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ASSESSING CLIMATE CHANGE ADAPTATION IN INDONESIA

A REVIEW OF CLIMATE VULNERABILITY ASSESSMENTS
CONDUCTED BY USAID/INDONESIA PARTNERS (2010-2013)



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COVER PHOTOS

Credit: Milen Vollen, USAID/Jakarta

Caption: Stormy weather during the assessment team's visit to Aceh Jaya Regency illustrates the climate-related vulnerabilities that Indonesia is confronting.

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ACRONYMS

ACTED	Agency for Technical Cooperation and Development
ADRC	Asian Disaster Reduction Center
ARC	American Red Cross
ASEAN	Association of Southeast Asian Nations
Bakornas PBP	Coordinating Agency for Natural Disaster and Refugees Relief (<i>Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi</i>)
Bappeda	Regional Body for Planning and Development (<i>Badan Perencanaan Pembangunan Daerah</i>)
Bappenas	Ministry of National Development Planning (<i>Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional</i>)
BMKG	Meteorological, Climatology and Geophysical Agency (<i>Badan Meteorologi, Klimatologi dan Geofisika</i>)
BP2BAP	National Board for Disaster Management (<i>Badan Pertimbangan Penanggulangan Bencana Alam Pusat</i>)
BPBD	Regional Disaster Management Agency (<i>Badan Penanggulangan Bencana Daerah</i>)
BPM	Agency for Village Empowerment (<i>Badan Pemberdayaan Masyarakat</i>)
BPPT	Agency for Assessment and Application of Technology (<i>Badan Pengkajian dan Penerapan Teknologi</i>)
CADRE	Climate Adaptation and Disaster Risks
CAP	Community Action Plan
CBDRM	Community-Based Disaster Risk Management
CBO	Community-Based Organization
CCA	Climate Change Adaptation
CDCS	Country Development Cooperation Strategy
CRDF	Climate-Resilient Development Framework
DAI	Development Alternatives Incorporated
DfID	United Kingdom's Department for International Development
DIBI	Indonesia Disaster Information and Data (<i>Data dan Informasi Bencana Indonesia</i>)
DKP	Department of Marine Affairs and Fisheries (<i>Departemen Kelautan dan Perikanan</i>)
DNPI	National Counsel on Climate Change (<i>Dewan Nasional Perubahan Iklim</i>)
dTS	Development and Training Services, Inc.
DRR	Disaster Risk Reduction
E3	Bureau for Economic Growth, Education, and Environment
EMDAT-CRED	Emergency Events Database - Centre for Research on the Epidemiology of Disasters
FFS	Farmer FIELD School
FIELD	Farmer Initiatives for Ecological Literacy and Democracy
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic Information Systems
GOI	Government of Indonesia
HFA	Hyogo Framework for Action
HVCA	Hazards, Vulnerability and Capacity Assessment
ICCTF	Indonesia climate Change Trust Fund
ICCSR	Indonesia Climate Change Sectoral Roadmap
IFACS	Indonesia Forest and Climate Support
IMACS	Indonesia Marine and Climate Support
IPCC	Intergovernmental Panel on Climate Change
IRR	Inter-Rater Reliability

IUWASH	Indonesia Urban Water Sanitation and Hygiene
KKP	Ministry of Marine Affairs and Fisheries (<i>Kementerian Kelautan dan Perikanan</i>)
KRPL	Regional Sustainable Food Houses (<i>Kawasan Rumah Pangan Lestari</i>)
LG	Local Government
MC	Mercy Corps
MoE	Ministry of Environment (<i>Kementerian Lingkungan Hidup</i>)
MSI	Management Systems International, Inc.
NASA	National Aeronautics and Space Administration
NGO	Non-Governmental Organization
NTB	West Nusa Tenggara (<i>Nusa Tenggara Barat</i>)
PCI	Project Concern International
PCVA	Participatory Capacity and Vulnerability Assessment (PCVA)
P3MTBPI	Union of Farmer Facilitators of Disaster Resilience and Climate Change (<i>Persatuan Petani Pemandu dan Masyarakat Tangguh Bencana dan Perubahan Iklim</i>)
PDAM	Regional Water Utility (<i>Perusahaan Daerah Air Minum</i>)
PLA	Participatory Learning and Action
PU	Public Works Infrastructure (<i>Pekerjaan Umum</i>)
RAN-PI	National Action Plan on Climate Change (<i>Rencana Aksi Nasional Perubahan Iklim</i>)
RAN-API	National Action Plan for Climate Change Adaptation (<i>Rencana Aksi Nasional Adaptasi Perubahan Iklim</i>)
RAN PRB	National Action Plan for Disaster Risk Reduction (<i>Rencana Aksi Nasional Pengurangan Resiko Bencana</i>)
RAPI	Climate Change Action Plan (<i>Rencana Aksi Perubahan Iklim</i>)
RKPD	Regional Work Plan (<i>Rencana Kerja Perangkat Daerah</i>)
RPJMD	Regional Long-Term Development Plan (<i>Rencana Pembangunan Jangka Menengah Daerah</i>)
RPJMDes	Village Long-Term Development Plan (<i>Rencana Pembangunan Jangka Menengah Desa</i>)
RPJMN	National Medium-Term Development Plan (<i>Rencana Pembangunan Jangka Menengah Nasional</i>)
RPPLH	Environmental Protection and Management Plan (<i>Rencana Perlindungan dan Pengelolaan Lingkungan Hidup</i>)
Satkorlak PBA	Coordinating Unit for Disaster Mitigation (<i>Satuan Koordinasi Pelaksana Penanggulangan Bencana Alam</i>)
SERVIR	Regional Visualization and Monitoring System
SKPD	Regional Working Unit (<i>Satuan Kerja Perangkat Daerah</i>)
SLA	Sustainable Livelihoods Assets
SOW	Scope of Work
SREX	Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation
Sultra	Southeast Sulawesi (<i>Sulawesi Tenggara</i>)
TKP2BA	National Coordination Team for Disaster Management (<i>Tim Koordinasi Nasional Penanggulangan Bencana Alam</i>)
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations Office for Disaster Risk Reduction
USAID	United States Agency for International Development
VA	Vulnerability Assessment
WCDR	World Conference on Disaster Reduction

FIGURE I: VA PROCESSES REVIEWED ACROSS ALL SECTORS



EXECUTIVE SUMMARY

Purpose and Research Questions

This report presents findings from a review of USAID/Indonesia-funded Vulnerability Assessments (VAs), which were designed to inform adaptation activities in USAID's main environment sectorial programs (marine, forestry, water/sanitation, and disaster risk reduction [DRR]) between 2010 and 2013. The review was carried out by the E3 Analytics and Evaluation Project, which is implemented by Management Systems International (MSI) in partnership with Development & Training Services, Inc. (dTS).

The Scope of Work (SOW) developed by USAID/Indonesia for this assessment (see Annex A) outlined two main objectives:

1. Identifying what enabled certain VA processes to lead to local investments in climate risk management; and
2. To identify key lessons learned, best practices, and opportunities in assessing vulnerability for future USAID/Indonesia projects.

As outlined in the SOW, USAID/Indonesia is particularly interested in answering the following questions about its current round of programming:

1. **Methods:** How have the various approaches to VAs been similar or different across the projects? How have the various approaches linked disaster risk reduction (DRR) and climate change adaptation (CCA)? How have the VAs used climate data and information? What methods led to greatest local ownership and understanding?
2. **Uptake:** Where have existing VAs stimulated changes or the mainstreaming of climate & disaster risk management at the local level (as evidenced by influencing local budgets/regulations, local governments incorporating VAs into their planning processes and/or conducting them, etc.)? What are the characteristics of the approaches (facilitation methods, language, terminology, inclusive approaches, etc.) that have led to that success? In places where the assessments have not influenced decision-making/risk reduction investments at the local level, what were the barriers that prevented that from happening? Do the findings about methods and uptake suggest a generalizable but flexible framework for effective VAs?
3. **Lessons and Opportunities:** What are the lessons learned, success factors, and opportunities, that should be considered in the next round of USAID programming for CCA?

It should also be emphasized that this is not an evaluation of the reviewed projects, as defined by USAID's Evaluation Policy. Instead, the emphasis in this review is on one particular aspect of the projects: USAID-supported community-level processes for assessing climate change vulnerabilities and fostering adaptive practices, focusing on synthesis and comparison across projects.

The four main projects for which USAID conducts VAs and that were included in this review are:

- Forestry: Indonesia Forest And Climate Support (IFACS)
- Marine: Indonesia Marine and Climate Support (IMACS)
- Water Sanitation and Hygiene (WASH): Indonesia Urban Water Sanitation and Hygiene (IUWASH)
- Disaster Risk Reduction: Climate Adaptation and Disaster Resilience (CADRE)

The review also examined stand-alone disaster risk reduction grants administered by American Red Cross (ARC).

Assessment Methodology

USAID adaptation activity, and thus the number of VAs conducted, varied across the four sectors. Ninety village-level VAs and 3 provincial workshops were conducted in the forestry sector, 100 village-level VAs were conducted in the marine sector, 17 village-level VAs were conducted in the water and sanitation sector, and 171 village-level VAs were conducted in the disaster and risk reduction sector. Of these 381 separate processes, the assessment team examined documentation for 66 community-level VAs and corresponding community action plans (CAPs) where applicable. The team then visited 26 sites across the four sectors.

The assessment, conducted from May to August 2014, was structured in three phases: (1) desk review of selected VAs; (2) field visits to selected VA sites; and (3) analysis and report writing. Throughout these three phases, the assessment team employed a mixed-methods approach to assess how implementing partners conducted VAs, whether and to what extent USAID-funded VAs and CAPs led to increased investments in climate risk management at respective levels of government, and what practices might constitute ‘best practices’ for conducting VAs.

Much of the quantitative analysis for the assessment examined how VA characteristics correlate with investment outcomes in climate risk management. This quantitative analysis provided context for the more qualitative components of the review.

The review encountered what could be considered predictable limitations that may have modestly distorted the findings of the study. However, the assessment teams believe that none of these factors, either singly or collectively, would have yielded materially different findings and conclusions. Three in particular merit mention. First, the assessment is based on a sample of the total number of VA processes that took place. In total, the assessment team is aware of 381 total VA processes carried out; documentation was received from USAID for 102. The assessment examined documentation for a sample of 66 VA processes for the desk review, and conducted site visits in 26 out of the 66 VA/CAP locations (39%). Second, although during site selection for field visits the team was careful to represent as broad a geographic sample as possible across the four sectors, visits to certain geographic regions were not feasible. Finally, VAs in certain sectors, such as forestry, were completed some time ago, meaning not all VA participants were available to interview.

Findings, Conclusions and Recommendations

Findings on Approach

In addition to the sectorial foci, the VA processes in each sector can be distinguished by their respective approaches, intensity of implementation, and use of technology:

- The marine-sector VAs were conducted over a short period (1-2 days) but across a large number of sites. This has been termed an extensive programming approach. In contrast, in the disaster resilience, forestry, and water and sanitation sectors, the VAs employed a less prolific, but more “intensive”, implementation approach with the VA generally taking place over months rather than weeks and consisting of dozens of meetings.
- Projects can be divided into those that used a village-level participatory process (IMACS, CADRE [FIELD, PCI], ARC), and processes that used multi-stakeholder forums typically involving

representatives from varying levels of local government and other stakeholders (IFACS, CADRE [Mercy Corps], IUWASH). The participatory VA process is also distinguished by its use of highly participant-intensive tools, which are helpful for building community understanding of CCA and DRR. Multi-stakeholder forums, on the other hand, were more likely to use Geographic Information Systems (GIS) or expert knowledge of various aspects of climate change or disaster risk to facilitate the VA process.

- Of the 66 VA processes examined during the desk review phase of this assessment, 79% were judged to have linked DRR and CCA.
- Out of 66 VA processes examined, the assessment team observed that 25 (38%) utilized some type of statistical data, though in fewer than 10 cases was the use of scenario-based or downscaled data¹ observed in VA document sets.

Findings on Uptake Results

Throughout the study the term uptake is used to describe actions by government or host communities that can be ascribed to the VA and/or CAP process. The review identified two primary ways in which uptake of VAs occurred:

1. VAs stimulated local government action in CCA or DRR at the local level through budgetary allocation, planning, or regulatory changes.
2. VAs stimulated community action, either by local community-based organizations (CBOs) or by new community actors or networks aiming to address local issues of CCA and/or DRR.

In 9 of the 26 sites (34%), the fieldwork revealed that VA processes had stimulated uptake in terms of changes in the local government's CCA or DRR efforts. Of these 8 VA processes, 6 had led to changes in local government investment or resource allocation, and two had affected local government regulations. Of the nine cases of uptake, Mercy Corps (CADRE) generated three, PCI (CADRE) generated two, FIELD (CADRE) generated one, IUWASH generated two, and IFACs generated one. A total of 17 VA processes (65%) had also stimulated non-local government changes.

Conclusions

The assessment team concluded that the most significant factor associated with success in a VA process is intensity of engagement. This includes how much time projects spent in communities, how many meetings were held, and the duration of the process. Data collected from the field work suggests that where an implementing organization engaged in a prolonged process, the bulk of the time was not spent conducting the VA, but rather in post-VA facilitation operationalizing the CAP, and helping to drive a community CCA and DRR agenda. The term 'intermediation' has been used to describe this post CAP work by implementing partner organizations.

Aside from intensity of engagement, the review reached the following conclusions regarding which project characteristics were associated with uptake:

- The scheduling of the VA process and the reporting of VA findings, vis-à-vis local government planning and budgetary cycles, is important. Processes that failed to align with these cycles tended to generate less uptake. Stakeholder forums that operate on multiple governance levels seem to have had more success in coalescing local government decision makers to engage on local climate risk management agendas that have arisen out of a VA process. Village-level pilots of VA and CAP

¹ The National Center for Atmospheric Research (NCAR) defines downscaling as a procedure that uses information known at large scales to make local predictions. For more information on dynamical and statistical downscaling of global climate model outputs, see NCAR explanation at <https://gisclimatechange.ucar.edu/question/63>

suggested activities can demonstrate to local governments the benefits and practicality of activities. Findings suggest that CCA and DRR pilot projects can mobilize local government funding, encourage scaling up of activities, and stimulate adoption of CCA and DRR practices among local populations.

- Projects that actively foster post-CAP activities tend to experience greater uptake. The sectors with the most uptake had implementing organizations that served as an intermediary: organizing forums, and providing technical support and expertise during an implementation phase after the VA or CAP process was completed. This increased the chance of VA or CAP activity being implemented.
- Involving women may lead to better adoption of knowledge provided by the VA/CAP. In a number of cases, women have been the early adopters of the VA/CAP, as well as proactive organizers of community-led projects to improved CCA and DRR.
- Local understanding of self-interest and self-efficacy leads to greater uptake. Projects experience greater success when they nurture local capacity and build local networks that become early adopters of CCA and DRR activities.
- Educational institutions can be particularly effective institutions for building district-level capacity and assisting in facilitating local CCA and DRR agendas derived from VA and CAP processes.
- GIS data and related downscaling techniques are effective means for communicating climate vulnerability to decision makers.

Recommendations

For USAID/Indonesia and its implementing partners, this review recommends:

- Taking into account post-CAP facilitation of uptake, adoption, and agenda implementation should be regarded as a separate set of tasks and requires clear articulation of a project's Theory of Change, work plan, and the level of government with which the VA aims to interact.
- Including local government planning cycles when designing program work plans. VA reports and CAPs should be completed to be included in relevant local government planning and budgetary processes.
- Piloting CCA and DRR activities through local organizations. Pilot activities can effectively demonstrate success and stimulate government uptake and community behavior change.
- Considering the inclusion of multi stakeholder forums at the level above villages to facilitate uptake by local government agencies.
- Ensuring that projects use and foster local networks and organizations in the implementation of CCA and DRR agendas to encourage sustainability. This has ramifications for capacity building of local organizations.
- Ensuring availability of human, financial, and data resources for effective VA processes.
- Fostering learning and educational organizations in VA host communities to play a role in updating climate vulnerability and disaster risk information.

ASSESSMENT PURPOSE AND QUESTIONS

Purpose

This report synthesizes the findings from an assessment of USAID/Indonesia-funded Vulnerability Assessments (VAs) for adaptation activities through its main sectorial programs (marine, forestry, water/sanitation, and disaster risk reduction (DRR) since 2010. A key element of those programs to date has been community-level VAs and related training. The assessment was carried out by the E3 Analytics and Evaluation Project, which is implemented by Management Systems International (MSI) in partnership with Development & Training Services, Inc. (dTS).

The Scope of Work (SOW) developed by USAID/Indonesia for this assessment (see Annex A) outlines two main objectives:

3. To identify what enabled certain VA processes to lead to local investments in climate risk management; and
4. To identify key lessons learned, best practices, and opportunities in assessing vulnerability for future USAID/Indonesia projects.

Key Questions

As outlined in the SOW, USAID/Indonesia is particularly interested in learning – through this assessment – the following from its current round of programming:

1. **Methods:** How have the various approaches to VAs been similar or different across the projects? How have the various approaches linked disaster risk reduction (DRR) and climate change adaptation (CCA)? How have the VAs used climate data and information? What methods led to greatest local ownership and understanding?
2. **Uptake:** Where have existing VAs stimulated changes or the mainstreaming of climate & disaster risk management at the local level (as evidenced by influencing local budgets/regulations, local governments incorporating VAs into their planning processes and/or conducting them, etc.)? What are the characteristics of the approaches (facilitation methods, language, terminology, inclusive approaches, etc.) that have led to that success? In places where the assessments have not influenced decision-making/risk reduction investments at the local level, what were the barriers that prevented that from happening? Do the findings about methods and uptake suggest a generalizable but flexible framework for effective VAs?
3. **Lessons and Opportunities:** What are the lessons learned, success factors, and opportunities, that should be considered in the next round of USAID programming for CCA?

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PROJECT BACKGROUND

Climate Change and Non-Climate Stressors in Indonesia

The Republic of Indonesia consists of more than 17,000 islands and 81,000km of coastline. Home to a broad range of ecosystems and biodiversity, the country is also highly susceptible to geological and hydro-meteorological natural hazards, including earthquakes, volcanic activity, tsunamis, floods, droughts, storms, landslides, wildfires, and other climate-related hazards. Climate change is further escalating the country's vulnerability to climatic disasters. With around 40 percent of its population estimated to be at risk, the World Bank has ranked Indonesia as number 12 (on a list of 35) of countries with high mortality vulnerability from such hazards.² Mean wet-season rainfall is expected to increase across most of Indonesia, while at the same time the length of the dry season is projected to extend. Hence, the risks of flooding during the rainy season as well as drought during the dry season are both expected to increase. Impacts related to these changes are likely to predominately occur in the sectors of agriculture, forestry, water resources, marine and fisheries, health, and infrastructure.³

DRR and CCA Policy in Indonesia

The Indonesian government has issued a number of legal documents concerning DRR. The most important of these documents is Law Number 24 Concerning Disaster Management (GoI, 2007). This law recognizes the need to increase hazard awareness and to develop a more systematic and integrated approach to DRR. Other key guiding documents for DRR in Indonesia include the first *National Action Plan for Disaster Risk Reduction* published in 2006 (BNPB, 2006), the *National Guidelines for Disaster Management 2010-2014*, and the *National Action Plan for Disaster Risk Reduction 2010-2012*. The National Disaster Management Agency (BNPB) acts as the lead agency for DRR coordination. The establishment of BNPB, and its local counterparts—Regional Disaster Management Agency (*Badan Penanggulangan Bencana Daerah*) (BPBD) – have been important recent steps to enhance coordination amongst DRR stakeholders.

CCA activities to date primarily focus on the planning and formulation of key strategic documents. The 2007 National Action Plan for Climate Change (RAN-API) aims to create development systems that are resilient to climate change and climate variability, and to implement more sustainable development that decreases the rate of environmental destruction (MoE, 2007). This action plan outlines Indonesia's strategies on mitigation and adaptation. The Ministry of National Development Planning (Kementerian Perencanaan Pembangunan Nasional/*Badan Perencanaan Pembangunan Nasional*) (Bappenas) outlines in its report "National Development Planning: Indonesia Responses to Climate Change" (Indrawati, 2009) the possible impacts of climate change on Indonesia, sectorial targets for climate change activities, and possible funding mechanisms. Annex H to this report outlines how ministry-level responsibilities interact with planning and adaptation at the community level, particularly through the country's annual Musrenbang planning process in which villages as well as all other levels of government participate.

² For an overview of the hazards faced by Indonesia, see the World Bank's Climate Change Knowledge Portal: http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCCode=IDN&ThisTab=Dashboard

³ Salim, W., Santoso, D., Suroso, A., Fitriyanto, M.S., & Bisri, M. B. F. 2012, *Guidelines for Climate Change Risk and Adaptation Assessment and for Mainstreaming into Policy*, Ministry of Environment, Jakarta.

USAID Climate-Resilient Development: A Framework

Vulnerability Assessments are covered by USAID's "Climate-Resilient Development: A Framework for Understanding and Addressing Climate Change"⁴ (USAID-CRDF). This framework, included in Annex I, was introduced to foster adaptive action through "systematic inclusion of climate considerations in development decision-making" and is designed to "support the development process by assisting development practitioners in identifying, evaluating, selecting, implementing, and adjusting actions to reduce climate vulnerabilities and improve development outcomes" (p. xii).

Vulnerability assessments are a critical component of mainstreaming climate change adaptation into development programming. Both USAID's experience and best practice from around the world have demonstrated that assessing vulnerability to climate change constitutes a necessary first step in integrating climate change adaptation into development.⁵ Thus vulnerability assessments form a core aspect of USAID adaptation programming, and understanding how different partners in Indonesia approach VAs across a variety of sectors will be beneficial to USAID, Indonesian stakeholders, and the broader development community.

USAID/Indonesia's CCA and DRR Portfolio

USAID/Indonesia has been funding climate change adaptation (CCA) activities through projects in its marine, forestry, water/sanitation, and disaster risk reduction (DRR) and CCA programs since 2010. These projects are supplemented by a number of small standalone grant activities. Through these projects and grants, USAID has introduced community-level VAs and action plans to guide technical assistance in Indonesian communities. The four main sectors through which USAID undertakes VAs are:

Forestry: Indonesia Forest and Climate Support (IFACS)

The IFACS project was implemented by Tetra Tech. It provided support for participatory community livelihood resilience assessments and follow-up community-based disaster risk management (CBDRM) capacity-building activities in the forestry sector. This included supporting some of the work of the Farmer Initiatives for Ecological Literacy and Democracy (FIELD) Alliance's work in Indonesia, which also received support from CADRE. This assessment reviewed IFACS workshops for Aceh (Aceh Selatan, Aceh Tenggara, and Gayo Lues); Papua (Sarmi, Mamberamo Raya, Mimika, and Asmat) and West Kalimantan (Ketapang and Kayong Utara). The project budget was \$40,000,000, and the period of performance runs from November 5, 2010 to September 30, 2014.

Marine: Indonesia Marine and Climate Support (IMACS)

The IMACS project was implemented by Chemonics International. It supported participatory community livelihood resilience assessments and action plans in the marine sector. IMACS aimed to improve coastal communities' responses to disasters and to address long-term impacts created by climate change. IMACS conducted VAs in 100 sites in the provinces of South East Sulawesi (SULTRA) and West Nusa Tenggara (NTB). The project budget was \$17,690,551, and the period of performance ran from December 17, 2010 to September 30, 2014.

