

Validation of CCAFS Outcomes for CIAT in the Philippines

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ACRONYMS

ACPC	Agricultural Credit Policy Council
AFMA	Agricultural and Fisheries Modernization Act
AMIA	Adaptation and Mitigation Initiative in Agriculture
ASEAN	Association of Southeast Asian Nations
ASTI	Advanced Science and Technology Institute
BSU	Benguet State University
BWSM	Bureau of Soils and Water Management
CAR	Cordillera Administrative Region
CCAFS	Climate Change and Food Security
CGIAR	Consortium of
CIAT	Center
CIS	Climate Information System
CBA	Cost Benefit Analysis
CC	Climate Change
CRA	Climate Resilient Agriculture
CRP	Climate Risk Profiles
CRVA	Climate Risk Vulnerability Assessment
DA	Department of Agriculture
DA-SWCCO	Department of Agriculture – Systems-wide Climate Change Office
DRR	Disaster and Risk Reduction
FAO	Food and Agriculture Organization
FFS	Farmer Field Schools
FGD	Focus Group Discussion
GCF	Green Climate Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOCC	Government owned and controlled corporation
KAS+P	Knowledge, Attitudes, Skills and Practices
KII	Key Informant Interview
LCCAP	Local Climate Change Action Plan
LOA	Letter of Agreement
MIMAROPA	Mindoro Marinduque Romblon Palawan
NCCAG	National Color-Coded Agricultural Guide Map
NGO	Non-Government Organization
OH	Outcomes Harvesting
PAGASA	Philippine Atmospheric Geophysical and Astronomical Services Administration
PCIC	Philippine Crop Insurance Corporation
PRDP	Philippine Rural Development Program
SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
UPLBFI	University of the Philippines Los Baños Foundation Inc.
WMO	World Meteorological Organization

1. Introduction

As the lead center for the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), the International Center for Tropical Agriculture (CIAT) is consistent in giving more focus on taking responsibility for the outcomes emanating from the uptake and use of its deliverables rather than on research deliverables and products.

The participating centers in CCFAS report outcomes on a yearly basis. CIAT has five years ago started to externally validate its outcomes, which has now become best practice. CIAT has in the past validated outcomes through external validators for Africa and Latin America. This year, CIAT is externally validating for the first time, outcomes from Asia, specifically from the Philippines.¹

2. Objectives of the Outcomes Validation

The objective of this validation activity was to verify the nature of identified CCAFS outcomes for CIAT in the Philippines covering the period of 2016 up to present. Specifically, the validation assessed the changes in Knowledge, Attitude, Skills and Practices (KAS+P) of institutional intermediate users related to the following outcomes identified by CIAT:

1. The use of outputs of CIAT collaborative climate research in the planning and establishing of CRA/AMIA villages;
2. The use of CIAT collaborative climate research for formulating policy frameworks and plans for national agricultural development agenda and services.; and
3. The use of outputs from CIAT collaborative climate research to inform the DA proposal for GCF on scaling up climate-resilient agriculture and fisheries in the Philippines.

3. Definition of Outcomes

For this validation exercise, the definition of outcomes covering the report will be based from that of the CCAFS/CGIAR definition stated in the Revised CCAFS Theory of Change Facilitation Guide (Schuetz, Forch and Thornton 2014). Here, an outcome is defined as “change in the next-user’s behavior, i.e., knowledge, attitudes, skills and practices.” In particular, an outcome is a change in the way actors and organizations do things so as to bridge the gap between the CGIAR centers, CGIAR Research Programs researchers and partners and the ultimate beneficiaries of their research, and the corresponding changes in knowledge, attitude, skills and practices that underpin these key behavioral changes. Next-users, in this context include national and international research and education institutions, private sector, extension services, governments both at the local and national scales, regional organizations and NGOs.

4. Validation Methodology

Outcome Harvesting

The evaluation of outcomes presented in this report mainly used the method of Outcome Harvesting (OH), a method of identifying, formulating, verifying and making sense of outcomes.² In the context of OH, an outcome is defined as a change in the behavior, relationships, actions, activities, policies or practices of an individual, group, community, organization or institution. Using OH, evaluation is conducted through “harvesting” or gathering information from reports, personal interviews, and other sources to determine

¹ Based from Consultant’s TOR for External validation for CCAFS outcomes of CIAT, 24 October 2018.

² http://www.managingforimpact.org/sites/default/files/resource/wilsongrau_en_outome_harvesting_brief_revised_nov_2013.pdf

how a given program or initiative has contributed to outcomes. These outcomes can be positive or negative, intended or unintended, but the connection between the initiative and the outcomes should be verifiable.

Outcome Harvesting differs from other evaluation methods as it does not measure progress towards predetermined outcomes or objectives, but rather collects evidence of what has been achieved, and works backward to determine whether and how the project or intervention contributed to the change. Once evidence is “harvested” it is then validated or substantiated by comparing it to information collected from knowledgeable, independent sources. The supported information is then analyzed and interpreted at the level of individual outcomes or groups of outcomes that contribute to mission, goals or strategies and the resultant outcome descriptions are used to answer the questions that were initially posed.

For CIAT’s Philippines outcomes validation, the outcomes statements proposed by CIAT were validated, refined and strengthened based from information gathered from third parties through in-depth interviews, consultations with identified stakeholder respondents, and critical reviews of relevant project reports and documents. In order to enhance understanding of the influence of CIAT climate science had in the next-users’ key behavioral changes, their opinions and responses on the following validation inquiries were solicited:

- 4.1 The extent (rated from 1-5, 5 being the highest) on the utilization of CIAT science as stated in the outcome cases;
- 4.2 Changes in knowledge attitude, skills and practices observes (in organization or those who are involved) as a result of collaboration with CIAT/utilization of CIAT science;
- 4.3 Foreseen possible new outcomes as a result of collaboration with CIAT/utilization of CIAT science;
- 4.4 Other organizations/colleagues that have taken action or change their policies or practices as a result of collaboration with CIAT/utilization of CIAT; and
- 4.5 Suggestions on how CIAT can maximize the delivery of knowledge, methodologies and technologies based on your present collaboration/utilization of CIAT science.

It is important to note that the basis of the generalizations made in this reports were solely based from the reviewed materials and reports, and interviews conducted by the validator.

5. Outcome Cases

5.1 Outcome Case 1: The use of outputs of CIAT collaborative climate research in the planning and establishing of CRA/AMIA villages

“The Department of Agriculture of the Philippines through its Adaptation and Mitigation Initiative in Agriculture (AMIA) Program is utilizing CIAT science to advise climate action on the ground. Specifically, the Climate Risk Vulnerability Assessment (CRVA) framework developed by CIAT supports the regional targeting and planning for the establishment of climate-resilient agri-fisheries livelihoods and communities (e.g. AMIA villages). The resulting vulnerability assessment using CIAT’s CRVA framework enables evidence-based spatial targeting of agricultural extension and financial investment in areas most at risk or tailored to a specific hazard, crop or lack of adaptive capacity. In 2017, 10 provinces with completed CRVA establishing 10 AMIA Village Sites covering 26 barangays³ was achieved. With the expansion of the AMIA program (AMIA2++), an additional 7 provinces across the country’s 17 regions have completed their CRVA and are in the process of identifying their respective AMIA village sites. (See Annex B – List of AMIA Village Sites as of December 2017). CIAT’s CRVA maps were also referenced in the development of maps for another component the AMIA Program, the National Color-Coded Agricultural Guide (NCCAG). The

³ A barangay is the smallest administrative division in the Philippines and is the native Filipino term for a village, district or ward.

NCCAG Map is a campaign commitment of Philippine President Duterte which enables farmers and fishermen to access interactive data on crops suitability, rainfall pattern, temperature, and climate-induced multi-hazards, among others.

