 out of 50 islands. According to Maluku Tengah’s historical record, this regency experienced many climate-

Figure 4: Administration Map of Pekalongan Regency



Source: *Pekalongan Risk Analysis, Mercy Corps Indonesia 2015*

2.2 PARTNERS INVOLVED IN IMPLEMENTATION

During implementation, API Perubahan Phase 2 worked closely with a number of key partners:

- The National Disaster Management Agency (*Badan Nasional Penanggulangan Bencana, BNPB*) was a key partner for many aspects of API Perubahan including the implementation of combined CCA-DRR training for government staff, and supporting advocacy activities.
- The Asian Cities Climate Change Resilience Network (ACCCRN) is a Mercy Corps project focused on climate resilience in urban settings. ACCCRN has been supporting API Perubahan in delivering training on climate analysis in Pekalongan and Maluku Tengah.
- UNDP-SCDRR (United Nations Development Program – Safer Communities through Disaster Risk Reduction) was the main counterpart on the development of CCA-DRR convergence framework and methodology at the national level.

- Local Disaster Management Agency (*Badan Penanggulangan Bencana Daerah, BPBD*) of Pekalongan and Maluku Tengah were the main counterparts at the regency level for overall program advisory, implementation, and supports in terms of policy and operations.
- National Platform for DRR (PLANAS PRB) and Disaster Resource Partnership was the key partner in initiating private sector engagement at the national level.
- Several Sub-district Administrations in Pekalongan and Maluku Tengah for overall program implementation with communities.
- PLAN International-Indonesia improved BNPB curriculum on CCA-DRR training for government staff and supporting advocacy activities.
- DRIVE-C Program documented learning from emergency response in West Java and Jakarta
- Other government institutions such as the Ministry of Marine Affair (KKP) and the Agency for Technology Assessment and Application (BPPT) on supporting local action plan in Maluku Tengah Regency.

3. ACTIVITIES AND RESULTS

3.1. OBJECTIVE 1: Improved linkages between national, provincial and district level governments and communities, leading to more coordinated and inclusive planning for disaster risk reduction and climate change adaptation

There were several aspects considered to measure the achievement of this objective, they included:

1. Sub-district Government Inter-Relationship

This level is to understand the degree of DRR CCA content deliberated within the sub-district government affairs. On a formal basis, sub-district citizens and sub-district governments collaborate by establishing a sub-district working group (SDWG) with members made up of sub-district citizens and sub-district government officials. In Pekalongan regency, the working groups were legalized through the Sub-district Act and in Maluku Tengah the working group was legalized through the District Act. While the sub-district working group in Pulau Haruku remains the same member from API Perubahan phase 1. The measurement shows coordination among the sub-districts and sub-district government has been improved in the following ways:¹

- 1) SDWG organizational structure includes sub-district government officers and the community in every sub-district and is formally legalized.
- 2) SDWGs have regular work plans that they have implemented such as regular meetings, public hearings, awareness campaigns, DRR CCA implementation, etc.
- 3) Regular meeting of SDWG with sub-district officials. Through regular meetings, information sharing is in place.
- 4) The SDWG leader acted as the coordinator to hold meetings and invited all members, including the sub-district officials.
- 5) Issuing of Sub-District Decree to support DRR CCA implementation in Mulyorejo and Tegaldowo sub-districts.

In term of DRR CCA planning, all sub-districts have their own action plan (LRAP) which was brought to the sub-district deliberative forum. LRAP in the sub-district deliberative forum was accomplished in January and February 2015. Before the API Perubahan intervention, there were no initiatives or community plans in DRR CCA to be included in the development plan, which means there was an improvement of integration of DRR CCA into the community's development plans.²

2. Relationship between Sub-District Government/POKJA and Regency Government

Before the API Perubahan program, all POKJA claimed that they had less experience in engaging their local government agencies at the regency level, especially concerning DRR CCA issues³. During the API Perubahan closing workshop on September 26th, 2015, one of the SDWG members revealed:

“Before engaging with API Perubahan, we never knew how to approach our local government representatives, but now, even we just can call them for meeting or hearing”

(A representative member from POKJA Jeruksari)

¹ The structure of the SDWGs and their activities will be discussed in Output 1.3.

² To verify this statement, an endline assessment was conducted within all SDWGs showing the community plan on DRR CCA was absent before API Perubahan. Please refer to the endline assessment for more detail.

³ Similar to footnote 2 above, community participations in DRR CCA has improved especially through advocacy. Please refer to the end line assessment for more details.

Currently, the window of communication is open and collaboration improvements between local government agencies and sub-district government/working are described as below:⁴

- 1) Public hearings were held many times between sub-district /POKJA and local government agencies, from deliberative forums (from sub-district level to regency level), direct hearings with local agencies, and implementation of activities with local government agencies.
- 2) Public hearings with regent and DPRD (people's representative) were held in Pekalongan and Maluku Tengah, where they never experienced this before.
- 3) The DRR CCA community action plan (RAK) was supported by local government agencies, in terms of funding and other contributions from the agencies, including:
 - o Tsunami evacuation routes in Amahai, Soahuku and Haruku were supported by BPBD Maluku Tengah with full support from APBD (Local Budget) 2015;
 - o Mangrove plantations in Amahai was supported by BLHD Maluku Tengah with full support from APBD (Local Budget)2015;
 - o Full support to propose high tide water pump from PSDA ESDM Pekalongan from developing proposal, resource person for hearing with provincial level and free discussion for further movements;
 - o Waste management to support waste composting in Tegaldowo that was supported by Public Works (PU) Agency of Pekalongan, with full support from APBD (Local Budget) 2015.
- 4) POKJA is part of the Forum PRB member. Forum PRB is a multi-stakeholder at the regency level, consists of local government agencies and non-government.

Another important achievement is that POKJA now understands how, where, and who to contact at the government offices in the future due to their training in advocacy and local government bureaucracy and they are directly practicing their new skills with their respective local government agencies.

3. Relationship between Local Government Agencies at Regency Level

Before the intervention, there were no formal forums to coordinate local government agencies and non-government agencies to discuss and implement DRR CCA issues in Pekalongan and Maluku Tengah Regency. Currently, Pekalongan and Maluku Tengah have Forum PRB which consists of representatives from local government agencies such as BPBD, Bappeda, BLH, etc., and representative from non-government agencies, and POKJA. The establishment of this forum is the new mechanism of DRR CCA coordination between local government agencies and non-government organization in Pekalongan and Maluku Tengah. In Pekalongan, they are moving forward by issuing the DRR Forum Statute.

Several arguments of the improved coordination mechanism include:⁵

- 1) Forum PRB in Pekalongan, such as Bappeda and BPBD initiated DRR CCA workshops for local government agencies based on national curriculum on DRR CCA.
- 2) BPBD of Pekalongan Regency provided their office for the secretariat of the Forum PRB.
- 3) Forum PRB in Maluku Tengah (named as Nanaku Musibah) was well recognized and successfully influencing Bupati/Regent to mobilize local resources to respond to the forest

⁴ More details about this relationship will be discussed in Output 1.4.

⁵ More details be discussed in Output 1.2.

fire in Seram. This statement was confirmed by members of Nanaku Musibah from the local community group (*Komunitas Mahasiswa Pecinta Alam Seram, KOMPAS*) during an interview on 18 November, 2015 and BMKG during an interview on 19 November, 2015. Their efforts were published in local newspaper to raise the issues and the regent responded to the forest fire through mobilizing local resources.

- 4) The Nanaku Musibah now has a Whatsapp group for information sharing.

4. Relationship between Sub-District Government/POKJA and Provincial Government

The only reason this relationship was established was due to the high tidal flood. Such a relationship as never exist before even though tidal floods have been present since 2009. Sub-district governments did not have experience holding public hearings with the provincial government. With the help from PSDA-ESDM Kabupaten Pekalongan, public hearing with the province-level PSDA-ESDM of Central Java and PAMS Task Force of Public Work Ministerial representative in Central Java Province are now in place.⁶

5. Engagement with National Actors

Currently, there is no direct relationship between POKJA/POMAS and Forum PRB with national actors, including ministries and non-government organizations.⁷ The purpose of promoting national-level engagement was to promote integration of DRR and CCA into local development plans. One of the key successes of this engagement was the development of DRR CCA curriculum and a DRR CCA training module for the BNPB in collaboration with BNPB and PLAN Indonesia. API Perubahan acted as the core actor on this development including disseminating the curriculum and module through a national training, which involved 24 BPBDs across Indonesia. Another success story from this engagement is through DRR CCA Convergence, initiated by UNDP-SCDRR. API Perubahan and Mercy Corps ACCCRN program staff stand as the writer and think-tank of this convergence group.

Conclusion of Objective 1 Achievements

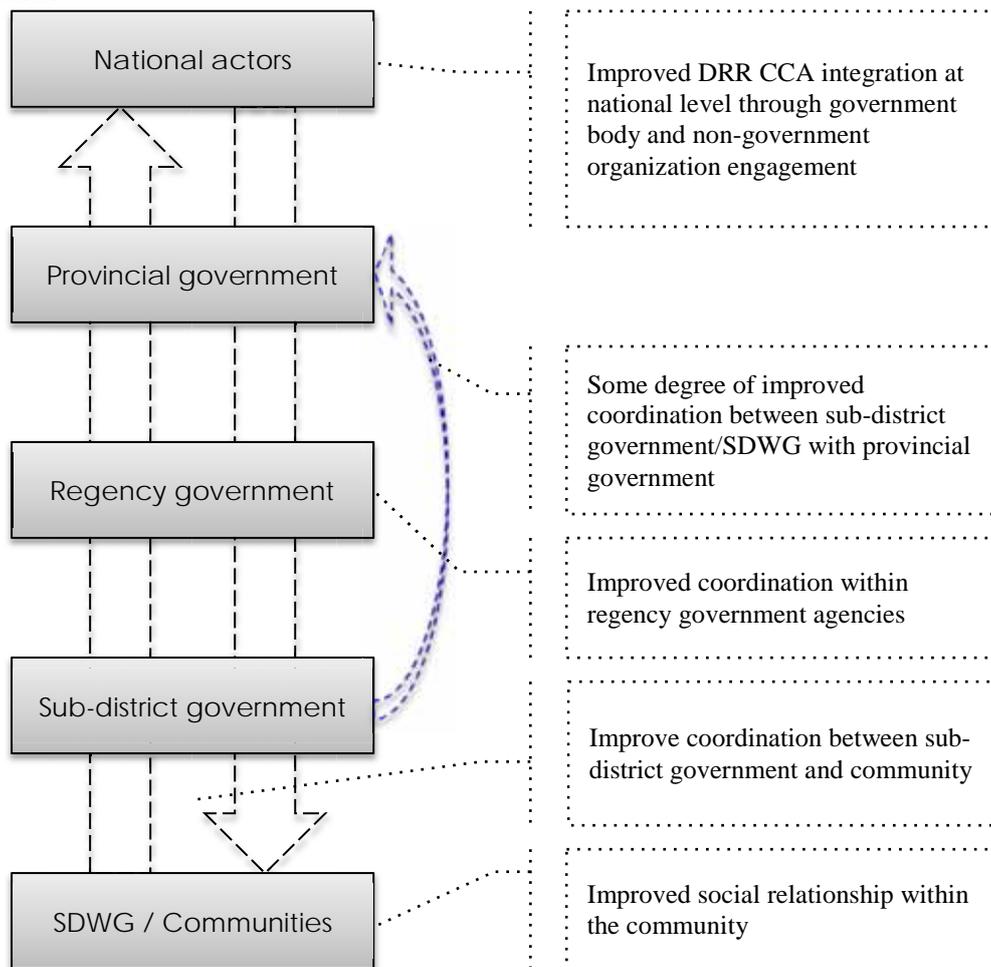
- 1) The level of coordination within the sub-district government and sub-district members has improved through the functioning of POKJA/POKMAS and work plan and activity implementation.
- 2) The level of coordination between sub-district government/POKJA and the regency level has improved through some public hearings, joint activities and linking with relevant government representatives.
- 3) Level of coordination within local government agency has improved through the functioning of Forum PRB and established work plan and activity implementation.
- 4) There is some degree of improvement between the sub-district government and the provincial government.
- 5) Where API Perubahan acted as the key player, fostering DRR CCA integration into the national interest has shown a positive improvement.

The following figure shows the improved coordination between levels of government on DRR CCA efforts from the sub-district level to the national level.

⁶ Result of this engagement will be discussed in Output 1.3.

⁷ More details on national engagement will be discussed in Output 1.1.

Figure 5. Coordination Model to Improve DRR CCA Efforts in the Community and Local Government



3.1.1 Output 1.1: National Engagement is Improved

Relevant activities that show improved DRR CCA coordination and integration with national and regional government include:

- 1) **DRR CCA Convergence:** This framework was initiated by UNDP-SCDRR where API Perubahan was part of the working group which launched in June 18th, 2015. During the process, the API Perubahan team worked as the writer team and the think tank team. The main objective of this convergence was to provide a framework of DRR and CCA integration in terms of: 1) policy; 2) institution; 3) funding; 4) planning, monitoring and implementation; and 5) DRR CCA methods. The final output of this convergence was a framework which was disseminated through varieties of national events and non-events such as Climate Week and *Bulan PRB* (DRR day) in October 2015, with close consultation with BPNB and KLHK. API Perubahan hosted a series of meetings for this working group as part of the program commitment. At least six series of meeting on DRR-CCA Convergence were initiated by API Perubahan, while UNDP-SCDRR initiated and facilitated at least another ten.
- 2) **DRR CCA Curriculum and Training Module:** DRR CCA Curriculum was initiated through API Perubahan Phase 1. During API Perubahan Phase 2, it was refined and the training module was developed. The final test of the curriculum was through a national training of DRR CCA

Curriculum with participation from 24 BPBD across Indonesia. The curriculum and training module is now finalized.