⁴ See http://pdf.usaid.gov/pdf_docs/PBAAA245.pdf

⁵ Including, for example, USAID, 2009 "Adapting to Coastal Climate Change" and USAID, 2014 "Climate Resilient Development." For a non-USAID perspective, see for example OECD 2009 "Integrating Climate Change Into development"

Water Supply and Sanitation: Indonesia Urban Water Sanitation and Hygiene (IUWASH)

The IUWASH project is implemented by Development Alternatives Incorporated (DAI). This project pilots the IUWASH Climate Change Vulnerability Assessment and Adaptation Planning Framework as a platform for systematically engaging counterpart Indonesian water utilities on climate risk reduction in Pematang Siantar (North Sumatra) and Mojokerto (East Java). The IUWASH team conducts VAs of raw water sources for selected water utilities, shares the results with local governments and utility managers, and assists these stakeholders in the development of action plans to address areas of concern. The project budget is \$33,701,777, and is scheduled to run from March 4, 2011 to March 3, 2016.

Disaster Risk Reduction: Climate Adaptation and Disaster Resilience (CADRE)

The CADRE project was implemented by a group of USAID partners that includes Mercy Corps, World Neighbors, Project Concern International (PCI), Lutheran World Relief, and the FIELD School in Indonesia. These USAID partners provided support for participatory community livelihood resilience assessments, action plans, and follow-up CBDRM capacity-building activities. Project budgets and dates for each implementer are listed in Annex F, which provides more detailed descriptions of each of these projects as well as a stand-alone grant to the American Red Cross (ARC), which conducted several of the VAs reviewed in the course of this assessment.



Field visit to site of West Sumatra VA undertaken by Mercy Corps. Photo credit: Dadang Setiawan, dTS

ASSESSMENT METHODS AND LIMITATIONS

The VAs that USAID supported through the projects and grants described in the previous section were assessed using a mixed-methods approach that combined qualitative and quantitative evidence. Data for this review was gathered in a study of 66 community-level VAs from the IMACS, IFACS, IUWASH, and CADRE projects, and from 26 site visits to selected locations where VAs had been conducted. The review explored how these projects conducted VAs, identified common success factors or ‘best practices’ for generating uptake, and examined if and how USAID-funded VAs and Community Action Plans (CAPs) increased investments in climate risk management at the administrative levels at which VAs were conducted.

The core Indonesian study team for this review included Principal Investigator Dr. Jonatan Lassa (MSI), DRR/CCA Expert Dr. Riyanti Djalante (dTS) and Field Manager Skye Turner-Walker (dTS). Local research support was provided by Djonni Ferdiwijaya, Efraim Sitinjak, Dadang Setiawan, and Yulius Suni (MSI). Home office support was provided by Task Order Manager and report editor Joseph Schumacher (MSI) and Activity Coordinator Jared Berenter (dTS). Additional writing and research support was provided by Masha Keller (dTS), and maps were prepared by Ryan Thomas (MSI).

The study generated findings and develops conclusions and recommendations based on a qualitative narrative supported by quantitative measures where feasible. Much of the quantitative analysis examines how characteristics corresponding to VA types correlate with development outcomes of investment in climate risk management. The quantitative analysis provides contextual and content analysis in support

of the qualitative research.

The review was conducted in three phases:

Phase I consisted of a desk review of VA documents provided by USAID/Indonesia from each of the sectors. This provided the opportunity for distinct models to emerge, and for commonalities and differences between the VAs studied to be systematically identified. This phase included content analysis of narrative responses to the VA documents for the 66 VA processes reviewed and a quantitative analysis, using SPSS, of closed-ended questions to produce frequency distributions and cross tabulations to examine associations between factors.

Phase II consisted of site visits to 26 locations corresponding to VA processes reviewed during Phase I. The field work activities included meetings with key stakeholders and offered an opportunity for the assessment team to gain an invaluable understanding of different forms of VA processes and how they were implemented. Each site visit produced a report that focused primarily on the assessment's uptake questions about tangible changes the VA processes produced in communities.

Phase III consisted of data analysis, synthesis, and the preparation and finalization of the final report and debriefing to USAID. During Phase III, analyses were undertaken to examine and describe the interaction between VA design, implementation, and development outcomes. Throughout the study the term uptake is used to describe the development outcome of actions by government or host communities that can be ascribed to the VA and/or CAP process. The uptake data gathered during the field work allowed both qualitative and quantitative analyses to be undertaken and integrated into a synthesis that reflects the process and categorical information derived from Phase I and community feedback obtained during Phase II. Here again, both quantitative analysis of desk review findings using SPSS and qualitative analysis of field interview content were used to examine the commonalities and differences across the data set, and allow for contextual inferences in support of the assessment team's document analysis.

Table I summarizes the review's coverage of VAs. The numbers in parentheses in Column 1 reflect the universe of VA processes understood by the assessment team to have been carried out to date under these projects. Columns 2, 3, and 4 indicate the number of VA processes for which documents were provided to the assessment team by USAID, the number of VA processes that the assessment team included in the Phase I desk review, and the number of corresponding sites visited during field work, respectively. There are two elements to this table that warrant further explanation.

TABLE 1: BREAKDOWN OF VAS IDENTIFIED, REVIEWED, AND VISITED

USAID/Indonesia Projects that Foster Climate Adaptation Programming	Vulnerability Assessments (VAs)			
	Number of Sites Where VAs Were Conducted	VAs Processes for Which Documents Were Provided	Desk Reviews of VA Documents	Fieldwork Sites
IMACS - Indonesia Marine and Climate Support	100	75	40	14
IFACS - Indonesia Forest and Climate Support (Workshops)*	3	3	3	2
FIELD-IFACS	90	0	0	0
IUWASH - Indonesia Urban Water, Hygiene and Sanitation	17	2***	2	2
CADRE - Climate Adaptation and Disaster Resilience	166****	17*****	16	6
American Red Cross (disaster risk reduction)	5	5	5	2
Total	381	102	66	26

* With USAID's agreement, a stratified random sample of IMACS VAs was drawn to represent the large number of VAs that project had undertaken.
 ** Ninety IFACS VAs were conducted by FIELD. The assessment team did not receive VA document sets for these 90 processes at the start of the assessment, and was otherwise unaware of them during Phase I.
 *** Of the two IUWASH processes reviewed, one was implemented by Development Alternatives, Inc. (DAI) and one by Gealexco.
 **** Of the 168 CADRE VA processes, 30 were implemented by Project Concern International (PCI), 8 by Mercy Corps, 26 by FIELD, 78 by World Neighbors, and 16 by Lutheran World Relief (LWR).
 ***** The assessment team reviewed 10 VA processes implemented by PCI, 5 VA processes implemented by Mercy Corps, and one set of documents summarizing CADRE activities undertaken by FIELD.

Annex E presents a comprehensive description of the research methodology, including explanations of the assessment approach, sampling, data collection, and data analysis plans.

Study Limitations

This review recognizes that certain constraints inherent to the study may have modestly distorted the study's findings. The assessment team does not, however, believe that any these factors, either singly or collectively, would have yielded materially different findings and conclusions.

The most significant limitation was missing data. Many VA processes were not reported on. For example, a large number of IFACS FIELD sites (90 in total) were not included in the review because no documentation was received by the assessment team.⁶ Where documentation was available, it varied widely in structure and content across (and sometimes within) sectors. A second limitation is that the study is based on a sample taken from a larger number of VA processes. Table 1 shows that there were 381 total VA processes carried out. The assessment team received documentation for 102 of those processes (the most significant gap is the Rencana Aksi Perubahan Iklim (RAPI) subcontract under IFACS, encompassing 90 VAs, for which there was no documentation provided to the assessment team).

The Phase I desk review sampled 66 of the available 102 VA processes. This sampling approach was primarily done to account for the large number of IMACS VAs relative to the number carried out for the other projects (the assessment sampling plan is provided in Annex E). Time constraints allowed for visits to 26 of the 66 locations where VA/CAP processes (39%) took place. As would be expected with any sampling plan, it is possible that some important experiences were not captured.

The VA processes conducted in the marine sector under the IMACS grant posed a unique challenge because documentation was available for a far greater number of sites than that available in the other sectors. Choosing too small a sample risked failing to represent the full scope of IMACS activity; too large a sample risked allowing findings from IMACS cases to outweigh findings from the other sectors. In the end, 40 cases were selected randomly for the desk review. 14 of the 40 were selected for site visits. Although IMACS partner staff, in conversations with the assessment team, stated that none of the unvisited sites had uptake from local governments, these data were treated as unconfirmed and were not included in the review.

During the Phase III analysis, inconsistencies were found between the Phase I desk review data and the Phase II field visit data. These discrepancies were largely attributable to weak reporting and gaps in the VA documentation sets that the team received at that start of the assessment. In some instances, differences between desk review and site visit findings were sufficiently important to compel the assessment team to choose between them when preparing this report. In all instances, this assessment relies more heavily on site visit data than on desk review findings, where the two do not converge.

A final limitation was that some project activities, such as the IFACS workshops, were completed by 2011. This made tracking down participants difficult, and the material gathered less informative. Community leaders interviewed during the field work were not always the same individuals who had participated in the VAs, and thus may not have accurately described those processes.

ASSESSMENT FINDINGS

The findings section of this report is organized according to USAID's assessment questions in the SOW. The first subsection focuses on methods used in the VAs undertaken by USAID/Indonesia projects and grants, addressing, in turn, specific USAID questions about methods.⁷ The second subsection focuses on uptake from the VA processes that USAID funded, and specific questions USAID asked concerning uptake.

Methods for Vulnerability Assessments

I. How have the various approaches to vulnerability assessments (VAs) been similar or different across the projects?

As anticipated in USAID's SOW for this assessment, the VAs undertaken under its projects and through stand-alone grants varied, as did the aims of these interventions. This section examines the differences and similarities between the technical and methodological VA approaches used by each project.

To lay bare the differences and similarities in the VA processes, Table 2 illustrates project approaches to the VA processes along a range of dimensions, including VA purpose, level of community engagement,

⁷ USAID's Methods sub-question 5 in the SOW is addressed later in the findings section, as it asks about the combined effects of "methods" and "uptake" and is more appropriately addressed at the end of this section.

scope and scale of the VA process, types of data used, and relationship to government and/or other stakeholders. The next table, table 3, examines the implementation intensity of the VA processes reviewed, including the number of meetings involved, meeting length, overall length of the VA process, type of engagement in the process, number of participants involved, and the presence and type of facilitators involved and number of days of facilitator involvement. A narrative review then takes a closer look at three key aspects of these processes. This review examines how differences in the way that partners described the VA purpose, the VA scale and type of engagement, and the use of science and expert knowledge resulted in broader differences in VA processes. To provide a more holistic understanding of these VA approaches, several text boxes are integrated in blue throughout this report, highlighting features that VA processes shared as well as a number of unique characteristics that were found.

Format and Purpose of the VA Processes

Among the various USAID projects that undertook VAs, the assessment team found that there were differences with respect to what programs hoped to achieve in the communities. Some projects viewed the VA processes as a precondition for undertaking pilot activities; a means to develop a local CCA and DRR agenda and then a forum to select and build agreement to implement activities. Other projects regarded the VAs as a mechanism for raising awareness and driving knowledge transfer with respect to climate change, disaster risks, and adaptation options.

This study unearthed two key differences in terms of the model and purpose of engagement undertaken by different programs within the four sectors. Within these differences there were also clear variations, as will be explained below. The two differences can be summarized as follows:

1. **Extensive versus intensive programming:** Extensive programming generally sought to build awareness and disseminate knowledge in target communities. An example of the extensive model is that in the marine sector there were 100 VA and CAP processes undertaken in 100 sites, each process lasting no more than a few days. In contrast, programs that used intensive programming conducted far fewer VAs completed, but each was over a much longer engagement period. For example in the disaster risk reduction sector VA processes were far more intensive in nature, often involving dozens of meetings over some months. Table 3 on the following page illustrates the variation between programs on this dimension.
2. **Variations in multi-stakeholder forums:** The team observed two approaches to multi-stakeholder forums, indicating distinct purposes. The first approach involved a facilitation process meant to set a stakeholder-driven agenda for resource management planning and activity. The second approach served to demonstrate technology and build awareness among stakeholders, without attempting to pilot specific CCA or DRR projects.

The first of these differences starkly illustrates two different programmatic approaches, while the second illustrates how projects can have divergent paths within the same approach, depending on the aims and level of ambition shown by the participants, and the aims of the implementing program.

TABLE 2: VA PROCESS DESCRIPTIONS

Project	Vulnerability Assessment Purpose	Community engagement	Scope and Scale	Types of Data Used	Participation of Government and/or other stakeholders
IMACS	Facilitate discussion of community vulnerability to climate change, and formulate community adaptation plans. VA and CAP to be used mainly to support village mid-term development planning (RPJMDes), and Musrenbang, or uptake by other activities/organizations	Participatory community process (Bottom up)	Village Extensive	Qualitative	Community adaption plans developed for inclusion in Musrenbang. Central ministry staff (DKP) was present including the Meteorological, Climatology and Geophysical Agency (<i>Badan Meteorologi, Klimatologi dan Geofisika</i>) (BMKG) as resource personnel.
ARC	Develop community action plans to reduce community disaster risks and increase climate change resilience	Participatory Community process (Bottom up)	Village Intensive	Qualitative	Develops community adaption plans for eventual inclusion in Musrenbang.
PCI (CADRE)	Develop community action plans to reduce community disaster risks and increase climate change resilience	Participatory Community process (Bottom up)	Village Intensive	Qualitative	Local government agencies, such as the Regional Body for Planning and Development (<i>Badan Perencanaan Pembangunan Daerah</i>) (Bappeda), BPBD as well as local legislative representatives were present.
Mercy Corps (CADRE)	Develop community action plans based on regional CCA data to reduce community disaster risks and increase climate change resilience	Participatory with GIS (Both bottom up and top down)	Village, sub-district, district, Regional Intensive	Mixed use of qualitative and quantitative GIS data sets	Use of universities using institutions to engage at local level Strong relationship with BPBDs at provincial and district level
FIELD-Bumi Ceria (CADRE)	Generate and support resilience at the community level though organized participatory action learning via Field Schools conducted at community and Nagrari level	Farmer FIELD School- Participatory Learning and Action VA (Bottom up)	Village Intensive	Action Research (Qualitative data)	Local government (head of district as well as district department of agriculture) representatives provide grants and present support for the project. Strong interest from local government after showcase of success.
IFACS -	Improving forest and resource governance by engaging and increasing the capacity of stakeholders (including multiple government levels, communities and the private sector) in spatial and regional planning.	Participatory VA with use of SERVIR (Both bottom up and top down)	District Intensive	Quantitative earth observation data from NASA's SERVIR	District departmental level personnel (e.g. forestry department, environmental department and Bappeda) present. Their function were to be consulted /observer in formal meetings.
IUWASH	To substantially increase access to safe water supply and improved sanitation across Indonesia's urban landscape.	Technical Science for Sectorial Intervention (Top down)	District Intensive	Qualitative and quantitative data	Forum with district government and water stakeholders including water utilities, private agencies and universities, department of public works, Bappeda, Community representatives, head of village, IUWASH, PDAM, Forestry Department

INTENSIVE FACILITATION: DRR AND CLIMATE CHANGE

In most components of the CADRE program, USAID partners used an intensive facilitation process for developing vulnerability assessments and CAPs. The PCI program often held four or five meetings in a given community, while the FIELD and Mercy Corp programs generally held 15 meetings or more. For the CADRE programs the VA and CAP documents that emerged were only one stage in a protracted engagement that sought to develop pilot activities and foster uptake within the community and by local government. Mercy Corps created multi stakeholder forums in which government, civil society organizations, and private sector stakeholders would meet many times – at varying geographic levels - to develop plans and an agenda to increase awareness and community resiliency to the risks associated with natural disasters and climate change. In some communities these forums functioned as quasi ‘standing’ committees, becoming part of the local governance terrain.

Operating in this way, the CADRE program also identified opportunities to fund or help nurture pilot activities, often addressing practical needs in the community by improving local capacity and resilience to disasters. As the CADRE process demonstrated, disasters tended to represent an immediately perceivable threat requiring community response, whereas climate change impacts, and therefore CCA, requires a greater focus on education and awareness building. Programs like CADRE that linked CCA to DRR can be seen as using the latter as an initial ‘hook’ for community awareness-raising on the former.

Different Models of VA Engagement of Stakeholders

A clear separation emerged during the assessment between exclusively village-based approaches, and those drawing in a much broader range of stakeholders and usually conducted above the village level. A third approach, similar to an agricultural extension model, emerged from the Farmer Field School, undertaken through the CADRE FIELD program.

1. Village-centric VAs – These grass-roots based VAs, in which village residents were the primary actors, were characteristic of IMACS, ARC and CADRE (other than the Mercy Corps component). The duration of these varied widely, as did their effects, with IMACS VAs occurring over a very short period (1-3 days) and some of the ARC and CADRE VAs continuing on with many sessions over a number of months. The participatory VA is also distinguished by its use of highly participant-intensive tools to build understanding of CCA and DRR in a joint session.

IMACS uses the Indonesian Climate Adaptation Tool for Coastal Habitats (I-CATCH) model, which is a branded model adopted by the local Department of Marine and Fisheries (DKP) that was co-developed by IMACS together with the Ministry of Marine Affairs and Fisheries (MMAF). The extent of involvement of these Indonesian Government agencies in developing I-CATCH is unique amongst the different projects.

CADRE programmers, in contrast, use the ‘*Participatory Capacity and Vulnerability Assessment*’ (PCVA) model. A variant on this model is the *Hazards, Vulnerability and Capacity Assessment* (HVCA) model, which has also been used in some VAs, albeit less often. The main difference is that the PCVA has a starting point of mapping community resources and capacities, while the HVCA has a starting point of mapping hazards to the target community.

2. Multi-Stakeholder VAs – These VAs, which varied in scale (village, district or regency) bring together a wider spectrum of actors from various levels of local government, community representatives, and other relevant actors, than the village level VAs. Multi Stakeholder VAs are more likely than the exclusively village-based VAs to use GIS information or the knowledge of experts on various aspects of climate change or disaster risks during the formulation of the VA.

3. Extension model for stakeholder engagement – The farmer school approach builds organizations of local farmers showing them how to undertake DRR and CCA mitigation activity in their agricultural practices. This approach builds a local network of early adopters and community champions of best practices, and constitutes a separate programming model.

CADRE FIELD FARMER SCHOOLS AND NETWORK BUILDING

The CADRE FIELD Farmer Field School (FFS) program undertook VAs through an intensive engagement involving dozens of meetings over one to two years, while setting up schools to create village based networks of farmers. The model is akin to an agricultural extension service. The most significant aspect of this model is that the farmers' schools move from building awareness and knowledge to helping farmers put into practice the DRR and CCA techniques to improve their agricultural practices. At its most effective this sets up networks of community change agents who champion and introduce innovative practices at the ground level amongst their peers.

In FIELD FFS VAs and CAPs, the 'farmer-driven' approach adjusts the assessment methods to 'best fit' with the livelihoods activities of the villagers. The intention of this approach is to solve immediate and practical problems faced by the farmers through a participatory learning and action (PLA) method. Part of the model is FIELD's vision that farmers can be researchers themselves through a process in which they try to understand their own vulnerabilities and the underlying forces affecting agriculture in the area.

Use of Science and Expert Knowledge to Inform VAs and CAPs

The IFACS, IUWASH and CADRE (Mercy Corps) projects all set up Multi-Stakeholder Forums to demonstrate how science-driven data can be used to inform DRR and CCA planning. At their most effective, these forums were used for planning, agenda-setting, activity formulation, and community project management.

Within the multi-stakeholder format, the approach of the different implementing partners varied. Mercy Corps, for example, employed a downscaling methodology, triangulating macroclimate data for factors such as rainfall, temperature, and flooding with district-level weather station data and community perceptions of climate change and weather variability.

The IFACS workshops, on the other hand, used a top-down regional approach based on the analytical capacity of USAID/NASA's SERVIR satellite data portal. Workshop facilitators mapped current regional environmental programs related to climate change in order to determine how this is affecting climate change adaptation in sectors such as forestry, agriculture, and water management. SERVIR includes functions such as the Climate Mapper and Climate One-Stop (<http://climateonestop.net>), which provide data sets and functionality to assist with analysis and formulation of an adaptation plan. Subject-matter experts facilitated this approach



Villagers in Pematang Siantar explaining their experience with a VA organized by IUWASH during an Assessment Team visit.

Photo credit: Dadang Setiawan, MSI

TABLE 3: PROJECT VA/CAP IMPLEMENTATION INTENSITY

Project title	Number of meeting per site ⁸	Length of meetings	Length of process	Type of engagement	Number of participants (Per each village)	Facilitators
Participatory VAs						
IMACS	3	1 day each	3 – 4 days (Usually with a report writing period of some months.)	Facilitators-led discussions	About 25	Yes, local and external
CADRE (PCI)	4-5	1-2 days	2 months	Facilitator-led discussions	12-25	Yes, local and external
ARC	7	1-7 days	3 months	Facilitator-led discussions	20-30	Yes, local
Participatory VAs with GIS						
CADRE (FIELD)	12-15	1-2 days each	3 months	Community control [*]	20-30	Yes, local
Farmer FIELD School- Participatory Learning and Action VA						
CADRE (MC)	20+	1-2 days each	3-8 months	Facilitator-led discussions	About 25	Yes, local and external
SERVIR with Participatory VA						
IFACS	1	2 days	2 months	Workshops	100	Yes, external
Technical Science for Sectorial Intervention						
IUWASH	Regular monthly	1-2 days	Ongoing since 2010	Meeting	Around 10 organizations at local level	Yes, staff

⁸ Numbers based on multiple discussions with VA process participants during site visits.

Similarly, IUWASH drew upon scientific data in Multi-Stakeholder Forums in order to facilitate resource management planning processes for water management projects and to develop a regulatory framework. While the sample of IFACs and IUWASH activities examined is too small to move to generalizable conclusions, the cases examined show two distinct outcomes stemming from two distinct approaches to stakeholder engagement. IFACS workshops did not constitute a formal climate change vulnerability assessment, but rather served as an exercise to present to a loose forum of interested parties methods by which satellite data can inform CCA and DRR. These workshops thus did not lead to a sustained agenda-driven process. In another case, the IUWASH process in Pematang Siantar, demonstrates how participants intentionally defined the forum more ambitiously and the Multi Stakeholder Forum became a significant resource management process involving communities, local and district government and the private sector actors. In this model the project played a significant intermediation role, providing technical support, such as environmental impact assessments and water testing, and playing a facilitating role between initially suspicious communities, local government and external donors.

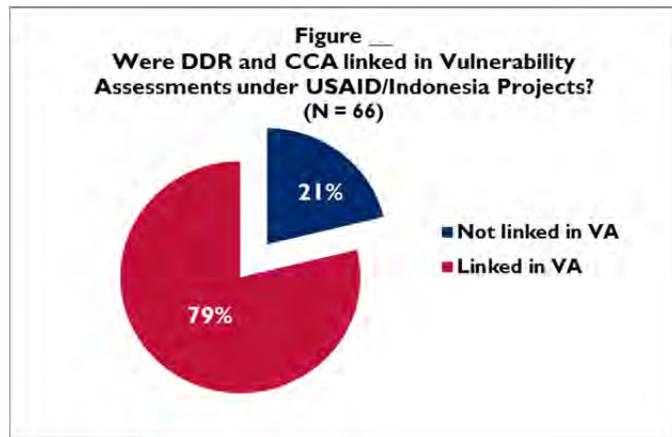
2. How have the various approaches linked DRR and adaptation?

Of the 66 VA processes examined during the desk review phase of this assessment, 79% were judged to have linked DRR and CCA in the VA.

Field visits conducted by the assessment team indicate that project sector played an important role in determining whether DRR and CCA were explicitly linked. CADRE, for example, was specifically designed to link DRR and CCA and provided the best examples of integration of climate adaptation and disaster preparedness. In many CADRE VA processes, specifically among the VAs organized by PCI, the assessment team found evidence that DRR and CCA had been institutionalized through village committees. Similarly IMACS was explicitly tasked with climate change and marine assessments, and the I-CATCH tool gives considerable attention to extreme climatic events, particularly floods and monsoon-related disruptions of fisheries.

