

PILOT STUDIES TO IMPROVE UPTAKE OF CLIMATE INFORMATION

23rd November 2016

Amihan Conference Room, Science Garden, PAGASA,
Quezon City



PROJECT APPROACH

Phase I: Situation review

Review literature

Map stakeholders

Consult
stakeholders

Further
actions

Phase II: Piloting climate change (CC) information production and dissemination

CC
projections
workshop

Prepare
training

Local
Government
Units work

Train local
officers

Report
findings

Phase III: Preparing an Enabling roadmap

Consult sectoral
stakeholders

Prepare roadmap

Findings and
recommendations

Outline:

- I. Assessing Current Understanding of Climate Risks Information
- II. Pilot Selection
- III. Pilot Approach and Development
- IV. Pilot Outcomes and Outputs
- V. Lessons Learned and Recommendation



I. Assessing Current Understanding of the Climate Risk Information

- Following the situational review we worked closely with key Government Departments with responsibilities for disaster risk management and climate adaptation or who could play a key role in better enabling information dissemination and uptake information at different levels. This included:

- DILG

- OCD

- NEDA

- CCC

- NDRRMC

- DENR



Stakeholder issues and opportunities identified

Lots of hazard and risk mapping information

Dissemination and outreach limited

Data sharing and “sector” specific information

Mapping helpful but further guidance required

Need to focus at Local Government scale



Focus on pilots to develop approaches

Use learning from previous / existing initiatives

Sector support and co-production

Inform and link planning processes (LGU scale)

Learning to inform guidance for wider uptake



II. Pilot Selection

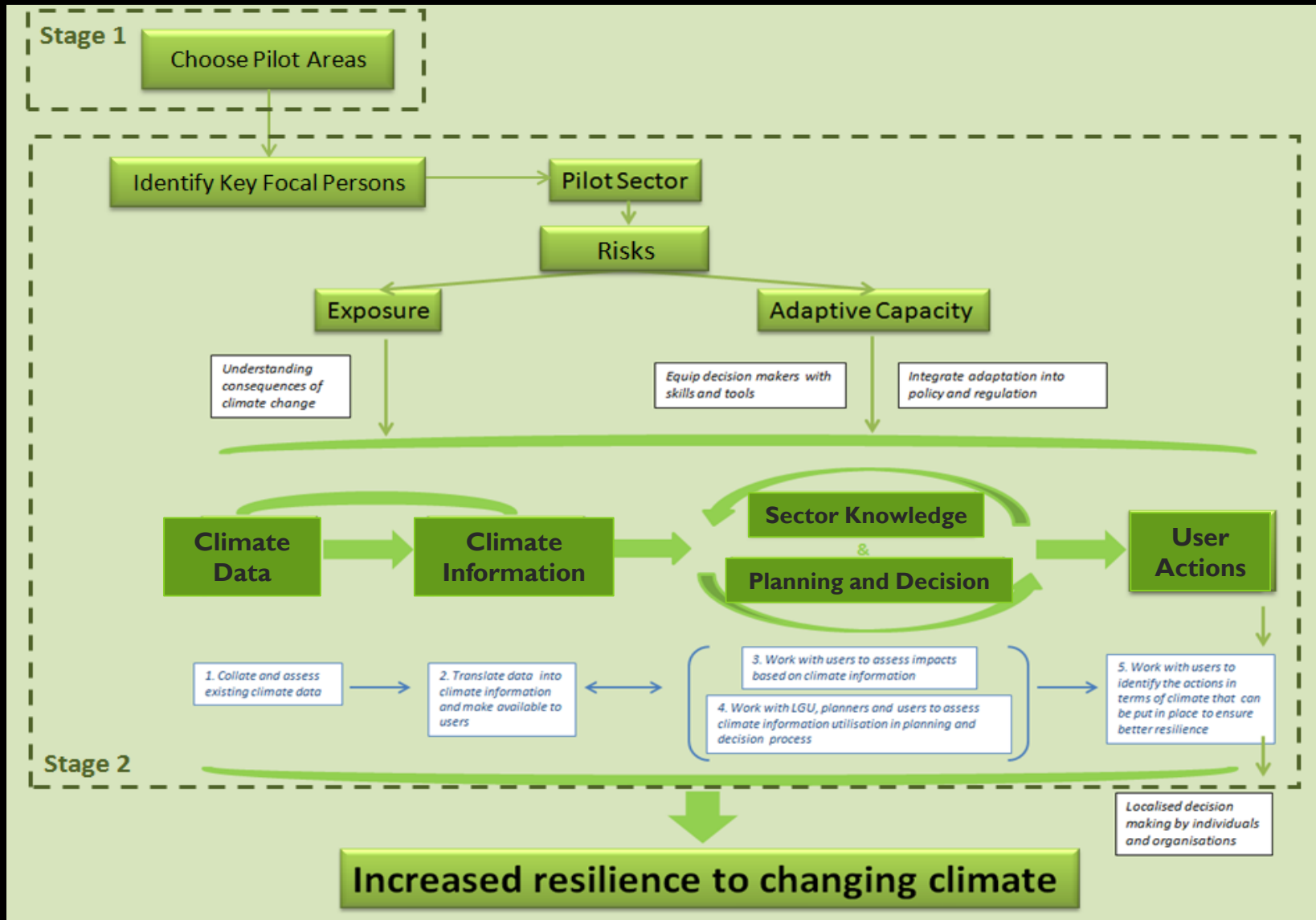
Pilot Location	Characteristics	Considerations
GMMA Marikina City San Juan City Pasig City	<p>Urban</p> <p>Socio-economic class I (total revenue of > 1,500,000 pesos per year.)</p> <p>All very prone to flooding</p>	<ul style="list-style-type: none"> • Pilot could potentially build on the approach developed by the previous GMMA READY project, the tools for which were formally piloted by the CCC Ecotown project. • Each city already has some familiarity with climate change and risk information as a result of their involvement in such initiatives.
Municipality of Salcedo, Eastern Samar, Visayas	<p>Rural</p> <p>Socio-economic class 5 Fifth Class Municipality (total revenue of <300,000 pesos per year)</p> <p>Very exposed coastline</p> <p>Severely affected by Super Typhoon Haiyan</p>	<ul style="list-style-type: none"> • Pilot could potentially build on previous UNDP work on preparing contingency plans for storms, storm surges and floods • Issues identified around lack knowledge and access to climate information from previous studies • Potential opportunity to look at sea level rise (SLR) impacts and link to the SLR component of DFID project