- 3) Integrating CCA DRR into High School Curriculum: The Ministry of Education and Culture (KEMDIKBUD) is incorporating CCA-DRR topics into high school subjects. KEMDIKBUD invited the CCA-DRR Curriculum working group, led by API Perubahan, and selected schoolteachers to design CCA-DRR subjects for high schools in March 2015. CCA-DRR topics will be incorporated into several existing school subjects, such as economics, biology, social science, physics, and chemistry. Reading materials for high school students were also developed by the working group referring to the existing materials from API Perubahan, such as briefing papers and a pocket book. The CCA-DRR reading materials for high schools were submitted to USAID with the 5th quarterly report.
- 4) BNPB's Support on Kabupaten-Level Risk Assessment: Since Phase 1, API Perubahan has promoted a modified approach to BNPB's risk assessment by incorporating climate analysis and projection into the Kabupaten-level assessment that will equip the local government with resources on rapid-onset and slow-onset hazards. BNPB in November 2014 sent one of their risk assessment experts to Maluku Tengah to provide technical assistance and consult whether the climate-risk assessment conducted in Maluku Tengah is in-line and enhanced BNPB's risk assessment. Results from BNPB's direct assistance to Maluku Tengah include several recommendations on data collection and data substitution options, increased levels of details in the analysis, and the operationalization of such assessments in development plans.

On December 2014, BPBD of Maluku Tengah paid a return visit to BNPB to consult on the progress of the risk assessment. Both visits by BNPB and BPBD used their own resources. BNPB considers Maluku Tengah's risk assessment as an example for CCA-DRR convergence and believes that it will be an entry point for better coordination and inclusive CCA-DRR initiatives at the local level.

- 5) Potential Engagement with BPPT on Food Security: Both sub-district working groups, Amasoa Kalesang in Amahai and Haru'ukui Kalesang in Pulau Haruku, identified food security as a focus for their local resilience action plans. In June 2015, the program initiated discussions with the Food Security Council (BKP) of Maluku Tengah and the Agency for Technology Assessment and Application (BPPT) at the national level concerning sago as an indigenous staple food in Maluku. This is a critical food security issue, as small-island communities in Pulau Haruku and Amahai still have to import rice outside of Maluku. Also, the frequency and intensity of future extreme weather puts Maluku at risk of shortages, threatening their overall food security.

Sago processing diversification could potentially provide economic as well food security in Maluku. The BPPT has invented various food products made from sago; such as noodles and synthetic rice. If there is a need at the local level, the BPPT could provide support such as trainings and technology. They are also open to ideas from local partners in Maluku Tengah. Collaboration between BPPT at the national level with BKP at the local level was initiated. This is just one example of potential collaboration between the different levels of government. By the time this report was written, follow-up from BKP at Kabupaten and province levels had not yet started.

- 6) Potential Engagement with KKP: KKP is the ministry responsible to formulate, determine, and execute policies on marine life and fisheries. Both Pekalongan and Maluku Tengah have identified in their risk assessment and LRAP that people living in coastal areas and small islands are highly vulnerable. Therefore, engagement with the Directorate General for Marine Spatial,

Coastal and Small Islands under KKP is important. In April 2015, API Perubahan communicated with the Directorate General and shared the process and results of the LRAP in Pekalongan and Maluku Tengah.

There were three formal meetings with KKP to formulate potential collaboration between national programs and the local needs. There are six priority programs at the Directorate General that could be in line with local needs. They are related to: (1) water, (2) electricity, (3) fishing tools, (4) marine product processing, (5) trainings, and (6) seaport infrastructure and settlements. The Community and Fishery Office of Maluku Tengah is preparing a proposal for fishing tools, marine product processing, and trainings. While in Pekalongan, restoration of coastal settlements was proposed. Though coastal areas in Pekalongan and small islands of Maluku Tengah are now included in KKP's assistance list, DKP at Kabupaten and cooperatives at the community level are expected to follow up on potential collaboration with KKP after API Perubahan is ended.

- 7) **Advocating Tidal Flood Management to the Ministry of PUPR:** The sub-district working group (Pokmas) of Jeruksari proposed tidal floods management as a priority action to the government of Pekalongan. MCI and the Jeruksari community agreed that the advocacy work itself might not be completed by the end of API Perubahan program periods. API Perubahan provided Pokmas with specific advocacy training, a cross visit field study, and hearings with Bupati and other relevant local government agencies to continue to advocate for this action after the program ends. Pokmas and MCI are studying the existing literature about Pekalongan's tidal flood – including the assessment document on tidal floods by the office for Energy and Natural Resources at Kabupaten and province level.

Initial progress was identified. The Pekalongan parliament and Local Development Planning Agency (BAPPEDA) stated that there will be funds allocated from the state for tidal floods management, including funds allocated for building a water pump station. Local government technical offices such PSDA at Kabupaten and province level are currently preparing a proposal to submit to the ministry of PUPR. API Perubahan initiated a discussion with the Directorate General of Water Resources and Directorate General of Cipta Karya, both under the Ministry of PUPR, to introduce specific needs of Pekalongan on tidal flood management. As a the result: (1) the Directorate General of Water Resources suggests that the PSDA at Kabupaten and province level to contact the Pemalijuana Office as PUPR's representative at Jawa Tengah on flood issues, (2) Considering that the tidal floods issue in Pekalongan is a more systemic issue, the Directorate General of Cipta Karya suggested to hold a bigger hearing session between MCI and PUPR. API Perubahan is currently arranging this follow up meeting, while PSDA of Pekalongan is preparing a proposal to submit to the Pemalijuana Office.

3.1.2 Output 1.2: Program Advisory Committees (PACs) are Established and Functioning

One of the main activities of this project was to establish the Program Advisory Committee (PAC). The PAC was later on transformed into the DRR Forum in the targeted regency. In Pekalongan Regency, it is coordinated by BPBD and the forum already developed their statute for formal engagement. While in Maluku Tengah Regency, the forum called Nanaku Musibah (Nanaku in local language means predicting or forecasting and Musibah in Indonesian language means disaster). Both forums consist of local government agencies and non-government organizations. A positive signal of this establishment was the invitation extended to POKJA to join as Forum PRB member. The following matrix shows the PAC composition.

Table 3. Composition of Forum PRB members in Maluku Tengah and Pekalongan

Name of PAC	Male		Female		Total
	Community	Government	Community	Government	
Forum PRB Pekalongan	8	6	2	5	21
Nanaku Musibah, Maluku Tengah	16	29	1	6	52
TOTAL	24	35	3	11	73

Initiation of PAC was started in July 2014 (Q2) with a series of discussions and meetings to gather respected organizations as members and to implement a series of activities such as training on risk assessment, training on climate projection, etc. In March 2015, those members in Maluku Tengah agreed to name the forum as Nanaku Musibah. This forum is still pursuing its legal standing from the regent through Regent Decree. After its formal name transformation, they implemented regular meetings, joint activity with POKJA Amasoa Kalesang for example for advocacy implementation, etc. During a final evaluation, it was revealed that Nanaku Musibah succeeded to influence the regent to mobilize local resources to respond the forest fire in Seram in August 2015.⁸

In Pekalongan, the forum agreed to name the forum as the Forum PRB Pekalongan Regency in May 2015. Similar to Maluku Tengah, this forum is still pursuing its legal standing through Regent Decree. This issue will be delayed until next year because most organizations are preparing for the next regent election on December 9th, 2016. Nevertheless, this forum is moving forward by establishing their statute which was launched in May 2015 and BPBD provided a room as the secretariat.

Both in Maluku Tengah and Pekalongan, POKJA/POKMAS are members. This is an interesting collaboration between the lowest level of government (sub-district) and the regency level. This is a point where the community has a wider network and platform for advocacy.

Figure 6: Establishment and Formalization of PAC (F-PRB) Pekalongan



3.1.3 Output 1.3: Sub-District Working Groups (SDWGs) are Establishes and Functioning

⁸ Please refer to the Final Evaluation Report.

Mobilizing PAC was the first step before selecting the sub-district level areas for interventions. As with Forum PRB, the SDWG was not intended to be formalized without intense engagement with the sub-district government and community. After a long process, SDWGs in Pekalongan were legalized through the Head of Sub-district Decree in October 2014. In Pekalongan, the SDWG was named *Kelompok Masyarakat (POKMAS)*, they are POKMAS Tegaldowo, POKMAS Mulyorejo and POKMAS Jeruksari, which were already legalized through a sub-district decree. In Maluku Tengah, a District Decree was issued on March 2015 to legalize the SDWG, named as *Kelompok Kerja (POKJA)* Amasoa Kalesang. Amasoa is the abbreviation from Amahai and Soahuku, while Kalesang means ‘care’ in the local language. In total, four SDWGs were established during API PerubahanPhase 2, while POKJA Haruku was established during API Perubahan Phase 1. The following matrix shows SDWG composition in each sub-district during API Perubahan Phase 2.

Table 4. Composition of SDWG members in Maluku Tengah and Pekalongan

Name of SDWG	Male		Female		Total
	Community	Government	Community	Government	
POKMAS Jeruksasi	12	2	6	0	20
POKMAS Mulyorejo	10	2	3	0	15
POKMAS Tegaldowo	11	3	2	1	17
POKJA Amasoa Kalesang	11	0	8	1	20
TOTAL	44	7	19	2	72

There are three major strategies involving the POKJA/POKMAS as the core of API Perubahan. The first one was risk assessment training which was conducted in Pekalongan on 23-27 September, 2014 and 15-19 September, 2015 in Maluku Tengah. The timeframe to implement a risk assessment for each targeted area was from October to early December 2014. The Risk Assessment Document is the final output of those activities. The second strategy was the development of local resilience action plans (LRAP / *Rencana Aksi Komunitas, RAK*) which were developed in December 2014. The RAK is the adaptation scenario at the community level. Indonesia acknowledges January as the beginning of annual planning and budgeting, and it is common in December for the budget discussion about the enacted budget for the next fiscal year to occur between the government and legislative body. It is very important to finish those two documents before January 2015, so the POKJA/POKMAS can foster their DRR CCA plans through the RAK into the local development plan. The last strategy of DRR CCA implementation consists of pilot project implementation and advocacy implementation. In connection with the previous statement, there were levels of advocacy that had been conducted by the community to foster the RAK into development planning, including:

- 1) Sub-District Deliberative Forum (Musrenbang Desa) which was implemented every January and February each year in a series for every sub-district. In Pekalongan, Musrenbang Desa in Jeruksari and Mulyorejo was held on January 28th, 2015 and in Tegaldowo on January 30th, 2015. Every POKMAS involved was required to attend several meetings for the government annual planning and budgeting process (named ‘Musrenbang’). The POKMAS worked closely for the *musrenbang*, for example, due to the initial discussion/lobbying with the head of sub-district, they embraced more community members to be involved in the *musrenbang*. As a result, some of the RAK contents were successfully accommodated to the next level of the planning process. In Maluku Tengah, Musrenbang Desa in Amahai was held on January 30th-31st, 2015, while in Soahuku it was on February 3rd, 2015. Similar to Pekalongan, POKJA assumed the major role to

foster RAK during the musrenbang. Some of RAK contents finally were accommodated to be brought to the next level of musrenbang.

- 2) The District Deliberative Forum (Musrenbang Kecamatan) is normally conducted after the sub-district deliberative forum. In Pekalongan, Musrenbang Kecamatan Tirto was held on February 12th, 2015 while in Maluku Tengah, Musrenbang Kecamatan Amahai was held on March 2nd, 2015. Again, positive results were witnessed through the process where many of the RAK contents were accommodated for the next phase of musrenbang.
- 3) The Regency Deliberative Forum (Musrenbang Kabupaten) is the last stage of musrenbang at the regency level. In Maluku Tengah, musrenbang kabupaten was held on March 26-27, 2015 and the SDWG was invited to the forum and had the opportunity to present the RAK in three different topics (infrastructure, economy and socio-cultural). As a result, 11 contents from the RAK were accommodated for the next process of development at the regency level. This was a different situation in Pekalongan as the SDWGs were not invited to the musrenbang kabupaten, but nevertheless, through the Camat (head of district), the accommodated RAK during musrenbang kecamatan, was brought to the musrenbang kabupaten.
- 4) Despite through the formal forums mentioned above, a series of public hearing with the local government agencies and legislative representation were in place after the musrenbang were completed. Details will be explained through Objective 2.

DRR CCA implementation through pilot projects began in May 2015 in both Pekalongan and Maluku Tengah. The level of achievements vary across the targeted area. More achievements will be reported under Objective 2 below. Through these three core strategies, coordination with local government agencies was improved and the community is able to reduce their vulnerability to natural hazards and climate change impact, which will be deeply discussed in Objective 2.

POKJA/POKMAS also received a variety of trainings/workshops such as advocacy training (25 March in Maluku Tengah and 24-25 June in Pekalongan), GIS training (May 2015 in Maluku Tengah), entrepreneurship training (12-13 October in Maluku Tengah and 20-23 October in Pekalongan), DRR CCA socializations and workshops. Members from POKJA/POKMAS were also involved in national events such as KNPRBBK (CBDRM National Conference) in Surabaya from 24-28 August, 2015 and Bulan PRB (DRR Month) in Solo from 16-18 October, 2015. A formal invitation from BNPB to request a resource person from POKJA/POKMAS was sent to Mercy Corps Indonesia on October 6th, 2015 to participate in the Bulan PRB. Through both events, POKJA/POKMAS had the opportunity to present their achievements on the effort of DRR CCA in their community.

Figure 7: SDWG of Amasoa Kalesang in Maluku Tengah



3.1.4 Output 1.4: Collaborative Actions are Improved between PAC and SDWG

There were some collaborative actions that were successfully implemented by PAC and SDWG, both in Pekalongan and Maluku Tengah. The first collaboration initiated the participatory risk assessment during the early phase of this program. Some public hearings with SKPD were also initiated by PAC and SDWG, for example, a hearing with PSDA-ESDM of Central Java Province, with full support from PSDA-ESDM of Kabupaten Pekalongan. The following table shows the collaborative action during API Perubahan Phase 2.