Most commonly, DRR was used as a tool for framing CCA needs. Communities more readily saw the need to respond to the immediate and visible impacts of disaster than they saw the need to respond to the longer-term effects of climate change on their daily lives. In this manner disaster risk served as a 'hook' for community involvement in the VA process.

FIGURE 2: PERCENTAGE OF VAS THAT LINK DRR AND CCA



I-CATCH: THE IMACS EXTENSIVE VA FACILITATION TOOL

Under IMACS, 100 villages in two provinces have received VA and CAP assistance under the extensive facilitation model known as I-CATCH. I-CATCH, as explained on IMACS' website, consists of three stages. First, a rapid village VA is conducted over a three-day period. This assessment is conducted by the I-CATCH assessment team comprised of local NGOs, the Government of Indonesia and university faculty. I-CATCH uses existing data matched with participatory rural appraisal methods to ensure the community can contribute their local knowledge and understand the analysis process. The second stage involves awareness raising to ensure the community understands and agrees with the results of the assessment. Technical experts explain basic climate change concepts and larger issues in the region that can impact the village. This sets the stage for the community to develop its action plan. Some activities can be conducted by the community, while others will require government permitting or technical assistance.

Site visits indicate that the project intended that the resulting CAPs be utilized in the annual national Musrenbang planning process, or when developing Rencana Pembangunan Jangka Menengah Daerah (RPJMD)-Village Mid-Term Development Plans. However the IMACS process was not designed to directly facilitate local government uptake of the plan beyond the initial production of the CAP. As one manager for IMACS wrote:

"I-CATCH is a tool to facilitate the community to assess the vulnerability aspect on the village level and as a manual to facilitating the community to develop its adaptation plan, hence it was meant to improve understanding of climate change impacts on community livelihoods and planning the adaptation action to cope with its obstacles. It was developed to respond to MAAF request for a tool for vulnerability assessment for coastal communities, tested at two provinces of NTB and Sultra, and was not originally designed to directly influence follow-up government uptake."

Linking DRR and CCA through Causal Relationships

Participatory VA processes generally started by identifying community perceptions of their problems and risks to their livelihoods. Evidence from site visits elaborates on that finding, showing that these linkages involved attributing the impacts of natural disasters to the effects of climate change; in other words, through a hypothesized causal relationship. The risk of climate events and natural hazards, for example, were starting points in almost all CADRE activities. In coastal villages (within CADRE and also in IMACS areas), there was a general focus on the disturbances and/or disruptions to livelihoods, such as increasing disruptions to fishing due to storms during monsoon periods. Many fishermen cited the inability of their boats to withstand storm activity. During Mercy Corps activities in Kelurahan Bungo Pasang and Puluik-Puluik, for example, flooding was attributed to rising sea levels and changes in rainfall due to climate change.

DRR and CCA were at times integrated through the assessment tool. Most notably, the IMACS I-CATCH tool linked climate change with natural disasters by demonstrating seasonal livelihoods through a matrix of livelihoods activity, months and disruptive events. As noted, I-CATCH examined the impact of seasonal changes and extreme climate events on livelihoods, as well as past community efforts to reduce impact. It then plotted out where intervention was needed, limitations of possible interventions, appropriate expectations for interventions, and adaptation capacity based on socio-cultural and economic dimensions.

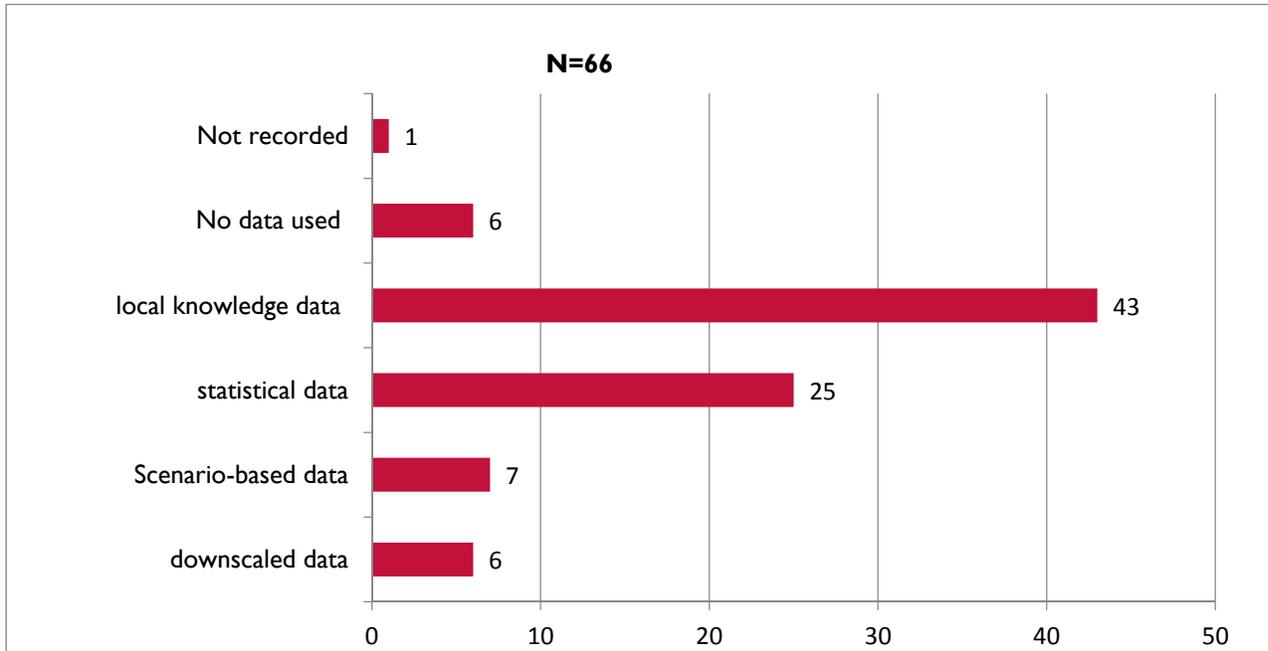
3. How have the VAs used climate data and information?

The assessment team identified that climate change information was explicitly presented in 59 of the 65 VAs examined⁹ for type of climate change information. The primary types of climate change information

⁹ One of the core 66 VAs was not examined for this variable.

included downscaled data, scenario-based data, statistical data and data reliant on local knowledge. Recognizing that many VAs used more than one type of information, this analysis allowed for multiple responses. The largest type of climate change data was locally sourced knowledge, which was used in 43 (65 percent) of the 65 cases examined. This source was mainly used in the marine and DRR sectors. The second most common type of primary data used was statistical data, which was found in 25 (38 percent) of the VAs examined. In fewer than 10 cases was the use of scenario-based or downscaled data observed in VA document sets, as Figure 3 illustrates. Participatory VAs were also found to sometimes use climate data and information to provide context to local understanding of climatic events, including disaster risks.

FIGURE 3: TYPES OF DATA USED IN VAS



VA facilitators¹⁰ employed a number practices to help VA participants describe in qualitative terms the change in climate variables. The I-CATCH (IMACS) tool includes a perception matrix to explore participant impressions of positive and negative climatic experiences for past and present seasons, including length of rainy season, length of dry season, and the onset of rainy and dry seasons. Most partners used this discussion of seasonal context and changes (e.g. perceptions of past and present temperatures, sea surface temperature, rainfall, wind speed, tides) and climate extreme history/chronology (extreme events, year and remarks) as entry points to begin discussion with communities.¹¹

Mixed Methods Climate Data

Mercy Corps (CADRE) uses a mixed method approach, combining a scientific model employing GIS data with a Participatory Capacity Vulnerability Assessment tool (PCVA)¹². This approach is based on the

¹⁰ Lack of information about the length/type of training that facilitators received presents a hurdle in understanding the quality of facilitation that was provided to the participants. Most instances of facilitator use came from IMACS (20 inside the community and 12 outside the community), and CADRE (3 facilitators from outside the community). Source: field team data.

¹¹ Rainfall and temperature was the most common type of data reported by the VAs. Source: Field team data.

¹² “PCVA is an investigative method that uses a variety of qualitative participatory tools (PRA) to engage local stakeholders in their own disaster risk and vulnerability diagnosis. It combines local knowledge with secondary information (scientific, policy,

understanding that vulnerability is a function of hazard, exposure, sensitivity, and adaptive capacity, and focuses on flooding and crime. Mercy Corps aided by university-led facilitation was the sole user of the downscaling data approach. The PCVA model, on the other hand, uses a qualitative and participatory approach to generate data and covers all hazards experienced by the community, including hazards that may be not related to climate change, such as earthquakes and tsunamis.

Use of Climate Data and Information

As shown in the figure below, with regard to the use of specific types of climate change monitoring data, the desk review found greater use of rainfall and temperature data than other types of data.

FIGURE 4: NUMBER OF VAS THAT INCLUDED SPECIFIC TYPES OF CLIMATIC DATA

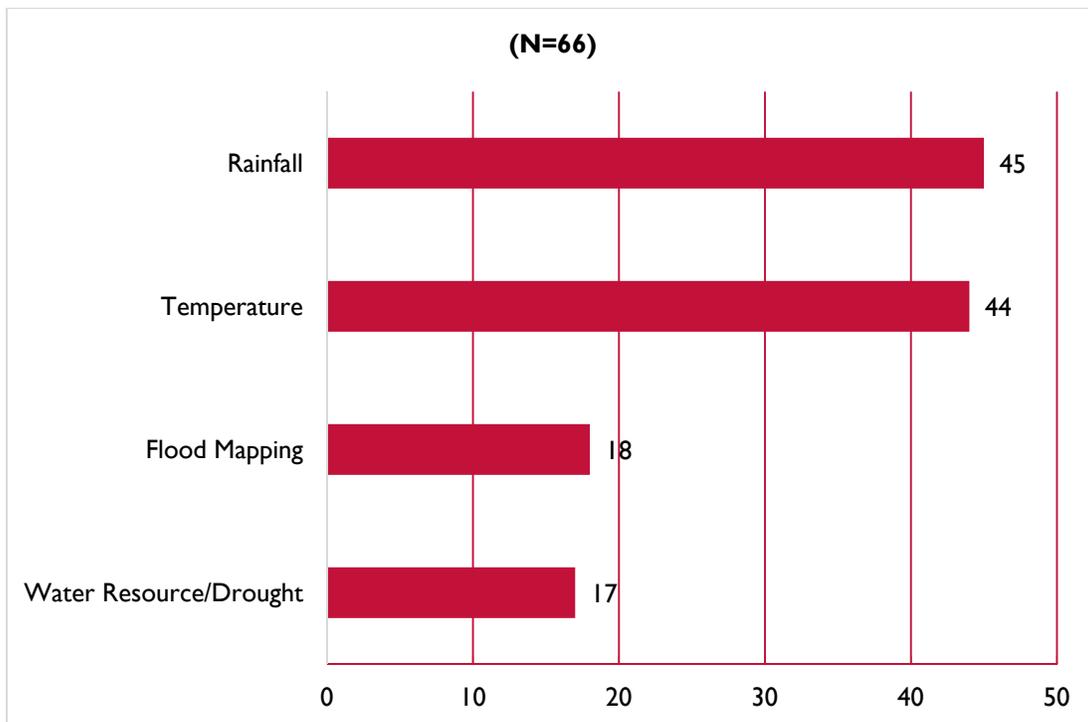


Figure 4¹³, indicating sources of data used, suggests that information on rainfall and other climate change monitoring metrics more often than not drew on local knowledge. Site visit data supports this, as site visit reports note that impacts were frequently reported as a perception of local communities, rather than from empirical climate data sources. The field work found that once climate data had been generated, either through local participation or through scientific modeling, it served a number of purposes, among them the generation of seasonal calendars, building community understanding, mapping vulnerability, and forecasting climate-related hazards. Table 4 shows the frequencies with which respondents identified the uses of climate data and information from the field visits.

practice, etc.) on disaster risks, and increases understanding of the context where ACF wants to intervene.” See: http://www.pacificdisaster.net/pdnadmin/data/original/ACF_2013_partciptry_risk_EN.pdf

¹³ This analysis includes multiple answers as to what type of climatic data was present in the VA.

TABLE 4: FREQUENCY OF CLIMATE DATA CITED IN FIELD WORK REPORTS

Narrative Description	Number of VA Sites Citing Narrative	Percent of VA Sites Citing Narrative
Used climate data and information to construct seasonal calendar	12	46%
Used climate data and information to build awareness/ understanding (discourse)	5	19%
Used climate data and information to map vulnerability	4	15%
Used climate data and information to forecast weather	3	11%
TOTAL (Used climate data and information in any way)	16	62%

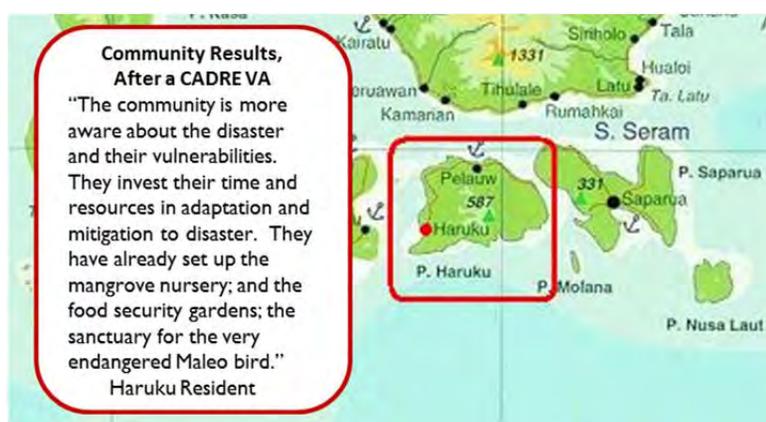
4. What methods lead to greatest local ownership and understanding?

Degree of ownership and understanding, which was not described in detail in VA documents examined during the desk review, was also not always definitively answered from the field interviews. If ownership is understood to mean perceived community influence over the VA process, then in 16 of the 26 field sites, respondents (participants and/or facilitators) did indicate some sense of ownership or understanding of the VA process. If ownership is defined as the adoption and use of tools or processes beyond the scope of the intervention, site visits also uncovered examples of ownership, at both the community and local government levels across sectors. In the following paragraphs, community, local government and facilitator ownership of VA processes are briefly described. Cutting across any discussion of ownership of VA processes is the question of women’s involvement in the VA and the resulting post VA community activity. Findings from this perspective are discussed at the end of this section.

Community Ownership and Understanding

Community understanding and ownership particularly stands out in the DRR and WASH sectors. Several prominent examples of community ownership emerged during site visits. In West Sumatera, for example, facilitators trained during the first phase of FIELD workshops have independently institutionalized the field school model in the form of an organization called P3MTBPI (*Persatuan Petani Pemandu dan Masyarakat Tangguh Bencana dan Perubahan Iklim* or Union of Farmer Facilitators of Disaster Resilience and Climate Change).

Under other CADRE projects where community uptake demonstrated ownership and understanding, not only did communities independently employ VA and adaptation methods, but their self-started programs also provided demonstration for neighboring communities as to benefits of the projects and stimulated similar community led activity in those neighboring communities. These examples are highlighted in the uptake section.



Local Government Ownership and Understanding

Local government ownership and understanding emerged from interviews in several sectors. In the marine sector, for example, the VA process seems to have generated significant interest from local governments. Representatives of the local branch of the Ministry of Marine Affairs and Fisheries (DKP), however, often expressed feelings of exclusion from IMACS' VA processes. Specifically, the DKP suggested it "needed to be involved in the VA due to two reasons: First, it could learn about new issues on climate change and learn how to do community facilitation and discussion; second, it could serve as source person related to DKP projects as outlined in Renstra and RKPD." The DKP's perceived exclusion from the VA process is perhaps a result of IMACS' shorter timeframe for engaging stakeholders. Nevertheless, those government officials present during the Community Action Plan and District Consultation phases of the IMACS process generally viewed the process as informative, due to the involvement of experts from the Meteorological, Climatological and Geophysical Agency (*Badan Meteorologi, Klimatologi dan Geofisika*) (BMKG)) and Agency for Assessment and Application of Technology (*Badan Pengkajian dan Penerapan Teknologi*) (BPPT). Still, local government interest did not seemingly translate into direct government uptake.

The range of government agencies involved in the process varied considerably with agencies such as BAPPEDAS (Development Planning Agency), BPM (Agency for Village Empowerment), and PU (Public Works Infrastructure Agency) among agencies represented along with the DPK at different forms of VA and CAP processes. This variation in state agency representation was far more pronounced at the sub-district or district level VA processes.

Facilitator Ownership and Understanding

Finally, it is important to distinguish between the levels of engagement and ownership experienced by facilitators and VA participants with the ownership experienced with the wider host community. For example, VA facilitators and participants in many CADRE and IMACS villages often indicated exceptional ownership, though actual activity had yet to take place in the village, calling into question whether that ownership would have been mirrored by other local stakeholders.



Village women in Aceh Jaya explaining a village map developed as part of a VA.

Photo credit: Riyanti Djalante, dTS

Women's Ownership and Understanding

In the data from this review, particularly from the field visits, there is a strong indication that women's involvement in VAs and CAP processes may have increased likelihood of early adoption of certain identified adaptation practices. In FIELD and PCI cases, for example, women have been key adopters and promoters of permaculture practices. Following a marine-sector VA in Latawe village, for example, women's increased awareness of mangrove planting and restoration techniques led to independent planting and restoration efforts. In fact these efforts inspired local efforts to regulate replanting of trees to replace each tree felled. Following a marine-sector VA in Rumba-Rumba, newly-formed groups of women attended expert trainings related to new fish and seaweed processing techniques and methods for gaining access to credit from local business enterprise.

CADRE - MERCY CORP - MIXED PARTICIPATORY VAS WITH GIS AND UNIVERSITIES INVOLVED

Mercy Corps' approach to implementing the CADRE program's VA mandate involved a mixed method participatory VA process in which Geographic Information Systems (GIS) data played an important role. This model combines both community-driven information collection and expert-driven data collection, and multi stakeholder forums at various levels – village, district, regency - often run by universities and using GIS information for CCA and DRR to build understanding and then planning and activity formulation. The model used downscaling of information: taking macro climate data and information such as rainfall, temperature, and flood mapping, and applying it to village VA and CAPs through a participatory process using tools.

In West Sumatra, the scale of analysis is the village level; in Central Maluku the scale is at the sub-district; while in Lampung, Mercy Corps combines village and inter-district analysis. Mercy Corps uses the "Learn to sail while sailing" approach by consistently exposing local universities (e.g. Pattimura University in Central Maluku, University of Andalas, and Lampung University) to the vulnerability exercises at different levels.

Uptake and Application of Results of VA Processes

This section examines three questions about the effects of VA processes beyond the preparation of VAs and CAPS. Some reports, as outlined in earlier sections of the report, have already noted that communities sometimes act on the CAP plans they develop, while others do not. In this section, the assessment team examines the evidence of uptake with reference to specific USAID questions.

I. Where have existing vulnerability assessments stimulated changes or the mainstreaming of climate and disaster risk management at the local level (as evidenced by influencing local budgets/regulations, local governments incorporating VAs into their planning process or conducting them)?

This review of VA processes revealed a variety of ways in which uptake occurred following VA and CAP processes in target villages, the primary level at which these processes were observed. Although the sample size is too small to infer causal relationships with statistical significance, there are some clear linkages between project characteristics and the types of uptake that occurred. Of note:

- Of the twenty six VA processes visited during the field work phase, nine VA processes resulted in some of form of uptake by local government.
- When VAs stimulated local government CCA and DRR action through budgetary allocation, planning, or regulatory changes, it was most often after community-based organizations demonstrated the practicality and benefits of the activity through village-based projects. Ostensibly these community-based programs piloted activity that was later scaled up by local government.
- VAs stimulated community action, either by local community-based organizations (CBOs) or by new community actors or networks aiming to address local issues of CCA and/or DRR.

Uptake by Local Government

Having discussed community action and ownership (inclusive of uptake) in the previous section, the remainder of this section focuses on local government uptake.

Data on these VA effects came from the study team's site visits; virtually no information on this issue was reported in the project documents the team reviewed. Analysis of the 26 sites visits shows that in nine sites the VA process stimulated changes in the local government's climate or disaster risk management. Within these nine VA processes, six of them led to changes in local government

investment or resource allocation and two VAs affected local government regulations. A total of 17 VA processes also stimulated non-local government changes. These changes are presented in table 5.

Fieldwork suggests that VAs conducted in the disaster risk reduction section were most successful in stimulating local government uptake for CCA and DRR investment or policy change. Changes were also noted in response to VAs conducted in the water and sanitation sector. A number of illustrative examples are provided below:

- Disaster risk reduction (PCI) - The district government of Kaur District allocated budget resources for community home gardening and permaculture for food security in 10 villages after learning of the success of a community-based permaculture-training initiative implemented by PCI (US\$20,000 was allocated to 10 villages in fiscal year 2013). The activity disseminated practices of household farming as a strategy to address food shortages (i.e. when fishers cannot go to fishing due to bad weather) and reduce household expenditures. The trained committee members are also used to train other villages supported by the district government. This project also extended into the Maje sub-district.

TABLE 5: UPTAKE BY SECTOR AND TYPE (N = 26)

Projects	Total of Field Site Visits	Produced Local Government Changes (Any)	Produced Local Budget Uptake	Produced Local Government Regulatory Changes	Produced local Government Planning Uptake	Produced Other 'Used' Uptake
Disaster Risk Reduction (ARC)	2	0	0	0	0	2
Disaster Risk Reduction (FIELD)	1	1	1	0	0	1
Disaster Risk Reduction (Mercy Corps)	3	3	2	0	3	3
Disaster Risk Reduction (PCI)	2	2	2	0	2	2
Forestry	2	1	0	1	1	2
Marine	14	0	0	0	0	5
Water and Sanitation	2	2	1	1	2	2
TOTAL	26	9	6	2	8	17

- Disaster risk reduction (Mercy Corps) - In Padang Kota, the agricultural ministry used the 2010 VA to design their irrigation activity. In Kelurahan Bungo Pasang, the Department of Public Works supporting the dredging of a channel and construction of channel walls. Meanwhile, Mercy Corps' Dompok Dhufa pilot project supported tree planting. Elsewhere, in Puluik-Puluik, the Forestry Agency adopted the alternative income source (MPA) as their project to reduce deforestation pressures in the community. In a third Mercy Corps location, local government integrated indigenous and local community knowledge and climate change knowledge into the school curriculum. In Bungo Pasang, advocacy by POKJA/Kelompok Kerja for mangrove planting was supported by Dompok Dhufa and Rumah Zakat (Both Islamic faith based NGOs). Numerous other MC examples of this sort can be found in the site reports, which have been sent along with the report.

- Disaster risk reduction (FIELD) - In West Sumatra, FIELD helped set up the Farmer FIELD School (FFS), which resulted in a local collective that has been extremely active in disaster risk adaptation planning and CCA. The organization, known as 'P3MTBPI', used the VA process and resulting CAP to develop their agenda. The Bupati and Governor have formally acknowledged the success of P3MTBPI. The Department of Agriculture in Padang Pariaman (West Sumatra) allocated Rp. 40 million per Nagari and adopted a KRRT (Household Food Security Program). Some technical schools are supported by relevant government agencies. Activities such as the replanting of coastal areas were supported by the environmental agency.
- Water and sanitation - In Pematangsiantar, the Regional Body for Planning and Development (*Badan Perencanaan Pembangunan Daerah*) (Bappeda) and IUWASH have created a Multi Stakeholder Forum with communities, external funders (Coca Cola) and local government entities to address local water issues and CCA through a VA process. As a result, the Multi Stakeholder Forum planned and is implementing the building of infiltration ponds to improve water resources and community understanding of water needs. Through this forum the local government is also creating an adaptation plan with and related regulation to deal with water resources and sanitation.