5.1.1 Stakeholders Interviewed

Mr. U-Nichols Manalo is the current director of the Systems-Wide Climate Change Office (SWCCO). The DA-SWCCO is an attached agency of the DA which is tasked to: (1) oversee the mainstreaming of climate change consideration in all functions and offices of the DA; and (2) undertake catalytic projects to facilitate mainstreaming. Through the DA SWCCO, the DA, in cooperation with local and international research institutions, conduct technical and policy studies to provide guidance for the Department on what should be done on the ground to address climate change related issues. Mr. Manalo's engagement with CIAT commenced when he assumed office in November 2017.

Ms. Ella Baltazar is a Senior Technical Staff of the DA SWCCO and has been involved in the AMIA program since its inception in 2013. Her engagement with CIAT started when she participated in the AMIA1 Study Mission in 2015 which visited CCAFS sites in ASEAN countries such as Vietnam, Thailand and Indonesia. During this study mission, the conceptualization of direct partnership with CIAT was discussed so that the Philippines may also benefit from the range of CIAT expertise, particularly on climate change. According to Ms. Baltazar, CIAT was formally introduced to DA SWCCO in 2014 when Dr. Dindo Campilan, CIAT's Regional Director for Asia, along with some technical experts, made a courtesy call to DA Undersecretary for Policy and Planning Mr. Segfredo Serrano.

Dr. Janet Pablo is the current Dean of the College of Agriculture of the Benguet State University (BSU). She is the lead person representing the Cordillera Region for the CIAT project "Developing a Decision-Support Platform for Climate-Resilient Agri-fisheries (CRA) Investment Prioritization in the Philippines: Expansion Phase." In several stages of the implementation of the said project, she was able to work with CIAT experts such as Dr. Sekou Traoré who developed and shared knowledge on the CIAT CBA Online Tool and James Giles who shared with their group data gathering tools and techniques in developing CRPs.

5.1.2 Validation Inquiry

5.1.2.1 The extent (rated from 1-5, 5 being the highest) on the utilization of CIAT science in building climate-resilient agri-fisheries livelihoods and communities through the AMIA Program

Ms. Baltazar gave the highest rating of 5 on the extent of the influence of CIAT science in building climate resilient agri-fisheries livelihoods and communities through the AMIA program. The AMIA program defines the DA's national framework in addressing climate change in agriculture and serves as the umbrella program covering climate change across all programs functions and agencies at DA. The AMIA1⁴ and its succeeding components, AMIA2⁵, AMIA2+⁶ and AMIA2++⁷ followed a framework for implementation where each project component relates/complements each other – all of which were geared towards building climate resilient farming and fishing communities and livelihoods. The influence of CIAT science was evident in the utilization of the CRVA as the main tool used to assess and prioritize areas according to vulnerability to climate risks.

⁴ AMIA1(2015): Mainstreaming in DA (Capacity-building, preliminary mapping and special studies)

⁵ AMIA2(2016): Assessment-Targeting (CRVA & CRA development- 10 regions, 1 province/region)

⁶ AMIA2+(2017): CRA Community Action (Introducing CRA innovations and services (10 regions, 1 province/ region)

⁷ AMIA 2++(2018): Assessment-Targeting Community Actions (Expanding AMIA2 and AMIA 2+ in additional regions , 7 regions, 1 province/region)

Likewise, Mr. Manalo gave a rating of 5 and stated that prior to their engagement with CIAT, the DA SWCCO mostly have research studies as outputs mainly used as references. CIAT's mentoring capacity enabled them learn and utilize the framework approach in interpreting, analyzing and putting research results into action. This form of mentoring from CIAT generated more appreciation and understanding, and greater involvement and participation from stakeholders both from the national level and the local level (i.e., region-province- and municipality-level).

Meanwhile, Dr. Pablo gave a rating of 4, as she sees CIAT science still has more to contribute if methodologies shared with them are readily suited and can be directly applied to the agro-ecological features specific to their region. She reported that the tools for data collection shared by CIAT through their collaboration was very helpful in extracting data from farmers and LGUs for the development of climate risk profiles (CRPs) for CAR provinces, however, it needed some modifications in order to suit the agro-ecological conditions of their region.

5.1.2.2 Changes in knowledge attitude, skills and practices observes (in organization or those who are involved) as a result of collaboration with CIAT/utilization of CIAT science

Knowledge

Prior to collaboration with CIAT, DA SWCCO staff are already familiar about the science of climate change and its effects in the agri-fishery sectors. They have knowledge and understanding of the hazards and the impacts of climate change as well as the ideas on how to address these. However, through collaboration with CIAT, they became knowledgeable in conducting CRVA using the framework developed by CIAT. This is a particular tool that CIAT imparted that enhanced their understanding on implementing CC projects. The CRVA is a systematic way of knowing the hazards/potential hazards, sensitivity and adaptive capacity assessment to determine the vulnerability of specific areas and therefore allow the prioritization of resources for the right intervention was introduced to them. Dr. Pablo, on the other hand, highlighted their increased knowledge in CBA using the CIAT CBA Online Tool⁸. Providing data to serve as inputs to compare costs and benefits of CRA options for investment generated using the tool made them realize that learning how to interpret the results of the CBA online tool enables them to determine which prioritized climate change adaptation options are worthy of investing.

Attitude

For DA SWCCO, the level of awareness on CC was raised within the DA organization, particularly when AMIA projects involved more participation from the regional field offices/units (RFOs). However, support for AMIA was still limited as most components were research studies, with limited action/projects on the ground. However, when the DA started to implement CIAT designed activities for the AMIA project at the local/community level, the DA organizations became more supportive and cooperative of these undertakings. In fact, the Agri-Fishery Modernization Plan (AFMP) 2018-2023 has included the integration of CCA and DRR which proved how it has become a priority. In the case of BSU, even before the engagement with CIAT, the university has advocated and made climate change adaptation a priority that they even have a Climate Change Center to manage their activities. However, engagement with CIAT was very helpful for them in terms of funding their activities connected to this advocacy.

Skills

According to Ms. Baltazar, the CIAT CRVA produced results for 17 provinces in partnership generally with SUCs. For this part, it was the SUCs who were capacitated. There are 84 provinces in the country and

⁸ <http://cbatool.ciat.cgiar.org/>

DA has included in their plans completing the CRVAs for the rest of them. In fact for 2019, capacity building on CRVA for DA personnel is a priority for the agency. This claim was validated by Mr. Manalo and Dr. Pablo. Dr. Pablo further added that aside from skills in analyzing CRVA indicators and CBA values, they were also capacitated with skills in conducting different methods of data collection such as focus group discussions, key informant interviews, and triangulation of research results. Dr. Pablo said that these developed skills will be very helpful in designing their future projects after their collaboration with CIAT.

Practice

Based on experience of how CIAT produces quality CC related research work, the DA SWCCO now appreciates the practice of evidenced-based approach to CC interventions. As a national agency, the DA must always ensure that it is not implementing projects just for the sake of compliance but to make sure that sound scientific processes are undertaken in conducting a study. This is what they learned from their collaboration with CIAT. In this way, projects and activities in the national level as well as those rolled down to the local counterparts are well-targeted to address specific CC challenge/hazard/impact. For Dr. Pablo, since their engagement with CIAT started only in 2017, it is still too early to realize developed practices that emanated from the utilization of CIAT science.

5.1.2.3 Foreseen possible new outcomes as a result of collaboration with CIAT/utilization of CIAT science.

For Ms. Baltazar and Mr. Manalo, a possible outcome that may be expected from the implementation of the current AMIA component (AMIA2++) is the nationwide implementation of the actual CCA-DRR that would scale-out Climate Resilient Agri-fisheries (CRA) projects gained from existing AMIA villages. Dr. Pablo, on the other hand, cited the possibility of local government decision-makers utilizing the decision support platform developed using CIAT science as a major reference for developing their LCCAPs⁹ as a possible outcome from their present CIAT collaboration. Utilizing the decision making platform will these decision-makers to have the capacity to identify which areas in their localities are most vulnerable and what appropriate CRA interventions for these areas may be prioritized for funding.