Table 5. Collaborative actions recorded between PAC and SDWG

NO	Activities	Date	Notes
Pekalongan			
1	Participatory risk assessment	23-27 September 2014	Collaboration with relevant PAC members including BPBD for preparation and implementation.
2	Regular meetings and joint activities between Forum PRB and SDWG	July-November 2015	Collaborative meetings and actions between Forum PRB and SDWG.
3	Public hearings with PSDA-ESDM at the provincial level	30 April, 2015	Full support of PSDA-ESDM Kabupaten as a member of the Forum PRB to advocate for the high tide water pump to the provincial level.
4	Establishment of Forum PRB (PAC-in a formal basis)	28 May2015	SDWGs are part of the Forum PRB.
5	Public hearing with Dinas Kelautan, Perikanan dan Peternakan (DKPP)	25 June 2015	DKPP as the member of Forum PRB.
6	Public hearing with Public Work Agency of Pekalongan	6 July 2015	Public Work as the member of Forum PRB.
7	Public hearing with Pekalongan Regent	14 July 2015	SDWGs were accompanied by Bappeda, PSDA-ESDM, and DPU as members of Forum PRB.
8	Regular meeting of Forum PRB	12 August, 2015	SDWGs are part of the forum.
9	DRR CCA socialization at regency level	18 November, 2015	Initiated by Bappeda, members of Forum PRB and SDWG also part of the socialization.
Maluku Tengah			
1	Participatory risk assessment	15-19 September, 2014	Joint activity between SDWG and SKPD in Maluku Tengah
2	Risk assessment discussion in Amahai	27 November, 2014	Presentation of initial findings of the risk assessment to SKPD

NO	Activities	Date	Notes
3	Coordination meeting on disaster management plan (RPB) of Maluku Tengah	2 December, 2014	SDWG also participated.
4	Risk assessment discussion in Amahai	17 December, 2014	Presentation of initial finding of the risk assessment to SKPD
5	Public hearing with BPBD Maluku Tengah	20 December, 2014	BPBD as the member of PAC.
6	Regular meeting between PAC and SDWG	13 August, 2015	
7	DRR CCA Socialization	17 October, 2015	SDWG also part of the socialization.

3.2 Objective 2: Targeted Vulnerable Communities Reduce their Vulnerability to Natural Hazards and Climate Change Impacts by Implementing Pilot Projects in Collaboration with Local Government

To measure the reduction in the vulnerability of communities, a reconstructed base line and end line assessment was conducted.⁹ It was conducted in every sub-district to measure changes before and after interventions against some respective variables. Through the assessment, some significant changes are in place which can reduce the community vulnerability. The following matrix shows areas of improvements against the respective variables. For example, in Amahai, the green mark in hazard knowledge means that there is improvement in the community's understanding of the hazard after the intervention. The green mark in risk management means there are now a variety of risk management efforts to reduce risks.

Table 6. Variables in measuring the vulnerability at community

NO	Variable	Jeruksari	Mulyorejo	Tegaldowo	Amahai	Soahuku	Haruku	FACTORIAL
1	Hazard knowledge							Knowledge
2	Risk knowledge							
3	Education and training							
4	Community action plan							DRR CCA Planning
5	Risk management							Community of action
6	Livelihood asset protection through policy							
7	Local wisdom for livelihood protection							
8	Policy understanding							
9	Policy implementation							
10	Policy enforcement							
11	DRR CCA budget from local government							Local and external

⁹ Please refer to the endline assessment results for more details.

NO	Variable	Jeruksari	Mulyorejo	Tegalowo	Amahai	Soahuku	Haruku	FACTORIAL
12	DRR CCA budget from third party							resources
13	Multi stakeholder forum							
14	Citizen participation on DRR CCA							
15	Local resources for DRR CCA							
16	Local wisdom for DRR CCA effort							

To understand how the community now reduces the vulnerability the factorial column categorizes the variables based on its commonality to understand related aspects that were achieved to reduce vulnerability.

1) Knowledge

There is a commonality between the variables related to hazard knowledge, risk knowledge and education and training which is categorized as Knowledge. Activities to increase the knowledge include¹⁰: 1) community training on risk assessment and risk assessment implementation; 2) community workshop/training on DRR CCA; 3) advocacy and governance training; and 4) related awareness campaign activities. It is expected that once the community owns the knowledge, their vulnerability to hazard and climate change impact will be reduced.

2) DRR CCA Planning at Community Level

Before the intervention, there was no consensus among the community on how to reduce disaster risk and the impact of climate change. Mostly, they rely on the annual sub-district deliberative forum, which is about sub-district infrastructure development. This is an advance stage as they must have enough knowledge to understand their area. After the intervention, all sub-districts have DRR CCA community action plan or local resilience action plan (LRAP). However, this is not just a standing document. They have already used this document for a variety of advocacy efforts to local government agencies and private sectors which has already received positive feedback from the government and private sector. In all sub-districts, DRR CCA related planning in the community is improved where they have adaptation options, whether they have settled funding to implement it or still in the process of advocating for more implementation.

3) Community of Action

This is to manage risks. Four out of six targeted areas improved their community of action in DRR CCA efforts. In Maluku Tengah, the community constructed nursery houses for cacao, nutmeg and clove as an adaptation strategy to improve income as well enhancing sago consumption as the traditional food. It also contributed to food security as they diversified the sago into sago powder as a very useful ingredient for a variety of foods like cake and pudding. To make it commercially legal in order to sell and promote it on the market, they are now certified by Badan POM (Food and Drugs Controlling Agency). Any member of the community who wants to learn how to make the sago powder is welcome by the SDWG. Collaboration between BPBD and SDWG to develop tsunami evacuation maps and routes was also established. A massive socialization was held. All those steps are expected to reduce their vulnerability to risks and impact of climate change.

In Pekalongan, a variety of community actions were implemented such as waste management to separate organic and non-organic waste. This will allow them to reuse and recycle the non-organic waste into some valuable products that they can sell on local market. They can also use the organic waste as fertilizer by using a composter that they built. This is a smart movement to

¹⁰ Details of these activities will be elaborated at Output 2.1 section on this report.

complement the vertical agriculture that was already implemented in the community. To keep their knowledge up to date, they built an information and resource center where every single community can access the center to learn about DRR CCA.

4) Local and External resources

Local resources are important to reduce the vulnerability such as physical and non-physical components. Community participation also is also considered an important aspect of reducing risk. The new law regarding the Sub-district Budget, where the sub-district has the authority to manage their budget, will give greater opportunity to work on DRR CCA at sub-district level. All sub-districts now have DRR CCA capacity and have the chance to utilize the sub-district budget implement the community action plan.

The local government's budget to be used for risk reduction at the sub-district level is also an important aspect of reducing risk. For example, the Public Works Agency of Pekalongan contributed garbage containers to reduce the community's vulnerability to the waste problem. The same thing happened in Maluku Tengah. Through the Local Environment Agency, mangrove planting for conservation was successfully conducted. The private sector positively contributed to the planting in Pekalongan.

Conclusion of Objective 2 Achievements

From the end line assessment, it is understood that:

- 1) All communities have reduced their vulnerability to hazards and climate change impact.
- 2) Knowledge is important for communities to understand the climate change and disaster risk in order to formulate action plans and adaptation scenarios.
- 3) DRR CCA planning at the community level is an important component for resource mobilization to reduce risks.
- 4) Participation from the community to implement DRR CCA efforts is very important to be developed as a community of action.
- 5) The community as a system needs support from the local government and external resources to support a variety of DRR CCA efforts, such as the DRR CCA plan.

3.2.1 Output 2.1: Improved Knowledge of Communities and Local Government on DRR CCA

To improve the communities and local government knowledge on DRR CCA, several trainings were implemented.

3.2.1.1 Risk Assessment Training for PACs and SDWGs

There were three types of risk assessment trainings during API Perubahan Phase 2. The first was a participatory risk assessment training which was aimed for SDWGs. The second was a risk assessment training which was aimed for local government agencies/PACs and the third was a climate analysis which was aimed at local government agencies/PACs. The trainings were:

- Participatory risk assessment training in Maluku Tengah on 15-19 September, 2014. Twenty community members and three representatives from the government participated. This training was also in collaboration with the Tourism Agency who provided a training venue close to Tanjung Kuako Beach. This training was facilitated by Sofyan Eyank, the former API Perubahan Phase 1 DRR Specialist.
- Participatory risk assessment training in Pekalongan on 23-27 September, 2014 Twenty-one community members and two representatives from the government. Similar to Maluku Tengah, this training was facilitated by Sofyan Eyank.

- Risk assessment workshop for PAC in Maluku Tengah was on 13-14 October, 2014. Facilitated by Sofyan Eyank, two representatives from SDWG and 19 from local government agencies participated.
- Risk assessment workshop for PAC in Pekalongan was on 20-24 October 2014 and was facilitated by Sofyan Eyank. Twelve representatives from the local government agencies and eleven from community participated.
- Climate analysis training in Maluku Tengah was on 13-14 October, 2014 and was facilitated by ACCCRN, another climate change program by Mercy Corps Indonesia. This training targeted local government agencies who have roles and responsibilities related to climate, such as BMKG, BPBD, and KLH. UNPATTI, a local university was also involved during this training. In total, six participants from BMKG, Bappeda, BPBD, KLH, UNPATTI, *Dinas Pendidikan Pemuda dan Olahraga* were involved in the training.
- Climate analysis training in Pekalongan was on 13-14 October, 2014 and facilitated by ACCCRN. Similar to Maluku Tengah, the main participants were local government agencies and the university. The Regional Office of Agriculture, the Regional Office on Marine Affairs and Fishery, the Regional Office on Water Management and Mineral Resource, the Ministry of Environment, local university UNNES and BPBD were involved in the training.

To measure improved knowledge, pre-tests and post-tests were conducted for the trainings and an end line assessment was applied to measure changes during the intervention. The following are some examples of the knowledge changes related to risk assessment.¹¹

Figure 8: Participatory Risk Assessment Training with Amasoa Kalesang in Maluku Tengah



¹¹ More information about knowledge changes within the SDWG is provided through end line assessment report. Please refer to the report for more detail.

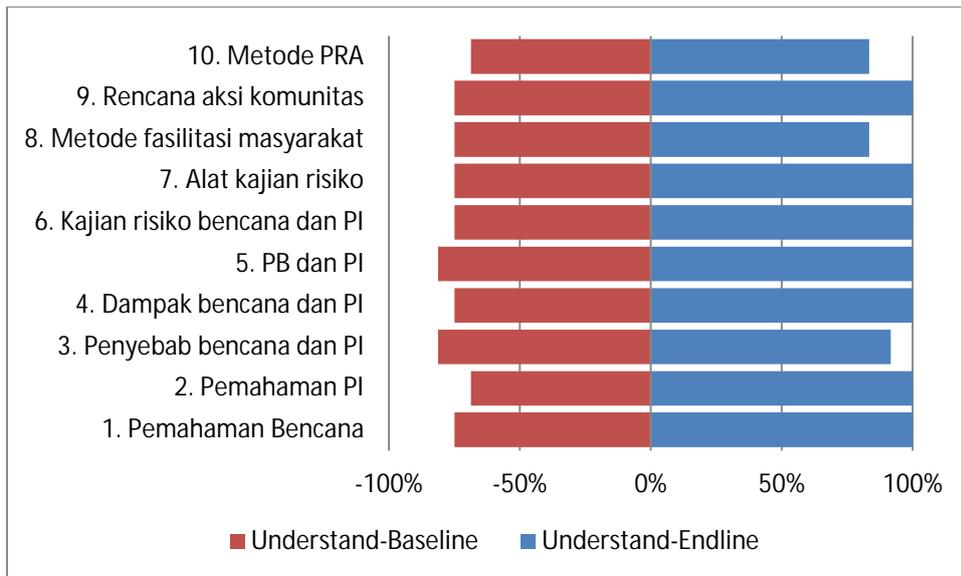


Figure 9. Baseline-Endline comparison on level of understanding in Maluku Tengah

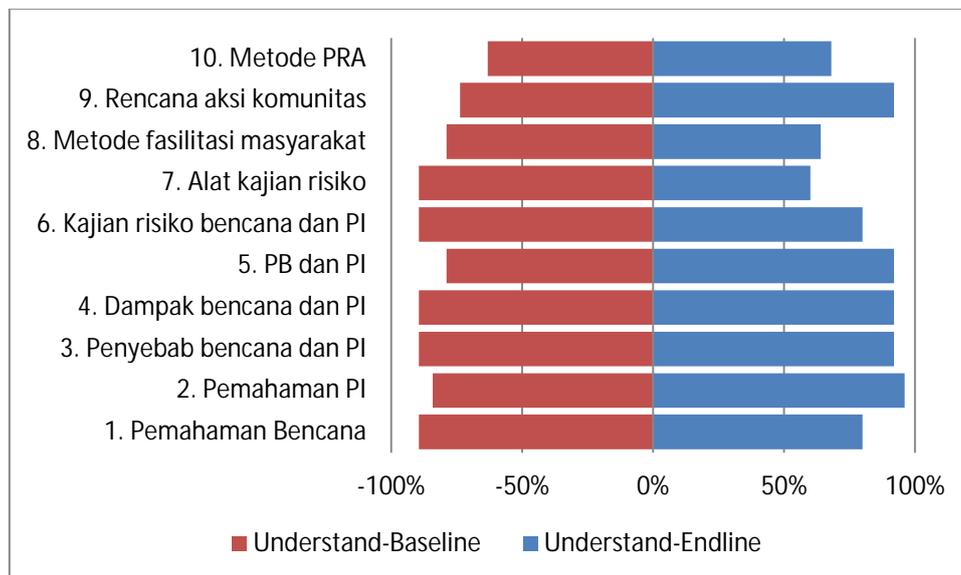


Figure 10. Baseline-Endline comparison on level of understanding in Pekalongan

3.2.1.2 LRAP Training for PACs and SDWGs

The training normally used to develop the LRAP was not necessary due to the community's needs and condition. This decision was made because most of the communities were familiar with developing action plans as they often contribute through sub-district deliberative forums and other forms of development plans at the sub-district level such as PNPM Mandiri. Therefore, pre-tests and post-tests were not applied to measure knowledge changes. Instead, the workshop was used to develop the LRAP. Below is the list of the LRAP workshops.

- LRAP workshop in Maluku Tengah was on 27 November, 2014 facilitated by API Perubahan PO in Maluku Tengah. This workshop included 32 participants from the community and 4 participants from the local government.

- LRAP workshop in Pekalongan was on 9 January, 2015 facilitated by API Perubahan PO in Pekalongan. This workshop included 34 participants from the community and 6 participants from the local government.

The output of the workshop was the final LRAP document, which will be used in the deliberative forum at the regency level and advocacy purposes.

3.2.1.3 CCA DRR Training based on BNPB Module

National Training

API Perubahan Phase 1 contributed to develop the National CCA DRR Training Curriculum as part of BNPB curriculum that was tested through trainings several times, either through API Perubahan activities or others. During API Perubahan Phase 2, in collaboration with PLAN International-Indonesia, Ministry of Environment and Forestry KLHK, and Mercy Corps TATTS program, the curriculum was refined and the CCA DRR module was developed by the API Perubahan Phase 2 team with and close engagement with BNPB and KLHK. As a result, a final training to test the CCA DRR curriculum and module was conducted on 7-11 September, 2015 in BNPB's training ground. This training was a collaboration between BNPB and several NGOs as part of the working group. BNPB provided the training venue and meals, including issuing the invitation letter to BPBDs in Indonesia. Once the BPBD attended the training, the cost of travel and accommodation was the responsibility of the BPBDs. API Perubahan contributed to the training materials, training facilitators, and accommodating Forum PRB of Pekalongan and Maluku Tengah to participate. SCDRR was responsible to cover several BPBDs staff from the eastern part of Indonesia, as well as Plan Indonesia. The Mercy Corps TATTS program covered the cost in hiring a consultant as the lead facilitator to develop training module, and also inviting several BPBDs staff.