II. Pilot Selection



Supply Chain of Information

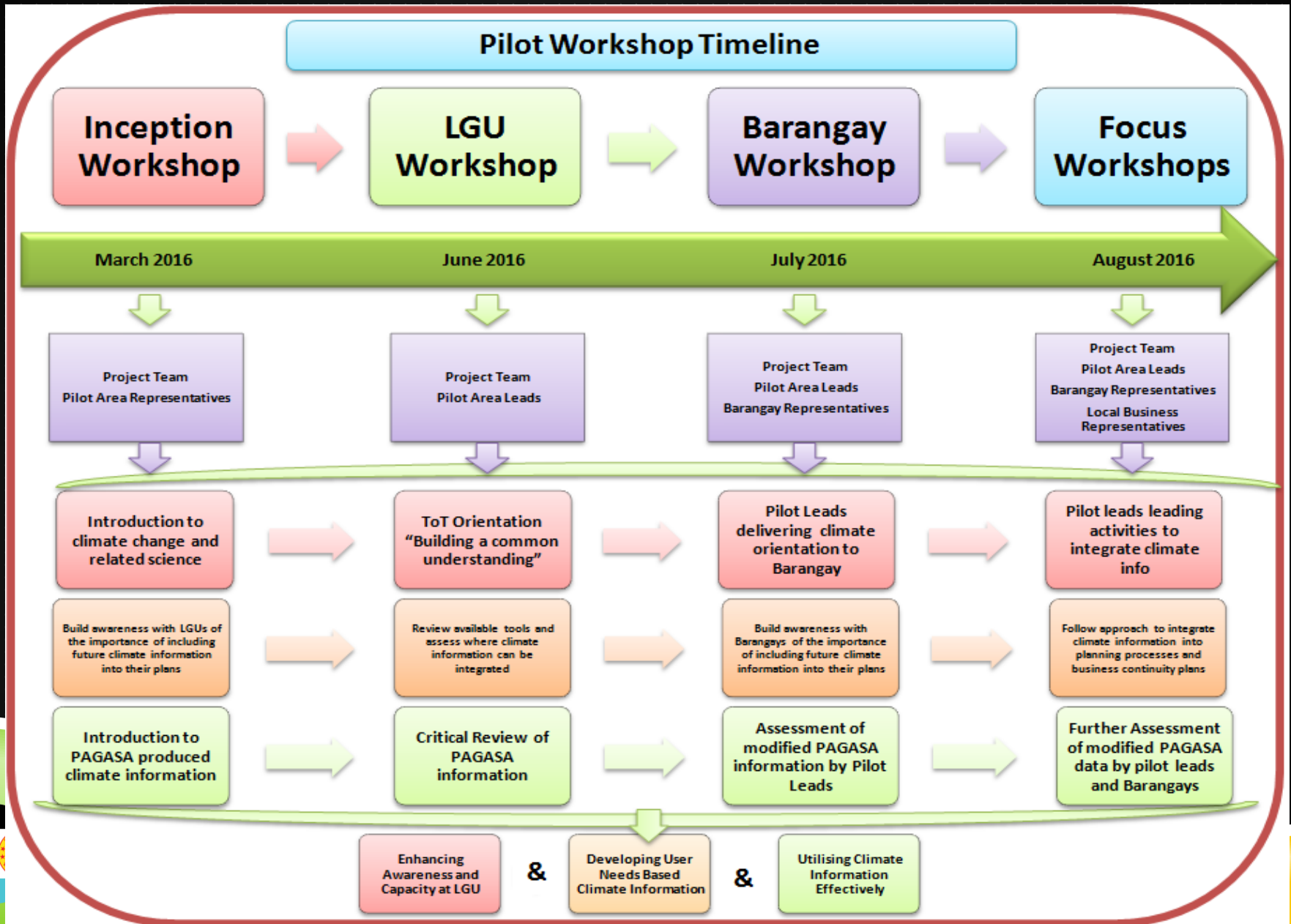


Pilot approach

- To build Capacity to understand climate information
- Development of User Needs Based Climate Information
- To develop mechanisms to utilise Climate Information





III. Pilot Approach and Development



a. Inception Workshops (Pilot Area Representatives)

a. Introduction to climate change and related science



Content

- Climate Science
- Climate Change
- Climate Impacts
- Available Climate Information from PAGASA