Generating Public Private Partnerships at the Local Level

An interesting variant on local government uptake was found in the Forestry sector. In the Ketapang site, the program set up an multi stakeholder forum that provided a space for local government, NGOs, private sector and the community a space to undertake advocacy and agenda setting around forests and forestry issues, across provincial and district levels. The forum built awareness around climate change and the ramifications for the forestry sector as well as a more general resource management agenda. In addition to providing a forum for dialogue, the program provided workshops, trainings, capacity building activities for both NGOs and local government officials and capacity development through grant schemes. The grant program worked with seven local NGOs to further the CCA agenda developed through the forum. The forum and the program also worked with the private sector to build consensus driven compacts around best practice in the forestry sector. These arrangements included a Best Management Practice (BMP) agreement; the Conservation Management and Monitoring Plan (CMMP); and the Reduction of Logging Impact (RIL), as well as further MoUs with the private sector (7 in total – 2 on palm oil, and 5 related to concession areas).

2. What are the characteristics of the approaches (facilitation methods, language, terminology, inclusive approaches, etc.) that have led to success?

This review has defined success as the uptake of VA recommendations by local government. By this standard there has been sporadic success exhibited by the sampled VA processes. Review of these cases reveals 'characteristics of approach' that seem to have contributed to success in stimulating local government action. The most significant common factor associated with success is intensity of engagement. This becomes evident when comparing the absence of local government uptake in sectors with lesser engagement during the VA process, such as the marine and forestry sectors, with the strong uptake exhibited in sectors with intensive engagement, such as disaster risk reduction and water and sanitation. The relative intensity of engagement might be measured by number of meetings, and period of engagement. Data on these factors are presented earlier in Table 3, which shows that VAs in the DRR sector were the most intense in this sense, while VAs in the marine and forestry sectors were much less so. An important corollary to extended engagement was the emergence of a sustained interaction between villages and district government centering on village priorities and pilot activities. In half the cases where government uptake was documented by the assessment team, the activities had

evolved out of a VA process, initiated by local community groups and later adopted by district governments for replication or scaling up.

One of the questions specified in the SOW is whether the findings about methods and uptake suggest a generalizable but effective framework for effective vulnerability assessments. The study's findings did not identify such a framework across the four sectors. However the findings on uptake do suggest generalizable principles for the post VA period so to maximize the chances that a VA will result in community action. While a definitive set of factors associated with uptake remains elusive, an examination of successful cases reveals VA characteristics that seem to have typically generated uptake.

In addition to sustained engagement (discussed above), the following seven general characteristics are commonly observed as positively effecting processes where uptake occurred:

1. VA processes that are timed to link to local government planning processes are more likely to generate active CCA and DRR projects.
2. Community organizations that pilot projects can generate replication or scaling up of activities by local government
3. The varying role of USAID implementing partners in operationalizing community action plans affected uptake
4. Involving networks at the village level increases sustainability and the likelihood of activities being replicated in the wider community
5. Operating on multiple levels of government increases the chances of uptake
6. The role of educational institutions in facilitation and knowledge dissemination

Timing. The importance of timing refers to the alignment of the VA process with local government planning and budgetary cycles, as this linkage seems to be a key requirement for effective uptake. Those VAs which have stimulated local government uptake have all allowed for an engagement period that permits local government to absorb the results of the VA process and incorporate them into local planning cycles. Inadequate timing was consistently mentioned as a top barrier to uptake in cases where uptake did not occur. A variant of this was the amount of time that it took to produce village level VA reports. Some stakeholders reported that If reports were produced too slowly it may have precluded them from being included in the appropriate local budgetary process, such as Musrenbang.

Pilot Projects can lead to scaling up and replication. In a number of the VA cases under review, local communities that piloted CCA and DRR activities, such as alternative livelihood projects, led to local government partnering with projects once the activity's success and local popularity has been proven. In some cases externally funded or USAID program funding later led local governments to scale up or replicate that activity with their own funds. Some of these cases involved direct partnerships between local government and the pilot project. Given scarce resources at the local government level



Village vulnerabilities in Bengkulu are linked to fishing, its primary industry. Photo credit: Djoni Ferdiwijaya, dTS

for CCA and DRR, as well as a bureaucratic legacy of reliance on central government for long-term strategic services, piloting and local 'testing' of projects ameliorates barriers stemming from inadequate local government resources.

The role of USAID implementing partners in operationalizing community action plans. The disaster risk reduction (Mercy Corps) and water and sanitation sector VAs facilitated uptake of VA processes by shepherding projects through the project cycle. They did this by focusing the VA on local needs and intended actions to be taken, thus ensuring that the VA process served as a forum that could mobilize action among relevant stakeholders, including local government. These project organizations also provided technical support, such as feasibility and engineering studies, to move from action plan to activity implementation and ensure that community CCA and DRR activities were executed well. In this vein, the VA process in the water and sanitation sector offers a good case study. In Pematang Siantar, the IUWASH implementing partner built infiltration ponds, in which they commissioned a series of engineering studies during the planning phases. They employed a distinct engagement model, a resource management planning process bringing together interested stakeholders to develop water management projects and fostering a sustained effort by local government to revise the local regulatory framework.

Using Local Networks increases sustainability and activity diffusion. At the village level, building sustainable networks of vested locals who champion community-led change seems to encourage integration of a VA and CAP into a community. This is apparent in the FFS approach in West Sumatra. The P3MTBPI, or "union of farmer facilitators of disaster resilience and climate change", have been successful in introducing a VA and CAP through early adoption of the plan and recommended activities. Its success has led to support from the district government (Bupati) and governor of West Sumatera, and to adoption of many DRR and CCA activities by local government.

Operating on multiple levels of governance increases the likelihood of uptake. The DRR-sector project run by Mercy Corps, the FIELD farmers union and the forestry-sector regional workshops all operated on multiple stakeholder levels. These forums brought together representatives from regional, district, and local-level-level governments, with local representatives and experts to construct VAs. This seems to have produced uptake and tangible project activity, especially in the case of Mercy Corps. This model of holding stakeholder forums at village, sub-district, district and regional levels mirrors the Musrenbang process, allowing information and data to be fed along the vertical governance lines as appropriate. It also allows decision makers and key government officials to interact with experts and community representatives in such a way as to make decision making more transparent. The Mercy Corps approach used information and models based on district and national levels, but applied this to local/village CCA and DRR planning and activity. The review identified four possible channels for funding: including APBN (national budget), APBD Prov (provincial budget), APBD Kab (district budget), and the PNPM community block grant. Village leaders most commonly identified PNPM as the most accessible and useful channel. However the other funding streams were also mentioned in some interviews, meaning that programmers have to keep these possibilities in mind if assisting communities to formulate action plans and assessing potential budgetary streams. Other key agencies often cited were the BAPPEDAS (Development Planning Agency), BPM (Agency for Village Empowerment), and PU (Public Works Infrastructure Agency), along with the DPK.

The role of educational institutions. A number of cases of uptake demonstrate the effective role that universities can play in a VA process. In particular the Mercy Corp project showed how universities can provide access to CCA and DRR data and expertise during the VA process. Furthermore educational institutions are often local to the areas in which the VA process is being conducted providing sustainability, legitimacy and entry points into local government systems as the following quote

illustrates. In the Mercy Corps activity in Puluik Puluik (Utara sub-district, Pesisir Selatan District), one respondent noted: “The government tends to make decisions based on assessments commissioned to the university as well as participatory community assessments.” This factor was present in a number of other cases, as well. The P3MTBPIfarmers union had a strong educational component. Similarly, PCIs work in Sumber Harapan benefited by partnering with an NGO called the Kabahill Centre, which played an educational as well as project management role: “Kabahill Centre and PCI have very good coordination with the district BPBD as well as with other government agencies, which may help the linkages between community risk reduction needs and the government’s programs and priorities.”

Although it is difficult to ascertain through first-hand data collection the precise role of language terminology and other factors affecting VA facilitation beneficiaries did express a preference for participatory processes due to the accessibility of language and the framing of complex climate change issues in terms they could relate with their own experience. However, the study team did not find any compelling association between these factors and uptake.

3. In places where the assessments have not influenced decision-making/risk reduction investments at the local level, what were the barriers that prevented that from happening?

During the site visits, field interview respondents identified a number of barriers to uptake. These included geographic barriers, barriers relating to process (specifically relating to timing and coordination with government processes), resource barriers, policy implementation barriers, political barriers relating to how local interests are prioritized, and cultural barriers.

Table 6, further explained in this section, indicates the frequency with which these barriers were cited in field reports. The top barriers are all related to local government, and their capacity to fund CAPs, or a lack of participation of local government.

TABLE 6: BARRIERS TO UPTAKE AS IDENTIFIED THROUGH FIELD INTERVIEWS

Narrative Description	# of VA Sites Citing Narrative	% of VA Sites Citing Narrative
Geographic Barriers		
1. Barriers due to geographically consolidated VA process	2	8
Planning/Coordination Barriers		
2. Barriers due to lack of coordination/alignment with <i>Musrenbang</i>	15	58
3. Barriers due to lack/exclusion of local government participation	13	50
4. Barriers due to insufficient time allotted for VA process	12	46
5. Barriers due to lengthy and poorly timed process for reporting VA results	11	42
Resource Barriers		
6. Barriers due to government capacity/lack of resources	11	42
7. Barriers due to lack of data/data analysis capacity	4	15
8. Barriers due to absence/shortage of qualified local facilitators	3	12
9. Barriers due to lack of interested private-sector actors	2	8
Policy Implementation Barriers		
10. Barriers due to bureaucratic inefficiency	3	12
11. Barriers due to poor implementation	3	12

Narrative Description		# of VA Sites Citing Narrative	% of VA Sites Citing Narrative
Cultural/Communication Barriers			
12.	Barriers due to language (local dialects not containing sufficient vocabulary to explain climate change concepts)	10	38
13.	Barriers due to the difficulty of conveying complex climate/vulnerability information to community members	5	19
14.	Barriers due to culture	2	8
Political Barriers			
15.	Barriers due to level of government where uptake occurs (weight assigned to local vulnerability in planning process)	10	38
16.	Barriers due to conflicting political/economic interests	2	8

A number of particularly enlightening project narratives nicely captured the nature of these barriers, illustrating the difficulties encountered in achieving intended uptake of VA findings. Select narratives are provided below.

Geographic Barriers

The geographic scale of a VA processes was identified as barrier to uptake by some informants and stakeholders. VAs that consolidated a number of villages into one process, for example, such as FIELD’s DRR-sector VA conducted in West Sumatera, were useful for informing higher-level (e.g. district) policy, but could not be expected to capture the unique vulnerabilities in each community. Conversely, the priorities and issues identified in village-level VAs did not necessarily enjoy broad applicability and often suffered from being disconnected to local- and higher-level decision-making and budgetary processes, that have to encompass decisions for large areas.

FIELDWORK NARRATIVES: GEOGRAPHIC BARRIERS

“A challenge to using consolidated Negari VAs is that the VA does not represent the whole district (or province), as well as the diverse methodology and parameters being used in each community.” – FIELD-led DRR-sector VA participant in Padang Pariaman, West Sumatera.

Geography also posed logistical constraints on VA processes because of distance between the assessment location and stakeholders’ residences, impeding what were meant to be participatory processes. Participation at VA meetings often fluctuated, as members with long distances to travel sometimes did not attend.

Planning/Coordination Barriers

In several instances, respondents pointed to uptake barriers stemming from breakdowns in coordination and planning. For example, stakeholders in several locations where marine-sector VAs were conducted noted that there was no explicit strategy for aligning the I-CATCH process with *Musrenbang*. Respondents in Sulawesi Tenggara, moreover, identified the relationship between the head office in Jakarta, and regional offices, and the DKP district offices as a key bottleneck in the Marine Sector VA process. On several occasions, DKP district offices expressed frustration that their limited involvement in VA processes prevented a full understanding of community-generated climate adaptation options.

FIELDWORK NARRATIVES: PROCESS BARRIERS

“The program was not supported by the Head of District and he was not concerned about environmental conservation.” – Water and sanitation-sector VA participant in Mojokerto, East Java.

“One hamlet wanted to postpone [implementation] due to the fact that one of the legislative candidates was not elected, and his wife is the daughter of the head of the hamlet.” – Forestry-sector VA participant in Kayong Utara, West Kalimantan.

Such problems were not unique to the marine sector. A participant in American Red Cross-led DRR-sector VAs in Aceh Jaya noted that BPBD has difficulty coordinating with other agencies for DRR projects. BPBD is a Type-B organization (the highest rank is Type 3B), and thus has less authority and power to effect immediate change than other agencies.

Related to this was the timeliness of report VA report writing. In many marine-sector cases, facilitators did not anticipate requirements for reporting VA findings, thus delaying the start of the CAP. Marine-sector participants in Nusa Tenggara Barat, in fact, suspected that delays in reporting excluded DKP from including VA findings in planning and budgeting for the next year’s basic infrastructure programming. Some informants in the Marine sector stated that the ability of facilitators to write reports in a timely manner, and which met expectations of quality and technical standards were overestimated. Hence while

the VA process lasted a few days, the report writing process usually took between three and six months. It was only after that the VA and CAP reports were finished to an acceptable standard that district consultations were held. The created problems in that the reports were not available for either the village leadership or the DKPs to use during the Musrenbang process. A related finding was that facilitators in the Marine sector would often only remunerated for their work facilitating, usually two of three days, but not for the report writing, which may have contributed to the often inadequate report writing process in this sector.

Resource Barriers

Divergence in VA processes notwithstanding, in many cases low levels of uptake may have been largely the result of resource constraints external to the VA process. For example, whereas DRR advocates in West Sumatera were able to secure financial and in-kind support from outside organizations for public works, such as channel dredging and construction of channel walls, DRR-sector VA participants in Sumber Harapan, Bengkulu explained that while district government might be aware of adaptation needs (construction of an evacuation route and evacuation center, for example), often action is not taken due to financial constraints, leaving district governments to lobby the relevant government departments in Jakarta for resources.

FIELDWORK NARRATIVES: RESOURCE BARRIERS

“The understanding of BPBD on risk management is still poor, due to poor human resources and capacity. Most of the officers still focus on response management rather than risk management. Thus the potential for them to utilize risk assessment and information is limited.” – American Red Cross-led DRR-sector VA participant in Gampong Baro, Aceh Jaya.

Resource constraints extend beyond financial constraints. As it affects the VA process, communities are also constrained by lack of data and data analysis capacity, as well as a lack of qualified facilitators with subject-matter expertise and knowledge of local conditions and local actors.

FIELDWORK NARRATIVES: POLICY IMPLEMENTATION BARRIERS

“We have seen that *Musrenbang* is purely ceremonial. For instance a hanging bridge submitted to *Musrenbang* several years ago still has not been built.” – Forestry-sector VA participant in Gayo Lues, Aceh.

“We have heard about *Musrenbang*, but we were hopeless because if we submitted the plan, it would not be realized.” – Kayong Utara, West Kalimantan.

Policy Implementation Barriers

Fieldwork narratives indicated that in some instances stakeholders regarded the policy implementation process as a barrier to uptake. Respondents pointed to a number of bureaucratic hurdles standing in the way of timely uptake of VA findings. One urban water and sanitation-sector respondent in Pematangsiantar, for example, pointed to fragmentation among local government agencies and expressed hope that the IUWASH program might support synchronization of local government institutions. Others, in the forestry sector for example, expressed frustration with and sometimes distrust of the inefficiency or ineffectiveness of the *Musrenbang* process and the potential to affect change.

FIELDWORK NARRATIVES: POLITICAL BARRIERS

“The case of designing tsunami evacuation routes highlight the importance of transparency and participation. In this case, the official map raised some vested interests in relation to the risk map. The map was questioned by APINDO and ASITA, as it brings consequences to the value off lands along the beach areas.” – Mercy Corps-led DRR-sector VA participant in Bungo Pasang, West Sumatera.

“As BNPB is a national government agency, it tends to focus on big-scale disasters, and thus builds its capacity to respond to such events. When the sub-national BPBD follow the focus of BNPB’s priority of hazard choice, it may not build their own capacity to respond to small and medium-scale disasters.” – Mercy Corps-led DRR-sector VA participant in Bungo Pasang, West Sumatera.

Political Barriers

In addition to bureaucratic barriers to uptake, political considerations also may have affected likelihood of uptake. As alluded to in the discussion of geographic barriers above, the disparity between the administrative scale (or level of government) at which vulnerability is assessed and that at which uptake occurs can pose a significant barrier to uptake. Respondents indicated that politically, local vulnerabilities were often not assigned much weight in planning processes at higher levels of government. That said, political or economic interests can influence uptake, as it pertains to budgetary or planning decisions, at any level of government.

Culture/Language Barriers

A final set of barriers relates to the need to communicate complex or highly contextualized information across widely divergent cultural and lingual settings. A participant from FIELD’s DRR-sector VA process noted significant challenges in the transmission of weather and climate information. Specifically, while facilitators experienced few obstacles in the flow of information from the central government to the

district level, they had difficulty translating and transmitting information from the district to the community level due to differences in or absence of adequate language or terminology. Similarly, in Batu Putih, Sulawesi Tenggara, facilitators encountered difficulty finding local terms to explain climate change and its impacts.

Language barriers extended to the reporting stage of the VA process. In Liya Bahari Indah, Sulawesi Tenggara, where a marine-sector VA was conducted, the village head noted difficulty in understanding the VA report, suggesting that the report include a 1-2 page summary that could be easily understood and that included a section on recommendations for action.

Culturally, at times community resistance to adaptation measures impeded uptake of VA findings. Perhaps the most striking example of this resistance occurred in the urban water and sanitation sector VA conducted in Mojokerto, East Java. The project encountered strong community resistance to the construction of infiltration ponds to manage storm water runoff. This rejection delayed the timeline of the project. To overcome this barrier, village leaders built ponds at their houses and at the community schoolyard to set an example, ultimately convincing others to do the same.

Annex J presents a fuller explanation of these barriers along with examples of the VAs in which they may have blocked uptake.

FIELDWORK NARRATIVES: CULTURE/LANGUAGE BARRIERS

“The experience of abundant assistance for tsunami reconstruction is still fresh in the community’s memory. It is difficult to develop community self-help over a project. A fatalistic attitude developed from the tsunami: ‘if one is safe from the tsunami, why worry about other disasters?’” – American Red Cross-led DRR-sector VA participant in Gampong Jeumpeuk, Aceh Jaya.

“The learning process as supported by FIELD for implementation needs to be slowly staged for us due to traditional customs. For instance, in the month of Maulid, or Muhammad’s birth month, we did not replant even though it was rainy season, because people believe that plants would be eaten by pests. We need a partner to help us transition from myth to knowledge practices.” – Forestry-sector VA participant in Gayo Lues, Aceh

LESSONS AND OPPORTUNITIES IDENTIFIED FROM THE ASSESSMENT REVIEW

What are the opportunities, lessons and success factors that should be considered in the next round of USAID programming?

In approaching the next round of programming, USAID has an opportunity to strategically direct the maturation of the VA model, and how it is applied in Indonesia. The findings from this study suggest the following lessons and success factors should be considered in the future design and implementation decisions about USAID programming for CCA and DRR.

CBOs piloting activities can play a critical role in fostering uptake by local government and amongst local communities at large.

The advocacy and piloting role of local CBOs seems to be a strong pathway to local government uptake. Four of the eight cases of local government uptake originated from a CBO activity that was later replicated or scaled up by the local government authority. This infers that local governments often

adopt the recommendations from CAPs after CBOs first demonstrate the practicality and benefits of the activity. In other cases, local organizations have played an advocacy role within the community on DRR and CCA practices by popularizing them, transforming awareness and knowledge into practice at the community level. That uptake often arose out of CBO activity suggests that local pilots may be an effective way to address barriers such as a lack of coordination with Musrenbang, initial exclusion from government planning processes or lack of government resources. This is because it allows communities to present evidence as to the effectiveness of activities to local government and then lobby for uptake in a sustained manner.

This has multiple ramifications for potential programmatic design for future CCA and DRR activities, including:

Community based organizations should be identified, assessed and selected for capacity building support: CCA and DRR projects are most effective when they are done by local organizations. How potential local partnering organizations are identified, assessed and selected should be an important aspect for future programming. It also suggests that capacity building could be considered as part of program design. The farmer field schools used this approach to good effect.

Identifying potential local organizations and then building the capacity of those organizations to undertake pilot projects that are drawn from the VA and/or CAP, could be regarded as a distinct phase of the CAP process. The use of training modules and simple results based management tools can be used during this work. Efforts should be made to map existing organizations in target areas, as well as careful matching of the size of grants and scale of capacity building to organizational maturity so that temporary organizations are not created and then abandoned once funding is finished. Ideally projects should arise out of a community's understanding of their own self-interest in regards to CCA and DRR, as this increases the probability of the project achieving sustainable outcomes.

Piloted Activities with a results monitoring system can more effectively make the case for uptake. If activities are designated as pilots, then these projects should include more strenuous performance monitoring systems to capture results, which can then be used to make the case for replication or scaling up.

Local educational institutions should be identified and where possible included in the VA and CAP process. The strong record of universities and educational institutions in facilitating VAs, and subsequent DRR and CCA agenda-driven action, at the district level and provincial level, suggests that such organizations have characteristics that can facilitate the VA process and post CAP implementation of activities. This can be because of linkages and legitimacy with both local communities and government decision makers. They can also provide expert advice and access to climate change data.

Building networks is an effective way of operationalizing local DRR and CCA agendas and this mode of programming should be considered for future programming. The findings from this assessment suggest that projects have been effective when they have worked to build 'networks' of local people who, through action learning, are assisted to recognize the benefits of adopting DRR or CCA practices. Such networks increase sustainability and opportunities for scaling. In this regard, further documentation of the FFS model, as well as that from the IFACS RAPI subcontract, is recommended.

The benefits of conducting VAs at the 'local' level but actively facilitating them at the district level, the Multi Stakeholder Forum model

Indonesia has a sophisticated system of cascading governance. Each level of the Musrenbang process – as well as the sub-district, district, and regency governance bodies – can play a potentially crucial role in the adoption of a CAP, or in ensuring the legitimacy or efficacy of a VA. However, the status of the

VA/CAP model to the official governance system in Indonesia allows for some ambiguity, as for instance Munsrenbang is essentially a consultative and information gathering process. This means that uptake by local government of VA-generated CAPs is often determined by factors other than just the quality of the early VA/CAP work by implementers. Barrier analysis also identified that village level VAs could identify issues or priorities that were not broadly applicable across the governance entity in which the village lays. Variations in priorities and even the phrasing of VA findings between village level VAs in a regency could diffuse the ability of local government officials to perceive common problems and solutions across villages.

Analysis from this review – uptake findings and barrier analysis - suggest that an alternating process of local village VAs that feed into district level VAs could deliver better results in terms of synching the VA process into local government processes. In this model VAs are conducted at the village level, to ensure that they capture the views and concerns of the local population, but are then included or aggregated into a district level VA process. The district (or sub-district level) VA would have access to higher level decision-making and budgetary mechanisms, and decision makers. This approach does not make the assumption that district level decision makers will actively participate in village level VAs. It instead brings village level VAs up to sub district or district level forums. At the district level forums it would be critical to ensure the participation of key planning and public provision funding agencies, such as the BAPPEDAS (Development Planning Agency), PU (Public Works Infrastructure), and the BPM (Agency for Village Empowerment). The Forestry sector, Water Supply and Sanitation sector and the DRR sector all display elements of this model of sub district or district level multi stakeholder forums aggregating VA findings for further local government consideration. To varying degrees these forums became an ongoing part of the local governance and resource management terrain, selecting, developing and managing projects arising from the VA/CAP process. The more effective examples coalesced the necessary local government actors to work on activating VA and CAP recommendations. The Marine sector also had district level consultations however delays in writing up the village level reports generally diminished the district level forums capacity to affect uptake. Such bodies allowed projects to play an intermediary role providing technical support, advocacy, and the space to build a shared agenda between CBOs the government, the private sector, and external donors.