5.1.2.4. Other organizations/colleagues that have taken action or change their policies or practices as a result of collaboration with CIAT/utilization of CIAT

According to Ms. Baltazar, through the AMIA program, CRVA maps and scenarios were referenced in the development of the National Color-Coded Agricultural Guide (NCCAG) Map.¹⁰ The NCCAG identifies the agricultural areas that are naturally suitable to crops and overlays data on soil properties, elevation, slope, rainfall pattern, temperature and climate induced multi-hazards. The NCCAG was presented by the DA Secretary Emmanuel Piñol to President Duterte in Malacañang Palace in March 2017.¹¹ *See Annex C - Launching of the NCCAG Map at the Malacanang Palace on March 7, 2017*

Meanwhile, for Dr. Pablo, at this time, other than the BSU, the engagements of other SUCs in CAR are not yet established. Currently, only the BSU enjoys the opportunity to use and learn CIAT developed technologies, through their collaboration. What they see right now is the opportunity to present the results of their CIAT engagement highlighting the CIAT tools and methodologies to a wider audience through their Annual Research Review so other researchers in the region will be aware about the CIAT climate science.

⁹ As defined in the Climate Change Act of 2009 or RA 9729, the LGUs shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan. The Local Climate Change Action Plan (LCCAP) is a document crafted and designed by the local government units (LGUs) regarding climate change adaptation plans in their locality.

¹⁰ <http://www.farmersguidemap.gov.ph/>

¹¹ <http://www.da.gov.ph/da-activates-national-color-coded-agricultural-guide-map/>

5.1.2.4 Suggestions on how CIAT can maximize the delivery of knowledge, methodologies and technologies based on your present collaboration/utilization of CIAT science

From a national government agency perspective, Ms. Baltazar related that government institutions have very limited resources. While CIAT has the technical capacity and specialization, sources of funding to forge partnerships becomes a challenge. She thinks that maybe CIAT can also explore funding sources to assist the DA in financing future collaborations to address the issues on climate change. Mr. Manalo added that having laymanized terms for the highly technical terminologies used by CIAT in explaining their climate science products would be very much appreciated especially by stakeholders such as the farmers, fisherfolks and communities since they will be able to understand the science behind the tools and methodologies that are being imparted to them.

For Dr. Pablo, CIAT can improve their delivery of knowledge, methodologies and technologies by interacting with partners more often (i.e. other than through emails) so that they are more aware of the progress and status of their collaboration. She also thinks that right now, CIAT has minimal exposure to the actual situation in situ where their expert advice and guidance are significantly needed, thus opportunities to share knowledge and expertise are missed. Another aspect where CIAT may improve on is to work on its strategies and tools to increase the replicability of their science. Dr. Pablo has cited that the CIAT CBA Online Tool will be much appreciated by its users if it can be modified to be readily accessible even without internet connection. Fluctuating internet connection is a major problem faced by users in remote and far flung areas such as provinces and municipalities in CAR. If this is the case in many areas in the Philippines, the tool such as the CBA Online Tool cannot fully serve its purpose.

5.1.3 Summary

The influence of CIAT science in the establishment of AMIA villages across the Philippines has helped communities to manage climate risks. From the gathered information presented above, the utilization of CIAT science did not only serve its purpose on the technical side but has also imparted knowledge on how research studies and findings should be put into action. Further, the utilization of CIAT science in the AMIA Program has also branched into many collaborations such as those of SUCs. This gave CIAT the opportunity to influence decision and policymakers not only at the national level but also at the local level (i.e., province level).

5.2 Outcome Case 2: The use of CIAT climate science for formulating policy frameworks and plans for national agricultural development agenda and services.

CIAT science has been referenced in formulating national and sectoral midterm plans of the government of the Philippines. At the national level, CIAT climate science information, tools and methodologies were referenced in Chapter 20 of the Philippine Development Plan 2017-2022¹²: Ensuring Ecological Integrity, Clean and Healthy Environment in formulating strategies for attaining increased adaptive capacities and resilience of ecosystems. At the sectoral level, in the approved 2018-2022 AFMP¹³, the DA has declared CRVA as one of its planning tools in assessing the vulnerability of areas to climate change. In terms of insurance in the agriculture sector, the establishment of AMIA villages in the provinces (i.e., CRA learning sites identified and developed utilizing the CIAT's tools such as CRVA maps and scenarios) surfaced the crucial role of access to credit for the farmers' successful uptake of CRA innovations. This realization led

¹² The Philippine Development Plan (PDP) 2017-2022 is the first medium-term plan to be anchored on the 0-10-point Socioeconomic Agenda and is geared towards the Ambisyon Natin 2040 which articulates the Filipino people's collective vision of a MATATAG, MAGINHAWA, AT PANATAG NA BUHAY PARA SA LAHAT. It also takes into account the country's international commitments such as the 2030 Sustainable Development Goals.

¹³ Link for CIAT CRVA presentation for AFMA updating workshop funded by the UNDP:

<https://www.slideshare.net/leopalao/climate-risk-vulnerability-assessment-to-support-agricultural-resilience>

to a contract with CIAT to help the ACPC and PCIC conceptualize, design and pre-test innovative CRA-inclusive agri-finance products and optimal climate risk insurance, input and credit bundles. The innovative CRA-inclusive insurance, credit and input product(s)/package(s) which shall be rolled-out by ACPC and PCIC in their existing infrastructure will potentially benefit 25,000 (indicated by ACPC's reach through the PLEA program) to 1,000,000 farming households (indicated by PCIC's agricultural insurance reach) throughout the country. The academia is also taking interest in utilizing CIAT science in conducting researches which are presented, highly appreciated in conferences and published in an international journal. The CRVA is also getting attention from online research enthusiasts as demonstrated in the number of views and downloads of CRVA information in media sites such as slideshare.net.

5.2.1 Evidences from Secondary Sources

The Philippine government acknowledges that the environment and natural resources (ENR) sector plays a critical role in the country's development. The PDP 2017-2022 includes more aggressive strategies to rehabilitate and restore degraded natural resource, and protect fragile ecosystems while improving the welfare of resource-dependent communities (National Economic Development Authority 2017). A part of this is increasing adaptive capacities and resilience of ecosystems which is demonstrated by efforts to mainstream CRA in the PDP. CIAT climate science information, tools and methodologies, were referenced in formulating strategies for attaining Subsector Outcome 3: Adaptive capacities and resilience of ecosystems increased (Chapter 20 of the PDP 2017-2022: Ensuring Ecological Integrity, Clean and Healthy Environment). Strategies which demonstrate the appreciation of CIAT climate science shared to partner government agencies through capacity building (e.g. trainings, conferences) and technical assistance described in the PDP include CRVA maps and scenarios, cost benefit analysis (CBA) tool for CSA practices/technologies, and Climate Risk Profiling.