- Other Climate Information????
- Hazards, Exposure, Vulnerability & Risk
- Adaptation, Mitigation & Policy Environment
- V & A Assessments & Other available tools

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➤ GMMA participants had a good understanding of climate change, Salcedo participants had a basic understanding of climate change



a. Inception Workshops (Pilot Area Representatives)

b. Introduction to PAGASA produced climate information

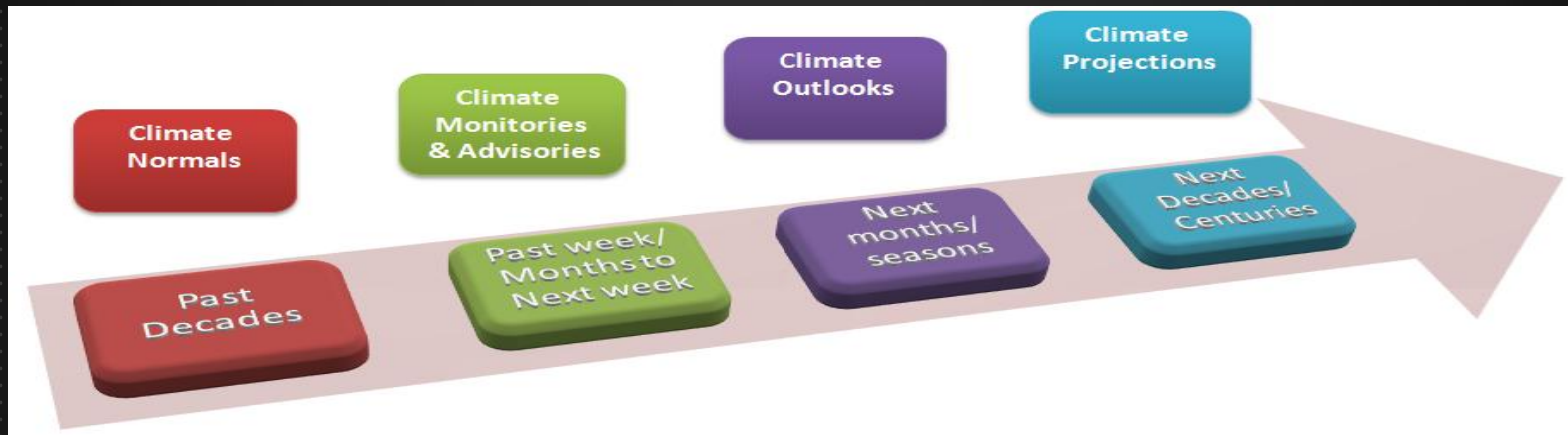
➤ Review of PAGASA information to assess current understanding