The above model is the closest to a general but flexible framework for structuring a VA and CAP process identified by the report, and it relates more to the linking of the VA/CAP process to local governance rather than a technical framework, which the authors felt should remain determined by the sectors technical requirements, i.e. forestry, marine, DRR or water and sanitation.

An engagement strategy to implement this form of sophisticated local government engagement strategy would be required, and would have to be crafted by the program for the area in which it was working. This strategic aspect suggests a number of potential pre- or early programming ramifications:

- Mapping best performing local institutions with the capacity to implement projects or facilitate VA and CAP processes.
- Study how to time and on-ramp VA/CAPs into local government processes at the sub-district level.
- Survey district-level government officials about how to maximize the usefulness, influence, and chances for uptake of VA and CAP processes.

Further examination of downscaling methodology and role in effective VAs is required

The most successful project in terms of uptake was CADRE. This was also the only project to employ downscaling data methodologies. While a technical appraisal of the downscaling work conducted by

Mercy Corps was outside the scope of this review, and therefore it is difficult to assess whether this was causal, it is advisable that the use of this technique in VAs be examined further.

The need to ensure that CAPs include an operationalization plan

At present, the process of undertaking a VA process, and then transforming that into CAP, can omit a final step, which is the plan of how to operationalize activities. This could include funding scenarios, what technical studies are required for particular projects (such as environmental impact studies or engineering studies), communications plan, and stakeholder mapping (which bodies should be involved in making something happen). This could also include analysis of resource allocation factors so it is explicit which government bodies are critical partners in the medium to long term. The evidence from this review is that the most effective programs in terms of uptake undertook this post CAP intermediation role, and that this was often the primary factor in uptake being achieved.

Effective facilitation and the importance of timely reporting to link into local governance processes

The barrier analysis found that the most commonly cited barrier involved a lack of coordination with local government processes. Related to this was insufficient time allotted for the VA process, and poorly timed or overly long VA processes. All of these barriers suggest that a critical component of an effective VA processes is the facilitation and report writing, so that the VA and CAP reports are written up with enough time to be included in the upcoming years Musrenbang or other local governance processes. This requires trained facilitators that can produce reports in a timely manner to reflect these scheduling imperatives.

The need to ensure that all voices are heard in the VA/CAP process

The findings suggest that involving women may lead to better adoption of knowledge provided by the VA/CAP. In a number of cases, women have been the early adopters of the VA/CAP, as well as proactive organizers of community-led projects to improve disaster preparation and climate change mitigation. In many communities this requires culturally sensitive programming to include women in the VA and CAP process. The review did not uncover information as to how other minority groups could be beneficially included in VA processes; however this aspect should be included as a factor in future programming consideration.

Building a community of practice for VA and CAP

The years of VA/CAP-based programming is building a sector of experts and practitioners: facilitators, bureaucrats, CBO service providers, and climate and disaster mitigation professionals. Coupled with the increased prevalence of the VA/CAP model for DRR and CCA in Indonesia, this means that there is already a community of practice developing. This should be encouraged and the knowledge and benefits harnessed. Through sharing approaches, tools and experiences the VA/CAP sector will perform better, and the process will become further mainstreamed into the Indonesian governance system. This requires some loose structures. USAID can assist through encouraging sharing and organizing summits and information hubs.

Supporting IMACS to mature further

IMACS is unique among the four projects reviewed in that the I-CATCH tool originated out of a coalition of national government agencies led by the Ministry of Marine Affairs and Fisheries. The tool has the potential to serve as a 'standardized' participatory assessment tool, with widespread Government of Indonesia (GOI) support. BMKG and the National Council on Climate Change (DNPI)

were also involved in the development of I-CATCH. Provincial and local government were involved during the training of trainers including the facilitators; provincial and district government officials were involved in the planning and scheduling of VAs; and village government were involved in planning, setting locations, and organizing participants for the VA/CAP process. The GOI-initiated nature of IMACS suggests the need to nurture this project.

RECOMMENDATIONS

- **Take into account post VA/CAP aims for communities when designing projects: The post CAP aims should be articulated in project’s results framework if ‘uptake’ is to be a project objective.** If post-CAP results such as government uptake are a key aim, then ensure projects are designed to play a role operationalizing plans and facilitating uptake. As outlined in the report, the intermediary capability of a project to create an agenda-driven forum, bringing together decision makers with organizations that can demonstrably implement ideas into projects, is often the key factor in achieving uptake. Post-CAP facilitation of uptake, adoption and agenda, implementation should be regarded as a separate set of aims and tasks and requires clear articulation in a project’s Theory of Change, results plan, and work plan.
- **Include local government planning cycles when designing program work plans.** Implementers should consider local government planning cycles and schedules in developing VA and CAP work plans, so that local VAs can be linked to the local government processes with enough time to be used in the process. This may require strict scheduling on report writing.
- **Consider the use of pilot projects.** The evidence was that pilot projects were effective in activating local government uptake. Pilot activities can demonstrate activity effectiveness with local government and its applicability for other communities. As described above piloting DRR and CCA activities through local organizations can provide a way to test interventions and demonstrate successes to local decision makers, as well as to the wider community. This may require appropriately developed monitoring systems so that results and lessons can be shared. Easy to use and appropriately pitched monitoring systems can be applied for small NGO grants.
- **Using multi stakeholder forums at a governance level above the village is advisable to maximize the chances of uptake of VAs by local government.** This review suggests that CAP operationalization is best achieved through conducting VAs at the village level; then supporting to CBOs to pilot activities to build local awareness/understanding and demonstrate effectiveness; then aggregating village level CAPs at district level Multi Stakeholder Forums to allow local government officials to support CCA and DRR agendas.
- **Ensure local organizations are included in project design as they are best positioned to produce a sustained CCA and DRR effort at the community level.** Introducing a CCA and DRR agenda at the local level, getting government to uptake this agenda, and changing practices at the local population level, requires local organizations working on these aims over the short, medium and long term. Fostering sustainability of USAID outcomes is usually best accomplished by local networks that are organic expressions of village-level interest, and are tied to local understanding of self-interest and benefits.
- **Engage corresponding local government agencies early and often in the VA process.** Engagement and coordination between local government agencies, and facilitators is key to ensuring

alignment with *Musrenbang*. Important actors include the Regional Body for Planning and Development (*Badan Perencana Pembangunan Daerah*, or Bappeda); Village Community Empowerment Agency (*Badan Pemberdayaan Masyarakat Desa*, or BPMD); or, in the marine sector, the Department of Marine Affairs and Fisheries (*Kementerian Kelautan dan Perikanan*, or DKP). In coordination with community leaders, the implementer should identify a district focal point from DKP, Bappeda, and other government agencies involved. Focal points can serve as project “champions”, or advocates, and liaisons between government agencies and the implementer. The implementing partner should also involve local legislative members, since members will have the final say for local government budgets

- **Write up the cases of local government investment highlighted in this report for wider dissemination.** These should not be presented as success stories, but rather as practical examples of local government investments in climate risk management that came out of the VA and CAP processes. The idea would be to stimulate thinking at the district and provincial level government as to low cost, replicable activities.
- **Ensure availability of human, financial, and data resources for effective VA processes.** The implementer should identify a pool of experts from different fields to assist with the VA process. Organizations that have been identified as good sources of DRR and CCA expertise include IPB, BMKG, and BPPT. In cases where no local experts are available, the implementer should include at least one external facilitator who has adequate understanding of local language, community facilitation, climate change, and relevant sector needs.
- **Encourage permanent learning organizations in VA communities to update climate vulnerability and disaster risk information.** The key role that educational institutions have played in a number of cases suggests that such organizations could be naturally positioned to link medium term programs and longer term needs to build local capacity in the CCA and DRR sectors. An example may be found in Indonesia Red Cross’s Disaster Risk Reduction briefing events, which could become an annual or biannual event.

ANNEX A: SCOPE OF WORK FOR THE ASSESSMENT

Background:

Indonesia is among the top 5 countries in the world in incidence of natural hazards- both geophysical and climatic. Climate change is further escalating the country's vulnerability to climatic disasters, bringing about negative structural impacts across a number of core economic sectors and, in the long term, threatening the country's territorial security and stability. The Government of Indonesia (GOI) has also recently completed a national adaptation plan; however, awareness of climate change impacts and their effect on the variability and intensity of natural disasters remains very low.

USAID/Indonesia has been funding adaptation activities through its main sectorial programs (marine, forestry and water/sanitation, disaster risk reduction-DRR) since 2010. The main focus through those programs to date has been community level vulnerability assessments (VAs) and related training to guide technical assistance. A brief summary of the sector level engagement includes:

- *Forestry* (IFACS, implemented by Tetra Tec Inc.): support for participatory community livelihood resilience assessments and follow-up community-based disaster risk management (CBDRM) capacity-building activities in forest communities;
- *Marine* (IMACS, implemented by Chemonics Int. Inc.): support for participatory community livelihood resilience assessments and action plans in coastal communities;
- *Disaster risk reduction and climate adaptation* (CADRE, implemented by Mercy Corps, World Neighbors, Project Concern Int., Lutheran World Relief, and Climate Fields School, Indonesia): support for participatory community livelihood resilience assessments, action plans, and follow-up CBDRM capacity-building activities;
- *Water supply and sanitation* (IUWASH, implemented by DAI Inc.): piloting the IUWASH Climate Change Vulnerability Assessment and Adaptation Planning Framework as a platform for systematically engaging counterpart Indonesian water utilities on climate risk reduction.

Additional vulnerability assessment work has been carried out under stand-alone grants, including to the American Red cross and the Agency for Technical Cooperation and Development, as well as under the CRIS program sub-grants to Mercy Corps and Yayasan Kota Kita that focus on urban infrastructure resilience. This body of work spans more than 200 rural, as well as a handful of urban/peri-urban, communities. A preliminary desktop review and implementing partner feedback indicate the use of multiple methodologies with little coordination or exchange of experience and lessons learned.

USAID/Indonesia's recently approved 2014-2019 Country Development Cooperation Strategy (CDCS) has identified the strengthening of Indonesia's resilience to climate and disaster risks as one of its implementation priorities. As a result, the Mission intends to design in the next round of its programming a stand-alone resilience program that will aim to achieve all/some of the following:

- Engage national and regional government level to strategically advance climate and disaster risk mainstreaming into planning and management;
- Integrate DRR and climate change adaptation activities into local development plan
- Complement USAID biodiversity and climate change mitigation programs in sectors where climate change adaptation and natural hazards are also key threats (such as marine, energy, water/sanitation); and
- Advance successful efforts from the previous round of programming;

In the design of this program, it is critical to learn from and build upon the success of the individual sector programs' experiences.

Objectives

The objective of this assessment is to learn from the vulnerability assessment components of climate change adaptation and DRR efforts of USAID/Indonesia's programming from 2010-present (IFACS, IMACS, IUWASH, CADRE, and others) to inform future planning. Of particular interest:

1. Identifying what enabled certain vulnerability assessment processes to lead to local investments in risk management; and
2. Identifying key lessons learned, best practices, and opportunities to inform USAID/Indonesia's next round of programming.

Key Questions

USAID/Indonesia is particularly interested in understanding the following from its current round of programming:

- 1) **Methods:** How have the various approaches to vulnerability assessments (VAs) been similar or different across the projects? How have the various approaches linked DRR and adaptation? How have the VAs used climate data and information? What methods led to greatest local ownership and understanding? Do the findings about methods and uptake suggest a generalizable but flexible framework for effective vulnerability assessments?
- 2) **Uptake:** Where have existing vulnerability assessments stimulated changes or the mainstreaming of climate & disaster risk management at the local level (as evidenced by influencing local budgets/regulations, local governments incorporating VAs into their planning processes and/or conducting them, etc.)? What are the characteristics of the approaches (facilitation methods, language, terminology, inclusive approaches, etc.) that have led to that success? In places where the assessments have not influenced decision-making/risk reduction investments at the local level, what were the barriers that prevented that from happening?
- 3) **Lessons and Opportunities:** What are the lessons learned, success factors, and opportunities, that should be considered in the next round of USAID programming?

The review should be gather evidence based on primary data and analysis of that data. To the extent possible within its time and resource limits, the review should also solicit key stakeholder input (including community beneficiaries, GOI counterparts, implementing partners, USAID expert staff, and other development partners).

It should also be emphasized that this is not an evaluation of the current programs, as defined by the USAID Evaluation Policy; the emphasis of the review should be on climate change vulnerabilities and adaptive practices and should focus on synthesis and comparison across projects.

Team Composition, Timeline, and Deliverables

Team Composition

The review team will need to have both strong technical expertise in CCA/DRR as well as the Indonesian context, including Bahasa Indonesia. There is a large body stand-alone activity that have not been coordinated or otherwise linked, and while required USAID reporting is done in English, many of the relevant documents (such as the VA's and action plans) are only in Bahasa Indonesian.

Duration

USAID/Indonesia has an ambitious procurement timeline for its next round of environment programming, so it is expected that the review will be completed by summer 2014. It is envisioned that the review is conducted over 7 weeks comprising of two weeks of desk review, approximately 2-3 weeks of fieldwork, and then 2 weeks of synthesis and report finalization.

Deliverables

USAID/Indonesia envisions the following deliverables as a result of the assessment:

- Synthesis Report- for public consumption, summarizing findings (excluding specific opportunities for future USAID programming). Final version, excluding the Table of Contents, Acronyms List, Tables and Charts, and Annexes, is not to exceed 20 pages.
- Synthesis Report - for internal use only. Builds upon the synthesis report but identifies specific opportunities for programming. Final version, excluding the Table of Contents, Acronyms List, Tables and Charts, and Annexes, not to exceed 30 pages, with an Executive Summary not to exceed 5 pages.

In addition, USAID/Indonesia expects the following interim deliverables:

- Work plan for the assessment process
- Desk report synthesis - an outline of the two main deliverables based on the results of the desk review that lays out the key priorities to be addressed the field portion of the study
- Slide Presentation of draft findings to USAID to be completed at the end of the field work period

The final deliverables will have the same format and materials as the draft deliverables and will incorporate USAID comments and suggestions. All quantitative data collected by the Assessment team shall be submitted to USAID/Indonesia in an easily accessible electronic format, organized and documented for use by those not familiar with the USAID/Indonesia programming. The reports and accompanying documentation will be owned by USAID and may not be used without USAID's permission

			Other ... Other	Other ... Other ...	systems Water supply Other ... Other ...	Other Other	which) Other	ic/busines s Agricult ure Fisherie s Infrastru cture Migratio n Health Other livelihoo ds Other		
7.	Project Site	Province:						Codes to correspond with the site spreadsheet			
		District (Kab) / City (Kota):									
		Village:									
		Other (please specify) ...									
8.	Report title										
9.	Report date										
10.	Report author(s)										
Vulnerability Context											
11.	What risks and vulnerabilities are informed by 1) the model(s), and 2) the tools? Please describe. <i>E.g. What context of vulnerability and risk do they illustrate?</i>	Model: Tools:						Open ended until piloted, when we can develop some closed categories.			
12.	What kind of vulnerabilities and risks frequently mentioned/dominate the VAs?	Past: Present:						Descriptive (open ended) until pilot develops closed categories.			

	- Please select and describe	Future:	
13.	<p>Are the objectives and intended outcomes for the VA listed? If so, please describe. <i>Example: (listed in introductory paragraphs) [objective] “to assist communities and local governments in improving the ability of coastal communities in adapting to climate change, and to; [intended outcomes] 1) emphasize the risks faced by coastal communities and small islands including the need required (2) identify and open space to a tiered plan adaptation and not too damaging to reflect the impact of long-term climate change, and the importantly, (3) build a strong sense of community ownership.”</i></p>	<p>Objective: </p> <p>Intended outcomes: </p>	To be used to determine the ‘success’ of each VA, in terms of what they set out to do, and what they achieved in the CAP (where relevant).
14.	How (if applicable) are CCA and DRR integrated?		Open ended, with closed responses developed through piloting.
Vulnerability Assessment (VA) Methodology			
15.	Type of, or	Participatory	Please provide the name of Closed codes

	<p>method of, vulnerability assessment</p> <p><i>E.g. whose methodology are they using? Is it a hybrid? How have they adapted/merged it?</i></p>	<p>assessment</p> <p>Model (science) driven (list below)</p> <p>.....</p> <p>Mixed</p> <p><i>E.g. such as the method used by Mercy Corps.</i></p> <p>Please specify and describe:</p> <p>.....</p> <p>Other</p> <p>.....</p>	<p>the vulnerability model or tools being used:</p> <p>Model:</p> <p>.</p> <p>.</p> <p>.</p> <p>Tools:</p> <p>.</p> <p>...</p> <p>.....</p>	
16.	<p>Have they used this VA approach elsewhere?</p> <p><i>- If included, please list where (other village/provinces) and what were the experiences were from implementing it (success story or challenges).</i></p>	No	<p>Yes</p> <p>If yes, please list and describe:.....</p> <p>.....</p> <p>.....</p>	<p>If they have used the same approach elsewhere - can cross-tab to determine whether there was a relatively similar level of success, or a great disparity of success, etc.</p>
17.	<p>Is it linked to other VAs?</p> <p><i>- E.g. as part of a programmatic approach. If yes, please list the consortium/implementers.</i></p>	No	<p>Yes</p> <p>Please list:</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>If they have used the programmatic approach, we can do a break down to determine overall program successes and failures.</p>
18.	<p>Have they developed or adapted an approach specifically to be rolled out/taken up/or used elsewhere in their other programs - current or</p>	No	<p>Yes</p> <p>If yes, please describe:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>Open ended (code by implementing partners and then look at which are using a roll-out approach).</p>

	future? - How?				
19.	<p>Please provide a brief description of the scale and type of assessment:</p> <p><i>For example: does the VA target a homogeneous community group, such as a small village of one crop typed farmers, or a full eco-shed, with a range of groups and resource uses, or an urban area where there may be less of a 'cohesive' community type?</i></p>				<p>Checkbox, e.g. watershed, peri-urban, urban, village, ecosystem, sector. (This can be coded by theme – after a first selection has been done)</p>
20.	Variables of the model: source, characteristics, and properties.	Variables Used in the model	Source (who developed the model):	Characteristics (the assumptions informing the model):	Properties: (if there are academic or secondary resources cited, please mention):
21.	Steps of the VA activities:	1..... 2..... 3..... 4..... 5..... 6..... 7..... 8..... 9..... 10..... 11..... 12..... 13..... 14..... 15..... 16..... 17.....			<p>This can be checkboxes (multiple option, and ranked in step order, post pilot)</p>

Data/Information Collection and Use

22.	What types of data were used in the assessment?	Name of data:	Types of data: Rainfall Temperature Water Resources/drought Flood mapping Statistics Scenario based data Downscaled data Local knowledge Other (please specify):	Source of data: <i>Where are they sourcing the data from (e.g. local government, resources from government agencies, ministries, local knowledge)?</i>	Remarks/Quality of the data. <i>For climate data, please explain whether based on seasonal calendar or qualitative information/perception of the communities.</i> <i>For quantitative data, please explain the period of the data (e.g. since 1970s?) or since 2000s:</i>
23	For rainfall scenario (downscaled), what is the range of future scenario being made?	<ol style="list-style-type: none"> 1. No future climate scenario [only the past and present climate is presented] 2. 10 year scenario 3. 20 Year scenario 4. 30 Year scenario 5. 50 Years scenario 		Source of data:	If possible to confirm
24	For temperature scenario (downscaled), what is the range of future scenario being made?	<ol style="list-style-type: none"> 1. No future exposure scenario [only the present population is presented] 2. 10 year scenario 3. 20 Year scenario 4. 30 Year scenario 5. 50 Years scenario 		Source of data:	If possible to confirm
25	For population exposure scenario what is the range of scenario being made?	<ol style="list-style-type: none"> 1. No future exposure scenario [only the present population is presented] 2. 10 year scenario 3. 20 Year scenario 4. 30 Year scenario 5. 50 Years scenario 		Source of data:	If possible to confirm
26	How have they made climate change an issue for 'the community'? – How have they framed climate change impacts, and conveyed them? What resources or communication	<i>Please select all that apply:</i> <ol style="list-style-type: none"> 1. Visual mapping (Please specify type): 2. Food security (Please specify how): 3. Capacity building (Please specify how): 		<i>Time period for each:</i> <ol style="list-style-type: none"> 1. (No#)(Unit of measure)..... .. 2. (No#)(Unit of 	Check boxed [closed] categories with an option for open-ended response. Numerical for time scales

	<p><i>materials have they used?</i></p>	<p>.....</p> <p>4. Facilitator (Please describe process):</p> <p>5. Seasonal calendar</p> <p>6. Community resource mapping (specify resources):</p> <p>7. Other (specify)</p> <p>8. Other (specify)</p> <p>9. Other (specify)</p>	<p>measure).....</p> <p>..</p> <p>3. (No#)(Unit of measure).....</p> <p>..</p> <p>4. (No#)(Unit of measure).....</p> <p>..</p> <p>5. (No#)(Unit of measure).....</p> <p>..</p> <p>6. (No#)(Unit of measure).....</p> <p>..</p> <p>7. (No#)(Unit of measure).....</p> <p>..</p> <p>8. (No#)(Unit of measure).....</p> <p>..</p> <p>9. (No#)(Unit of measure).....</p> <p>..</p>	
27	<p>How was data obtained?</p> <p><i>E.g. Did they work with the community to identify the data available? Was it observational, from the</i></p>	<p>Please provide a description:</p>		<p>This most likely will need to be descriptive until we can develop some theme categories for coding.</p>

	<i>community monitoring weather patterns (e.g. set up of local collection through internet), did they use statistical data or mapping and downscale it to the local areas, or other information available to their area that they've used?</i>		
28	Who provided data (which stakeholder)?		Checkboxes. We can auto fill from the selections made at Q 27
29	Please provide comment on how easily the data was used and applied (<i>if this information is provided</i>).		Open ended
30	Do you need to pay for the data?	1 Yes; 2 No; If Yes, what level of data you need to pay? How much is the price for the data?	The description can be Open ended, with closed responses developed through piloting.
31	Was there a distinction made in the analysis of climate variability versus climate change?	No	Yes If yes, please specify what:
32	For top down (science driven) VA models (or tools) does the VA offer predictions/scenarios? <i>E.g. - Does it outline, for example, if 1 degree increase, what would the likely impact be, and what action</i>	Please describe:	Open ended

	<i>should be taken as response?</i>		
Community Participation and Engagement			
33	Who led the VAs? - Please check appropriate categories and provide the number of people leading for each:	Government No#. Community No#. NGO No#. Other No#. Other. No#.	The coding should show no# of leaders, as well as its category (gov, community, NGO, etc.)
34	Were any facilitators involved in the VAs?	No	Yes If yes, please indicate if they were: From inside the community (No.#) From outside the community (No.) From both inside and outside the community (No# from inside....) (No# from outside....)
35	If facilitators were involved, how long did it take to train them in conducting the VAs?	Less than 1 week 1 week to 2 weeks 2 - 4 weeks 4 - 6 weeks 6 - 8 weeks 8-12 weeks 12 -16 weeks 16 weeks +	Numerical code
36	How were the facilitator(s) recruited and trained, and why were they selected?	<i>Please provide a description:</i>	Can be coded by theme post pilot
37	What (if any) strategies were utilized to increase 1) community involvement and 2) local or Provincial	<i>Please provide a description (did they use 'champions' to get community or government on board, for example, and if so, who are they and what is their role? If from the community - what is their standing in the community? If from government - which agency? Which rank?)</i>	Open ended (if the pilot findings allow, we can develop themes for closed coding early on).

	government involvement			
38	How many different individuals and groups were involved? Please provide the number of participants and classification(s).	<p>Total number of participants...</p> <p>Gender composition:</p> <p>Males No#...</p> <p>Females No#....</p>	<p>Occupation (please list and provide number from each occupation group):</p> <p>Agriculture</p> <p>Fishing</p> <p>Public servant</p> <p>Forestry</p> <p>University</p> <p>NGO/Community Organization</p> <p>Business holder</p> <p>Indigenous</p> <p>Other (please specify).</p> <p>Other (please specify).</p> <p>Other (please specify).</p>	<p>Total number of groups:.....</p> <p>Group representation (stakeholders). Please list groups represented, and the number of participants from each:</p> <p>1. Name of group..... Role:.....No#..</p> <p>2. Name of group..... Role:.....No#.</p> <p>3. Name of group..... Role:.....No#.</p> <p>4. Name of group..... Role:.....No#.</p> <p>5. Name of group..... Role:.....No#.</p> <p>6. Name of group..... Role:.....No#.</p> <p>7. Name of group..... Role:.....No#.</p> <p>8. Name of group..... Role:.....No#.</p> <p>9. Name of group..... Role:.....No#.</p> <p>10. Name of group..... Role:.....No#.</p> <p>11. Name of group..... Role:.....No#.</p> <p>12. Name of group..... Role:.....No#.</p> <p>13. Name of group..... Role:.....No#.</p> <p>14. Name of group..... Role:.....No#.</p> <p>15. Name of group..... Role:.....No#.</p>
39	In what ways did community members participate?	Please describe:		A range of 'ladder of participation' codes to be developed in pilot.
40	Does the document identify who or what determined who was in attendance? - E.g. Is there	Please describe:		Open ended.