- a. **CRVA Maps and Scenarios:** PDP 2017-2022 Strategy: Develop, maintain and ensure the accessibility of climate and geospatial information and services - "This includes the following activities: (a) completing the coverage and ensuring access to large scale (1:10000) probabilistic hazard maps; (b) conducting a nationwide geo-referenced mapping of exposed elements; (c) developing risk estimation models to determine the value of potential loss and damage of different scenarios; (d) improving the loss and damage database to generate disaggregated information about vulnerable and affected groups; (e) identifying and mapping natural ecosystems that contribute to resilience; and (f) standardizing definition and methodologies to measure DRRM and CC variables.
- b. **Cost-benefit analysis tools for CSA practices/technologies:** PDP 2017-2022 Strategy: Identify technological and research priorities and capacity needs on CCAM and DRRM- This strategy includes but not limited to: (a) development of methodologies/tools for national-level risk informed planning and programming; (b) scenario development and modelling of sectoral climate impact; (c) cost-benefit analysis of implementing CCAM and DRRM alternatives; (d) low carbon innovations to address CCA and DRR; (e) approaches and tools to address impact of slow onset events such as sea level rise and ocean acidification; and (f) improved weather detection forecasting and monitoring."
- c. **Climate Risk Profiling:** PDP 2017-2022 Strategy: Continue to mainstream CCAM and DRRM in national and local development plans and policies - Government at all levels will be informed of the latest CC projection of risk and vulnerability assessment to identify appropriate interventions and avoid maladaptation. Existing financing schemes and auditing systems will also be revisited to support CCAM and DRRM priorities."

In the approved AFMP 2018-2023¹⁴, the CRVA is already included as one of the planning tools of the DA in assessing the climate change vulnerability of the provinces. This is part of the effort of the DA to ensure integration of climate change adaptation and disaster risk management in said medium term plan. As of this writing, the approved AFMP is being packaged by the DA for publication, and will be released by the first quarter of 2019.

The academia has also demonstrated interest in utilizing CIAT science in conducting researches. For instance, in the 2017 Pampanga Research Educators Organization (PREO) International Research Conference, a study which utilized CRVA in its research methodology was chosen as the best paper. The paper written by Peñaflor and Romero of the Isabela State University, “Climate Change Vulnerability of the Agricultural Sector in the Province of Isabela: Basis for Decision Support Platform and Policy Innovation,” aimed to determine the agriculture sector’s vulnerability to climate change. Specifically, the study sought to determine: (a) the climatic suitability of crops under current conditions and 2030 projections; (b) the adaptive capacity of LGUs to climate change; and (c) the overall vulnerability of the agriculture sector in the province of Isabela and its LGUs. Collection and organization of geo-referenced data on vulnerability to climate risks were undertaken. These datasets, both from primary and secondary sources, were generated based on the methodological guidelines for CRVA covering climate-risk exposure, sensitivity, and adaptive capacity. Geospatial assessment of climate risks following the CRVA guidelines were employed applying GIS-climate modelling tools (e.g. EcoCrop/Maxent) and ArcGIS. In the acknowledgement section of their paper, the authors thanked CIAT for the technical support especially during the trainings and workshops that CIAT organized participated in by the authors. These trainings and workshops significantly contributed in capacitating and activating their skills and talents. *See Annex D - Research Paper Utilizing CRVA Won the 2017 PREO International Research Conference*

Another study by faculty members of a CIAT AMIA partner state university, the Partido State University – Caramoan Campus entitled “Regional Climate Resilient Assessment, Targeting, and Prioritization for AMIA – Phase 2 Region V (Bicol) Camarines Sur,” was a qualifier for the AFMA R&D Paper Award during the 30th National Research Symposium of the Department of Agriculture- Bureau of Agricultural Research (DA-BAR) held in November 2018. The authors Laureta, Dela Vega, and Combis presented the output on the results of their activities for the AMIA2 project. *See Annex E - Photo of Mr. Laureta of Partido State University, the author of “Regional Climate Resilient Assessment, Targeting, and Prioritization for AMIA – Phase 2 Region V- Camarines Sur,” a paper awarded as a qualifier for the AFMA R&D Paper Award during the 30th National Research Symposium of the DA-BAR last November 2018.*

CIAT’s CRVA framework, climate products and technical assistance were employed in a study entitled “Climate-risk vulnerability assessment of the agriculture sector in the municipalities and cities of Bukidnon, Philippines.” (Paquit, et al. 2018). The study conducted by students of the Central Mindanao University was published in December 23, 2018 as an article for the International Journal of Biosciences. (*See Annex F - Screenshot of Internationally Published Research Paper Which Employed CIAT CRVA Framework*). Likewise, efforts from the CIAT PH staff of uploading CIAT science materials to research network sites has generated attention from online research enthusiasts. *See Annex G - Number of Downloads of CRVA from SlideShare.net*

¹⁴ According to DA SWCCO Director U-Nichols Manalo, the AFMP 2018-2023 has already been approved but is still in the process of packaging for publication

5.2.2 Validation inquiry

5.2.2.1 Identified Respondent

For the ACPC/PCIC outcome, the main respondent was Mr. Norman R. Cajucom, the current Senior Vice President of the Philippine Crop Insurance Corporation (PCIC). PCIC is a government owned and controlled corporation (GOCC) attached to the DA which serves as the implementing agency of the government's agricultural insurance program. The PCIC's principal mandate is to provide insurance protection to farmers against losses arising from natural calamities, plant diseases and pest infestations of their palay and corn crops as well as other crops. Mr. Cajucom's first engagement with CIAT was when he participated in the AMIA1 Study Mission to CCAFS sites in Thailand in 2015. In 2016, he was also invited by the DA to assist in the validation of CRVA maps and scenarios in Cebu City. At present, his collaboration with CIAT is serving as partner for the GIZ project "Innovative Credit and Insurance Products for Scaling Climate Resilient Agriculture in the Philippines." Mr. Manalo and Ms. Baltazar from DA-SWCCO was also responded to some questions/inquiries for this validation outcome since PCIC is an attached agency of the DA and discussions on the ACPC/PCIC project include staff from DA SWCCO.

5.2.2.2 The extent (rated from 1-5, 5 being the highest) on the utilization of CIAT science in the development of innovative CRA-inclusive insurance, credit and input products/packages

Mr. Cajucom gave the highest rating of 5 when asked on the extent of the influence of CIAT science in the development of innovative CRA-inclusive insurance, credit and input products/packages. The contribution of CIAT to the design and facilitation of the AMIA, which gave way to the collaboration of PCIC and CIAT of factoring in CRA aspects into their existing agri-finance products to unlock CRA investments is a very significant contribution to PCIC's primary mandate of providing insurance protection to farmers against losses arising from natural calamities, plant diseases and pest infestations of their palay and corn crop as well as other crops. Mr. Manalo likewise gave a rating of 5 claiming that CIAT's science is an excellent basis for developing climate related products such as the CRA-inclusive insurance, credit and input products/packages. He also added that the full potential of these kinds of initiatives will be realized if all farmers/fisher folks and their communities are automatically registered in the insurance programs implemented by ACPC and PCIC.

5.2.2.3 Changes in knowledge attitude, skills and practices observes (in organization or those who are involved) as a result of collaboration with CIAT/utilization of CIAT science

Knowledge

Mr. Cajucom related that collaborating with CIAT increased their knowledge in all aspects of climate change adaptation. Participating in the CRVA consultation workshops and CCAFS field visits organized by CIAT led to increased knowledge in interpreting and analyzing CRVA maps and indicators for prioritization of areas vulnerable to climate change, and eventually linking the findings to PCIC's mission of extending innovative and client-responsive insurance packages and other services thru people's organization, including farmers' cooperatives, agricultural lenders and service providers.

Attitude

Their initial engagement with CIAT, through the AMIA program activities has made the PCIC realize the need of enhancing their existing insurance packages in order to help farmers acquire adaptation capacities and mitigation potentials in order to increase productivity. Because of this realization, the PCIC has committed to innovate and improve their existing agri-finance products to be CRA-inclusive.

Skills

Their collaboration with CIAT, even prior to their current partnership has made them develop their capability to comprehend, understand and analyze CRVA maps and scenarios, which they can later apply to their other related projects and undertakings.

Practice

Mr. Cajucom related that at this point, it is still very early to observe any change on how their organization demonstrate the knowledge that they learned from CIAT through their actions since their collaboration with CIAT is still at its preliminary stage. However, CIAT science is directly related to the risk management mandate of the PCIC. For instance, the more that they understand methodologies such as the CRVA, the more they can disseminate it to the farmers and the more they can cope with the challenges of climate change in terms of risk reduction.