a. Inception Workshops (Pilot Area Representatives)

b. Introduction to PAGASA produced climate information

- Critique and identify difficulties and potential improvements to make more user-friendly



a. Inception Workshops (Pilot Area Representatives)

b. Introduction to PAGASA produced climate information

➤ This improved their awareness of what is available



a. Inception Workshops (Pilot Area Representatives)

c. Learnt about priority sectors and planning activities in the pilot areas

➤ Plans included Comprehensive Development Plans, Comprehensive Land Use Plans, DRRMP and LCCAP



a. Inception Workshops (Pilot Area Representatives)

c. Learnt about priority sectors and planning activities in the pilot areas

➤ Priority sectors identified in GMMA cities included health, livelihoods, local businesses (e.g. street side restaurants), and informal housing. In Salcedo the focus was predominantly on agriculture and fisheries.









b. Follow up LGU Workshop (Pilot Area Representatives)

a. ToT Orientation
“Building a common understanding” by the pilot area leads

➤ Providing tips to the focal persons on how to facilitate and provide training on the climate change material

➤ This included practical sessions for the focal persons to practice facilitation



b. Follow up LGU Workshop (Pilot Area Representatives)

a. ToT Orientation
“Building a common
understanding” by
the pilot area leads

➤ Trainees again provided feedback on the training material to allow us to improve the training pack

➤ Note that we continued to mentor and help the trainers to deliver this training at subsequent workshops attended by Barangays



b. Follow up LGU Workshop (Pilot Area Representatives)

b. Critical Review of PAGASA Information

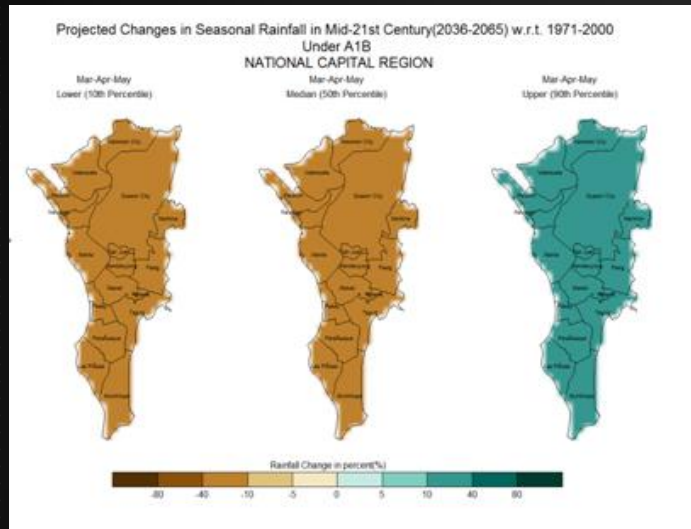
- Further review and critique of PAGASA climate information which we took on board for future workshops



b. Follow up LGU Workshop (Pilot Area Representatives)

b. Critical Review of PAGASA Information

- Issues highlighted difficulties in understanding climate projections and uncertainties associated with multi-model ensembles of data and how to apply this form of information in their day-to-day planning



b. Follow up LGU Workshop (Pilot Area Representatives)

b. Critical Review of PAGASA Information

- At the GMMA workshop we developed the Climate Information Risk Analysis Matrix (CLIRAM) to help focal leads interpret different sets of projections (e.g. for temperature, rainfall)
- This was then used in Salcedo and further enhancements were suggested