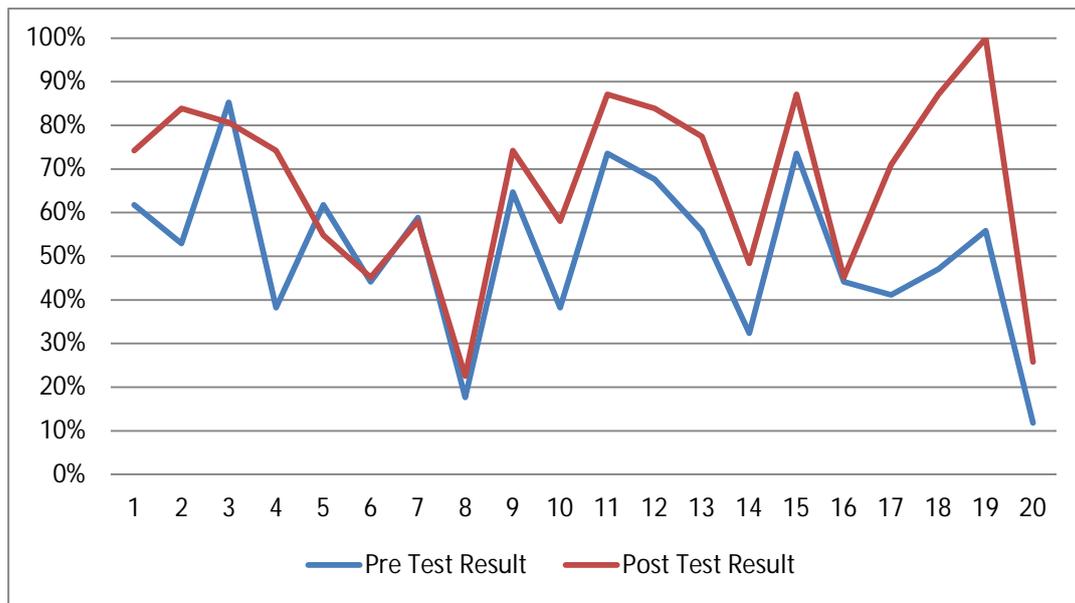
Figure 11. National Training on DRR CCA Curriculum



A total of 34 staff representing 24 regional BPBDs and local organizations attended the training, consisting of four female participants and 30 male staff. Facilitators came from different

organizations. Mercy Corps Indonesia through ACCCRN also joined as a facilitator. Some trainers were from ministries including the Health Ministry, Environment and Forestry Ministry, BNPB, Bappenas, and Public Works Ministry. Results from the pre and post test showed that the participants' knowledge improved regarding the curriculum. The below figure shows the results of the pre- and post-test

Figure 12. Pre-Test and Post-Test result from the National CCA DRR Training



The graph shows improvement of the participants, before and after the training. The x-axis represents the 20 questions that were asked during post and pretest, while the y-axis shows the percentage of participants who were able to answer the questions correctly.

CCA DRR Curriculum Workshop in Maluku Tengah and Pekalongan

This responds to the replication of best practices stated in Objective 3 of this program and will be discussed under Objective 3. It is claimed that, CCA DRR Curriculum and Training Module is best practices. Please refer this topic under Objective 3.

3.2.1.4 Training of Desa Tangguh (Resilient Sub-district) for PAC and SDWG

In an effort to mainstream the integration of CCA and DRR at the community level throughout Phase 1, API Perubahan was involved in *Desa Tangguh* –a BNPB national program to building disaster resilience at the community level - as a member of a working group to develop *Desa Tangguh* Facilitator Training Curriculum. This curriculum was finalized, tested and approved and the process to develop the training module and technical guidelines began in February 2015. API Perubahan also planned to conduct trainings for Facilitators of *Desa Tangguh* in each pilot area, but the selection mechanisms for *Desa Tangguh* target sub-districts/villages and recruitment of facilitators were modified by BNPB. They are now prioritizing highly prone sub-districts that have not received any assistance from either the government or non-government agencies. These changes affected API Perubahan’s assisted sub-districts as well the PACs and SDWGs that were not prioritized for BNPB’s *Desa Tangguh* assistance and its training. Therefore, Training of *Desa Tangguh* was dropped from the

program. However, API Perubahan continued its support to mainstream CCA as a cross-cutting theme across the existing 20 Desa Tangguh's indicators with an emphasis on practical tools and methodologies that is being used in the Community Resilience Measurement Tool (see Annex 1).

3.2.1.5 Entrepreneurship Training

This training was aimed to improve the community's entrepreneurship skills. A consultant was hired to facilitate this training, both for Maluku Tengah and Pekalongan.

- Entrepreneurship in Maluku Tengah was conducted on 12-13 October, 2015. A total of 28 (10 male and 18 female) participants from the POKJA and the community joined the training. With POKJA Amasoa Kalesang, this training critical for their strategy for local food (part of the pilot project) business. Results of this entry business will be discussed in pilot project section.
- In Pekalongan, this training was conducted on 20-23 October, 2015. There were 37 participants from the POKMAS and community, 17 male and 20 female.

Figure 13. Entrepreneurship Training with Amasoa Kalesang, Maluku Tengah



3.2.1.6 Development of Awareness Campaign Material

There were three types of awareness campaign material: billboard, banner and sticker. A consultant was hired to design and produce the campaign material with full consultation from the team. The campaign message was mostly about hazard information and waste management. In Maluku Tengah, some of the materials were translated into local language.

There were a variety of spots to place the materials, including at schools, government offices, and harbors (in Amahai, Maluku Tengah)/public space. In Pekalongan, awareness campaigns were conducted with 11 elementary schools by promoting the “reduce, reuse, recycle” method. The campaign was supported by member of POKMAS. Similarly in Maluku Tengah, the schools were also the major target of the campaign.

To measure the degree of acceptance of the media campaign, a survey¹² was conducted with students and communities as the sample. A total of 69,967 individuals were targeted to receive the campaign. The sample size was set at 403 samples for both regencies. In Maluku Tengah, 150 students and 46 community members were sampled while in Pekalongan, 157 students and 50 community members were sampled. As a result, 99.2% of the respondents saw and read the awareness campaign and about 98.51% of them understood the main message of the campaign materials. Based on these results, it can be confirmed that the targeted population received the awareness campaign.

3.2.1.7 Other Trainings

Besides the above mentioned training, there were several trainings that were used to improve knowledge on DRR CCA efforts in the targeted area. For example:

- GIS training was conducted on 21-23 May, 2015 in Maluku Tengah. This training was aimed to support the process of disaster risk assessment development in Maluku Tengah. This training was facilitated by a consultant who was hired to develop the regency disaster risk assessment.
- Training on DRR-CCA aimed at the community was conducted on 13 November, 2015 in Pekalongan. Content of the training included waste management and vertical agriculture. The purpose of this training was to expand the knowledge of the community members in targeted sub-districts on waste management and vertical agriculture. It was conducted during pilot project implementation and reached a broader audience.
- Advocacy training was conducted in Maluku Tengah on 25 March, 2015 and in Pekalongan on 24-25 June, 2015. This training was facilitated by API Perubahan staff for both regencies. It was aimed at POKJA as the community representatives in order to prepare them for advocacy activities.

Figure 14. Advocacy and Governance Training in Pekalongan Regency



¹² Please refer the to survey report for more information.

Table 7. List of Training Activities Conducted in Phase 2

NO	Training Activity	Time	Notes
	Maluku Tengah		
1	Participatory Risk Assessment training	15-19 September 2014	Participated by 20 community member and 3 sub-district government official. A venue supported by Tourism Agency in Tanjung Koako Beach resort.
2	Climate Analysis training	13-14 October 2014	ACCCRN staff was a trainer, where six agencies representing on this training (BMKG, Bappeda, BPBD, KLH, Unpatti, Dinas Pendidikan Pemuda dan Olahraga).
3	Risk Assessment Workshop at regency level	5-6 November 2014	2 representative from SDWG and 19 from SKPD (BMKG, BPBD, Tata Ruang, Dinsos, BPS, Kodim, Dishutbun, and Unpatti)
4	Local resilience action plan workshop	27 November 2014	This workshop was conducted in Amahai with total 32 participants from community, including SDWG, sub-district government, and community member. 4 representatives from government including BPBD and BMKG.
5	Pelatihan GIS untuk Tim KRB Lokal	21-23 May 2015	The purpose of this training was to establish the Regency Risk Assessment Team with GIS knowledge. Participated by 10 people from community and SKPD.
6	DRR CCA Curriculum Training	7-10 September 2015	This is a national training to utilize BNPB Module on DRR CCA in Sentul. One representative from BPBD and one from Forum DRR Maluku Tengah.
7	Awareness campaign activities	October 2015	This is to disseminate the campaign material, mostly at school level and some in the sub-districts and the harbor.
8	Entrepreneurship training	12-13 October 2015	A training participated by 28 community member.
9	DRR CCA socialization	17 October 2015	Replication training from a previous training in Sentul for local government and community. A group called KOMPAS (Komunitas Pecinta Alam Seram) initiated this activity with support from BPBD, BMKG, and KLH.
	Pekalongan		
1	Participatory Risk Assessment training	23-27 September 2014	Participated by 21 of community member and 2 representatives from sub-district government.
2	Climate Analysis training	13-14 October 2014	An ACCCRN staff member was a trainer, with six agencies represented during this training (Dinas Pertanian, Dinas Kelautan, Dinas PSDA-ESDM, KLH, UNNES dan BPBD) with total number participants are seven.
3	Risk Assessment Workshop at regency level	20 – 24 October 2014	Participated by 12 people from SKPD and 11 from community.
4	Local resilience action plan workshop	9 January 2015	The workshop was participated by 34 from community member and 6 from sub-district government representatives.
5	Awareness campaign at school: waste management socialization at Tirto District	September 2015	There were 10 schools for this activity.
6	Entrepreneurship training	20-22 October 2015	A training participated by 37 community members.
7	DRR CCA Training for	13 November 2015	This training 48 community member participated

NO	Training Activity	Time	Notes
	community		where they learned about vertical agriculture and waste management as a strategy to adapt to the current high tide flood.
8	DRR CCA socialization	18 November 2015	Similar to Maluku Tengah, this was a replication training of DRR CCA module, participated by 59 people, where Bappeda was the initiator of this socialization.

3.2.2 Output 2.2: Improved CCA DRR Development Plan in Local Government and Community

To improve CCA DRR development plan in the community, a series of activities on Output 2.1 were completed at the onset where the final outputs are the risk assessment at community level and local resilience action plan (LRAP). Risk assessment documents at the community level were developed in Mulyorejo, Tegaldowo, Jeruksari, Amahai and Soahuku working group. LRAP documents were developed after the risk assessment document development in Mulyorejo, Jeruksari, Tegaldowo sub-district and Amasoa (Amahai and Soahuku) working group. Amasoa produced one LRAP for both sub-districts.

Establishment of the documents improved CCA DRR development in the community. The core activity to improve CCA DRR development at the community level is through advocacy. The objectives of the advocacy are: 1) to foster community plan (LRAP) within the sub-district government, high-level government and private sector; and 2) to link the communities to external stakeholders. Following the below matrix shows advocacy efforts for better development of CCA DRR in community by fostering Risk Assessment and LRAP.¹³

Table 8. Advocacy efforts in Maluku Tengah and Pekalongan

Activity	Time	Result
Maluku		
Sub-district deliberative forum in Amahai	30-31 January 2015	There were 12 proposed activities that were accommodated to be brought to the district <i>musrenbang</i> . One of the proposed activity (tsunami evacuation sign board), was approved by BPBD as discussed on this table below)
Sub-district deliberative forum in Soahuku	3 February 2015	There were 9 proposed activities that were brought to the district <i>musrenbang</i> .
District deliberative forum of Amahai	2 March 2015	After the accomplishment of the <i>musrenbang desa</i> , it was decided to bring 7 of community priorities to the <i>musrenbang kabupaten</i> . One of the proposed activities was coastal rehabilitation, and was approved by BLH, discussed on this table.
Public hearing with Soahuku sub-district government	9 March 2015	Full support of sub-district government to bring the result of <i>musrenbang kecamatan</i> to the <i>musrenbang kabupaten</i> .
Public hearing with Amahai sub-district government	14 March 2015	Full support of sub-district government to bring the result of <i>musrenbang kecamatan</i> to the <i>musrenbang kabupaten</i> .
Maluku Tengah Regency deliberative forum	26-27 March 2015	There are 11 proposed activities (expanded from the result of <i>musrenbang kecamatan</i>) that were successfully

¹³ Every January is the beginning of the development planning cycle in local government of Indonesia. That is why, fostering RA and LRAP in the local development plan started in January 2015 to influence next year's development plan and on going fiscal year (2015) development.