5.2.2.4 Foreseen possible new outcomes as a result of collaboration with CIAT/utilization of CIAT science

According to Mr. Cajucom, a major outcome that may arise from the enhanced CRA-inclusive agri-finance products and optimal climate risk insurance input, credit bundles and insurance packages that will be developed with PCIC's utilization of CIAT climate science is the availability of a wider coverage of insurance protection for farmers, which eventually will have impacts to increase in food productivity and ultimately alleviate poverty, especially for the small-holder farmers in the country. This potential of improved productivity will also result to the global competitiveness of agricultural products of the country.

5.2.2.5 Other organizations/colleagues that have taken action or change their policies or practices as a result of collaboration with CIAT/utilization of CIAT

Since PCIC offers innovative insurance packages and other services thru people's organizations, including farmers' cooperatives, agricultural lenders and service providers, the developed CRA-inclusive agri-finance products developed through CIAT climate science may result to the uptake of these insurance packages not only from high value crops growers but also, livestock and aquaculture growers.

Ms. Baltazar of the DA SWCCO, on the other hand, stated that in the approved AFMP for 2018-2023, the CRVA is included as one of the decision support tools referenced for the implementation of the Vulnerability and Suitability Analysis (VSA) and Expanded Vulnerability and Suitability Analysis (e-VSA) methodologies of the Bureau of Soil and Water Management (BSWM). The implementation of these methodologies is managed by the DA Planning, Monitoring and Evaluation Division which is in charge of monitoring the Philippine Rural Development Project (PRDP).

5.2.2.6 Suggestions on how CIAT can maximize the delivery of knowledge, methodologies and technologies based on your present collaboration/utilization of CIAT science

Mr. Cajucom thinks that to further maximize the delivery of knowledge, methodologies and technologies, CIAT can improve on putting more effort in organizing meetings with partners and clients on a more regular basis. Based from experience, he thinks that CIAT right now has minimal follow through in terms of project coordination and communication with partner agencies. Because of this issue, they are sometimes apprehensive of the status of the project (i.e., is it still on-going, what is the progress, are timelines still followed, etc.) and the continuity of the partnership. Mr. Cajucom also stated that CIAT may consider increasing the frequency of communication with partner agencies such as PCIC especially if it concerns anything that might affect them such as a sudden change of CIAT personnel/staff coordinating with them.

5.2.3 Summary

The effort of the Philippine government to mainstream climate-resilient agriculture in government programs are very evident in the inclusion of strategies to increase adaptive capacities and resilience of ecosystems in national and sectoral mid-term development plans. The collaboration of CIAT with concerned national government agencies enabled these agencies to come up with scientific and evidence-based strategies in order to mainstream climate change adaptation in their programs and activities. Similarly, the appreciation of CIAT science was evident in the numerous research studies conducted by people from the academe. CIAT's collaboration with PCIC demonstrates an outcome of the use of CIAT's climate science in the design and facilitation of AMIA villages. Although the collaboration of CIAT and ACPC/PCIC is considered to be in its initial phase, Mr. Cajucom expressed appreciation of what CIAT climate science has already contributed in terms of increasing knowledge, skills and attitude.

5.3 Outcome Case 3: Outcomes Statement for the use of CIAT Collaborative Climate Research to Inform the DA proposal for GCF on scaling up climate-resilient agriculture and fisheries in the Philippines.

“As part of the Philippine government’s efforts in increasing access to other sources of financing for climate , including bilateral and multilateral sources, a GCF proposal is being developed by the DA, in collaboration with CIAT and FAO, with the aim of scaling-up climate resilient agriculture and fisheries in the Philippines. The DA, PAGASA and SUCs are utilizing CCAFS data and researches produced by CIAT to strengthen the major components of the proposal which is expected to benefit farmers at risk of climate change in 15 provinces across the country: (1) The prioritization of areas in the GCF proposal was based on CIAT’s CRVA framework; (2) the close collaboration of CIAT with the national and regional teams of decision makers (DA), SUCs, LGUs, farmers and local businessmen, led to the utilization of CIAT science in the development of Climate Risk Profiles/CRA profiles at subnational levels (i.e., three island groups in the country) which provides a more customized decision-support information to region-specific climate risks and adaptation options; (3) the CBA online tool developed by CIAT is the major tool used by the DA and SUCs in determining ex-ante cost benefit analysis to calculate risks-informed costs and benefits of prioritized CRA practices, (4) collaboration with CIAT led PAGASA to initiate assessing climate change impacts on key farming systems found in selected eco-regions/agro-ecological zones using appropriate approach depending on the dataset provided; and (5) the methodology for the regional assessment of the farmer field schools (FFS) co-developed by FAO and CIAT is referenced by partner SUCs and regional DA offices as data sources. This supports the GCF proposal development in understanding how to best communicate climate information services and CRA practices through region specific and inclusive (i.e. gender and social inclusion) farmer training programs.”

5.3.1 Identified Respondents

Mr. Jim Hancock is a natural resources management officer for the FAO. His work in the FAO has enabled him to engage with CIAT. Mr. Hancock’s current collaboration with CIAT is based on an existing work CIAT had done for the DA AMIA program.

Ms. Analiza Solis is the Officer-in-Charge of the Climate Monitoring and Prediction Section (CLIMPS) of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). Their organization’s collaboration with CIAT was a result of their LOA with FAO, and was aimed to assist them in coming up with an inventory of all surface-based networks and agrometeorological stations in the Philippines, as part of their activities leading to the development of the GCF proposal.

5.3.2 Validation inquiry

5.3.2.1 The extent (rated from 1-5, 5 being the highest) on the utilization of CIAT science in the development of the GCF proposal on scaling-up climate-resilient agriculture and fisheries in the Philippines.

Mr. Hancock gave the highest rating 5 and justified it by stating that a large part of the science base for the development of the GCF proposal has come out of the products that were commissioned through the LOA between FAO and CIAT with a number of technical reports and findings. Ms. Solis, on the other hand, gave a rating of 4 claiming that even though their collaboration with CIAT just recently started, CIAT's coordination, facilitation and conduct of workshops has enabled them to come up with proposed activities to be included in the GCF proposal. She believes that the current collaboration with CIAT is only the beginning of their partnership and they would welcome opportunities for direct collaboration in the future.

5.3.2.2 Changes in knowledge attitude, skills and practices observes (in organization or those who are involved) as a result of collaboration with CIAT/utilization of CIAT science

Knowledge

According to Mr. Hancock, there was extensive new knowledge developed in terms of understanding climate change impacts on agriculture in the Philippines, building on previous CIAT work. These was particularly related to: (1) impact on key commodities in key climate change provinces; (2) impacts not just on the production side but through the whole value chain; (3) prioritized adaptation responses for the different value chain actors, analysis of barriers to adoption, and mainstream program opportunities; (4) gender lends was applied in CRA options; (5) detailed prioritization and CBA of CRA options; (6) an in-depth analysis of FFS approaches appropriate to increasing technical knowledge and uptake of CRA; and (7) a detailed network analysis of climate information flows from producers of information to users and feedback loops. Meanwhile, Ms. Solis claimed that through CIAT's guidance in the inventory of existing synoptic and agrometeorological stations, and other surface-based sensors being maintained by other parties (i.e. Bureau of Soils and Water Management (BWSM), Weather Philippines Foundation (WPF), Advanced Science Technology Institute (ASTI), etc.) they became aware of the presence of many observational network stations that have differs in specifications and data quality from PAGASA. Thus, there is still a need of putting up agrometeorological stations that conforms to specifications set by PAGASA.