NE Monsoon (December - January - February) For Eastern Samar
 Base Line Observed (1971 - 2000) = 986.5mm
 (Mean temp.ref) = 26.1 °C

SCENARIO	TIME SLICE	IN PERCENT (%)	TEMP	MM	POTENTIAL CLIMATE RELATED RISK	ACTIONS INTERVENTIONS/DECISION
A1B	2050 MID CENTURY	17%	17°C	↑	1003.3 28.6	
ONS MODEL	2050	-5.6	1.2°C	↓	892.2 27.3	
		-5.3				
		8.5	1.5°C	↑	1069.9 30.1	
RCP 4.5	2050 MID CENTURY	65.5	1.5°C	↑	1639.1 27.6	
	2100 LATE CENTURY	57.6	2.1	↑	1551.1 29.8	
RCP 8.5	2050 MID CENTURY	60.4	2.0	↑	1582.7 31.7	
	2100 LATE CENTURY	190.8	3.4	↑	2776.9 35.2	



b. Follow up LGU Workshop (Pilot Area Representatives)

c. Review of Planning Processes and available tools and assess where climate information can be integrated



- We reviewed the planning processes and guidance for LGUs and listed common stages across the plans
- The focal leads then highlighted where climate information can easily be integrated



b. Follow up LGU Workshop (Pilot Area Representatives)

c. Review of Planning Processes and available tools and assess where climate information can be integrated



- We also reviewed existing tools e.g. Vulnerability and Adaptation (V&A) tools from the earlier GMMA READY project) and assessed how climate information could be integrated
- Focal leads then developed a Business Continuity Plans process to answer the questions “How to make the livelihoods sector more resilient to climate change?”









c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

a. Pilot Leads delivering climate orientation to Barangay

➤ Focal leads provided the training directly to Barangay participants



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

a. Pilot Leads delivering climate orientation to Barangay

- Covered all modules including the climate science component which was identified previously as the most difficult part!



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

b. Review and validation of PAGASA Information

- PAGASA presented “refined” climate information based on recommendations from earlier workshops
- This provided additional feedback on ease of use and understanding from Barangay participants



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

b. Review and validation of PAGASA Information

- Participants also “tested” the CLIRAM and provided feedback in order for us to make further improvements
- Noted the expectation was raised by the Barangay participants that climate information should be communicated by those at the city/municipal level



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

c. Build awareness of the importance of including future climate information into their plans

- The participants looked at historical events and thought about how these could change under different climate scenarios



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

c. Build awareness of the importance of including future climate information into their plans



➤ They also looked at past status, current and future “vision” for Barangays and related this back to the climate change information e.g. to inform what actions would be required to adapt based on the future climate information



c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

c. Build awareness of the importance of including future climate information into their plans

- This reinforced the importance of not only basing plans on past disaster event information, but also to incorporate climate information of potential future climate related hazards



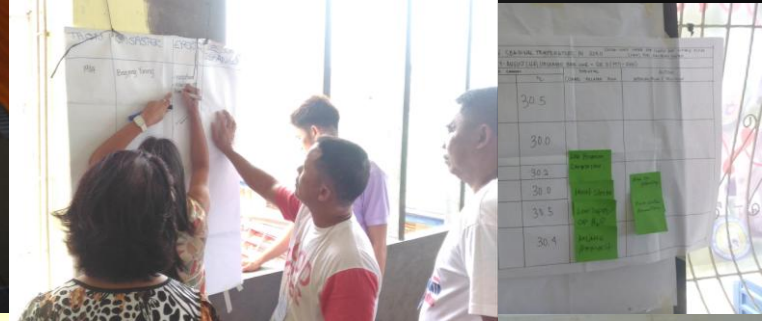
c. Barangay Workshop (Pilot Area Leads and Barangay Representative)

c. Build awareness of the importance of including future climate information into their plans

- Identification of local businesses of different scales for participation to the following Barangay focus workshop







d. Focus Workshops

Pilot Leads leading activities to integrate climate information



- Working through sectoral V&A assessments with representatives from Barangay
- Development of Business Continuity Plans with small scale businesses
- Used CLIRAM to integrate climate information into the above sector analyses





