

Bridging Climate Change Knowledge to Action: Web-based Tools for Adaptation

Oscar M. Lopez Center
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Oscar M. Lopez Center

Science for Climate Resilient Communities



Oscar M. Lopez Center

- **Non-profit organization** born out of a private sector initiative to enhance research towards climate resilience
- Principled on the role of science in building resilient communities through **actionable knowledge** and climate information
- Founded in 2012 as a **response to research gaps** set against the country's vulnerability to climate change

How we work



SCIENCE

Provides the scientific backbone to increase climate change awareness and action



CO-PRODUCTION

Engages across sectors and disciplines to ensure actionable knowledges is tailored and delivered to the most vulnerable



USER-CENTERED

Creates conditions & opportunities to understand & integrate user needs, & re-orient programs & processes towards co-ownership



GRANTS

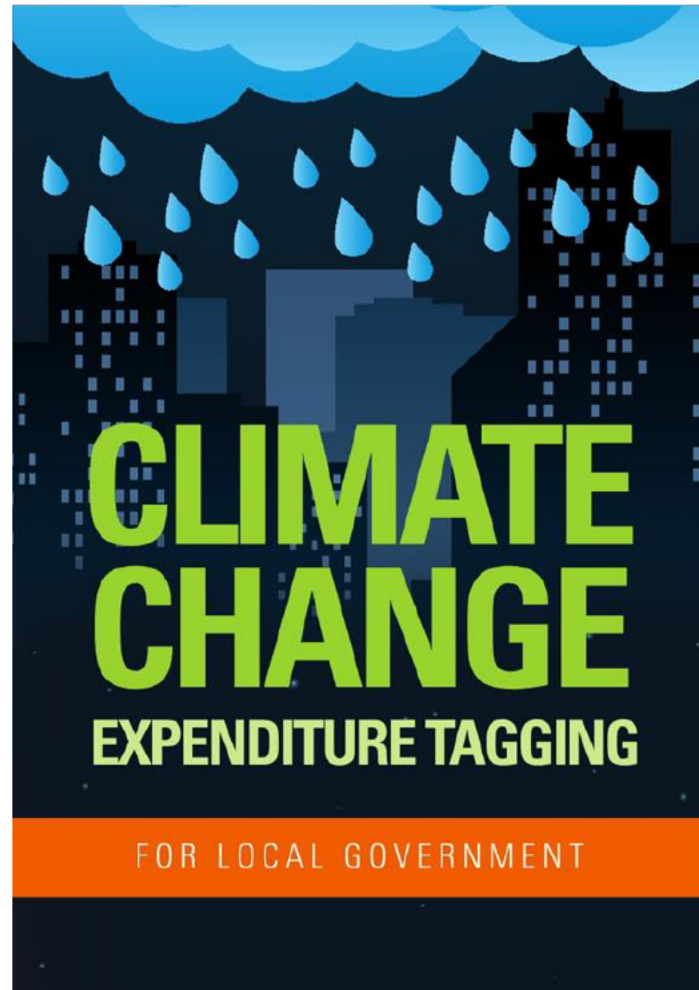
The first of its kind in the Philippines, continues to be the only grant giving NGO doing climate change research-based communications

Translating knowledge to usability



- **PhilCCA:** Localizing the global IPCC Reports to the Philippine context
- Developed in partnership with the **Climate Change Commission**
- **Challenge:** Need for a more appropriate format to bridge the knowledge-action gap

Responding to local government needs



Mandates public planners to tag plans and budgets according to a **set of typologies**, and to indicate **scientific basis**



CCET Typology Code

Climate Change Twin Pillar
A- Adaptation
M- Mitigation

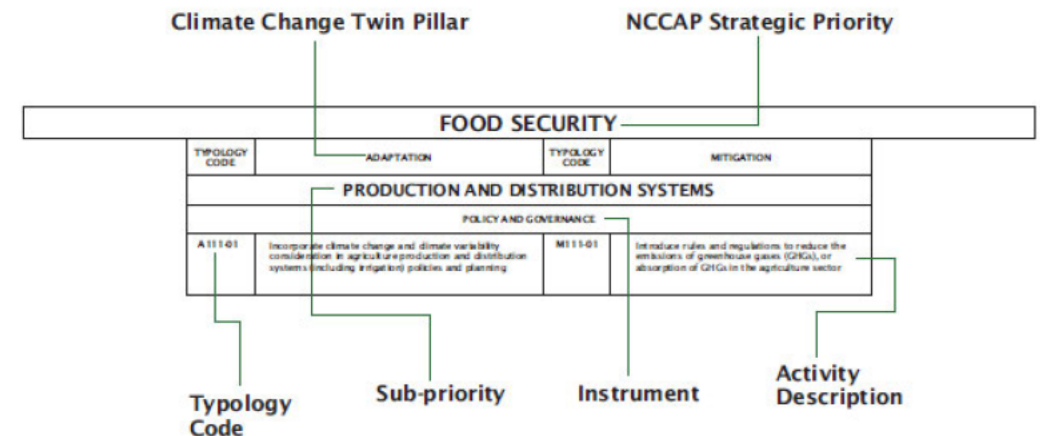
Sub-priority under each strategic priority