Attitude

For Mr. Hancock, building on previous work by CIAT closely integrated into the DA AMIA program further heightens appreciation of evidence-based approaches, among key national and regional stakeholders, to CC impacts and suitable responses. CIAT facilitation was also important in bringing together national stakeholders in neutral discussion on appropriate weather stations to feed agrometeorological data, eventually for use in planning CRA at different levels. Ms. Solis, on the other hand, stated that their awareness of the other existing observational stations, through the inventory they did with CIAT's guidance and workshops made them realize the challenge of harmonizing data from all these sources, especially because of the different specifications used in developing the sensors. For instance, PAGASA follows the WMO recommended standards in the construction of agrometeorological stations, while the others, such as private organizations, have specifications catering to their own data needs. Through the workshops conducted by CIAT, they also realized the importance of developing a suitable platform of communication so that climate information and data gathered by DA and PAGASA and other providers can be utilized or accessed by other potential users. Developing communication channels and modes of disseminating climate and weather information for the agriculture sector has become one of the priorities that is included in the development of the GCF proposal.

Skills

In his experience of collaboration with CIAT, Mr. Hancock observes that local partners (mainly SUCs) skills in analysis of value chain impacts and CRA prioritization processes has developed. This was also the same for further economic analysis of costs and benefits. According to Ms. Solis, as of this writing, there is still no evident change in skills brought by the collaboration with CIAT. However, in 2018, there were initial discussions with PAGASA and CIAT in coming up with proposals for capacity building activities for PAGASA.

Practice

According to Mr. Hancock, all the CIAT produced tools, methodologies and frameworks utilized feeds directly into the design of the proposal for the FAO DA GCF project which will further mainstream CRA in various agriculture programmes of the DA. For PAGASA, Ms. Solis stated that through the workshops and inputs of CIAT in the inventory of observational weather stations, they now have identified nine sites representing the four climate types of the Philippines which will be used for data comparison of the different observational networks. Also she reported that the PAGASA Modernization Program includes the establishment of synoptic stations in every province of the Philippines, including those that are priority areas of the GCF (i.e., provinces that have high vulnerability to climate change). The funding that the GCF can provide will reduce the cost for the Government of the Philippines in building observational weather stations in these priority provinces.

5.3.2.3 Foreseen possible new outcomes as a result of collaboration with CIAT/utilization of CIAT science

Aside from the most significant aspect of further integration and elaboration of CIAT work in a possible GCF project, Mr. Hancock reported that some follow up joint work was discussed between FAO and CIAT to look in greater detail at appropriate agriculture sector credit and insurance financing, suitable to adoption of CRA. With regard to PAGASA, Ms. Solis stated that in the future, a more localized collaboration between CIAT and the PAGASA Regional Services Division (PRSDs) might be possible especially if there will be efforts to capacitate the regional components of PAGASA.

5.3.2.4 Suggestions on how CIAT can maximize the delivery of knowledge, methodologies and technologies based on your present collaboration/utilization of CIAT science

For Mr. Hancock, the CIAT team provided overall a very collaborative and comprehensive approach to working together. Perhaps a greater emphasis on appreciating programme implementation costs and options will be very important. In other words, understanding investment processes and economic analysis. For Ms. Solis, having regular meetings for constant updates of the progress of activities related to the project as will be very helpful for both CIAT and PAGASA to maximize the delivery of CIAT science products and information.

5.3.3 Summary

Responses from Hancock demonstrate how an international organization such as the FAO work together with CIAT in order to achieve outcomes. The collaboration of CIAT with the FAO for the GCF proposal also leads to other opportunities of working together (i.e., agriculture sector CRA –inclusive credit and insurance financing). The FAO, being an international organization such as CIAT, also provided suggestions on how to improve not only on program delivery but more importantly, on program implementation and administration. For PAGASA, on the other hand, appreciates the contribution of CIAT not only in terms of their technical capacity but also in their capacity to organize project activities leading

to the development of the GCF proposal. They are looking forward for more collaboration with CIAT and hopes to have direct collaboration in the future.

6. Conclusions

In the Philippines, CIAT has interacted and made its collaborative research science available to next-users in various intensities and levels. At the national level, CIAT science was referenced in the crafting of national and sectoral plans geared towards the mainstreaming of CRA in projects, plans and activities of the Philippine government as well as in formulating institutional strategies for climate change adaptation. On the other hand, contractual relationships between CIAT and next users such as the SUCs (BSU), international organizations (FAO), and various government institutions allowed CIAT to share knowledge, methodologies and tools that are specific to the purpose of the specific next-users. The influence of CIAT was also evident in the academe and research circle as demonstrated by the citing of CIAT science in research studies and conferences, both locally and internationally. Aside from the technical expertise in climate science, CIAT was also recognized by the next-users in terms of their capacity to facilitate research activities and translating research findings into action.

Suggestions of next users on how to further improve the delivery of CIAT's collaborative climate science research only validates how the next users acknowledges the significant role of CIAT in their respective fields and how CIAT climate science will continue to be of demand. Notable suggestions gathered from this validation exercise include efforts for CIAT for more frequent and regular coordination and communication with partners and to put greater emphasis on appreciating programme implementation costs and options.

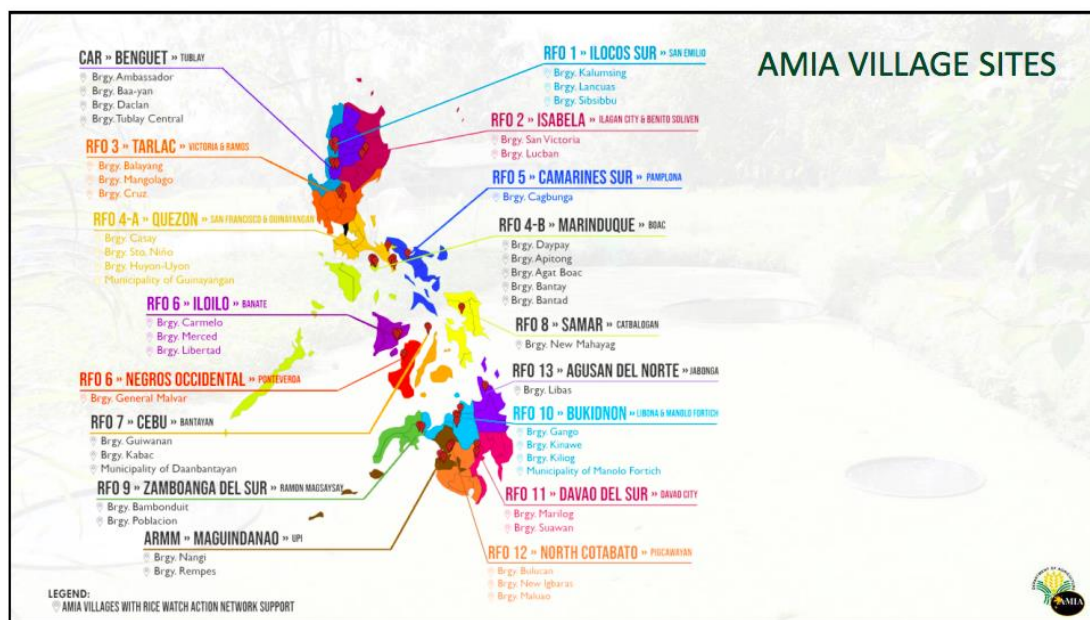
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Annex A – Contact Information of Respondents