IV. Pilot outcomes and outputs

- I. Climate Orientation Pack
- II. Co-produced Climate information
- III. Climate Information and Risk Analysis Matrix
- IV. Guidance to support integrating Climate Information in Local Planning

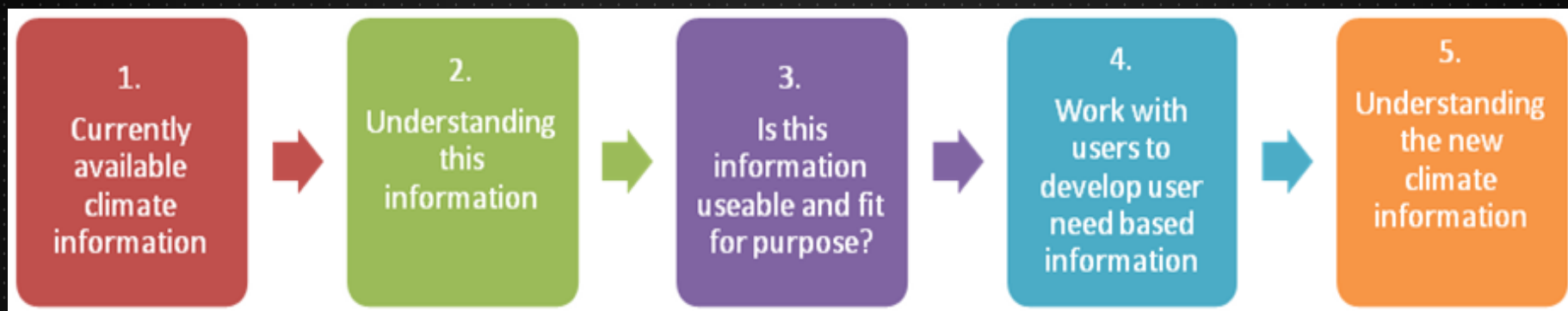


I. Climate orientation pack

- Climate Science
- Climate Change
- Climate Impacts
- Available Climate Information from PAGASA
- Other Climate Information
- Hazards, Exposure, Vulnerability & Risk
- Adaptation, Mitigation & Policy Environment
- V & A Assessments & Other available tools



II. Co-produced Climate Information



ISSUE**SOLUTION****Technical**

Difficult to understand intensity on temperature plots

Improvements will be made to the temperature scale

Would be useful to identify amount and volume of rainfall should be indicated

Will be included in revised plots

Projection plots presented in terms of model is confusing

To be considered for future projections

Rainfall projections would be more useful if presented as flood/drought related information rather than percent changes

Present data in terms of percentiles and not per model

The table formatted data needs more detail in terms of values

Explore if adding extra values after decimal will add value for users / scientifically robust

Plots are too pixelized and resolution of maps is too low to ensure information is relevant to area of interest

Increase the resolution (show maps in a larger scale) of maps to make it relevant to the area

ISSUE**SOLUTION****Format**

Improve colour being used to identify changes and differences – use different colours for temperature and rainfall

Work with focal leads to choose a new colour scheme

Unclear where the relevant locations are on the plots

Use of administrative boundaries on maps to clearly visualize the location.