	<i>criteria for participation?</i>		
41	<p>What was their period of engagement for relationship building with the community?</p> <p><i>How long was the relationship-building phase?</i></p>	<p>Less than 2 weeks</p> <p>2-4 weeks</p> <p>4- 6 weeks</p> <p>6-8 weeks</p> <p>8 - 10 weeks</p> <p>10 - 12 weeks</p> <p>12 - 14 weeks</p> <p>4 - 16 weeks</p> <p>16 - 18 weeks</p> <p>18 - 20 weeks</p> <p>20 - 22 weeks</p> <p>22- 24 weeks</p> <p>24- 26 weeks</p> <p>26 - 28 weeks</p> <p>28 - 30 weeks</p> <p>30 - 32 weeks</p> <p>32 - 34 weeks</p> <p>34 - 36 weeks</p> <p>36 - 38 weeks</p> <p>38 - 40 weeks</p> <p>40 - 42 weeks</p> <p>42 - 44 weeks</p> <p>44 - 46 weeks</p> <p>46 - 48 weeks</p> <p>48 - 50 weeks</p> <p>One year</p> <p>1- 2 years</p> <p>2 years plus</p>	Code per time period
42	Please provide any further description of 'how' they have engaged the community:		Open ended. If themes arise for closed response coding in the pilot, we can code.
43	<p>How technical is their approach?</p> <p><i>- Have they 'broken it down' to a basic level so that it can be easily understood and encouraged the community's ownership of the process and future sustainability?</i></p>	Please describe how:	Open ended. If themes arise for closed response coding in the pilot, we can code.

Community Action Plans (CAP)

44	Report title:		
45	Report date		
46	Report author(s)		
47	What is the time period between the VA and the CAP?	Less than 2 weeks 2 weeks to 1 months 1 - 2 months 2 - 3 months 3 - 4 months 4 - 5 months 5- 6 months 6 - 7 months 7 - 8 months 8 - 9 months 9 - 10 months 10 - 11 months 11 - 12 months 12 - 18 months 18 - 24 months 24 months plus	
48	Is a timeline provided for the CAP, and if so, was the CAP finalized prior to the planning process for government (<i>i.e. was the CAP timeframe aligned with planning timelines for incorporation</i>)?	No	Yes If yes, please provide a description of the process:
49	Were specific known action plan approaches or templates used, or were the templates generated for this application?	No.	Yes If yes, please outline:
50	Does the VA inform a separate CAP or does the VA document include CAP as one single document?	The VA and the CAP are included as a single document	The VA informs a separate CAP document

Community Participation			
51	Who led the action planning process? <i>- Please check appropriate categories and provide the number of people leading for each:</i>	Government No. Community No. NGO No... Other No. Other No.	The coding should show no# of leaders, as well as its category (Govt, community, NGO, etc.)
52	How many different individuals and groups were involved? <i>- Please provide the number of participants and classification(s).</i>	Total number of participants:..... Gender composition: Males No..... Females No.....	Occupation (please list and provide number from each occupation group): Agriculture Fishing Public servant Forestry University NGO/Community Organization Business holder Indigenous Other (please specify) Other (please specify) Other (please specify)
			Total number of groups:..... Group representation (stakeholders). Please list groups represented, and the number of participants from each: 1.Name of group..... Role:.....No#.. 2.Name of group..... Role:.....No#. 3.Name of group..... Role:.....No#. 4.Name of group..... Role:.....No#. 5.Name of group..... Role:.....No#. 6.Name of group..... Role:.....No#. 7.Name of group..... Role:.....No#. 8.Name of group..... Role:.....No#. 9. Name of group..... Role:.....No#. 10. Name of group..... Role:.....No#. 11. Name of group..... Role:.....No#. 12. Name of group..... Role:.....No#. 13. Name of group..... Role:.....No#. 14. Name of group..... Role:.....No#. 15. Name of group..... Role:.....No#.
53	In what ways did the stakeholders participate?	Please describe:	A range of 'ladder of participation' codes to be developed in pilot.

54	Does the CAP identify who or what determined who was involved in the process and why? <i>- E.g. Is there criteria for participation?</i>	No	Yes <i>- If yes, please describe:</i>	Open ended. Open ended. If themes arise for closed response coding in the pilot, we can code.
55	What was their period of engagement for relationship building with the stakeholders in the process? <i>- How long was the relationship building phase?</i>	Less than 2 weeks 2-4 weeks 4- 6 weeks 6-8 weeks 8 - 10 weeks 10 - 12 weeks 12 - 14 weeks 14 - 16 weeks 16 - 18 weeks 18 - 20 weeks 20 - 22 weeks 22- 24 weeks 24- 26 weeks 26 - 28 weeks 28 - 30 weeks 30 - 32 weeks 32 - 34 weeks 34 - 36 weeks 36 - 38 weeks 38 - 40 weeks 40 - 42 weeks 42 - 44 weeks 44 - 46 weeks 46 - 48 weeks 48 - 50 weeks One year 1- 2 years 2 years plus	Please provide any comments:	Code per time period and open ended for comment.
56	Please provide any further description of 'how' they have engaged the stakeholders. <i>- In what way were the stakeholders involved? - How did they ensure that the most relevant</i>			Open ended. If themes arise for closed response coding in the pilot, we can code.

	<i>members of the community were involved, and how did they ensure that everyone felt like their voice mattered?</i>			
57	Does the CAP identify who or what determined who was in attendance? - E.g. Is there criteria for participation?	No	Yes - If yes, please describe:	Open ended.
58	Do they have a working group established? - Who is the working group comprised of?	No	Yes - If yes, please describe the set-up of the working group, and who is involved:	Open ended.
From VAs to CAP				
59	To what degree does the CAP incorporate site-specific VA recommendations? - E.g. What information is collected from whom? Which elements of the VA made it into the community action plan (if applicable)? Was it combined?	Please describe:		This can be coded according to themes developed through the piloting.
60	What other ways did the VA reports visibly influence Action Plans?	Please describe:		This can be coded according to themes developed through the piloting.
Uptake				
61	How has the community action process	Please describe:		This can be coded according to themes developed through the piloting.

	gone about strengthening the linkages between the community and local government?				
62	<p>Is there any evidence (and if so, what) that the VA and/or the CAP reports have influenced budgets for community- or higher-level action?</p> <p><i>If this information is not included in the CAP documents, is it included in the additional and background documents provided (please note in which for follow-up)?</i></p> <p><i>If there is evidence - how have they coordinated with budget planning? Who's and how? Which policy cycles have they linked with (for mainstreaming)?</i></p>	No	Yes - If yes, please describe:	Additional documents referenced:	This can be coded according to themes developed through the piloting.
63	<p>Is there indication the CAP has been adopted or mainstreamed by the respective government/local governments?</p> <p><i>- If yes, in what way? What are the factors mentioned or implied in the</i></p>	No	Yes - If yes, please describe:		This can be coded according to themes developed through the piloting.

	<i>documents that mainstreaming took place?</i>			
64	Please indicate whether the VA and/or the CAP visibly influenced government policy and planning, and at which stage/cycle?	No	Yes - If yes, please describe:	This can be coded according to themes developed through the piloting.
65	Did the VA or CAP stimulate investment in risk management in the host community?	No	Yes - If yes, please describe:	This can be coded according to themes developed through the piloting.
66	Is there any other mention of investments due peripheral to the VA process?	No	Yes - If yes, please describe:	This can be coded according to themes developed through the piloting.
Lessons Learned, Best Practices, and Recommendations				
67	Please explain any key recommendations, learning, or interesting findings that are pertinent to the vulnerabilities described previously			Open ended
68	What are the major challenges highlighted in the document overall?			Open ended
69	What was the overall catalyst for getting involved? - E.g. floods, drought? What was the overall 'hook' into			Open ended

	<i>the target group/community ? Where and when did this occur and how was timing relevant to climate related issues (i.e. how might opinions have been altered due to ongoing climate conditions)?</i>		
70	Are there any further comments on how have they tapped government leadership (if applicable)?		Open ended
71	Other Relevant Documents: - Include as many other relevant documents as were found/reviewed that provided insights on the assessment process, e.g. documents concerning the impact of the VA/CAP, success stories of VA/CAP being adopted by respective stakeholders, etc.	Enter Document Name or Type (if no title): 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	
72	Additional findings/subsequent actions or events that make the importance of the VA in this community clearer:		
73	Additional	Priority:	Rationale: Likert scale (1-5) ranking priority.

	notes: In your opinion, would you recommend this site is selected as candidate for fieldwork and why?			Open ended for rationale.
74	Are there any issues that need to be followed up during the fieldwork?	Please describe and indicate with which stakeholder(s):		Open ended

ANNEX C: VARIABLE FRAMEWORK FOR DESK REVIEW ANALYSIS

Identifying Variables

Template #	Variable	Data Source
	Unique case ID	Pre coded

Outcome Variables

Template #	Variable	Data Source
	Community Action Plan prepared (y/n)	Project reports or CAP document
	Evidence of CAP existence	CAP document
	CAP reflects VA findings (y/n)	Project reports or interviews
	Evidence that CAP reflects VA	Specific sections of CAP document
	Community level action taken based on VA findings (or sections of CAP based on VA) (y/n)	Project reports or interviews with community representatives
	Evidence that community level actions were undertaken based on VA (or sections of CAP based on VA)	Written documentation of activities undertaken or observation of same
	Local government budget reflects VA findings (y/n)	Project reports or interviews with LG representatives
	Specific evidence that LG budget reflects VA (or related sections of CAP)	Identify specific sections of budget
	Local government regulation reflects VA findings (y/n)	Project reports or interviews with LG representatives
	Specific evidence that LG regulations reflects VA (or related sections of CAP)	Identify specific regulations or sections thereof
	Local government and/or private investment in risk management stemming from VA (y/n)	Project reports or interviews with LG or private sector representatives
	Specific evidence of investments that stem from VA (or related sections of CAP)	Identify specific regulations or sections thereof

VA Process Variables

Template #	Variable	Data Source
	Project Name	Desk review template
	Sector	Desk review template
	Sub-sector	Desk review template
	Implementing Partner Name	Should be pre-coded in template, including subs
	Type of Vulnerability Assessment	Desk review template
	Scale of Assessment	Desk review template
	Name of the model used	Desk review template
	Variables in the model	Desk review template
	Steps in the model	Desk review template
	Assessment lead or who conducted the VA	Desk review template
	Number of groups involved	Desk review template
	Types of groups involved	Desk review template
	Linkage with DRR and adaptation	Desk review template
	Climate data and information	Desk review template
	Local ownership and understanding	Desk review template
	Participants involved (gender, stakeholders, quantity,	Desk review template
	Who drove the process?	Desk review template

Context Variables

Template Number	Variable	Data Source
	Project Site – Province	Desk review template
	Project Site - District	Desk review template
	Project Site - Village	Desk review template
	Population by Province	Statistics Indonesia: Population by Province, 2010
	Percent living below the poverty line in province	Indonesia Statistics Bureau: Poverty Severity Index by Province, September 2013: Province/Regency/City in Numbers 2013.
	HDI in Province	Indonesia Statistics Bureau: Human Development Index by Province, 2012: Province/Regency/City in Numbers 2013.
	Illiteracy Rate in Province	Statistics Indonesia: Illiteracy Rate +15 by Province, 2012: Province/Regency/City in Numbers 2013.
	Disaster occurrences	EMDAT-CRED, DIBI (BPNB)

ANNEX D: INTERVIEW PROTOCOLS

Interview Protocol - USAID and Implementing Partners

Background

In this assessment of Vulnerability Assessments (VAs), USAID/Indonesia is looking to identify what enabled certain VA processes to lead to local investments in risk management, and to identify key lessons learned, best practices, and opportunities to inform their next round of programming.

Vulnerability Assessment as a Diagnostic Process

- If you were to do the entire VA process all over again, how would you do it and what would be different from the first time? Why?
- Could you tell me about a VA that you feel was successful?
- What are the key lessons/challenges you have identified from the VA processes? (E.g. access to necessary and high-quality data, human resources, and technology?)
- Based on your experience, which VA model(s)/framework(s) do you prefer to work with? Why?
- Based on your experience, which VA model(s)/framework(s) best capture the context of climate change vulnerability and risks most comprehensively?
- How were the VA models that you consider as the 'best fit' chosen for the context of risk and vulnerability in the selected region(s)? Are there particular sources or literature that you suggest USAID consider for informing VAs in the future? Why?
- Could you tell me about a community action plan (CAP) experience that you feel was successful?
- Did (local) governments you've worked with adopt the VA/CAP tools/models/framework?
- What VA methods do you believe led to greatest local ownership?

Vulnerability Assessment and Community Action Plan as Solution-Oriented Process:

- If you were to do the entire CAP for climate adaptation and disaster risk relief (DRR) all over again, how would you do it and what would be different from the first time? Why?
- Could you tell me about a CAP that you feel was successful?
- What are the key lessons/challenges you have identified from the CAP processes? (E.g. access to necessary and high-quality data, human resources, and technology?)
- How have the various CAP approaches linked DRR and adaptation?
- How have the VAs used climate data and information?
- Under what condition(s) were local governments or communities willing to adopt both diagnostic elements and solutions generated from the VAs/CAPs for their own policies and practices?
- What methods do you believe led to the greatest local ownership and understanding?
- What are/were the conditions for successful adoption of CAPs by the respective actors/stakeholders
- What would you recommend be considered in the next round of USAID programming regarding vulnerability and adaptation?

Suggestions for Field Work

- **For climate change adaptation and DRR integration:** Under what conditions can DRR and CCA can be better integrated? At what stage(s) and level(s)?
- Are there any best (or good) practices that you suggest we look at?
- Do you have any suggestions for VAs or CAPs that we should look at in your area?
- Would you suggest one or two areas that is/are considered to have the most successful implementation?
- Would you suggest one or two areas that is/are considered as the most challenging but can provide learning for future interventions?
- Do you have any particular questions or concerns that you would like us to take note?
- Do you have any list of names or contacts that you think we should interview to get additional information regarding these questions?

ANNEX E: ASSESSMENT METHODOLOGY

Technical Approach

The assessment used a mixed-methods approach combining qualitative, quantitative and meta-analysis of VA models used in USAID climate adaptation projects in Indonesia. The bulk of the analysis was derived from study of community-level VAs from the IMACS, IFACS, IUWASH, and CADRE projects.

A Mixed-Methods Assessment Approach

The goal of the assessment was to provide a “thick narrative” based on evidence to illuminate what constitutes ‘best practice’ in VAs and how it increases the chances of local investments in climate risk management. Using a mixed-methods approach, the study generated findings and developed conclusions and recommendations, based on a qualitative narrative that is supported by quantitative measures where feasible. Much of the quantitative analysis was examining how characteristics corresponding to VA types correlated to development outcomes of investment in climate risk management. The quantitative analysis has been used to provide contextual and content analysis in support of the qualitative research.

Determining the VA Universe

Table I shows the breakdown of host communities by project, VA identified and received by the review team, desk reviews undertaken and sites visited for the fieldwork portion of the review. A number of projects have multiple implementing organizations through the contract.

Overview: Three Phases

The VA review was conducted in three phases:

1. Phase one: desk review of the Vulnerability Assessment documents from each of the four projects (IMACS, IFACS, IUWASH, and CADRE). Key to this phase was the use of a desk review template, and the delivery of an initial desk review report.
2. Phase two: Site visits to locations in which reviewed VA processes had been conducted. The fieldwork activities included meeting key stakeholders from the spectrum of available of stakeholders.
3. Phase three: Data analysis synthesis and preparation and finalization of project deliverables.

The aim of a three phases was to construct a strong mixed-methods approach so that report findings are produced and corroborated from a number of different analytical perspectives, and that the evidence base for all findings is explicit and well documented, and the evidence chain to infer conclusions from findings was also very clear. For phase one using a template questionnaire applied across the selected sample enabled commonalities and differences between the VAs studied to be systematically identified and tabled. This provided the opportunity for distinct models to emerge, and for a variety of quantitative and qualitative analytical techniques to be applied. The field research in phase two was an opportunity for the field team to gain invaluable understanding of different forms of VA processes and how they worked in reality. It also focused strongly on the uptake questions. What changes did the VA processes produce in the communities. The uptake data gathered during the field work allowed both qualitative and quantitative analysis to be applied synthesizing the process and categorical information from phase one with phase two results data. In this way during phase three analyses could be undertaken to examine and describe the interaction between VA design, implementation, and development outcomes.

Identification of Best Practices for VAs

Critical to the analytical methodology of this assessment was the identification of ‘best practice’, or elements thereof, for conducting vulnerability assessments in Indonesia. To identify “best practices,” an operational definition of this term is required. For the purposes of this study, the assessment team used the common definition of a “best practice” as a process, tool, or approach that most consistently leads to one or more desired outcomes. USAID’s Scope of Work (SOW) for this assessment (see Annex A) identifies the desired outcomes as a set of process and results that follow on from a VA in a community organized by a USAID project. The desired outcomes include, among other things, the preparation of a Community Action Plan (CAP); clear evidence of the influence of the VA on the CAP; actions taken by the community to implement the CAP (based on evidence that shows this); local government budgets and regulations that reflect VA outcomes (and specific evidence that shows this); and local government and/or private investment in climate risk management that follows from VA outcomes (and evidence thereof).

Phase One: Desk Review

The desk review analyzed 66 separate VA documents out of a total of 102 identified VA processes using a review template. As the primary document representing a vulnerability assessment process and the interaction with a community behind that document, the documents were taken to be critical primary source material for understanding the underlying assumptions, processes and methodology behind a VA process.

The VA processes were selected from the four main projects (CADRE, IMACS, IUWASH, and IFACS), as well as a smaller number of stand-alone assessments such as the ARC Integrated Risk Reduction Reports. The sampling methodology is explained later in this section.

The template questionnaire included a mix of open-ended (qualitative) and close-ended (quantitative) questions. In all there were 74 items included in the desk review template. Items were a mix of close ended and open-ended questions. A variable framework is included in Annex D. The template provided a way to illuminate and categorize how the VAs under review were organized and carried out, and what methods and assumptions underpinned the VA processes.

The desk review used a mixed-methods approach including quantitative analysis of close-ended answers in the template questionnaire, qualitative analysis including content analysis and thematic coding of the open-ended questions, and the assessment team’s subject matter expertise to guide the synthesis of the different analysis approaches.

Desk Review Process

The assessment desk review phase encompassed a number of sequential tasks:

- 1) The desk review template questionnaire was finalized in collaboration with USAID/Indonesia, the assessment team, and the E3 Analytics and Evaluation Project home office team. The template design incorporated input from preliminary interviews with USAID/Indonesia’s implementing partners for the VAs, as well as the results of a piloting phase.
- 2) The assessment team leaders for the desk review team piloted entering a VA process in the template to better understand practical concerns associated with inputting data.
- 3) Reports associated with the 67 VA processes selected for analysis were divided among the assessment team for the desk review.
- 4) The desk review team leaders provided training for the remaining researchers on how to use the desk review template. This included inter-rater reliability testing to ensure common understanding

of each question and how team members should input data. Additional discussion of this inter-rater reliability calibration is included later in this section.

- 5) Each team member reviewed their VA documents and entered data into the template. Core elements of each VA that were entered into the template included:
 - a. How the VA process was carried out (process variables)
 - b. Vulnerabilities addressed
 - c. Type of Information sought
 - d. Modes of communication and implementation details
 - e. Methods of analysis
 - f. Whether the documentation reviewed identified any results
- 6) The desk review team uploaded completed templates into an online platform via Google Docs and/or a Word document, at which point they were reviewed by the desk review team leaders to ensure consistency of coding and information, especially for open-ended questions. This provided a basis for document aggregation, meta-analysis, and synthesis.
- 7) The preliminary desk review analysis was led by the Assessment Principal Investigator in collaboration with the desk review team leaders and the E3 Analytics and Evaluation Project home office team, including the synthesis of qualitative and quantitative data that were incorporated into this Report.

Qualitative Analysis

The qualitative analysis for this desk review went through several stages. Initial analysis of each VA document was done by individual researchers, which resulted in the production of an individual desk review report for each of the 66 VAs. This data was used as the basis for the overall research and analysis that went into writing this report. A secondary analytical effort involved a content analysis that coded key themes within the open-ended questions for each VA process and then aggregated and cross-tabulated these themes across all 66 VA processes to identify and describe commonalities.

Quantitative Analysis

Close-ended questions were transposed from the online templates or Word documents into Excel and then a SPSS file. This data was used to produce frequency analysis for answers and to conduct some cross-tabulations of aggregated data across questions. The aim was to inform the qualitative analysis and to begin the process of identifying possibly meaningful correlations between assessment design and process characteristics and VA outcomes in terms of local communities and governments using the VAs to drive investments for risk management. This final aspect, mapping development outcomes (uptake) that can be traced back to specific VAs, was completed as part of the Final Assessment Report.

Synthesis

The synthesis was the combining of the qualitative and quantitative data to identify and examine different variables related to VAs design, implementation and some provisional outcomes. Prior to the start of phase one it was thought that some of the VA documents would have details about uptake results, however this proved to be almost uniformly not the case.

Literature Scan

A literature scan was conducted at the beginning of the desk review, which covered both the VA and CAP documents as well as supporting documents provided to the assessment team by USAID/Indonesia. The supporting documents include project updates, evaluation reports, training manuals, and VA manuals. The desk review also validated existing VA information with agency websites and the parent websites of models such as the USAID/NASA SERVIR project (being used by IFACS).

Sampling

Out of a total of 102 identified VA processes for which documentation was available, the desk review sampled 67 separate processes. One of the CADRE VA processes, however, was not reviewed, reducing the sample to 66 processes. Sampling was undertaken to ensure that an effective representation of the various USAID/Indonesia VA processes was reviewed. The unit of the analysis used for sampling was per VA. Each VA unit contains the VA report(s) and CAP as well as supporting documents judged by the assessment team to be relevant.

The assessment team used a multi-stage sampling strategy. For three projects (CADRE, IUWASH, and IFACS), a full review of all available VA documents was conducted - 27 documents in total. For IMACS, a semi-stratified random sampling procedure was used in which every province and district was included the sample, and each sub-district where there were more than four villages was also represented. Since some sub-districts had between one and five villages being piloted by IMACS, the team recommended only three to four maximum per sub-district. This resulted in a total of 20 villages per province. In total, there were 40 IMACS VAs included in the sample. Table 1 outlines the sampling results for the desk review.