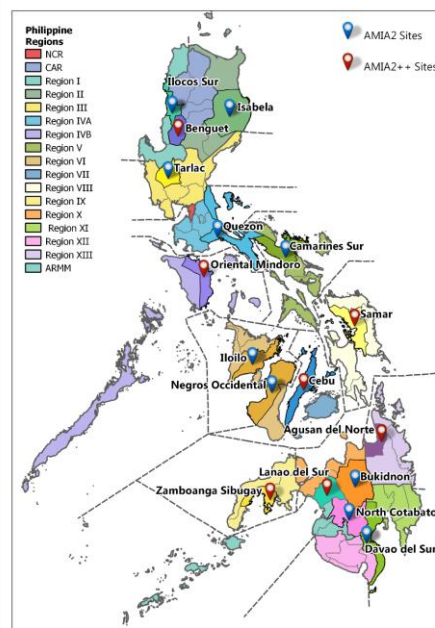
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Dr. Janet Pablo	Dean	College of Agriculture , Benguet State University	Email: daopiapablo@gmail.com Tel: 63-9274876605
Ms. Analiza Solis	Officer-In-Charge	Climate Monitoring and Prediction Section (CLIMPS), PAGASA	Email: analynsolis@yahoo.com Tel: 632-4340955

Annex B – AMIA Village Sites as of December 2017



Source: Presentation of Mr. U-Nichols Manalo, DA SWCCO in the 6th National Congress and 2018 Philippine Agriculture Summit, Waterfront Hotel, Lahug Cebu City Philippines, July 23, 2018 (<http://www.paa.org.ph/sites/default/files/documents/%28HO%29%20U%20NICHOLS%20A.%20MANALO%20DA%20SWCCO%20PPT%20for%20the%202018%20PAA%20Summit%2C%20Cebu%20City%2C%202023%20July%202018.pdf>)

CRVA Project Sites	AMIA2 Outputs	AMIA2++ Outputs	Pest and Disease	
Project Phase	Sites/Provinces	AMIA Villages (Target Sites)	Partners	# of municipalities
AMIA2	Ilocos Sur	San Emilio	Mariano Marcos State University & DARFO-1	34
AMIA2	Isabela	Benito Soliven, Ilagan	Isabela State University & DARFO-2	37
AMIA2	Tarlac	Victoria	Tarlac Agricultural University & DARFO-3	18
AMIA2	Quezon	San Francisco, Guinayangan	Southern Luzon State University & DARFO-4A	42
AMIA2	Camarines Sur	Pamplona	Partido State University & DARFO-5	39
AMIA2	Iloilo	Banate	Iloilo State College of Fisheries & DARFO-6	44
AMIA2	Negros Occidental	Pontevedra	Visayas State University & DARFO-6	32
AMIA2	Bukidnon	Libona	Central Mindanao University & DARFO-10	22
AMIA2	Davao del Sur	Davao City	University of Southeastern Philippines & DARFO-11	16
AMIA2	North Cotabato	Pigcawayan	University of Southern Mindanao & DARFO-12	18
AMIA2++	Benguet	Atok	University of the Philippines Los Baños / Benguet State University & DARFO-CAR	14
AMIA2++	Oriental Mindoro	Mansalay (Tentative)	University of the Philippines Los Baños & DARFO-4B	16
AMIA2++	Cebu	Daanbantayan	Visayas State University & DARFO-7	54
AMIA2++	Samar	Sta. Rita	Visayas State University & DARFO-8	26
AMIA2++	Agusan del Norte	- TBA -	CARAGA State University & DARFO-13	13
AMIA2++	Lanao del Sur	Kapatagan (Tentative)	Mindanao State University & DARFO-ARMM	44
AMIA2++	Zamboanga Sibugay	Imelda	Mindanao State University & DARFO-ARMM	16



Source: Mr. Leo Kris Palao, Senior Research Associate, CIAT PH Office

Annex C – Launching of the NCCAG Map at the Malacanang Palace on March 7, 2017

The screenshot shows a news article on the Ugnayan website. The header includes navigation links for 'in philippines', 'usa', 'canada', and a search bar. The main content area features a photo of Agriculture Secretary Emmanuel F. Piñol presenting the NCCAG program to President Rodrigo Duterte. The article text describes the launch of the National Color-Coded Agricultural Guide (NCCAG) Map at the Malacanang Palace on March 7, 2017. It mentions that AMIA is a special program of the DA Systems-wide Climate Change Office (DA-SWCCO) and that the map identifies agricultural areas suitable for 20 crops. A sidebar on the right shows 2,905 views, social media share buttons, and a list of recent news items.

DA activates National Color-Coded Agricultural Guide Map
QUEZON CITY, Metro Manila
posted 12-Mar-2017 · 0 comments

Story Photo(s)

The Department of Agriculture's (DA's) climate change program, the Adaptation and Mitigation Initiative in Agriculture (AMIA) launched the National Color-Coded Agricultural Guide (NCCAG) Map at the Malacanang Palace on March 7, 2017.

Agriculture Secretary Emmanuel F. Piñol presented the NCCAG program to President Rodrigo Duterte.

AMIA is a special program of DA Systems-wide Climate Change Office (DA-SWCCO) which aims to address the challenges posed by climate change.

The NCCAG identifies the agricultural areas that are naturally suitable to crops and overlays data on soil properties, elevation, slope, rainfall pattern, temperature and climate induced multi-hazards.

"This marks the day that the farmers will no longer guess on what type of soil he has in his farm and what crop is suitable in his area," Piñol noted.

The map also indicates the availability of water in an area, which could benefit in the proposal for solar-powered irrigation systems.

Currently, there are 20 crops that have been identified by the NCCAG. These crops include abaca, banana, cacao, cassava, coconut, coffee, corn, garlic and onion, legumes, mango, oil palm, papaya, pineapple, rice, rubber, sugarcane, sweet potato, taro, vegetables, and yam.

"We will not stop here. This is a work-in progress and we will continue to improve our data," Piñol said.

The development of the NCCAG maps is valued at around P36 million including capability building for all DA regional offices. There are many more maps to be made available soon.

2,905 views
share like favorite
posted 12-Mar-2017
article photos:
most recent news in this agency
Hungary and DA discusses loans for lakeshore rehabilitation and building of Philippine rubber tire factory 24-Jul-2017
Bataan receives multi-million agri-fishery assistance 3-Jul-2017
PRDP boosts PLGU-CSO ties in Marinduque 14-Jun-2017
DA launches Urban Agriculture Pagkain Para Sa Masa program to boost food production 6-Jun-2017
DA rolls out plan to encourage backyard chicken raising nationwide 23-May-2017
Mindanao fruits to be featured at DA pavilion at SIAL China 23-May-2017
DA awards P1-B in farm aid to Isabela province 16-May-2017
Ph's tilapia ice cream showcased in SIAL Canada 2015

Source link: <http://www.ugnayan.com/ph/gov/DA/ArticleView/3ZMI>

The screenshot shows the official website of the Department of Agriculture Systems-Wide Climate Change Office (AMIA). The header includes navigation links for 'GOVPH', 'Home', 'About Us', 'What is AMIA?', 'News', 'Knowledge Products', 'AMIA Villages', 'Media Resources', and 'Contact Us'. The main content area features a large banner with the text 'AMIA NACCAG Map Website officially launched at Malacañang'. Below the banner is a photo of the launch event. The article text describes the launch of the AMIA NACCAG website by President Rodrigo Duterte and Agriculture Secretary Emmanuel F. Piñol at the Malacañang Palace on March 7, 2017. It mentions that the website is an interactive tool where users can type the name of their barangay, town or province to access information they need to improve their farming.

GOVPH Home About Us What is AMIA? News Knowledge Products AMIA Villages Media Resources Contact Us Search ...

Republic of the Philippines
DEPARTMENT OF AGRICULTURE
Systems-Wide Climate Change Office

AMIA NACCAG Map Website officially launched at Malacañang

MANILA, Philippines—President Rodrigo Duterte officially launched the Adaptation and Mitigation Initiative in Agriculture (AMIA) National Color-Coded Agricultural Guide (NACCAG) Map last March 7, 2017 at Rizal Hall, Malacañang Palace.

The presentation was led by the Secretary of the Department of Agriculture (DA), Emmanuel Piñol, as assisted by Mr. Rolie Osayan, the Subanen developer of the AMIA NACCAG website. "I wanted an interactive website where the [users] could just type the name of their barangay, town or province [to] access the information they need to improve their farming," Piñol said in one of his social media posts.