All legends need to be complete

Complete in revised version

Language

Explain clearly what all symbols mean, e.g. Wind vectors

Update new plots with this information

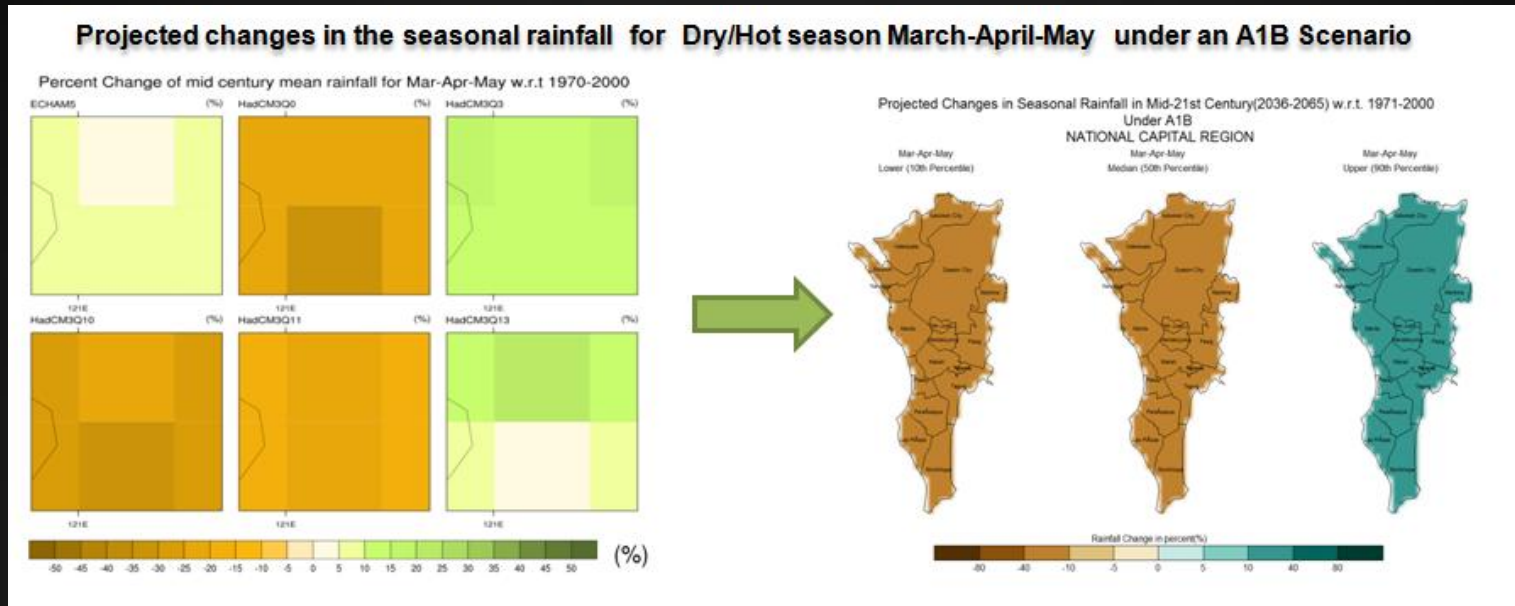
The language used is too complicated

Where this can't be changed include an explanation

Do not use acronyms or explain what they mean

Provide simple description where complex terms and reduce use of abbreviations

Picture of old and improved information



Old and improved information

NE Monsoon (December-January-February) for Eastern Samar
 Base Line Observed (1971-2000) = 996.5mm
 (mean temp.ref) = 26.1°C

SCENARIO	TIME SLICE	PRECIPITATION (%)	TEMPERATURE (°C)	ΔN (mm)	POTENTIAL CLIMATE RELATED RISK	RECOMMENDED ACTIONS/INTERVENTIONS/DECISIONS
RCP 4.5	2050 MID CENTURY	17%	17°C	↑	1002.3	28.6
	CMIP MODEL	-75.6	1.2°C	↓	892.2	27.3
	2050	-5.3	1.5°C	↑	1009.9	26.1
RCP 8.5	2050 MID CENTURY	65.5	1.5°C	↑	1699.1	27.6
	2100 LATE CENTURY	57.6	2.1	↑	1551.1	29.8
RCP 8.5	2050 MID CENTURY	60.4	2.0	↑	1582.7	31.7
	2100 LATE CENTURY	190.8	3.4	↑	2276.9	35.2

Projected Change in Seasonal Rainfall in Mid-21st Century(2036-2065) for Metro Manila

December-January-February (DJF) Observed Baseline (1971-2000) = 107.5 mm

SCENARIO	Range	PROJECTED CHANGE		Projected Seasonal Rainfall Amount (mm)	Potential Impacts	Proposed Solutions
		PERCENT (%)	Rainfall amount in mm			
Low Emission	Upper (90th percentile)	97.2	104.5	219.8		
	Median (50th percentile)	17.7	19.0	127.9		
	Lower (10th percentile)	-3.5	-3.8	103.4		
RCP45	Upper (90th percentile)	27.5	29.6	139.3		