Activity	Time	Result
		accommodated for the next year's development plan, all are referred from the LRAP.
Meeting with Forum PRB (Nanaku Musibah) Maluku Tengah	30 April 2015	An awareness campaign through coastal cleaning was agreed during this meeting. At the end, the coastal cleaning was participated by SKPD and private sector, one of the contributors was BLH by sending dump trucks for garbage transportation. After the coastal cleaning, BLH committed to deliver 500 mangrove seeds to Amahai including funding for plantation and maintenance from the 2015 budget. After the 500 mangrove plantings, BLH asked Amasoa Kalesang for a mangrove nursery so that BLH will buy the mangrove from the SDWG.
Public hearing with BPBD Maluku Tengah	27 July 2015	Members of the Amasoa Kalesang working group held a hearing with BPBD to propose the tsunami evacuation sign board that they proposed during <i>musrenbang desa</i> . Unfortunately, it was eliminated during <i>musrenbang kecamatan</i> , and that is why a hearing with BPBD was conducted. As a result, BPBD Maluku Tengah will allocate tsunami evacuation sign board in Amahai and Soahuku by using 2015 budget. This sign board is part of the working group pilot project. Currently, 11 tsunami evacuation sign boards were grounded in Amahai and 14 in Soahuku. Additionally, 30 sign boards were grounded in Haruku District.
Pekalongan		
Sub-district deliberative forum in Jeruksari	28 January 2015	There were 14 proposed activities accommodated during the <i>musrenbang desa</i> .
Sub-district deliberative forum in Mulyorejo	28 January 2015	There were 7 proposed activities accommodated during the <i>musrenbang desa</i> .
Sub-district deliberative forum in Tegaldowo	30 January 2015	There were 5 proposed activities accommodated during the <i>musrenbang desa</i> . One of the proposed activity was vertical agricultural, where Dinas Penyuluhan Tanaman Pangan agreed to provide training and seeds.
Tirto distrcit deliberative forum	12 February 2015	From all those three sub-districts proposed activities, it was agreed that 18 proposal were accommodated to be discussed for <i>musrenbang kabupaten</i> .
Public hearing with BPBD Pekalongan	2 March 2015	It was agreed during the public hearing that, BPBD will accompany the SDWGs to hold public hearing with Pekalongan Regent.
Public hearing with Pekalongan Regency Legislative	6 March 2015	The main result of this public hearing was that DPRD visited the three SDWGs in March 25 th . However, there are no for further assistance from the legislative.
Pekalongan regency deliberative forum	24 March 2015	There was no representative from SDWG as there was no invitation from Bappeda.
Pubilc hearing with Education Agency	27 March 2015	There was no significant result from this hearing.
Pubilc hearing with Pekalonan regent.	24 April 2015	A normative support from the regent.
Public hearing with PSDA-ESDM	24 April 2015	The main objective of this hearing was to advocate for a water pump for high tide flood in Jeruksari, in response the LRAP. Though this agency has no more funding (2015 and 2016) for the water pump, the agency committed to support this community to bring this issue to a higher level, provincial and national level. The result is, that this agency, together with the community, developed a water pump proposal to be proposed to PSDA-ESDM province and Public Works Ministry.

Activity	Time	Result
Hearing with Mulyorejo Sub-district Government	3 May 2015	One of pilot project implementation in Mulyorejo is Sub-district Information and Media Center (PMID) that is located in the sub-district office. There should be a regulation once the PMID established. Therefore, it is agreed that a Sub-district Decree will be issued about the PMID.
Public hearing with Environment Agency (KLH)	4 May 2015	There was no further agreement resulted from this public hearing.
Public hearing with Satker PMAS Province	26 May 2015	This public hearing was for the water pump of the high tide flood. Unfortunately, this task force did not have a mandate to deal with high tide flood. However, PSDA-ESDM Province is the right place for the next hearing. This task force will help to communicate with the agency.
Public hearing with DKPP (maritime, fishery, and livestock agency)	25 June 2015	Normatively, DKPP will support the SDWGs proposal. It was agreed that DKPP will bring this proposal to a higher level within the regency.
Public hearing with Public Works Agency (DPU)	6 July 2015	DPU is willing to provide a garbage container in Tegaldowo, where the Tegaldowo previously was not listed as receiver. As a result, a garbage container was delivered in Tegaldowo in September 2015.
Public hearing with Pekalongan regent	14 July 2015	It was expected that the regent will present during this hearing, but unfortunately, he was not able to join the hearing. At the end, there was a coordination meeting for high tide flood problems. PSDA-ESDM Pekalongan, together with community will prepare a proposal to be submitted to KemenPU&PR. As a result, a proposal for a water pump for high tide flood was developed and submitted to the ministry.
Public hearing with PSDA-ESDM of Central Java Province	13 August 2015	Based on PSDA-ESDM province, the agency responsibility's for fiscal year 2015 was to develop the Detail Engineered Design (DED) of the high tide flood water pump. It was still in process up to now and even though it is ready, it is not certain whether it will be implemented in Jeruksari. As agreed during hearing in July, it is better to directly go to national level, and the proposal was submitted.

With the local government, efforts to foster regency risk assessments into local development plan were attempted. Risk Assessment in Pekalongan were accomplished in February 2015 and have circulated to the local government agencies. The main attempt to influence regency development plans in Pekalongan was through the development of the Disaster Management Local Government Act (Raperda PB) and the revision of the regency's Spatial Planning (RTRW). API Perubahan team had the privilege to review the draft of Perda PB by including some contents from the regency risk assessment document. Even though the series of meetings and discussions were held with BPBD, unfortunately, little feedback from API Perubahan was internalized within the Raperda PB.

Figure 15. Advocacy of Pekalongan SDWG to the Local Environment Agency of Pekalongan



The second attempt was through the revision of Pekalongan Spatial Planning (RTRW). API Perubahan team was asked by Bappeda to be a part of the revision team during the Forum PRB meeting on 12 August, 2015. Since API Perubahan finished the program in November and Bappeda was targeting to work with this team until early 2016, it was not possible for SCALE-R staff to join the team. Nevertheless, during a CCA DRR socialization, SCALE-R submitted its feedback to the revision of spatial planning, based on the regency risk assessment (Annex 4). As a result, Bappeda will use it as one of the references for further discussions.

Apart the risk assessment, to improve the DRR CCA development plan in Pekalongan, was also initiated by Bappeda. During a meeting with Bappeda, it was agreed that a replication of DRR CCA curriculum training that was already implemented in Sentul will be carried out in Pekalongan. All supports (venue, invitation, funding, etc.) were to be from Bappeda. This was a positive sign from the local government to better their CCA DRR mainstream to all the local agencies. As a result, CCA DRR socialization through adopting part of the CCA DRR curriculum was conducted in Pekalongan, on 18 November, 2015.

This was a different situation, however, in Maluku Tengah where the risk assessment was not accomplished until the end of SCALE-R. However, during the risk assessment development, the internalization of the process of developing risk assessment was in place. Local agencies participated during the development including civil society.

3.2.3 Output 2.3: 5 Pilot Projects are Implemented in Five Targeted Sub-Districts

3.2.3.1 POKJA Amasoa Kalesang - Maluku Tengah

Before implementing the pilot projects, POKJA Amasoa Kalesang developed LRAP consisting of priority action lists for adaptation strategy. Based on the LRAP document (Annex 2), Amahai sub-district developed 55 priority actions and Soahuku sub-district developed 47 priority actions. To implement the pilot project, the activities should be in line with the LRAP. Furthermore, POKJA

Amasoa Kalesang decided to implement three activities for the pilot project, they are:¹⁴ 1) nursery house (page 42, page 81, page 57, and page 85); 2) local food empowerment and diversification (page 49, page 56, page 80, and page 85); and 3) disaster evacuation map (page 32 and page 62).

1) Nursery House (*Rumah Bibit*)

A nursery house was built on July 2015 in both sub-districts. To build the house, the community contributed¹⁵ 3 x 10 meter land in Amahai and Soahuku sub-district. Land owner in both sub-districts agreed with POKJA Amasoa Kalesang to use the land for two years duration and they have the access to utilize the nursery house. The community also contributed their manpower. The nursery house was built by the community themselves. In Soahuku, it required five days to build and a total 50 community members contributed. In Amahai, they needed nine days to build with 90 community members contributing their labor. They used local material to build the nursery house such as wood from sago tree and roof from the coconut leaves.

Figure 16. Nursery house in Amahai sub-district



The objective of the nursery house is for cacao, nutmeg and clove seeding and grafting. To be able to graft nutmeg, cacao and clove, a series of trainings were conducted with POKJA and communities in both sub-districts. The first training was about nutmeg grafting on April 2015, with nine men and seven women participating from the community. This training was in collaboration between API Perubahan and Spice up the Deal (SUD), another Mercy Corps Indonesia program in Maluku. The training was not only for Pokja Amasoa Kalesang, but also for communities and neighbor sub-district of Sepa and Pokja Haruku (29 male and 4 female). After this training, POKJA built the nursery house and began growing nutmeg seedling. The next training was also in collaboration with a previous Mercy Corps' program called MCCC (Mercy Corps Cacao Center) in Seram, Maluku for cacao

¹⁴ Page number on listed activities refer to the page number of the LRAP of POKJA Amasoa Kalesang. Please refer to the LRAP document for more detail.

¹⁵ For more detail about pilot project contribution in Mauluku Tengah, please refer to Third Party Contribution for Pilot Project Document.

grafting on August 2015. The training seven men and six women from the POKJA participated. Right after the training, POKJA was able to seed cacao and they have never been able to do this before. As a result, a nursery house with hundreds of cacao and nutmeg seeds are growing in the nursery house. There are two benefits for grafting:

- To expedite the production of nutmeg and cacao. In a normal process, a nutmeg tree is able to produce nutmeg at the age of ten years or more, but with the grafting method, it can produce nutmeg at age of three years.
- By using the grafting method, it can increase the price nutmeg and cacao seed.

Before applying grafting, the seeds were at least five months old or more. Until the end of API Perubahan, grafting had not been applied yet because the seeds were only four months old. Nevertheless, this is a potential benefit that the POKJA can achieve further.

2) Local Food Empowerment and Diversification

A training to produce sago flour was conducted in August 2015, facilitated by a local food vendor (Baristan) from Ambon city, Maluku (five men and 13 women participated). The aim of the training was to produce sago flour by using sago as a raw material. This will help vary the number of foods used to produce flour. Through API Perubahan, the equipment used to produce the sago flour was delivered. As a result, the training facilitator (a local vendor) regularly requested sago flour from POKJA because sago flour is scarce in Ambon City. The latest information from POKJA at the end of 2015, 60 kg of sago flour was ordered by Disperindag (Office on Trade and Industrial) of Maluku Tengah Regency. Evidence such as this shows that local economic development improved by producing this local resource. To make the production of sago powder more formal, POKJA submitted their product to Badan POM (Foods and Drugs Administration) of Maluku to get certified. POKJA now has the Badan POM certificate, enabling them to produce more and send to the supermarket.

3) Disaster Evacuation Map

A participatory approach to develop the disaster evacuation map was applied to the POKJA and community with the combination of a digital image. This digital image was delivered by [Google Skybox](#) through an up-to-date satellite imagery of Amahai and Soahuku. This is in cooperation between Google and Mercy Corps headquarters. The output of this activity is a tsunami evacuation route map which is placed in selected public places in Amahai and Soahuku. As mentioned for Output 2.2 above, results from a public hearing with BPBD Maluku Tengah, BPBD has committed to provide a tsunami evacuation



Figure 17. Tsunami evacuation map in Amahai sub-district

sign board based on the evacuation route that was produced by the community. As a result, 11 tsunami evacuation sign boards were placed in Amahai and 14 have been placed in Soahuku.

4) LRAP Implementation

Besides the planned activities mentioned above, Pokja Amasoa Kalesang also implemented some of activities mentioned in the LRAP including DRR CCA socialization, mangrove planting, and coastal cleaning. DRR CCA socializations were conducted with youth in mosques and churches and they named it AMASOA Bacarita (bacarita in local means to tell a story, and AMASOA stands for Amahai and Soahuku). POKJA delivered stories about DRR and CCA to youth in August 2015. The youth members from AMGPM (church youths) church included 37 male and 39 female on 6 August 2015 for AMASOA Bacarita. While in a MTs (Islamic elementary school) 36 men and 26 women participated.

Coastal cleaning was conducted on 6 June, 2015, where multi stakeholders such as BRI, Bank Maluku, TNI, Polri, PLN, BLH, BPBD, and community of Amahai and Soahuku participated in the activities. The objective was to clean the coastal area close to the Amahai harbor. As revealed by POKJA during final evaluation, this was the first time they have attempted to clean the coast and have contributed to changing the community's behavior on waste disposal. There were a lot of contributions from those stakeholders for that event, for instance Bank Maluku, BRI and PLN provided direct funding (more details about this contribution in Annex 3). One contributor to this activity was the BLH (Local Environment Agency).

The BLH claimed that the coastal cleaning project was a positive movement in the society. Therefore, BLH delivered 500 mangrove seeds to POKJA Amahai to respond to their request for a mangrove plantation activity. On June 28, POKJA and community planted the mangrove in Namano beach where it was identified as high risk during the risk assessment. As a result of this mangrove plantation, BLH ordered 1,000 seeds from POKJA Amasoa Kalesang. Based on an interview with BLH staff (November, 2015), this was an important start to give the community the opportunity for the POKJA to provide mangrove seeds that are usually purchased outside the region. Since the BLH will order mangrove seeds from POKJA, this will potentially increase the mangrove rehabilitation initiated in Maluku Tengah and at the same time, POKJA members will have additional income from selling the seeds. Up to now, POKJA already has the mangroves, but it is not sufficient yet to be purchased because they are less than five months old. It is estimated that 1,341 community member participated during the coastal cleaning. Those number spread along settlements located on the coastal area.

3.2.3.2 POKJA Haruku – Maluku Tengah

As POKJA Haruku is still part of API Perubahan Phase 2 targeted area, the pilot project was also implemented in POKJA Haruku. POKJA Haruku consists of five sub-districts which are: Haruku sub-district, Oma sub-district, Sameth sub-district, Kabaw sub-district, and Rohomini sub-district. POKJA Haruku decided to establish radio communication by using two hand walkie-talkies. After the equipment was purchased and installed in Haruku, the POKJA decided that Haruku sub-district should be the base station for overall radio communication, and the rest of the sub-districts as the

receiver station¹⁶. The base station will have a high frequency tower. To utilize the system, cooperation with RAPI (Radio Antar Penduduk Indonesia), a radio communication community in Indonesia, was established. The POKJA registered as the member of RAPI including its call sign, as shown through following matrix.

Table 9. Registered callsign of each sub-district of Pokja Haruku

No	Name	Sex	Call Sign	Sub-district	Status
1	Abdul Latief Karepesina	Male	JZ 26 OAB	Negeri Kabaw	HT Station
2	Alinur Sangadji	Male	JZ 26 OAC	Negeri Rohomoni	HT Station
3	Marcus Payer	Male	JZ 26 OAD	Negeri Sameth	HT Station
4	Clif Henry Kissya	Male	JZ 26 OAE	Negeri Haruku	Base Station
5	Frederika Tallo	Female	JZ 26 QT	Negeri Oma	HT Station

JZ : coding for RAPI

26 : Maluku Province number of registration for radio communication

xxx : call sign holders radio name

A training facilitated by RAPI was conducted on 14 August, 2015. Each call sign holder and POKJA member were invited and, in total, 16 male and one female joined as participants. BPBD Maluku Tengah showed their commitment by bridging this radio communication community with PUSDALOPS of BPBD Maluku Tengah. Through establishing this radio communication, POKJA Haruku is now able to communicate with PUSDALOPS of BPBD Maluku Tengah and to communicate to each sub-district to share information., This was not possible before the radio communication, especially in Oma sub-district where telephone signal is very limited. The following matrix summarizes those activities mentioned above and the results in Maluku Tengah.