Activity

A111-01

NCCAP's Strategic Priority
1- Food Security
2- Water Sufficiency
3- Ecosystem and Environmental Stability
4- Human Security
5- Climate Smart Industries
6- Sustainable Energy
7- Knowledge and Capacity Development

Instrument
1- Policy and Governance
2- Research and Development
3- Knowledge and Capacity Building & Training
4- Action Delivery



Risk-based expenditure tagging: The eCCET Helper

- **Integrates climate risk** information taken from the PhilCCA Reports
- Links climate information to public policy and planning thru the Climate Change Expenditure Tagging (CCET)
- Aligns climate information with the NCCAP Strategic Priorities and the CCET typologies



Planning process emphasizing a risk-based approach

Risk RegisterAdd RisksMy ProjectsDownload

Take SurveyReferenceAccount


1 Determine risks and impacts2 Identify strategies to address risks3 Identify program, project or activity4 Review plans for climate responsiveness5 Download your plans in prescribed forms


[Back To Risk Register](#)


SELECT REGION
NCR (National Capital Region)


Climate Hazards


More Info


16


17


15

9


29


23


31





Add risks to the register:


☐PROJECTED INCREASE IN MORTALITY OF AMPHIBIANS DUE TO DAMAGES IN BREEDING AREAS CAUSED BY TORRENTIAL RAINFALL AND FLOODING

☐CHANGE IN MANGROVES SPECIES DIVERSITY DUE TO ALTERATION OF WATER SALINITY AND RIVER FLOWS TRIGGERED BY SEA LEVEL RISE

☐SLOW GROUNDWATER RECHARGE DUE TO DECREASED SOIL POROSITY AND VEGETATION CONDITION CAUSED BY LOW RAINFALL DURING DRY SEASON

☐VULNERABILITY OF WATER SUPPLY TO VARIABILITY OF RIVER FLOWS AND GROUNDWATER RECHARGE

☐EFFECT ON WATER SUPPLY OF ALTERATION OF WATER FLOWS TRIGGERED BY CHANGING RAINFALL PATTERNS

☐DECREASE IN RIVER FLOW WHICH COULD AFFECT AVAILABILITY OF WATER FOR IRRIGATION

6

Effective adaptation planning begins with identifying risks.

Risk Register

Add Risks

My Projects

Download

Take Survey

Reference

Account

1 Determine risks and impacts

Identify strategies to address risks

Identify program, project or activity

Review plans for climate responsiveness

Download your plans in prescribed forms

Back To Risk Register

SELECT REGION

NCR (National Capital Region)

Add risks to the register

PROJECTED INCREASE IN MORTALITY

☐

CHANGE IN MANGROVES SPECIES

☐

SLOW GROUNDWATER RECHARGE DRY SEASON

☐

VULNERABILITY OF WATER SUPPLY

☐

EFFECT ON WATER SUPPLY OF ALT

☐

DECREASE IN RIVER FLOW WHICH COULD AFFECT AVAILABILITY OF WATER FOR IRRIGATION

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5 Download your plans in prescribed forms

Users often start here and identify risks after

An inventory of CCA solutions: Project Upturn

- **UPTURN**: an improvement or **upward trend**; the point at which climate resilience begins to improve year-to-year
- Developing a tool that will identify, assess and prioritize **climate change adaptation solutions** based on localized risk and climate impacts



Integration: from planning to programming

[Risk Register](#) [Add Risks](#) [My Projects](#) [Download](#) [Take Survey](#) [Reference](#) [Account](#)

1 Determine risks and impacts

2 Identify strategies to address risks

3 Identify program, project or activity

4 Review plans for climate responsiveness

5 Download your plans in prescribed forms

[BACK](#) **Water shortages in Metro Manila and its nearby municipalities due to decrease in water production during El Niño event** [VIEW RISK DESCRIPTION](#)

A213-01 Projects [ADD PROJECTS](#)

Add Project

You can either manually input your project or choose from a menu of existing solutions on Project Upturn.


Open text project input

PROJECT NAME:

Add

OR

Choose solutions from



Project Upturn provides a menu of climate adaptation practices that address localized climate impacts.