TABLE 7: DESK REVIEW SAMPLING

Project	# of VAs with Available Documentation	# of VAs Included in Desk Review Sample
CADRE-Mercy Corps	5	5
CADRE-PCI	11	10
CADRE FIELD	1	1 (1 document for 20 villages)
ARC	5	5
IUWASH	2	2
IMACS	75	40
IFACS	3	3 (workshop reports)
Total	102	66

- For IMACS, the total documents sampled included 20 for the Sulawesi Tenggara area and 20 for Nusa Tenggara Barat (NTB)/West Nusa Tenggara. The locations within the province were then selected based on geographical location. The selection of villages for IMACS followed a random sampling selection process using a coding system of 1-20. The 20 locations for Sulawesi Tenggara represent an equal number of VAs from the 6 city/districts (3 from Konawe Selatan, 3 from Kota Baubau, 3 from Baubau, 4 from Wakatobi, 4 from Kota Kendari, and 3 from Muna). However, given that there are a total of 24 locations for the NTB, almost all villages were selected for the sample with only 3 districts (Lombok Barat with 2 VAs, Lombok Tengah with 9 VAs, and Lombok Utara with VAs).
- The CADRE VAs selected include 5 from Mercy Corps (each covering multiple sites); 1 from FIELD (a summary VA covering 20 villages/sites) and 11 from PCI Village Disaster sites.
- Both IUWASH VAs were included in the sample, in Pematang Siantar (North Sumatra) and Mojokerto (East Java).
- IFACS: 3 workshop reports on Climate Change Vulnerability and Adaptation were sampled, in Aceh (Aceh Selatan, Aceh Tenggara, & Gayo Lues), Papua (Sarmi, Mamberamo Raya, Mimika and Asmat), and West Kalimantan (Ketapang & Kayong Utara).
- Additional VA work was carried out under stand-alone grants, and 5 ARC Community-Based Integrated Risk Reduction Reports were included in the sample.

Inter-Rater Reliability

An inter-rater reliability (IRR) calibration exercise was incorporated into the desk review process in order to minimize subjectivity from desk review team members entering VA documents into the template questionnaire, and to provide a consistent explicit structure on which to base reviewer judgments. To help ensure IRR, the desk review team used a collaborative process of group discussion, group scoring exercises, peer review, and periodic IRR tests during the desk review process. This process allowed the desk review team to identify challenges and come to consensus on definitions and a potential checklist of requirements for some questions. The full IRR process and Team Collaboration Management Protocol is included in Annex E.

Supplemental Interviews

In addition to the review of VA documents, supplemental interviews with the following individuals in order to inform the desk review:

- USAID/Indonesia staff involved in the VAs
- Implementing partners of IUWASH, IMACS, IFACS (FIELD), and CADRE (Mercy Corps), to provide background on the VAs and information related to the projects and VA process carried out, including the VAs approach and feedback on what was and was not viewed as successful, and to receive recommendations for VA processes.
- USAID/Indonesia held an Adaptation Partners meeting in Jakarta on May 19, in which implementing partners gave presentations on their adaptation activities (and VA processes). Assessment team members attended this meeting, and information gathered is included as part of the typology of VA approaches detailed in the following section.

Phase Two: Field Work

Fieldwork took place between May 24th and June 13th and involved at times four separate teams or individuals visiting 26 sites on six Islands across 10 provinces and 21 districts. Many of the sites were remote and involved significant travelling time. A list of the sites follows:

Site Visited	Implementing Project
West Sumatra: including sites in Padang Pariaman, Gayo Lues, Kayong Utara/Kalimantan.	CADRE
West Sumatra; Kelurahan Bungo Pasang	CADRE
West Sumatra: Puluik-Puluik	CADRE
Maluku: Sirimau and Haruku	CADRE
Bengkulu: Maje Kabupaten Kaur, Desa Sumber Harapan	CADRE
Bengkulu: Maje Kabupaten Kaur, Desa Linau	CADRE
Aceh: Setia Bakti, Gampong Baro	CADRE
Aceh: Sampoi Niet, Gampong Jeumpheuk	CADRE
Aceh: Aceh Selatan, Aceh Tenggara, and Gayo Lues	IFACS

West Kalimantan: Ketapang and Kayong Utara	IFACs
Sulawesi Tenggara: Konawe Selatan, Desa Batu Putih	IMACS
Sulawesi Tenggara: Baubau, Kelurahan Kaliaia	IMACS
Lombok: Lombok Tengah, Desa Kidang	IMACS
Sulawesi Tenggara: Konawe Selatan, Desa Langgapulu	IMACS
Sulawesi Tenggara: Wakatobi, Desa Liya Bahari Indah	IMACS
Lombok: Lombok Tengah, Desa Sengkol	IMACS
Lombok: Lombok Utara, Desa Sigar Penjalin	IMACS
Lombok: Lombok Utara, Desa Sokong	IMACS
Lombok: Lombok Utara, Desa Tanjung	IMACS
Sulawesi Tenggara: Wakatobi, Desa Waetuno	IMACS
Sulawesi Tenggara: Kota Bau-Bau, Kelurahan Liwuto	IMACS
Sulawesi Tenggara: Kota Kendari, Kelurahan Talia	IMACS
Sulawesi Tenggara: Kabupaten Muna, Desa Latawe	IMACS
Lombok: Lombok Tengah, Desa Mertak	IMACS
Jawa Timor: Mojokerto	IUWASH
Sumatra Utara: Pematangsiantar	IUWASH

Site Selection

The selection of which sites were visited was a combination of ensuring that all projects were represented and by the practicality of travelling around the widely dispersed area that encompasses all of the eligible field sites. The logistical aspect was compounded by the need to liaise with a multitude of individuals and stakeholders for each site visit to ensure proper representation. Also taken into account was feedback from USAID as to where they would like the field team to visit and information provided by the implementing partners. There was also some clustering of site visits based on logistics to maximize the number of locations the assessment could visit with limited resources and time.

Initial contact with stakeholder was arranged through the implementing partners who assisted in arranging the trips.

Field Work Approach and Use of Interview Protocols

The objective of the fieldwork was to conduct in-depth interviews with stakeholder representatives to discuss their perceptions of the VA process and its results. The field visits met with a wide spectrum of stakeholders, particularly participants in the VA formulation process. The field visits were largely a mix of key informant interviews and larger group interviews. For all field visits an established protocol was

used across all sites. Five separate protocols were developed and used across the sites visited depending on the stakeholder group being interviewed. The fieldwork was preceded by a training workshop for all field teams in Jakarta. This included a pre testing of protocols, which was attended by all personnel at a site close to Jakarta.

The field visits had a number of aims. These were:

- To gather information on the VA process and its results in host communities by talking to the principle participants and stakeholders.
- To ground truth and check information from the VA desk review, including contextual detail not available from the desk review.
- To describe if and how VAs and CAPs generated local investment (activity) on climate risk management for communities covered by selected VAs.
- To identify success stories, challenges, opportunities, and lessons learned by participants and stakeholders.
- To determine how VA processes are valued and perceived by different stakeholders and the wider community. Who

The fieldwork gathered information on how CAP/VAs were implemented or not implemented. What were the key process characteristics for the fieldwork cases? What were the enabling or disabling conditions affecting uptake? Because a wide variety of stakeholders were interviewed during the site visits a number of approaches were used to capture information. While there was the use of a standardized protocol with questions for each type of protocol, and there was a standardized site visit report, for some meetings stories and anecdotes were also used to convey and capture information.

Depending on the site stakeholders included: the creators of the VA/CAP tools; users; facilitators; policymakers (or perhaps adopters from private agencies); and representatives from vulnerable groups.

An important aspect of the field work was meeting with local government officials to discuss if and how the VA process interacted with local government planning, budgetary and regulatory processes. Preliminary questions to this important group included the extent to which the CAPs reflect the results of government planning (e.g. the Musrenbang - the government-led development planning process); the extent to which the VA/CAP process is aligned with the Musrenbang processes or other key development planning documents (e.g. RPJMD [mid-term development planning], Renstra [strategic planning], APBD [Annual Budget]); whether VA/CAP documents had been sent or delivered to the respective agencies; and the ease or difficulty in using the VA and CAP templates (e.g. were the templates too data driven, too technocratic?).

Phase Three: Final Analysis and Report Writing

The final phase has been the analysis of all of the data gathered and the report writing. This has required bringing together hundreds of pages of data and information generated from the desk review, as well as site reports and meta-reports generated by the fieldwork. At one level much of the analysis has required analyzing how one set of data interacts with another set to explore the evidence for a particular finding. From there the analysis has also involved synthesizing the qualitative and quantitative data to understand how VA's produced the results they did, and why. The synthesis in some instances involved the production of quantitative data out of qualitative information, as well as the contextualization of both forms with the expert knowledge and understanding of the core assessment team.

The quantitative analysis included:

- Desk review template data entered into SPSS
- Frequency distributions for all variables
- “Project name” and other basic variables cross-tabulated with methods variables.
- “Project name” and other basic variables cross-tabulated with uptake results variables garnered from content analysis of the site visit reports.

The qualitative analysis included:

- Content analysis of field site visit reports and aggregations of the open-ended template questions for barriers, uptake, gender, and process factors. The content analysis coding was generated by the key research questions.
- Production of findings and conclusions matrices by each of the core team members based on site visits and the desk review. The matrices followed a standard MSI process of listing findings (facts and articles of evidence), and detailing how these findings link to provisional conclusions and recommendations, which require further validation and development. Thus recommendations emerge from conclusions made, and conclusions are supported by concrete evidentiary findings.

Material Synthesis

Having collected information on the VA processes in communities through document reviews, site visits, and supplementary data collection with communities and local governments, the assessment team searched for information patterns within the raw data. This was partially accomplished by using SPSS for quantitative variables, and subjecting qualitative material to content analysis procedures using a combination of manual coding and electronic pattern analysis using MAXQDA software. This allowed for the transformation of key qualitative variables into numeric form for inclusion in the SPSS database.

Analysis of the study data set began with descriptive statistics (frequency distributions on each variable that profile the VA process and the extent to which outcomes of interest were found). For the open-ended questions and site visit reports, the content analysis was used to identify patterns across answers to template and site visit questions, and where possible, frequencies were calculated for the patterns of responses identified. In addition, the team had developed a taxonomy of the models that appeared during the desk review period, which served as a framework for subsequent data analysis.

The second analytical step focused on associations between VA process variables and the outcome variables, to determine which process variables have higher associations to specific outcome variables. Context variables were examined for their association with VA process variables and with outcome variables. This investigative stage coupled with the team’s experiences in the field allowed for formulating hypotheses about the combinations of elements of VA processes that may constitute “best practices” and by analyzing patterns manually, the assessment team merged site specific findings about individual variables from sites, into larger models of evidence. These combinations or “models” contributed to the development of conclusions as to what consistently contributed to the outcomes in which USAID is interested.

ANNEX F: ADDITIONAL PROJECT DETAILS

Project Name:	Increasing Coastal Resiliency & Climate Change Mitigation through Sustainable Mangrove Management in Sumatra
Implementing Partner:	Lutheran World Relief, Inc. (LWR)
Start and End Date:	5/27/2011 to 11/26/2013
Funding Amount:	\$1,148,857
Funding Source:	GCC-Adaptation
Brief project description:	The Increasing Coastal Resiliency and Climate Change Mitigation through Sustainable Mangrove Management in Sumatra Project will rehabilitate mangrove forests, train community organizations and develop school curriculum on climate change and environmental protection, and develop microenterprise opportunities that reduce pressures on the forest and increase climate change and disaster resilience. Locations: Simeulue and Singkil in Aceh Province.

Project Name:	Cross Sectoral Strategies for Climate Change and Disaster Risk Reduction in Indonesia
Implementing Partner:	Project Concern Int. (PCI)
Start and End Date:	9/21/2011 to 9/22/2014
Funding Amount:	\$1,500,000
Funding Source:	OFDA and GCC-Adaptation
Brief project description:	The project represents a strategic collaboration between PCI, KabaHill Center, universities, consultants, local communities and government to address the needs of three districts in Bengkulu Province, one of the most disaster-prone provinces in Indonesia. The project seeks to achieve strengthened resilience of vulnerable rural population in Bengkulu to disaster and climate change by: strengthening institutional capacity for disaster and climate change management; reducing exposure and vulnerability through adaptive livelihoods; and improving disaster preparedness practices of communities through knowledge and education.

Project Name:	Climate Change Management in Nusa Tenggara
Implementing Partner:	World Neighbors
Start and End Date:	9/30/2010 to 9/29/2013
Funding Amount:	\$943,014
Funding Source:	DGP Grant
Brief project description:	The Climate Change Management in Nusa Tenggara Project strengthens the ability of vulnerable, upland communities in ecologically fragile areas of East Nusa Tenggara and West Nusa Tenggara to effectively respond to the impacts of climate change and reduce disaster risks. The holistic approach addresses vulnerabilities at the ecosystem level through multi-stakeholder collaboration at both local government and community levels.

Project Name:	Building Disaster and Climate Change Resilience in Padang Pariaman Farming Communities, West Sumatera
Implementing Partner:	Farmers' Initiatives for Ecological Livelihoods and Democracy (FIELD)
Start and End Date:	9/30/2010 to 9/29/2013
Funding Amount:	\$95,3300
Funding Source:	DGP Grant
Brief project description:	The Building Disaster and Climate Change Resilience in Padang Pariaman (West Sumatra) Farming Communities Project links livelihoods to the reduction of disaster risks and climate change vulnerability. Field schools in topics such as eco-rice, agroforestry, and small animal husbandry for methane and organic fertilizer production will serve as an entry point. The project will also train a group of volunteers to serve as disaster management and climate change advisors in their communities, and support the development of local policies addressing climate change.

Project Name:	Indonesia Urban Water and Sanitation Hygiene (IUWASH)
Implementing Partner:	Development Alternative Inc. (DAI)
Start and End Date:	3/4/2011 to 3/3/2016
Funding Amount:	\$33,701,777
Funding Source:	DA for Water
Brief project description:	USAID IUWASH will indirectly contribute to GCC-Adaptation goals by assessing raw water source climate-related vulnerabilities related to water supply and sanitation services delivery, support innovative adaptive measures (both 'hardware' and 'software'), and monitor results. USAID IUWASH team will undertake vulnerability assessments of existing raw water sources among selected water utilities and share the results with local governments and utility managers, and assist these stakeholders in the development of action plans to address areas of concern. USAID IUWASH will further identify water utilities that face the greatest risks, and contract with local institutes and universities to work with the utilities and their local governments to develop adaptation plans that include securing financing to protect existing and new raw water supplies required to meet future demand.

Project Name:	Indonesia Forestry and Climate Support (IFACS)
Implementing Partner:	Tetra Tech
Start and End Date:	11/5/2010 to 9/30/2014
Funding Amount:	\$40,000,000
Funding Source:	GCC-Adaptation
Brief project description:	The USAID Indonesia Forest and Climate Support (USAID IFACS) Project will raise awareness of climate adaptation and conduct a series of vulnerability and adaptation workshops with multiple stakeholders at the national level and in major landscapes. Activities will increase resilience to climate change impacts through diversification of income streams, restoration of forest ecosystem functions, and modification of agricultural practices.

Project Name:	Indonesia Marine and Climate Support (IMACS)
Implementing Partner:	Chemonics International
Start and End Date:	12/17/2010 to 9/30/2014
Funding Amount:	\$17,690,551
Funding Source:	GCC-Adaptation
Brief project description:	The USAID Indonesia Marine and Climate Support (USAID IMACS) Project will strengthen governance for climate resilience and implement climate solutions in project sites. Technical assistance will develop the institutional capacity of the Ministry of Marine Affairs and Fisheries, raise climate awareness, and align local action planning with national processes. IMACS will build community capacity to implement climate solutions by conducting needs assessments, supporting implementation of community action plans, and strengthening linkages with sustainable streams of financing.

ANNEX G: ADDITIONAL PROJECT AND VA ANALYSIS

While each VA process tends to be grounded in the contextual details of the host community, the models as authored by the implementing organizations play significant role in the information. The implementing partner's programmatic aims and these methodological factors all combine to create a prism through which a VA performs. These elements can be regarded as process and contextual factors.

Some of the identified vulnerabilities are framed as non-existent (or negative) assets such as: lack of irrigation facilities; lack of knowledge on risk of earthquakes and safe construction; lack of regulation (on land use and environmental management), inundated paddy fields; lack of incomes; or landlessness/lack of farming lands. This approach is particularly typical of the PCI VA documents, which focus on what is weak or what is lacking (e.g. weak [structures of] houses against high tides and earthquakes). The question whether this 'half-full and half-empty' approach matters depends on the viewpoints of the assessors. For instance, the IFACS-FIELD has been in favor of livelihoods asset based on the livelihoods framework that was initially introduced by Department for International Development (DFID).

Participatory Model - IMACS

IMACS: national government agencies such as MAAF initiated the need for I-CATCH tool, BMKG and DNPI were involved in the development of I-CATCH, provincial and local government were involved during the training of trainers including the facilitators, provincial and district government were involved in the planning and scheduling of VA, village government were involved in planning, setting location, organize participants for VA, CAP.

The I-CATCH model defines vulnerability as "an independent variable from the three variables in a disaster risk assessment following this formula: $R = H * V/C$, where (R) = risk, (H) = hazard, (V) = vulnerability, (C) = capacity." In this formulation, the degree of hazard (H) is influenced by frequency (frequency of disaster), intensity (destructive force of disaster), impact (resulted degree of damage), spread (spread of area affected) and duration (length of disaster time). In addition, I-CATCH utilizes the Intergovernmental Panel on Climate Change (IPCC) definition of vulnerability components - namely exposure, sensitivity, and adaptation capacity. In short, it suggests that $Vulnerability = (Exposure + Sensitivity) / Adaptation Capacity$.

IMACS/I-CATCH exhibits a much deeper assessment of climate change and coastal livelihoods than the other VA models. Much of this can be attributed to the sophistication and use of the accompanying tools for the IMACS process. Tools used in IMACS include: exploring livelihoods history and community natural resources; the source of livelihoods (main, complementary); natural livelihoods orientation (coastal, land); activities by gender; authority for resource access; natural resource trend and change (a decade ago and now); change in access to natural resource management; socio-economic change over the last decade; identified past activities that are no longer undertaken; identified women's activity of the past that are no longer undertaken; perception of context in the past and today (in terms of human capital, natural capital, policy); and strength and weakness (human capital, social-cultural, motivational).

Further IMACS tools include:

- Seasonal livelihoods (a matrix of livelihoods activity, months and disruptive events on the livelihoods activities);
- Impact of seasonal changes (identified climate variables e.g. rainfall, identified changes, impact on livelihoods assets and impact on society (economic));
- Impacts of past extreme climate events (hazards, impact on natural assets, impact on human security (lives and health));

- Efforts done by local communities (the most severe impact, past intervention to reduce impact, undesired expectation);
- A matrix of efforts to be done (salient impact, intervention needed, limitation, expectation on the intervention); and
- Adaptation capacity analysis of IMACS dealing with strength and weakness analysis based on human, social-cultural and economic dimensions.

Compared with the CADRE's partners, IMACS conducts VAs by measuring the level of community vulnerability using a variety of matrices: Participatory Capacity Ranking 1-3 (cohesiveness, leadership, deliberative culture, environmental values, alternative livelihoods, capacity to deal with climate extremes, external relation, healthy settlement, diverse natural resources, healthy water sources, experience in environmental change); exposure analysis (high, medium, small); sensitivity level (1-3; a matrix of influence of climate and bad weather on sensitivity of livelihoods); potential impact (a scenario matrix of exposure and sensitivity = (sensitivity + exposure)/2) and adaptability measure (a matrix of potential impact and adaptability in a range of 1-3).

Participatory Model - CADRE

The PCVA/HVCA models are employed with the following objectives:

- To identify the direct and indirect impacts of climate change, and how the impacts will be worsened by non-climatic conditions (present and future).
- To identify the vulnerabilities of the area, social groups, and the dimension of vulnerability, including adaptive capacity.
- To map the current risk area and the potential risks in the future.
- To assess the sectors that are most vulnerable including adaptation options at the sectorial level
- To suggest initial ideas to strengthen community and sector resilience.
- To identify areas that require further research.
- To integrate current and future climate variability assessments using historical climate data and climate change scenarios provided by BMKG.
- To develop stakeholder analysis for their involvement in the process.

A review of the VA background documents suggested that in some instances, facilitators practicing participatory VA approaches preferred the PCVA model, as it suggests stronger framing around the community's local capacity (or closer to asset-oriented assessment as practiced by Lutheran World Relief/CADRE).¹⁴ The origin of the HVCA model is a general disaster risk model in which disaster risk (R) equals Hazards (H) x Vulnerability (V) / Capacity (C). The PCVA/HVCA models suggest that when V is closer zero (and C closer to one), the risk almost equals zero.

CADRE has four main implementers, and the PCVA/HVCA model is the primary model used by these partners. The main distinction between PCVA and HVCA will not be clearly seen in the VA reports, as they share the same components. The differences of these VAs, however, is embedded in the different ways in which the facilitators conduct the assessment.

There are variations as to the extent that the PCVA and HVCA highlight the local vulnerability context. The level of contextual analysis seems to relate to the implementing partner, with Mercy Corps providing more local contextual analysis than either ARC or PCI. Mercy Corps' use of the PCVA also

¹⁴ An NGO, PKPA Medan, and Lutheran World Relief have invested 8-9 days in each village to conduct a thorough village asset assessment (namely ABCD) which basically includes an NRM assessment as the basis for doing DRR-CCA in Teluk Dalam, a sub-district Simeulue island and 5 villages in Singkil Barat. See the LWR-CADRE Mid-term Review, p.10.

seems to provide stronger emphasis on determining the level of vulnerability of the area in relation to climate change hazards in the villages.

Mixed Model with GIS – Mercy Corps

Some of the GIS mapping includes visualization of the following vulnerability variables:

- Physical vulnerability (constructed area, electricity network, road network, telephone network, water pipe network)
- Socio-economic (level of poverty, land ownership status)
- Socio-demographic (population density, number of elderly people, number of children under five, number of women, understanding about disaster, institutions of disaster management, behavior toward disasters)
- Environment (protected forest areas, mangrove areas, coral reef areas, historical sites).
- Economic zone (Existence of production areas, existence of trade areas).

This approach seeks to combine the bottom-up participatory VA process, which uses community-led meetings to gather information and build consensus as to the primary vulnerabilities, with the top-down, science-driven approach framed by the use of GIS technology to present climate data and information such as rainfall, temperature, and flood mapping. In some ways this represents a separate typology to the PCVA/HVCA models.

FARMER FIELD School

It shares the same features of the participatory VA but differs in the way they are done, as the VA is treated as the first step towards solving the problems identified in the VA process. The emphasis is on empowerment and ownership, and therefore priorities and the agenda for intervention are in theory decided by the farmers¹⁵. The project facilitated the United Farmers Guide for Disaster and Climate Resilience Community group.

- The trained farmer facilitators from the initial 20 Nagaris targeted in the first phase of the project, has developed their own organization called P3MTBPI (*Persatuan Petani Pemandu Masyarakat Tangguh Bencana dan Perubahan Iklim*, the union of farmer facilitators of disaster resilience and climate change) that aim to take over FIELD model to other village. This organization is initiated by the facilitators themselves and supported by the district government (Bupati) and governor of West Sumatera. This indicates high ownership of the model by local people and they intend to expand it further. P3MTBPI also advocates to the government agencies and other stakeholders to meet the needs each individual nagari for risk reduction efforts. In order to make this organization will be able to continue and expand the works further, organizational capacity building has been part of the FIELD project in the second phase. As initial pilot, P3MTBPI has brought the model to 6 other Nagaris (also funded by USAID).
- P3MTBPI needs continued and further capacity development to ensure their maturity to bring disaster risk reduction and adaptation to the all Nagari and the whole population in the district.
- Various activities have been supported and/or funded by government agencies, partly due to the Field Day as well as the continues advocacy by the Bumi Ceria team and the P3MTBPI. For example, the Agriculture Agency has targeted Padang Alai Nagari as one of their food bank program (KRPL, Kawasan Rumah Pangan Lestari) that provide about Rp 40 million to each targeted Nagari.