Table 10. List of pilot project activities in Maluku Tengah

Activity	Date	Result	Estimated Beneficiaries
Training of Trainer (ToT) for nutmeg grafting with Pokja Amasoa and Sepa sub-district	17 April 2015	Nutmeg seeds are available on Amahai and Soahuku nursery house, approximately hundreds of seeds in both houses, 4 months old. All are not ready for grafting.	Total: 16 Male: 9 Female: 7
Training of Trainer (ToT) for nutmeg grafting with Pokja Haruku	21 April 2015	Same situation with Amasoa Kalesang.	Total: 33 Male: 29 Female: 4
Coastal cleaning	6 June 2015	Multi stakeholder contribution was very active and community more aware about issues related to throwing garbage in the coastal area.	Total: 1.341 Male: 674 Female: 667
Mangrove plantation	28 June 2015	500 mangrove seeds were planted in coastal area of Amahai and engagement with BLH is in place through this activity.	NA
Amasoa Bacarita with youth member of Eksodus Church	6 August 2015	To implement LRAP by delivering DRR CCA to wider society. As a result, youth knowledge on DRR CCA is improved.	Total: 76 Male: 37 Female: 39
Cacao grafting in MCCC (Mercy Corps Cacao Center)	7 August 2015	Cacao seeds are available on Amahai and Soahuku nursery house. They are not ready for grafting yet, as they are not old enough.	Total: 13 Male: 7 Female: 6

¹⁶ Base station is the main radio station where it is equipped with high frequency and transmitter tower, with the ability set the calling sign of the communication. While the stations is only equipped with radio (the walkie talkie) and if necessary with antenna (not a transmitter tower). In normal operations, the base station has the ability to listen and call at regency, province and national level, while station is only at local.

Activity	Date	Result	Estimated Beneficiaries
Amasoa Bacarita with youth member of Soahuku mosque	14 August 2015	This is to implement LRAP by delivering DRR CCA to wider society. As a result, youth knowledge on DRR CCA is improved.	Total: 60 Male: 36 Female: 24
Radio communication training for Pokja Haruku	14 August 2015	Pokja Haruku is now connected with Pusdalops of BPBD Maluku Tengah and able to communicate to wider region.	Total: 17 Male: 16 Female: 1
Local food training (producing of sago powder and related foods from sago)	18-19 August 2015	Baristand, the training facilitator also as local food vendor in Ambon has ordered sago powder to POKJA. Disperindag also ordered 60 kg of sago powder. POKJA now is able to produce local food by using sago powder. A certificate fom BPOM in place.	Total: 18 Male: 5 Female: 13
Estimated total of beneficiaries:			1.574
Male:			813
Female:			761

Pekalongan

Pilot project implemented in Pekalongan was different in every sub-district because they had different lists of activities and different results from their LRAP and risk assessments. Therefore, this section will show the pilot project implementation in each sub-district.

3.2.3.3 Mulyorejo sub-district

The community in Mulyorejo developed their LRAP, which was fostered in musrenbang, and implemented their pilot project in line with the LRAP. Eight sectors were included in the action plan, they were: environment; infrastructure; food; economic; health; clean water; socio-cultural; and education. Through discussions within the community, they decided to implement: 1) sub-district replanting under the environment sector (page 58) and 2) establishment of sub-district information and media center (PMID) under economic sector (page 60) as their pilot project.¹⁷

a) Sub-district replanting

Based on the risk assessment, Mulyorejo was considered a very productive sub-district that produced agricultural products in Pekalongan. Since the flooding less than a decade ago, agricultural products are not planted and there are fewer trees in the sub-district. Therefore, the community planned to replant the sub-district with sea pine (casuarina) trees along the main roads of the sub-district.

¹⁷ Page number on this pilot project refers to the content of the LRAP document. Please refer to the LRAP document of Mulyorejo for more detail.



Collaboration between POKMAS and Dafam Group¹⁸ was established during the process. After intense communication amongst them, Dafam Group committed to provide 1,000 sea pine, while API Perubahan provided 300 kluwung.¹⁹ The sub-district's role was not only planting the trees, but also to socialize the community about the activity, forming the replanting task force, and planting which was conducted on October 2nd, 2015. The planting ceremony was included the Pekalongan Regent, representatives from USAID, local government agencies and the Dafam Group staff. After the ceremony, community members planted the rest of the trees.

Figure 18. Sub-district replanting in Mulyorejo

Unfortunately, not all the trees survived the long- drought season (El Nino phenomena) of 2015. It was estimated that 60% of the trees did not survive, even though the community voluntarily watered them. To include seasonal forecast is very important for such activities in the future. This situation is confirmed during the final evaluation, where many of communities' confirmed the same condition of the planted trees..

b) Sub-district information and media center (PMID)

The objective of this activity was to increase the community's access to information related to economic opportunities. A series of activities were included to establish the PMID, such as computer training for the community. A total of 35 participants (22 male and 13 female) from the community participated in the computer training. Later on, Mulyorejo sub-district government



provided a room for PMID. It has computers, a printer, desks, a pocket camera, books, as well as an internet modem and router. To sustain and maintain the PMID, a sub-district (Peraturan Desa Mulyorejo No. 7 tahun 2015) issued a decree about the utilization and management of

Figure 19. PMID at Mulyorejo sub-district

¹⁸ Dafam Group is a private sector, head quarter in Semarang, whose major business deals in hotels and properties.

¹⁹ Kluwung is a local language, a concrete cement in a tube shape, normally used to protect wells or sometimes used as sewerage.

the PMID. The PMID is managed by POKMAS Mulyorejo and an operational fund is gathered from community members who use it. For future management, POKMAS proposed to use Alokasi Dana Desa (ADD - Sub-district Budget Allocation) owned by the sub-district government.

Unfortunately, some activities to support PMID were not accomplished, due to time limit of API Perubahan. The PMID task force was not settled until the end of API Perubahan, therefore, it is not possible to widen the computer literacy to the wider community. Ideally, members who participated on the computer training would form into the PMID taskforce whose task it would be to train the community on computer and internet.

Table 11. Pilot project implementation in Mulyorejo

Activity	Date	Result	Estimated Beneficiaries
Computer training for PMID	11 August 2015	There are number of communities who already capable on using computer and internet.	Total: 35 Male: 22 Female: 13
Sub-district decree about PMID (Perdes No. 7/2015)	Legalized on 1 September 2015	PMID has a sustainability mechanism, where citizens from Mulyorejo now have the obligation to pay contributions to maintain the PMID.	Total: 3.344 Male: 1.659 Female: 1.685
Sea pine planting at the sub-district	2 October 2015	1.000 sea pine was planted along the main road of Mulyorejo, but unfortunately, less than 50% survived due to long of summer season.	NA
Estimated total of beneficiaries:			3.379
Male:			1.681
Female:			1.698

3.2.3.4 Tegaldowo sub-district

LRAP of Tegaldowo was developed by the community and already deliberated through a variety of forums in the local government. There were some sectors which are the priority of actions in Tegaldowo. They are: infrastructure; economic; environment; clean water; food; health; and socio-cultural. The pilot projects are:²⁰ 1) vertical agriculture; 2) sub-district media and information center,



Figure 20. PMID at Tegaldowo sub-district

under the economic sector (page 66) and 3) garbage banks (page 67) under the environment sector.

a) Sub-district media and information center (PMID)

The objective of PMID was the same as in Mulyorejo. It has four units of computers, a printer, desks, a pocket camera, books, and

²⁰ Page number on this pilot project refers to the content of the LRAP document. Please refer to the LRAP document of Tegaldowo for more detail.

an internet modem. PMID is located in the sub-district office, where the sub-district government committed to locate PMID into a 3 x 3 meter room inside the office. Similar to Mulyorejo, a sub-district decree (Peraturan Desa nomor 2 tahun 2015) was issued for future maintenance and management. It is managed by POKMAS and fees will be applied to those who will use the PMID. Computer literacy training was conducted for POKMAS on August 2015, with 20 participants, 10 male and 10 female.

b) Vertical Agriculture

A decade ago, Tegaldowo was a productive sub-district for agriculture. However, now there is no more land for farming. The benefit of using vertical agriculture is that it does not take up additional land. The pilot project begun with vertical agriculture training for the community in Tegaldowo. The training was conducted on 29 May, 2015 with 20 male and 33 female

Figure 21. Example of vertical agriculture at Tegaldowo



participants. The goal of the training was to not only increase the capacity of the participants, but to also increase the community's knowledge on vertical agriculture following the training. Unfortunately, vertical agriculture was not easily implemented due to some constraints in the sub-district.

BKPP (Badan Ketahanan Pangan dan Penyuluhan) contributed to this activity by facilitating the training and providing various kind of seeds, such as tomato, chili, etc. for the communities. After the training, 100 vertical agriculture racks were distributed to each neighborhood/RT (total 10 RT in Tegaldowo) within the sub-district. Two unit racks were placed in the sub-district hall, two racks in the elementary school and two racks in the community health center. In total, 106 racks were distributed in the sub-district. Before distributing the vertical agriculture racks, each RT was to establish a vertical agriculture group consisting of people who already participated in the vertical agriculture. Nevertheless, not all the ten vertical agriculture groups were active. Groups were constrained due to a lack of water for the seeds and fertile soil for the rack. However, some groups showed positive results. Where they can grow the seeds, household can grow their own chili, spinach and tomatoes.

c) Waste Bank

Waste problems in Tegaldowo are critical because household waste and textile waste is not managed well in this sub-district. In addition, polluted water from the surrounding household textile industry mixes with river and sea water.



Figure 22. Trash bucket for households

Due to an increase in community awareness about this condition, community waste management through garbage banks were initiated by the pilot project. A garbage bank is a system is where household garbage is disposed. The community agreed to this activity and groups were established to manage garbage banks in the sub-district. One group was established on the east side of the river and covers RT 06 – RT 10 while another is on the west side covering RT 01 – RT 05. Each group has a coordinator, garbage picker, and a person responsible to collecting fees. The sub-district government contributed by establishing a sub-district decree (Peraturan Desa nomor 3 tahun 2015) about the utilization, management and maintenance of the garbage bank. It was agreed that the fee should be IDR. 1.000 per week. It was tasked to the group to implement this decree.

To implement this system, 325 trash bins for organic and 325 trash bins for non-organic garbage were distributed throughout the sub-district. Every two houses own one organic and non-organic trash can. An organic communal composter was built in the sub-district. The household trash picker delivers the household organic garbage into this composter. The non-organic, which has economic value, can be either reused or recycled. It is independently managed by the household and the remaining trash is disposed of in the garbage container which was contributed by the Public Work of Pekalongan Regency. The community was trained to utilize this system, where 59 community members participated on the training. It is expected that when the system is ready and the community is trained, they can roll out the system on their own.

Table 12. Pilot project implementation in Tegaldowo

Activity	Date	Result	Estimated Beneficiaries
Computer literacy training	12 August 2015	A number of communities are capable of using computer and internet.	Total: 20 Male: 10 Female: 10
Sub-district decree about PMID (Perdes No. 2/2015) about PMID	Legalized on 1 September 2015	PMID has a sustain mechanism of utilization and maintenance, where citizen of Tegaldowo now must pay a fee to maintain the PMID.	Total: 3.326 Male: 1.708 Female: 1.618
Vertical agriculture training	29 May 2015	Community has the knowledge to grow plants in using vertical techniques. Some of the vertical racks have shown positive results.	Total: 53 Male: 20 Female: 33
DRR CCA training for community (vertical agriculture and garbage management)	13 November 2015	Community (not included from the agriculture training on 29 May) has the knowledge for vertical agriculture and garbage management.	Total: 59 Male: 43 Female: 16
Sub-district decree about PMID (Perdes No. 3/2015) about garbage bank	Legalized on 1 September 2015	A sustainable mechanism for garbage banks that will be implemented by the whole community.	Total: 3.326 Male: 1.708 Female: 1.618
Estimated total of beneficiaries:			3.458
Male:			1.781
Female:			1.677

3.2.3.5 Jeruksari sub-district

Similar to other sub-districts in the targeted area in Pekalongan, the LRAP consists of several action plans under several sectors, including infrastructure, clean water, environment, health, economic,

education, and socio-cultural. Even though there were a lot of options for adaptation in Jeruksari, the community decided to implement an advocacy pilot project. The main purpose of the project is to receive commitment and support from the government to solve the high tide flood, either through water pumps or other mechanisms.

A series of advocacy activities were conducted with the legislative and executive of the regency. A consultative meeting with legislative representatives was conducted on March 2015 and a public hearing with the regent was initiated on April 2015. Related technical local agencies at the regency and provincial level were also addressed shown in the following matrix. Even though Jeruksari requested this implementation, representatives from Tegaldowo and Mulyorejo contributed to the hearings. The following matrix shows the details for each activity.

Table 13. Pilot project implementation in Jeruksari

Activity	Time	Result
Public hearing with Pekalongan Regency Legislative	6 March 2015	The main result of this public hearing was DPRD visiting the three SDWGs in March 25 th , however, there is no for further assistance from the legislative.
Public hearing with Pekalongan regent.	24 April 2015	Pekalongan regent agreed and supported API and the community to solve the high tide flood problem in Jeruksari. However, no concrete support and measurable action plan from government side to solve the high tide flood.
Public hearing with PSDA-ESDM of Pekalongan Regency	24 April 2015	The main objective of this hearing was to advocate for water pumps for high tide flood in Jeruksari, in response to the LRAP. Though this agency has no more funding (2015 and 2016) for a water pump, the agency committed to support this community to bring this issue to a higher level (provincial and national level). As a result, this agency together, with the community, developed a water pump proposal to be proposed to PSDA-ESDM province and Public Works Ministry of GoI.
Public hearing with Environment Agency (KLH)	4 May 2015	There was no further agreement resulted from this public hearing.
Public hearing with Satker PMAS Province	26 May 2015	This public hearing was for the water pump for a high tide flood. Unfortunately, this task force no longer has a mandate to deal with high tide flood. However, PSDA-ESDM Province is the right place for the next hearing. This task force will help to communicate within the agency.
Public hearing with DKPP (maritime, fishery, and livestock agency)	25 June 2015	DKPP will support the SDWGs proposal. It is agreed that, DKPP will bring this proposal to higher level within the regency.
Public hearing with Pekalongan regent	14 July 2015	It was expected that the regent would present during this hearing, but unfortunately, he was not able to join the hearing. At the end, this was a coordination meeting for high tide flood problems. As further action, PSDA-ESDM Pekalongan, together with the community, will prepare a proposal to submit to Kemen PU&PR. A proposal for a water pump for high tide flood was developed and submitted to the ministry.
Public hearing with PSDA-ESDM of Central Java Province	13 August 2015	Based on PSDA-ESDM province, the agency responsibility's for fiscal year 2015 was to develop the Detail Engineered Design (DED) for the high tide flood water pump. It is still in process and once it is ready, it is not certain whether it will be implemented in Jeruksari. It

Activity	Time	Result
		is better to directly go to national level, and the proposal was submitted.