The AMIA NACCAG map identifies the areas that are suitable for 20 crops, namely: abaca, banana, cacao, cassava, coconut, coffee, corn, garlic/onion, legumes, mango, oil palm, papaya, pineapple, rice, rubber, sugarcane, sweet potato, taro, vegetables, and yam. The map can be accessed online at www.farmersguidemap.gov.ph.

Source link: <http://swcco.da.gov.ph/index.php/2017/03/07/amia-naccag-map-website-officially-launched-at-malacanang/>

Annex D. Research Paper Utilizing CRVA Awarded as Best Paper in the 2017 PREO International Research Conference

2017 PREO International Research Conference Theme: <i>Open-Access Knowledge Sharing and Research Collaboration for Regional Progress and Development</i> September 15-16, 2017		
RESEARCH ABSTRACT SUBMISSION FORM		
Title of Paper: Climate Change Vulnerability of the Agriculture Sector in the Province of Isabela: Basis for Decision Support Platform and Policy Innovation		Conference Track (tick one): <input type="checkbox"/> Business & Management (BM) <input type="checkbox"/> Education & Pedagogy (EP) <input type="checkbox"/> Health Sciences (HS) <input type="checkbox"/> Science & Technology (ST) <input type="checkbox"/> Social Science & Humanities (SSH) <input checked="" type="checkbox"/> Ecology & Sustainable Development (ESD)
Author's Name <i>(Surname, First Name)</i> PEÑAFLOR, BONDEE & ROMERO, MARINO	Affiliation <i>(Department, College, Institution)</i> ISABELA STATE UNIVERSITY-CABAGAN	Email Address bpenaflor21@gmail.com
Presenter's Name (Surname, First Name): PEÑAFLOR, BONDEE		
Title (tick one): <input type="checkbox"/> Dr. <input type="checkbox"/> Professor <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Gender (tick one): <input checked="" type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Others, specify:	Highest Degree Earned (tick one): <input type="checkbox"/> Doctorate <input type="checkbox"/> Doctorate (Candidate) <input checked="" type="checkbox"/> Master's <input type="checkbox"/> Master's (Candidate) <input type="checkbox"/> Bachelor's <input type="checkbox"/> Others, specify:
Presenter's Citizenship: FILIPINO	Country of Institution: PHILIPPINES	Contact Number of Presenter: +63 936-576-0499
Abstract (Max. of 200 words): <p>This study determined the agriculture sector's vulnerability to climate change, conducted from January to May 2017 in Isabela Province. Data were collected and organized following CIAT methodological guidelines. Current climatic suitability map for rice has large areas not suitable but for 2030, there is increasing area with high suitability. For corn, more areas have low suitability under current condition while vast amount of land is highly suitable for 2030 condition. There is very low vulnerability of rice for current condition in Ilagan City and Divilican. For 2030 condition, most of the LGUs have high to very high vulnerability. There was a moderate to very high vulnerability of corn to climate change, both for current and 2030 conditions. The adaptive capacity of the Municipality of Divilacan is low while Ilagan City is high. Ilagan City and the Municipality of San Mateo have very low vulnerability to climate change. Farmers should consider crop diversification to determine the crop/s suitable in their locations. The MAO, DA and other concerned institutions should provide them technical, technological and financial support. Other LGUs should benchmark best practices from LGUs with high adaptive capacities. Research, training and piloting centers should be established in areas with high vulnerability.</p>		
Keywords (Max. of 7): Agriculture, Climate Change, Suitability, Adaptive Capacity, Vulnerability		

Annex E – Photo of Mr. Laureta of Partido State University, the author of paper utilizing CRVA awarded as a qualifier for the AFMA R&D Paper Award during the 30th National Research Symposium of the DA-BAR last November 2018.



Source: Facebook Post of Prof. Ricky Laurate, Partido State University, Camarines Sur Philippines

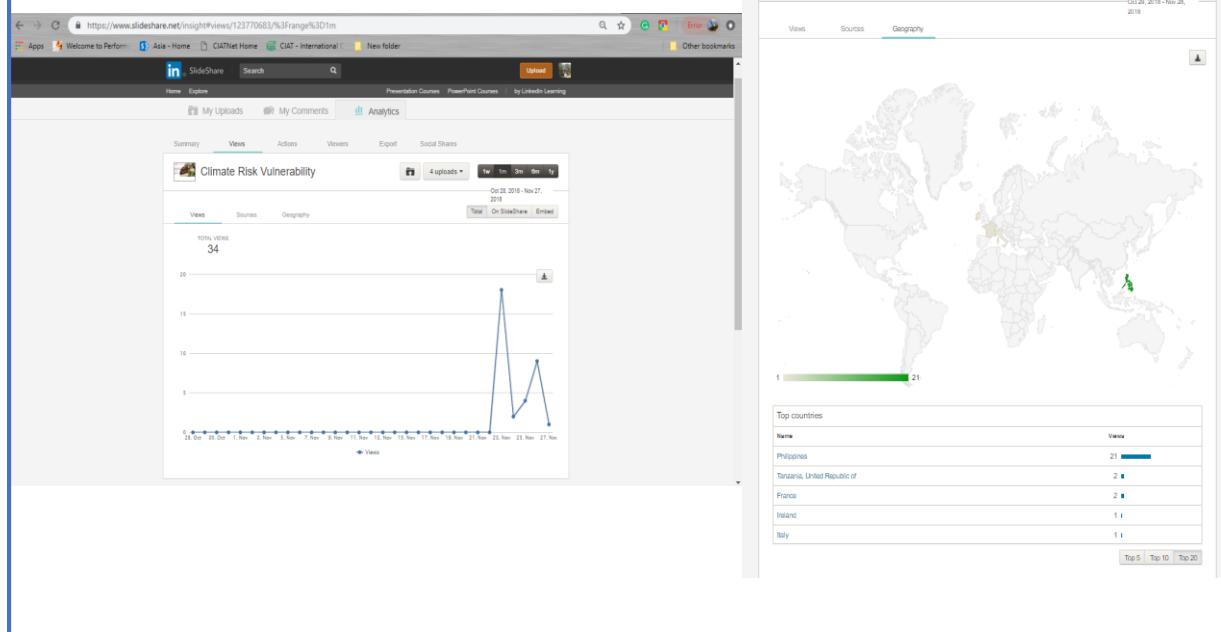
(link: See link for photos of the event: <https://www.facebook.com/1053868351/posts/10216062586371475/>)

Int. J. Biosci.	2018
 INNSPUB	<p>International Journal of Biosciences IJB ISSN: 2220-6655 (Print) 2222-5234 (Online) http://www.innspub.net Vol. 13, No. 6, p. 155-168, 2018</p>
RESEARCH PAPER	OPEN ACCESS
<p>Climate-risk vulnerability assessment of the agriculture sector in the municipalities and cities of Bukidnon, Philippines</p>	
<p>Joseph C. Paquit^{1*}, Angela Grace Toledo-Bruno¹, Thea Arbie S. Rivera², Raquel O. Salingay²</p>	
<p><i>¹College of Forestry and Environmental Science, Central Mindanao University, Bukidnon, Philippines</i></p>	
<p><i>²College of Agriculture, Central Mindanao University, Bukidnon, Philippines</i></p>	
<p>Key words: Vulnerability assessment, agriculture, Bukidnon.</p>	

Source link: <https://innspub.net/ijb/climate-risk-vulnerability-assessment-agriculture-sector-municipalities-cities-bukidnon-philippines/>

Annex G Number of Downloads of CRVA from SlideShare.net

No. of views and downloads from
slideshare.net for CRVA



Source: Mr. Leo Kris Palao, Senior Research Associate, CIAT PH Office