Integrated with
eCCET Helper at
**project-
identification
step**

Effective adaptation planning begins with identifying risks.

Search for solutions



Create a new Solution

View: [Tiled](#) [Map](#)

[Reset Filter](#)

Filter by:

Climate Hazards ⓘ

- ☐ Tropical Cyclone
- ☐ Extreme Rainfall
- ☐ Rain-Induced Flooding
- ☐ Drought
- ☐ Sea Level Rise

[SEE MORE](#)

Adaptation Sectors

ⓘ

- ☒ Agriculture
- ☐ Biodiversity
- ☐ Buildings
- ☐ Coastal Areas
- ☐ Disaster Risk Reduction
- ☐ Ecosystem-Based Approaches
- ☐ Energy
- ☐ Financial
- ☐ Forestry
- ☐ Health



Agricultural Approach

Utilizing System of Rice Intensification (SRI)

[Details](#)



Agricultural Approach

Protected Cultivation of High Value Vegetables

[Details](#)



Agricultural Approach

Protected Vegetable Cultivation

[Details](#)



Agricultural Approach: Agroforestry

Sustaining Upland Farming through Conservation Farming Villages (CFV)



Agricultural Approach: Agroforestry

Agroforestry Systems



Agricultural Approach: Agroforestry

Alley Cropping in Upland Rice Farming Using Pineapple Hedgerows

Filter allows user to sort by **Climate Hazard, Adaptation Sector, or Location**

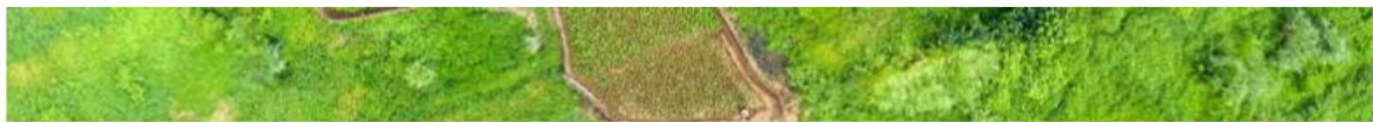


Photo by Tom Fisk on Pexels

Agricultural Approach: Farm Diversification

Corn-Rice-Green Corn Crop Rotation

Commonly, crop rotations are practiced to maintain soil productivity all year round and to increase crop yield. Most crop rotations propose alternatives to monocropping to maximize profit and to address loss of crops during dry seasons. However, in Jabonga, Agusan del Norte, many of the farmlands are located near Lake Mainit which overflows during periods of intense rainfall (November-February). During this period, the farmlands are heavily flooded and could not cultivate any crops. Corn-rice-green corn crop rotation is a practice proposed to compensate for the loss of profit during the flooded months [1].

Save as PDF or Print

Option to save/download

Simplified description of the climate change adaptation solution

Benefits of adopting the solution

Location/s where solution is applicable

Contents

Climate Adaptation Effectiveness

Climate Hazards

Locations

Adapatation Sectors

CCET Instuments

Target Group based on Vulnerability

Evaluations

Mitigation co-

Climate Adaptation Effectiveness ⓘ

Corn and rice is rotated to maximize the amount of staple food available for profit and as a food source during flooding. Green corn has a shorter cropping period compared to yellow corn. Including it in the crop rotation maximizes the remaining months before the onset of the flood to generate profit that would serve as buffer income for the farming households [1].

Climate Hazards ⓘ

- Rain-Induced Flooding

Locations ⓘ

- Jabonga, Agusan del Norte, Region XIII (Caraga Region)

CCET Instruments ⓘ

- Action Delivery

Identified CCET Instruments

Target Group based on Vulnerability

Basic Sectors:

- Children
- Farmers and Landless Rural Workers
- Indigenous Peoples
- Persons with Disabilities
- Senior Citizens
- Women
- Youth and Students

Which vulnerable sectors are impacted?

Evaluations

Economic / Financial Effectiveness ⓘ Low

The initial cost of implementation is PhP 39,500/hectare with a 3-year return on investment. Farmers practicing corn-rice-green corn crop rotation have an estimated annual profit of PhP 17,860/hectare and internal rate of return of 42%. Even if the corn and rice yield is lower, this practice is still much more profitable than monocropping [1].