3.3 Objective 3: Replication of Best Practice Promoted in new Target Vulnerable Communities

The development of the National CCA Curriculum and CCA Training Module that is embedded in the National Disaster Management Agency (BNPB) is a SCALE-R best practice. A national training to utilize the curriculum and module was conducted on 7-11 September, 2015, where local government representatives and the DRR Forum from Maluku Tengah and Pekalongan attended the training. The CCA Curriculum covered is shown below on the left and training module is on the right.

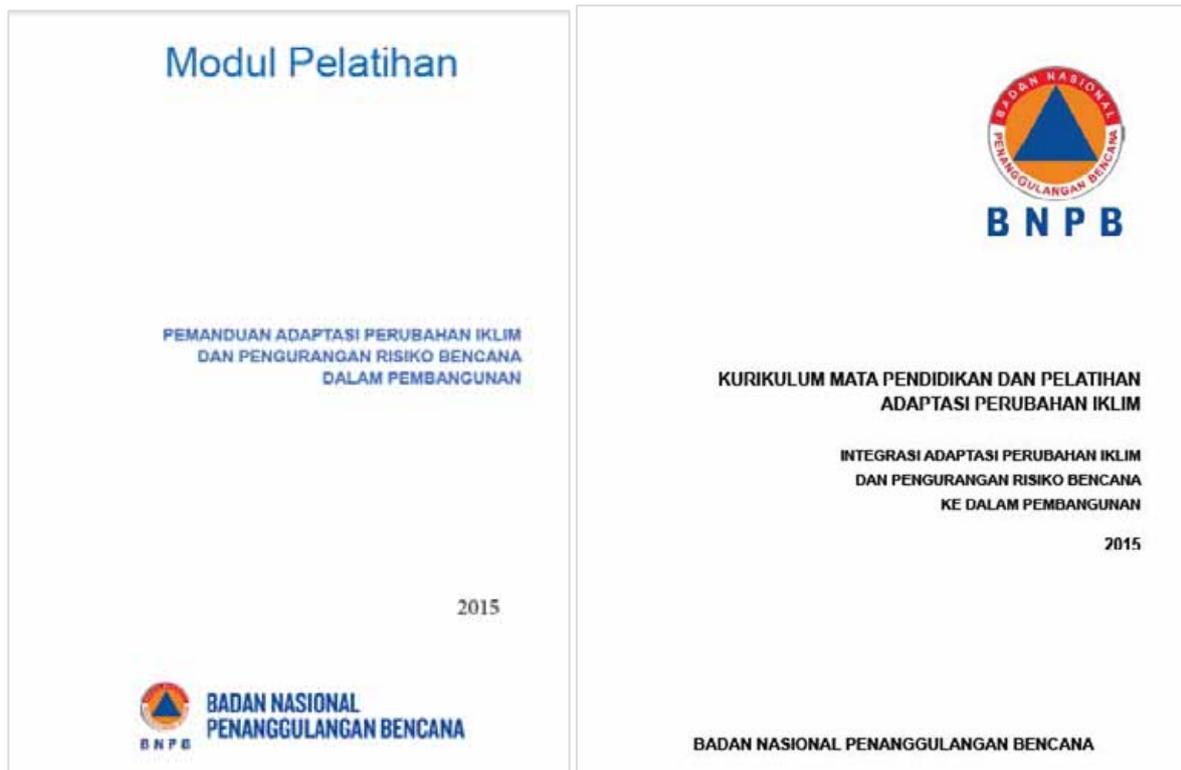


Figure 23. Cover from CCA DRR Training Curriculum and Training Module

As an action plan, participants are responsible to establish workshops or similar activities based on the curriculum and training module.

CCA DRR Replication in Maluku Tengah

A CCA Workshop was initiated by KOMPAS (Komunitas Pecinta Alam Seram – Seram Natural Activist Community) in collaboration with BPB, BMKG, BLH, POKJA Amasoa Kalesang (SDWG) and Maluku Tengah Regency DRR Forum on 17 October, 2015. The following are contents adopted from the CCA Curriculum that were discussed during the workshop:

- Foundation of Climate Change (content brought by BLH)
- Disaster Management System and Foundation of Disaster Risk Reduction (content brought by BPBD)
- Climate Risk and Vulnerability Assessment (content brought by BMKG)
- Integration of CCA DRR into Local Development Plan (content brought by Maluku Tengah Regency DRR Forum)

Figure 23. Session by BMKG and Forum PRB



CCA DRR Replication in Pekalongan

Similar to Maluku Tengah, in Pekalongan a similar workshop was held on November 18th, 2015. This workshop was fully supported by the Local Agency for Development Plan (Bappeda) in collaboration with organizations such as Mercy Corps Indonesia, GIZ Paklim, DRR Forum, and BPBD. The formal and technical aspect, including formal invitation, meeting room and packages were supported by Bappeda. Other contributions included the resource person to deliver the workshop. The following are contents adopted from the CCA Curriculum that were discussed during the workshop:

- a. Disaster Management System (content brought by BPBD)
- b. Foundation of Disaster Risk Reduction (content brought by Pekalongan Regency DRR Forum)
- c. Climate Change and its Impacts on Development Sector (content brought by GIZ Paklim)
- d. Integration of CCA DRR into Local Development Plan (content brought by UNES)
- e. Disaster Risk Assessment (content brought by UNNES)

Figure 25. Replication workshop and session by BAPPEDA & BPBD



Conclusion of Objective 3 Achievement

The best practices for replication include:

1. The best practice of DRR and CCA during SCALE-R implementation was the CCA Curriculum and CCA Training Module that is now embedded in BNPB.
2. In Maluku Tengah, replication was initiated by KOMPAS in collaboration with BPBD, Mercy Corps Indonesia, BMKG, BLHD, and Maluku Tengah DRR Forum, where they were acting as the resource person for the selected material from the curriculum.
3. In Pekalongan, replication was initiated by Bappeda in collaboration with BPBD, Mercy Corps Indonesia, Pekalongan DRR Forum, and GIZ Paklim, where they were acting as the resource person for the selected material from the curriculum.

4. There is local government and non-government collaboration to replicate the CCA Curriculum and CCA Training Module.

3.3.1 Output 3.1: CCA DRR Model Established

A CCA DRR model is a model that was generated from SCALE-R experiences from Phase 1 and Phase 2 used as a tool to measure the degree of community resilience. This model consists of five components to measure community resilience, they are: 1) DRR CCA planning and policy; 2) sustainable resources for DRR CCA efforts; 3) disaster preparedness for effective response; 4) post disaster recovery; and 5) knowledge management. Each component has its own indicators and key questions that will guide the resilience measurement. The following matrix shows all the variables of measuring community resilience.

Table 14. Variables on CCA DRR resilience model

Variables	Coding on Figure*
I. DRR CCA planning and policy component:	
1) Hazard knowledge of the community.	1.1.1
2) Risk knowledge of the community.	1.1.2
3) Risk management of the community.	1.1.3
4) Community action plan.	1.2.1
5) Livelihood asset protection through local development policy.	1.3.1
6) Local wisdom practices for livelihood protection.	1.3.2
7) Local government policy and development understanding.	1.4.1
8) Policy implementation.	1.4.2
9) Policy enforcement.	1.4.3
II. Sustainable resources for DRR CCA efforts component:	
10) DRR CCA budget allocation from local government.	2.1.1
11) DRR CCA budget allocation from third party, including private sector.	2.1.2
12) Multi stakeholder forum in the community.	2.2.1
13) Citizen participation on DRR CCA efforts.	2.3.1
14) Local resources for DRR CCA efforts.	2.3.2
III. Disaster preparedness for effective response component:	
15) Ability to understand and implement emergency response.	3.1.1
16) Collaboration between local government, private sector and community for emergency response.	3.1.2
IV. Post disaster recovery component:	
17) Ability to understand and implement post disaster recovery.	4.1.1
18) Collaboration between local government, private sector and community for post disaster recovery.	4.1.2
V. Knowledge management component:	
19) Education and training of DRR CCA.	5.1.1
20) Local wisdom for DRR CCA efforts.	5.1.2

* Please see the coding on below figure.

This model was tested in all targeted areas. In Pekalongan, the DRR CCA model testing was conducted on 30 October, 2015, while in Maluku Tengah, the testing was conducted on 24 October in Amahai, 26 October in Amahai and Haruku. The below figure shows an example of community resilience in Tegaldowo, Pekalongan.

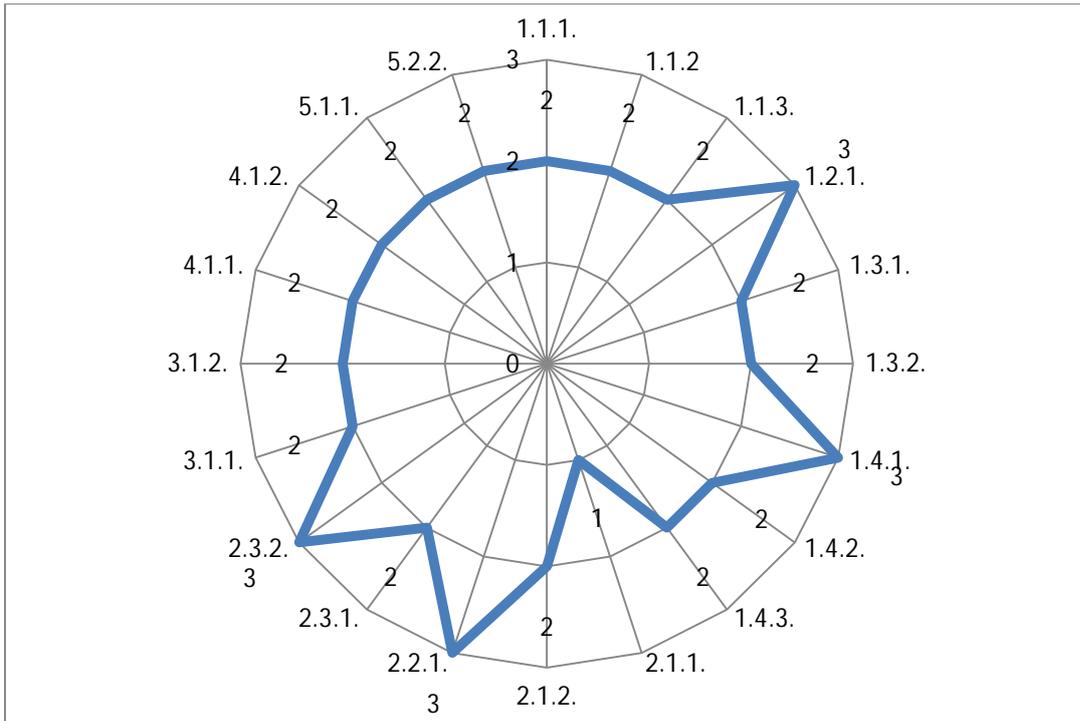


Figure 26. Example of community resilience measurement result from Tegaldowo, Pekalongan

There are three levels of progress or achievements for every variable. The level is ranged from 1 to 3. For example in the above figure for variable 1.2.1 is the Community action plan. This has ‘value 3’ which means that the sub-district already developed it, disseminated it to the subdistrict communities and local government, and it was included into the local government planning agenda. We can say that the community has participated in DRR CCA planning and policy development. Another example is variable 2.1.1. This is DRR CCA budget allocation from local government where it has ‘value 1’. This means that during the measurement, the local government did not allocate budget for specific DRR CCA activities. It makes the community more vulnerable since there is a lack of resources allocated by government to reduce disaster risk and climate change impact.

4. FINAL EVALUATION

The program evaluation was conducted in October and November 2015 focussing on the Phase 2 implementation. The final evaluation was conducted by a national consultant, Ms. Isma Novitasari Yusadiredja, who has strong experience on research and evaluation in development programs. She evaluated the functional aspect of program implementation as well the analysis of its achievements.

From the evaluation reported (Annex 9), the program succeeded in achieving all the outputs listed in the main objectives of the program. Despite the early delay, the program contributed to the improvement in the resilience of communities in the targeted areas. The formulation of LRAPs through a participatory approach was the highlight of the program at the community level. At the government level, the recognition and the inclusion of the DRR CCA in the government planning was also the main achievement of the program.

The evaluation confirmed that the project was highly relevant to the Indonesian context, specifically to the targeted areas. The overall project purpose, components and key interventions were in line with the national priority of integrating disaster risk reduction and climate change adaptation into the communities. Moreover, the capacity and disaster preparedness and response in both regencies were still weak, making the intervention of API Perubahan highly relevant under these circumstances. The program was also intended to respond to the lessons learned encountered during the first phase of the program.

The progra., despite delays in some project implementation, managed to cover all committed activities during the 18-month project period. Improved coordination and partnership at the local and national levels contributed to the achievement of key results. Strong collaboration with Badan Nasional Penanggulangan Bencana (BNPB) enabled the development of the training curriculum of DRR-CCA. At the local government level, the program contributed to the inclusion of the DRR CCA component into government's planning and the establishment of the Program Advisory Committee (PAC) also provided a significant contribution to the achievement of the program's goal. At the community level, SDWGs were shown how to play a major role in improving community awareness and their local capacities in addressing disaster risks and climate change were strengthened.

In terms of value for money, the program was remarkably efficient in converting inputs into results. The strong collaboration with stakeholders was the main contribution to the efficiency of the program in terms of the limited financial and time resources.