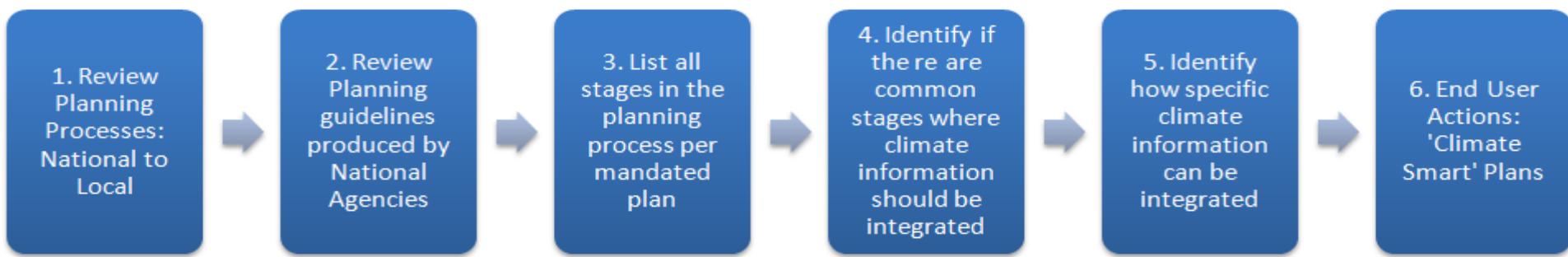
Projected Changes in Seasonal Rainfall in the Mid-21st Century(2036-2065) for Eastern Samar relative to 1971-2000: Observed baseline (1971-2000) = 987.0 mm

December-January-February

Scenario	Range*	Projected Change		Projected Seasonal Rainfall Amount (mm)	Potential Impacts	Proposed Solutions
		Percent (%)	Rainfall amount (mm)			
Low Emission (RCP45)	Lower	-4.2	-41.1	945.9		
	Median	1.3	12.5	999.5		
	Upper	45.0	444.4	1431.4		
High Emission (RCP85)	Lower	-7.9	-77.8	909.2		
	Median	13.7	135.2	1122.2		
	Upper	43.6	430.8	1417.8		

* upper: 90th percentile; median: 50th percentile; lower: 10th percentile

IV. Guidance to support integrating Climate Information in Local Planning



Achievements

1. Provided valuable insights and learning to support the improved production, communication and uptake of climate information
2. User-needs-based-approach” has greatly improved the understanding of PAGASA of their end-user needs and increased capacity of LGUs
3. Learning from this process and the products developed will support wider testing and development in other LGU areas
4. The process has clearly demonstrated how current climate information can be made “user-friendly” to inform production of future information by PAGASA
5. Knowledge gained of the links between national and local planning processes have provided a common framework for integrating climate information across local plans
6. Exploration of Business Continuity Planning to support resilient sector specific planning activities provides an opportunity to further increase outreach to local communities

Activity	Recommendations
Training of Trainers	<ul style="list-style-type: none"> • Discuss mechanisms to support further deployment and training for LGU (PAGASA and DILG). • Discuss development of local “Climate Champion” roles at the LGU level (PAGASA and DILG). • Further develop the climate orientation pack as an online resource and video format (PAGASA) • PAGASA to discuss with key Government Departments, the development of climate training to key national agencies • Review “climate field schools” as vehicle for further dissemination
Information production (PAGASA)	<ul style="list-style-type: none"> • Take learning to inform future information production. • Scope potential for social media outlets for sharing information.

Activity	Recommendations
Integrating climate information in local planning	<ul style="list-style-type: none"> • Scope options for further piloting and testing of approach developed (PAGASA and DILG). • This should cover prioritised sectors and socio-geographic regions / areas
Climate Information and Risk Analysis Matrix (CLIRAM)	<ul style="list-style-type: none"> • Further develop CLIRAM tool and link to information in next national climate projections (PAGASA) • Discuss mandating of V&A tools and linking to CLIRAM tool (PAGASA, DILG, CCC)
Linking climate information to local sector planning	<ul style="list-style-type: none"> • Discuss and scope concept of climate smart Business Continuity Planning with NEDA, DTI and DILG to support sector planning at the local level.