Technical Feasibility ⓘ High

This practice is highly applicable to areas where flooding occurs for two to four months. This crop rotation scheme entails technical knowledge and capabilities that could be supplemented by field schools and training by climate

Evaluates solutions based on:

- 1) Economic Feasibility
- 2) Technical Feasibility
- 3) Social Acceptability
- 4) Environmental Impact

Upturn + eCCET Helper Development: Phase 2



Integrate a **Climate Change Risk Index** and **Climate Change Resilience Index**
based on AHP

Enhance
interoperability
between the tools

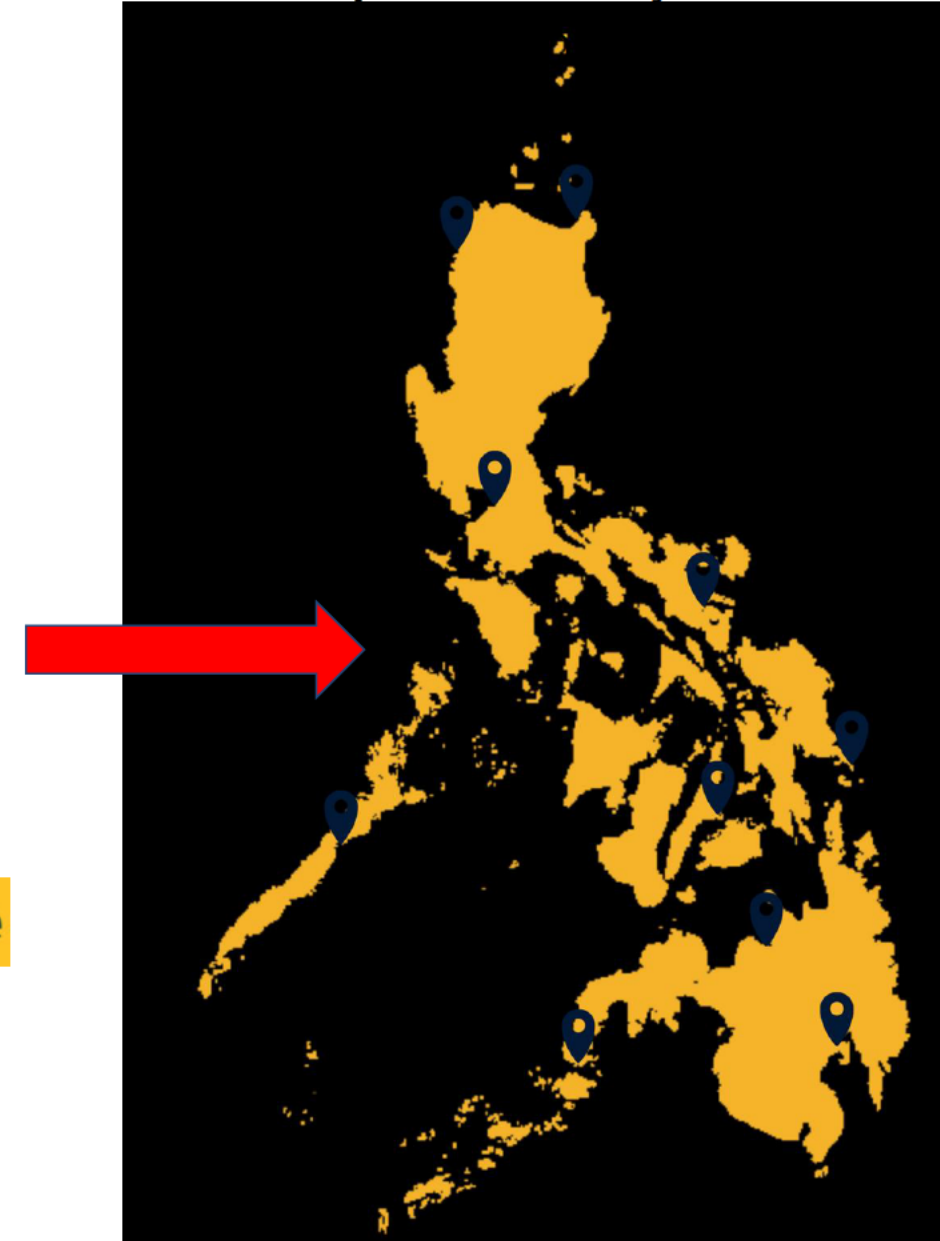


Update the **Risk Register** based
on updated localized risk
assessments (actual tagged)

OMLC Decision Support Toolkit



Visualize **localized SLR** projections, vulnerabilities, and impacts to key sites in



Challenges ahead

- **Institutionalization** - Overlapping mandates of national governments hampers the capacity building efforts for usage of the tool
- **Public partnership-building** - Changes in administrations sometimes equates to changes in strategic positioning of climate change as a priority
- **Monitoring and Evaluation** - Gauging the translatability and usability of tools for improved co-production strategies

Visit OMLC tools



upturn.omlopezcenter.org



eccethelper.omlopezcenter.org

Let's work together.

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