¹⁵ The extent to which this occurs will be probed in the assessment field work/site visits.

- In Padang Alai, the technical field schools have been followed by their real implementation in the household level. The living food bank have been successfully introduced and implemented by most of the households, as a measure to ensure food availability during disaster when the village is isolated from the outside world as has happened before. The food bank has been also picked up and supported by the Agriculture Agency (2013 KRRT program) after some advocacy and promotion work by the school participants. The need for reforestation as landside prevention measure has also been linked project. 20,000 to SwissContact's cacao tree seedlings for the reforestation are supported by the Forestry Agency through their KBR program.
- The biogas field school in Padang Alai has not gone beyond learning / experimenting phase, with 1 biogas unit supported by the Dinas Kebersihan.

Linking Participatory Regional VAs and SERVIR with FIELD

The SERVIR data platform is NASA's Climate One-Stop portal. Of primary relevance to this process is the General Circulation Model, which tracks and predicts ambient temperature, rainfall, evaporation, and soil moisture at the local/regional scale in Aceh, Papua, and West Kalimantan. SERVIR includes functions such as the Climate Mapper and Climate One-Stop (<http://climateonestop.net>), which provides data sets and functionality to draw upon for analysis and in the formulation of the adaption plan. This approach is facilitated by subject matter experts. It also maps current regional environmental programs related to climate change, and how this is affecting climate change adaptation for sectors such as forestry, agriculture, and water management.

The selection of climate change adaptation options is based on a participatory process facilitated by the facilitators (Starling Resources) and the participants (stakeholders from a range of backgrounds) selected from each region/Kabupaten. In this exercise, participants then produce a short list of adaptations that they consider to be most relevant their landscape. Participants are encouraged to divide the adaption strategy into 'Vision' and Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis so that a shopping list of actions can be formulated for the adaption plan.

IFACS

The selection of climate change adaptation options is based on a participatory process facilitated by the facilitators (Starling Resources) and the participants (stakeholders from a range of backgrounds) selected from each region/Kabupaten. In this exercise, participants then produce a short list of adaptations that they consider to be most relevant their landscape. Participants are encouraged to divide the adaption strategy into 'Vision' and Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis so that a shopping list of actions can be formulated for the adaption plan

Community Action Plans

There is a consistent pattern where Community Action Plans (CAPs) is based on vulnerability assessment. There is a village level VA conducted in 19 villages in Gayo Luwes. PCVA/HVCA has been a popular model in community level VAs. However, The VA adopts the SLA (Sustainable Livelihoods Assets) that firstly introduced/promoted by the DFID UK. In the case of Sustainable Livelihoods analysis (by IFACS-FIELD), the VA often started from the **livelihoods asset** identification, which is basically an identification of livelihoods capital assets (the five capitals: of human, social, natural, financial and infrastructure). Communities were asked to identify events that have large and small negative consequences on their capital assets. Identification of the assets and the location of the exposed assets to potential impacts of hazards based on past experience/events being identified, (e.g. For instance in Sangir village with 200 ha paddy field, the communities identified 60 out of 160 households paddy planters/owners will be the most vulnerable to shocks (drought/floods?). This is followed by the listing of

the events and prioritization for intervention as well as identification of stakeholders (responsibility/mandates/influence). Identified external and internal opportunities District Agriculture Services for anticipation for enhancing their product even though often rain days, they identified need capacity building, they need document proposal to *Agricultural Department* for supporting training, get access for seedling, fertilizer, etc. Formulation of action plan (dealing with top prioritized list), types of action, cost of the action and budget required and incentives opportunities from within and outside the project.

The following table shows the elements of the VA reports for each of the implementing partners under review.

TABLE 8: VARIATION IN THE GOALS OF VA DOCUMENTS

Goal	CADRE				IMACS	IUWA SH	IFAC S
	PCI	ARC	MC	FIELD			
Subject matter expert knowledge is communicated to relevant local stakeholders			P**				F*
Trial of VA tools					F		
Identifying direction for future climate change					F	P	F
Understanding community needs					F		
Understanding water vulnerability context						F	
To draft short term plan					F		
To draft medium term plan					F		
To identify prioritized actions	F	F	F	F	F		
To identify the direct and indirect impacts of CC							
To identify the vulnerabilities of the area, social groups, and the dimension of vulnerability, including adaptive capacity			F	F			P
To identify the vulnerabilities of the area, social groups, and the dimension of vulnerability, including adaptive capacity			F	F			
To identify water security issues			P	P	F		P
To identify sanitation under changing climate	P				F		
Guidance for communities to implement DRR	F			P			
Guidance for communities to implement CCA	F			P			
Mainstreaming DRR into village planning - or Guidance for village government to implement DRR	F						
Mainstreaming climate change into village planning - or Guidance for village government to implement CCA	F				F		
Guidance for village committee to implement DRR	F						
Guidance for village government to	F						

implement CCA							
VA as tools for identifying and prioritizing hazards	F						
VA as tools for identifying and prioritizing risks	F						
VA as tools for identifying and prioritizing vulnerability	F						
VA as tools for identifying capacity/assets	F						
VA as means for awareness rising and communities understanding on hazards, risks, vulnerabilities and capacity	F						
VA as a basis for action plan	F					F	
VA as to formulate strategic plan/action plan	F					F	P
VA as a legitimate step in gaining access from local government	F						
To identify climate change mitigation options			F				

*F denotes more consideration of the issues. **P suggests partial consideration of the selected issues.

ANNEX H: TABLE OF KEY INSTITUTIONS AND DEVELOPMENTS FOR CCA IN INDONESIA

Process	Government Agency	Description and Potential Relationship to VA and CAP Process Under Review
Environmental Management and Protection Plan (RPPLH)	MoE	Under the Ministry of Environment, Climate change mitigation and adaptation is included in RPPLH.
Strategic Environmental Assessment (KLHS),	MoE	The Ministry of Environment's KLHS is strategic environmental assessment is a systematic analysis as well as participatory analysis to ensure sustainable development goals underpin the basis for National development. This serves as the basis for integrated regional development planning.
The National Action Plan for Climate Change Adaptation (Rencana Aksi Nasional Adaptasi Perubahan Iklim-RAN-API) is part of the National Action Plan Addressing Climate Change (Rencana Aksi Nasional dalam menghadapi Perubahan Iklim, or RAN-PI).	Bppenas	RAN-API serves as a national document, which captures what agencies have been doing and are planning to do. It identifies the capacity to adapt; the needs for adaptation and plans to mainstream adaptation into development. It also links adaptation and DRR as well mandates the creation of working groups that promote and facilitate the CCA mainstreaming process. Ideally RAN-API facilitates central legislators and central government to create incentives for widespread VAs and CAPs. Empirically, there is little adoption of this RAN-API in the field. INGOs use it as a legitimate document to encourage local governments to follow.
'Yellow Book'; "National Development Planning: Indonesia's Response to Climate Change,"	Bappenas	Formally lays out the Indonesian Government's strategy regards to CC mitigation and adaptation
National Medium-Term Development Plan (RPJMN)	Bappenas	The Indonesian Governments Five year plan. As the RPJMN covers climate change ideally the RPJMN should provide national agencies guidance on incentives for VAs and CAPs. The next round of RPJMN is for 2014-2019.
The Indonesian Climate Change Sectorial Roadmap (ICCSR)	Bappenas	ICCSR details the long-term climate change mitigation and adaptation at sectorial development levels (from agriculture to industry sectors). It provides national level comprehensive long term plan on mitigation and adaptation. Little evidence so far on the roles of ICCSR at the local level VA/CAPs.
National Guidelines for Disaster Management 2010-2014	BNPB	A national government agency responsible for disaster management in Indonesia. BPBD is the local disaster management agency. The VA and CAP build the fundamental for risk assessment at the local level. VA and CAP can be utilized when a village plan to develop process for 'Disaster Resilience Village
Musrenbang	All Government organizations	Musrenbang is a deliberative development process where different stakeholders' view and voices is counted at every vertical level of governmental unit. As mandated by Law 25/2004, the National Development Planning System is an integral part of development planning procedures. It requires all levels of government to produce development plans for the long term, medium

		<p>term, and yearly. The process of formulating a development plan document requires coordination among government agencies and the participation of all development actors, through a forum known as the Development Planning Meeting or Musrenbang. There are 10 stages of Musrenbang from village to national level:</p> <ul style="list-style-type: none"> • 1 Village Musrenbang • 2 District Musrenbang • 3. SKPD Forum at District / City • District / City Musrenbang • District / City Post-Musrenbang • SKPDs Forum at Province • 7 Coordination Meeting (Rakorpus) • Musrenbang at Province • Province Post Musrenbang • 10 National Musrenbang
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Key Institutions for DRR and CCA in Indonesia, From the Global to Local Levels

Level	DRR	Integrated DRR and CCA	CCA
Global	UNISDR GFDRR Global Platform for DRR	Bali Action Plan for DRR and CCA Nairobi Plan Cancun agreement Stockholm Declaration SREX report International organizations and NGOs initiating DRR and CCA projects	UNFCCC IPCC
Regional	Asia DRR Asian Disaster Reduction Center (ADRC) Association of Southeast Asian Nations (ASEAN) DRR	Asian Ministerial Conference on DRR and CCA Incheon Road Map International organizations and NGOs initiating DRR and CCA projects	Asian adaptation platform
National	Bappenas BNPB National Platform for DRR	Funding agencies UN organizations International organizations and NGOs initiating DRR and CCA projects	Bappenas DNPI Ministry of environment
Local	Bappeda BPBD NGOs CBOs	International organizations and NGOs initiating DRR and CCA projects CBDRM (including CC issues)	Bappeda Environmental department NGOs CBOs

Policy Frameworks (Guidelines, Policies, Strategies and Activities) for DRR and CCA in Indonesia

Years	DRR	CCA
2015	Sustainable Development Goals World conference on Disaster Reduction, Japan	Sustainable Development Goals
2014	Asian Ministerial Conference on DRR (Thailand)	IPCC 4 th Assessment Report
2013	3 rd Global Assessment Report	
2012		SREX report
2011	Third Global Platform for DRR Indonesia as Global Champion for DRR 2 nd Global Assessment Report	UNFCCC COP 17
2010	National Guidelines for Disaster Management (Renas PB) 2010-2014 National Action Plan for DRR (RAN PRB) 2009-2012	UNFCCC COP 16 Cancun agreement Indonesia Second National Communication (SNC) to the UNFCCC
2009	Second Global Platform for DRR - Indonesian National Platform for Disaster Risk Reduction (Planas PRB)	UNFCCC COP 15: Copenhagen Accord - Indonesia Climate Change Sectoral Map (ICCSR) - Indonesia Climate Change Trust Fund (ICCTF)
2008	National Disaster Management Agency (BNPB) - Sub-National Disaster Management Agency (BPBD)	UNFCCC Nairobi Work Programme - National Council for Climate Change (DNPI) - National Development Planning: Indonesia Response to Climate Change
2007	Disaster Management Law No 24 Year 2007 - First global platform for DRR	UNFCCC COP 13 in Indonesia - The Bali Road Map/Action Plan - National Action Plan Addressing Climate Change (RAN-PI) - First Sub-National Task Force on Climate Change Adaptation
2006	National Action Plan for Disaster Risk – Reduction (RAN PRB) 2006–2009	
2005	Coordinating Agency for Natural Disaster and Refugees Relief (<i>Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi</i>) (Bakornas-PB) - Tsunami relief, rehabilitation and	

	reconstructions started - Hyogo Framework for Action (HFA) - World Conference on Disaster Reduction (WCDR)	
2004	Indian Ocean Tsunami hit Aceh and Nias Island	Indonesia ratified the Kyoto Protocol
2001	Bakornas PBP	
1999		First Indonesia's National Communication to UNFCCC
1997		The Kyoto Protocol
1994		Adaptation Fund established Indonesia ratified the UNFCCC
1992		Indonesia signed the climate convention
1990		National committee on Climate Change (KNPI)
1979	Bakornas PBA and similar provincial agency (Satkorlak PBA)	
1967	The National Coordination Team for Disaster Management (TKP2BA)	
1966	National Board for Disaster Management (<i>Badan Pertimbangan Penanggulangan Bencana Alam Pusat</i>) (BP2BAP)	
1945	The National Board for War Victim Supports (BPKKP)	

In 2005, the United Nations International Strategy for Disaster Reduction created the Hyogo Framework for Action (HFA) 2005–2015: 'Building the Resilience of Nations and Communities', in order to enable a more systematic planning, implementation and evaluation of disaster risk reduction (DRR) activities.

The 2004 Indian Ocean earthquake and tsunami was an unprecedented event in historic times that revealed how vulnerable nations and communities are to natural hazards. However, this event also offered a window of opportunity for DRR both at the international and at national scale in Indonesia. Soon after this event, during the United Nations World Conference on Disaster Reduction in 2005 in Japan, the Hyogo Framework for Action (HFA) 2005–2015: 'Building the Resilience of Nations and Communities' was adopted (UNISDR 2007b).

DRR Governance in Indonesia

Currently Indonesia achieved 3.2 out of 5 maximum level to implement the HFA:

- HFA 1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation
- HFA 2: Identify, assess and monitor disaster risks and enhance early warning
- HFA 3: Use knowledge, innovation and education to build a culture of safety and resilience at all

levels

- HFA 4: Reduce the underlying risk factors
- HFA 5: Strengthen disaster preparedness for effective response at all levels

ANNEX I: USAID’S CLIMATE-RESILIENT DEVELOPMENT FRAMEWORK

USAID Vulnerability Assessment Processes

The agency’s Climate Resilient Development Framework (CRDF) suggests vulnerability assessments (Vas) as a critical step to identify, evaluate, inform and select adaptation options for target communities. The VAs collect information concerning the magnitude and extent, cause and effects, and institutional context of vulnerabilities. VAs can also assist with decision-making by providing an identification of local strategies for managing vulnerability.

Climate change adaptation requires a context for action through an established baseline of climate stressors and non-climate stressors for the area of interest. This is done through conducting a Vulnerability Assessment. Having established this baseline context, development goals and ways to achieve those goals can be identified along with accompanying work plans, also through a VA. Therefore, VAs provide a basis for program design through systematic processes identifying, selecting and evaluating adaptation options. The design is used to put adaptation into action.

Stages in Adaptation	Adaptation Options
Scope	Establishes development context and focus by identifying: <ul style="list-style-type: none"> • Priority development goals and key inputs to achieving them • Climate and non-climate stressors (including geological hazards) • Needs and opportunities
Assess	Enhances understanding about vulnerability <ol style="list-style-type: none"> 1) Defines vulnerability assessment questions 2) Select methods 3) Assesses vulnerability 4) Provide actionable information
Design	Identifies, evaluates and select adaptation options <ul style="list-style-type: none"> • Identifies adaptation options • Selects evaluation criteria • Evaluates adaptation options • Selects an adaptation option or portfolio of options
Implement and manage	Puts adaptation into practice <ul style="list-style-type: none"> • Builds on established implementation and management practices • Adopts a flexible approach to account for continuing change • Incorporates climate information into baseline values and indicators

ANNEX J: BARRIER QUOTES

A number of particularly enlightening project narratives nicely captured the nature of these barriers, illustrating the difficulties encountered in achieving intended uptake of VA findings. Select narratives are provided below:

Geographic Barriers

- *Barriers due to geographically consolidated VA processes:*
 - “A challenge to using consolidated Nagari VAs is that the VA does not represent the whole district (or province), as well as the diverse methodology and parameters being used in each community.” (1)
 - “The members of the group fluctuated. The obstacle of member attendance was the distance between meeting point and their homes. Members with long distances to travel sometimes did not attend.” (25)

Process Barriers

- *Barriers due to difficulties in coordinating/aligning VA process with Musrenbang:*
 - “The BPBD has difficulty in coordinating other agencies for risk reduction. It is a Type B organization (the highest rank is Type 3B), thus lower than other agencies. Coordination is through the Secretary of the District (Sekda). The power of coordination is required to address a broad range of options required for risk reduction.” (19, 20)
 - “There was no specific consideration on strategies to align the I-CATCH processes with the *Musrenbang*.” (28)
 - “The relationships between IMACS Jakarta, regional offices, Yascita, and DKP district offices is point to as the key bottleneck in this process.” (31)
- *Barriers due to lack/exclusion of government participation:*
 - “DKP expressed that they were not informed that the VA took place. However, DKP expressed they were satisfied with how the IMACS contacted and coordinated with them on the VA. Because DKP was not involved in several processes, they did not know the climate adaptation options from the community. If DKP is involved, even though the report from CAP is not finished yet, the adaptation options can be mainstreamed in government programs, including in other sectors.” (32)
 - “DKP stated that if they receive the reports from the VA and CAP earlier and can share with staff responsible for coordinating DKP development programs, then there would be more formal government uptake.” (35)
 - “The program was not supported by the Head of District and he was not concerned about environmental conservation.” (65)
 - “One hamlet wanted to postpone [implementation] due to the fact that one of the legislative candidates was not elected, and his wife is the daughter of the head of the hamlet.” (25)
- *Barriers due to insufficient time allotted for VA:*
 - “The community expressed that since the I-CATCH process was only done in one day, most of the community did not understand what it means.” (31)
- *Barriers relating to process for reporting VA results:*
 - “The reporting process and requirements from IMACS Jakarta was not expected and severely underestimated by the facilitators. This process delayed the start of the CAP.” (28)

- “The most highly regarded programs are basic infrastructure programs like road development. DKP received the report late so could not include it in next year’s planning.” (47)

Resource Barriers

- I. *Barriers due to government capacity/lack of resources*
 - a. “The understanding of BPBD on risk management is still poor, due to poor human resources and capacity. Most of the officers still focus on response management rather than risk management. Thus the potential for them to utilize risk assessment and information is limited.” (19,20)

Implementation Barriers

- I7. *Barriers due to bureaucratic inefficiency*
 - a. “PMI is a bureaucratic organization, which means decision-making takes longer, especially if the branch is managed by a former government officer.” (19)
 - b. “The head of Langgapulu village (Konawe Selatan) stated that he had not been appointed as the village head when the VA took place. It is important for the village secretary, in addition to the head of the village, to attend any VA and CAP activities so that the information and knowledge gained can be shared with other village government staff.” (34)
- I8. *Barriers due to poor implementation*
 - a. “Implementation of climate change programs is fragmented among local governments. We hope IUWASH can support synchronization of local government institutions.” (66)
 - b. “We have seen that *Musrenbang* is purely ceremonial. For instance a hanging bridge submitted to *Musrenbang* several years ago still has not been built.” (23)
 - c. “We have heard about *Musrenbang*, but we were hopeless because if we submitted the plan, it would not be realized.” (25)

Cultural/Communication Barriers

- I. *Barriers due to language:*
 - a. “There are challenges in the transmission of weather and climate information. In general, there is no obstacle in the flow of information from the central government to the district level. However, there are problems in translating and transmitting information from the district to the community level, probably due to language/terminology.” (1)
 - b. “There was difficulty encountered by the facilitators in explaining climate change issues. The facilitators expressed difficulty in explaining the impacts of climate change and trying to find the local term.” (28)
2. *Barriers due to communication/packaging of VA results*
 - a. “The head of village stated that the report at its current form was still hard to understand. There needs to be a 1-2 page summary by which the heads of villages and communities can easily read the recommendations for action.” (35)
3. *Barriers due to culture:*
 - a. “The experience of abundant assistance for tsunami reconstruction is still fresh in the community’s memory. It is difficult to develop community self-help over a project. A fatalistic attitude developed from the tsunami: ‘if one is safe from the tsunami, why worry about other disasters?’” (19, 20)

- b. “The community’s rejection to this program delayed the timeline of the project. The strategy used to attract the community was to build infiltration ponds in the village staff house and school yard. The social approach was key to inviting the community to participate and build infiltration ponds.” (65)
- c. “The learning process as supported by FIELD for implementation needs to be slowly staged for us due to traditional customs. For instance, in the month of Maulid, or Muhammad’s birth month, we did not replant even though it was rainy season, because people believe that plants would be eaten by pests. We need a partner to help us transition from myth to knowledge practices.” (23)

Political Barriers

- 1. *Barriers due to political/economic interests:*
 - a. “The case of designing tsunami evacuation routes highlight the importance of transparency and participation. In this case, the official map raised some vested interests in relation to the risk map. The map was questioned by APINDO and ASITA, as it brings consequences to the value off lands along the beach areas.” (2)
- 2. *Barriers due to level of government where uptake occurs (weight assigned to local vulnerability in planning process):*
 - a. “As BNPB is a national government agency, it tends to focus on big-scale disasters, and thus builds its capacity to respond to such events. When the sub-national BPBD follow the focus of BNPB’s priority of hazard choice, it may not build their own capacity to respond to small and medium-scale disasters.” (2)

ANNEX J: GEOGRAPHIC DISTRIBUTION OF VA PROCESSES REVIEWED

The maps in this annex illustrate the distribution of VA processes reviewed by the research team during the desk review and field visits. To best visualize this distribution, VA processes studied during the desk review are represented at the regency level. Maps are included in this annex of geographic distributions for each sector. Field visit sites, on the other hand, are represented at the village level.

Sources

Data for this series of maps were collected from VA process documentation and two spatial data repositories: Natural Earth Data¹⁶ (NED) and GADM¹⁷. The research team combined information from Google Maps, VA process documentation, and general knowledge of Indonesian geography to verify the appropriate names of regencies and rectify the two data sets.

The shapefiles used for the map, as named on the NED site, are:

- ne_10m_admin_0_countries.shp (country outlines at a 10 meter resolution) and
- ne_10m_ocean.shp (world ocean extent at a 10 meter resolution).

Second level (regency level in Indonesia) administrative districts administrative districts are available from GADM, a global repository for detailed administrative districts.

Data Integration

The data downloaded from NED did not contain identical names for regencies as those used in the process documentation. This is a common issue when standardizing data collected through different processes. In order to map VA processes studied during the desk review, to join the data collected in the VA assessment process with the data downloaded from NED and GADM, the names had to be standardized. To do this, the research team used Google Maps and process documentation as well as inference based on knowledge of the assessment. The location of VA processes could be attributed to specific regencies in most cases. However, of the 66 VA processes reviewed, six incorporated input from multiple regencies. This led to a total count of 72 VA process sites reflected on the map.

Generating Shapefiles from VA Reports and Google Maps

In addition to the files downloaded from NED, in order to visualize field site visit locations, the research team created a shapefile by geolocating the field sites. Locations were identified using Google Maps and place names and VA process details drawn from the VA documentation. These locations were generated with approximately 10 mile accuracy and are for illustrative purposes only. Many of the VA sites are located in close proximity and overlap on the map. For this reason, the research team decided to enlarge the points and add a transparency to allow the reader to differentiate from a location with multiple sites and locations with only one site. The size of the marker was chose purely for design aesthetics and not to convey information.

¹⁶ <http://www.naturalearthdata.com/downloads/10m-cultural-vectors/>

¹⁷ <http://www.gadm.org/country>

FIGURE 5: GEOGRAPHIC DISTRIBUTION, BY VILLAGE, OF FIELD SITES VISITED ACROSS SECTORS



FIGURE 6: GEOGRAPHIC DISTRIBUTION OF VA SITES IN DRR SECTOR REVIEWED



FIGURE 7: GEOGRAPHIC DISTRIBUTION OF VA SITES IN FORESTRY SECTOR REVIEWED



FIGURE 8: GEOGRAPHIC DISTRIBUTION OF VA SITES IN MARINE SECTOR REVIEWED



FIGURE 9: GEOGRAPHIC DISTRIBUTION OF VA SITES IN URBAN WATER AND SANITATION SECTOR REVIEWED



ANNEX K: DISCLOSURE OF ANY CONFLICTS OF INTEREST

Signed Disclosure of Conflict of Interest forms for all Assessment Team members have been obtained and can be provided to USAID upon request.