The program was successful in raising community awareness and resilience including the potential economic impacts through pilot projects implemented at the community level. It also brought together the targeted beneficiaries a willingness to work together in a group, thus improving collective action within communities. The program was clearly seen as the venue for sharing knowledge and increasing community participation. At the government level, the program contributed to the increased awareness of integrating DRR and CCA. The level of ownerships of the government was also improved significantly. Indirectly, the program increased government accountability.

There were several factors that contributed to the sustainability of the program: SDWGs and PAC have a great chance to sustain. High level of local government commitment and strong national

coordination were also prominent factors. During this phase, the partnership with the private sectors resulted in the higher chance of sustainability of community resilience that was built.

Overall, it was found that the program design matched the local needs and was trying to be efficiently and effectively implemented at the beneficiaries' level. It had a visible impact and a good/high chance of sustainability. One of the challenges encountered during the project was how to teach community members to disseminate the information and knowledge that they received to the rest of the community. In order to have a successful pilot project implementation, ideally, all communities should be aware of the activities or pilot projects in the area. However, given the nature and characteristics of some intervention areas, there needs to be more effort in order to improve the knowledge to all community members.

Recommendations

The excellent relationships and engagement with various stakeholders (national and provincial government, technical agencies, NGO, and private) that were built by API Perubahan should be maintained and strengthened by Mercy Corps Indonesia. Other DRR or CCA related projects under Mercy Corps Indonesia could incorporate their activities with engagement with these partners. In addition, SDWGs should clearly state their concrete action plans. Instruments and other knowledge management products should be better adapted to the local context. For the monitoring system, it is important to measure the program achievement by qualitative indicators.

See Annex 9 for the full evaluation report.

Performance Summary Matrix (Achievement Tracker)

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
OBJECTIVE											
Indicator 1.1: Multi-government level collaboration on CCA-DRR efforts are reflected in government development plan	Yes/No		NA	NA	NA	NA	NA	NA	YES	YES	
Indicator 2.1: # of targeted vulnerable communities reduce their vulnerability to hazard and climate change impact	5		NA	NA	NA	NA	NA	NA	5	5	
Indicator 3.1: # of CCA-DRR models documented	1		NA	NA	NA	NA	NA	NA	YES	YES	
Indicator 1.1.1: National government contribution for CCA-DRR implementation at local level exist	Yes/No		No	No	YES	YES	YES	YES	YES	YES	
Indicator 1.2.1: # of legal statement of the PAC established	2		0	1	0	0	0	1	0	2	
Indicator 1.2.2: % of activities implemented by PAC based on their work plan	70%		0%	54%	66%	17%	33%	46%	46%	46%	
Indicator 1.2.3: % of PAC members involved in implement the workplan	60%	M:	0%	0%	0%	0%	0%	65%	65%	59%	
		F:	0%	0%	0%	0%	0%	48%	48%		
		Total	0%	0%	0%	0%	0%	59%	59%		
Indicator 1.3.1: # of legal statement of the SDWG established	5		1	0	3	1	NA	NA	NA	5	
Indicator 1.3.2: % of activities implemented by SDWG according to their work plan	70%		NA	100%	52%	71%	62%	74%	61%	61%	
Indicator 1.3.3:	60%	M:	NA	100%	28%	0%	208%	25%	25%	46%	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
% of SDWG members involved in implement the workplan		F:	NA	100%	22%	0%	42%	21%	21%		
		Total	NA	100%	25%	0%	125%	46%	46%		
Indicator 1.4.1: # of regular meetings between PAC and SDWG conducted	13		0	0	6	0	1	4	2	13	
Indicator 1.4.2: # of joint activities between PAC and SDWG implemented	7		0	2	4	0	3	2	2	13	
Indicator 2.1.1: # of risk assessment training for PAC and SDWG implemented	4		0	5	4	0	0	0	0	9	
Indicator 2.1.2: # of LRAP training for PAC and SDWG implemented	4		0	0	2	3	0	0	0	5	
Indicator 2.1.3: # of CCA-DRR training conducted utilizing BNPB Module for PAC and SDWG	4		0	0	0	0	0	1	2	3	
Indicator 2.1.4: # of Desa Tangguh training for PAC and SDWG	4	-	0	0	0	0	0	-	-	-	-
Indicator 2.1.5: # of business entrepreneurship training for PAC and SDWG	4		0	0	0	0	0	0	4	4	
Indicator 2.1.6: Awareness campaign material for communities developed	Yes/No		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Indicator 2.1.7: # of community mapping document	5		0	0	0	0	5	0	0	5	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
Indicator 2.2.1: # of risk assessments conducted	6		0	0	3	3	0	0		6	
Indicator 2.2.2: # of community people involved in develop resilience action plan	53		0	0	20	40	0	0	0	60	
Indicator 2.2.3: CCA-DRR initiatives reflected in local government development plan	4		0	0	0	0	1	1	2	4	
Indicator 2.3.1: # of pilot projects implemented based on risk assessment and LRAP	5		0	0	0	0	5	5	5	5	
Indicator 2.3.2: Community people involved implementation of the pilot project	Yes/No		No	No	No	No	Yes	Yes	Yes	Yes	
Indicator 2.3.3: % contribution from local government or other parties to the pilot project funding	20%		0	0	0	0	0	0%	20%	20%	
Indicator 2.3.4: # of documentation of lessons learned of the pilot project implementation	4		0	0	0	0	0	0	3	3	
Indicator 3.1.1: CCA-DRR resiliency models developed and promoted	Yes/No		No	No	No	No	No	No	Yes	Yes	
Indicator 1.1.1.1: # of serial meeting with national government on the integration of CCA-DRR efforts	15		2	6	6	13	6	6	2	41	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
Indicator 1.2.1.1: # of stakeholder mapping document to identify potential advisory members exist	2		0	1	1	0	0	0	0	2	
Indicator 1.2.2.1:# of personnel from local government agencies and non-government organizations involve on the PAC	40	M:						6	29	46	
		F:						5	6		
		Total						11	35		
		M:						8	16	27	
		F:						2	1		
		Total	0	0	0	0	0	10	17		
Indicator 1.2.2.2: PAC implement activities in accordance to the work plan	Yes/No		No	YES	YES	NO	YES	YES	YES	YES	
Indicator 1.3.1.1: # of stakeholder mapping document to identify potential SDWG members exist	5		0	0	0	2	0	3	0	5	
Indicator 1.3.2.1: # of personnel from local government agencies and non-government organizations involve on the SDWG	75	M:	0	0	7	0	NA		0	8	
		F:	0	0	1	0	NA		0		
		Total	0	0	8	0	NA		0		
		M:	0	0	33	11	NA		0	64	
		F:	0	0	11	9	NA		0		
		Total	0	0	44	20	NA		0		
Indicator 1.3.2.2: SDWG implement activities in accordance to the work plan	Yes/No		NO	No	YES	YES	YES	YES	YES	YES	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
Indicator 1.4.1.1: # of serial meeting between PAC and SDWG	13		0	0	6	0	1	4	2	13	
Indicator 1.4.2.1: # of joint activities implemented between PAC and SDWG	7		0	2	4	0	3	2	2	13	
Indicator 2.1.1.1: # of communities who involve on the Risk Assessment training	25	M:	0	24	24	NA	NA	NA	NA	86	
		F:	0	17	21	NA	NA	NA	NA		
		Total	0	41	45	NA	NA	NA	NA		
Indicator 2.1.1.2: # of local government staff who involve on the Risk Assessment training	10	M:	0	3	40	NA	NA	NA	NA	53	
		F:	0	2	8	NA	NA	NA	NA		
		Total	0	5	48	NA	NA	NA	NA		
Indicator 2.1.2.1: # of communities involved on the LRAP training	50	M:			10	20	NA	NA	NA	53	
		F:			9	14	NA	NA	NA		
		Total	0	0	19	34	NA	NA	NA		
Indicator 2.1.2.2:# of local government staff who involve on the LRAP training	10	M:			1		NA	NA	NA	7	
		F:			0		NA	NA	NA		
		Total	0	0	1	6	NA	NA	NA		
Indicator 2.1.3.1: # of communities who involve on the BNPB module training	125	M:							39	71	
		F:							32		
		Total	0	0	0	0	0	0	71		
Indicator 2.1.3.2: # of local government staff who involve on the BNPB module training	80	M:					0	30	43	93	
		F:					0	4	16		

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
		Total	0	0	0	0	0	34	59		
Indicator 2.1.4.1: # of communities who involve on the Desa Tangguh training	125	M:	-	-	-	-	-	-	-	-	
		F:	-	-	-	-	-	-	-		
		Total	0	0	0	0	0	-	-		
Indicator 2.1.4.2: # of local government staff who involve on the Desa Tangguh training	80	M:	-	-	-	-	-	-	-	-	
		F:	-	-	-	-	-	-	-		
		Total	0	0	0	0	0	-	-		
Indicator 2.1.5.1: # of communities who involve on the business entrepreneurship training	75	M:							27	65	
		F:							38		
		Total	0	0	0	0	0	0	65		
Indicator 2.1.6.1: Awareness campaign material distributed	Yes/No		YES	YES	YES	YES	YES	YES	YES	YES	
Indicator 2.1.6.2: # of community people receive awareness campaign	69,967	M:	0	40	0	43	5		54,459	110,542	
		F:	0	23	0	11	1		52,967		
		Total	0	63	0	87	6	2,960	107,426		
Indicator 2.1.7.1: # of community involve on the community maps	75	M:	0	24	24	NA	NA	NA	NA	86	
		F:	0	17	21	NA	NA	NA	NA		
		Total	0	41	45	NA	NA	NA	NA		
Indicator 2.2.1.1: Communities involved on the risk assessment implementation	Yes/No		NO	NO	YES	YES	NA	NA	NA	YES	
Indicator 2.2.1.2: # of risk assessment document is developed	6		0	0	3	3	NA	NA	NA	6	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
Indicator 2.2.2.1: Risk assessment document is handed over to the local government by SDWGs	Yes/No		No	No	No	No	YES	YES	YES	YES	
Indicator 2.2.2.2: Risk assessment is influencing local government decision making	Yes/No		No	No	No	YES	YES	YES	YES	YES	
Indicator 2.2.3.1: Communities involved on LRAP development	50		No	No	12	40	NA	NA	NA	52	
Indicator 2.2.3.2: # of LRAP document is developed	4		0	0	0	4	NA	NA	NA	4	
Indicator 2.2.4.1: LRAP document is handed over to the local government by SDWGs	5		0	0	0	0	5	0	0	5	
Indicator 2.2.4.2: LRAP is influencing local government decision making	Yes/No		No	No	No	YES	YES	YES	YES	YES	
Indicator 2.3.1.1: Pilot projects refers to risk assessment, LRAP and local government plan	Yes/No		No	No	No	No	YES	YES	YES	YES	
Indicator 2.3.2.1: # of communities involve on the pilot project	5,283		0	0	0	0	239	6,723	8,449	8,449	
Indicator 2.3.2.2: % contribution from local government or other parties to the pilot project	20%		0	0	0	0	0	0%	20%	20%	
Indicator 2.3.3.1: Development of documentation strategy of the pilot project implementation by SDWG	Yes/No		No	No	No	No	No	No	YES	YES	

Description	Target		Q1-2014	Q2-2014	Q3-2014	Q4-2015	Q5-2015	Q6-2015	Q7-2015	Σ	Final Status
			Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Nov		
Indicator 2.3.3.2: # of reports of the pilot project implementation by SDWG	5		0	0	0	0	0	0	4	4	
Indicator 3.1.1.1: # of Document of small island community resilience models developed	1		0	0	0	0	0	0	1	1	
Indicator 3.1.2.1: Document of small island community resilience models distributed to the government and non-government	Yes/No		No	No	No	No	No	No	Yes	Yes	
Indicator 3.1.3.1: # of meetings to distribute impacts, best practices and lessons learned	2		0	0	0	0	0	1	1	2	
Indicator 3.1.4.1: National and local government acknowledge piloting area	Yes/No		No	No	No	No	YES	YES	YES	YES	

LESSONS LEARNED

Lesson 1 - Where project progress is dependent on earlier milestones, ensure that the progress of these milestones is assessed in advance and regularly. If there is a delay at any stage, develop an alternative strategy for achieving milestones to ensure overall project progress is not delayed. Alternative strategies may even be considered in the design phase of the project.

API Perubahan projects activities typically involved significant participation from stakeholders for the completion of specific milestones. However, in a number of cases, lack of control over these activities, and poor enforcement of timelines resulted in significant project delays.

One example is related to risk assessment at kabupaten level in Maluku Tengah. The Pattimura University (UNPATTI), by procurement process, was selected and hired to develop the climate-risk integrated assessment. However, due to a range of organizational challenges, UNPATTI did not meet the deadline to development the risk assessment. They were given extra time, but after no product, the contract with them was terminated. This led to significant delays in delivering a range of outputs. Mercy Corps decided to hire individual consultants to continue the risk assessment development.

Lesson 2 - When engaging communities in grassroots projects, ensure that the project team effectively articulates the substantial benefits –instead of the project itself for communities, and is able to work flexibly, adapting to diverse community needs.

Many communities participating in API Perubahan projects were remote and rural communities, with high levels of poverty among rural people and limited local actors. This created a number of challenges related to optimizing community engagement via attending project meetings or participating in other activities.

For example, when working with farmers and rural communities, attending a meeting or engaging in project activities required beneficiaries to leave the farm, and sacrifice money or productivity. Particularly in Pekalongan, most community members could only participate after 19.00. This creates a barrier for engaging farming communities in projects, and therefore flexibility of the project staff to adapt to diverse community needs is a must.

Lesson 3: Community and outsiders (program team) may have a different view on the high risks and must prioritize actions to respond to them

While API Perubahan's original scope was working on problems mainly affected by climate change, the communities did not differentiate the difference between climate change and some environmental pressure as causes of the problems. The community expected support from the program disregarding the main cause of the problem. For example, in Pekalongan, the community is facing waste and pollution from the textile industry as well as land subsidence due to climate change-induced flood and high tide. Meanwhile in Maluku Tengah, tsunamis are seen to be main risk for these small island communities. API Perubahan supported the community to anticipate these addressed risk.

GLOBAL HEADQUARTERS

Mercy Corps
45 SW Ankeny Street
Portland, OR 97204
800.292.3355
www.mercycorps.org

COUNTRY OFFICE

Mercy Corps
Graha STK Building F Floor
Jl. Taman Margasatwa No.3 Jakarta
Selatan
+62 (21) 78844846
www.indonesia.mercycorps.org