



ADAPTATION AND MITIGATION INITIATIVE IN AGRICULTURE

We are dedicated to empower fishery communities in addressing the impacts of climate change for a climate-resilient Philippine agriculture



OUR VISION

1

OUR PROBLEM

2

OUR SOLUTION

2

OUR MILESTONES

3

OUR WAYS FORWARD

3

OUR TOUCHPOINTS

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AMIA.PH DA-AMIA Program

OUR KNOWLEDGE PRODUCTS

NATIONAL COLOR-CODED AGRICULTURAL GUIDE MAP

www.farmersguidemap.da.gov.ph

CLIMATE RISK VULNERABILITY ASSESSMENT MAPS

<https://amia.da.gov.ph/crva>

AMIA OFFICIAL WEBSITE

<https://amia.da.gov.ph>



Climate Resilient Agriculture intends to achieve sustainable increased productivity providing farmers and fisher folks with increased incomes amidst climate change.

ADAPTATION AND MITIGATION INITIATIVE IN AGRICULTURE:

A rural development approach towards empowered communities in addressing the impacts of climate change for a climate-resilient Philippine agriculture

OUR VISION

A food secure and resilient Philippines with empowered farmers and fisherfolk

To transform and reorient our agricultural systems is an urgent priority for our country considering the risks that underpin its progress that are predominantly caused by the natural and human-induced alterations in our environment, economy, and even our political landscape. Among the destructive forces that disrupt agricultural development are climate-related hazards. The various extreme events then brought a new imperative direction that has been ascertained- towards "A food secure and resilient Philippines with empowered farmers and fisherfolk".

In pursuit of this goal, progressive establishment of climate-resilient agriculture and fisheries areas and villages that shall expand into towns, and provinces with climate-resilient enterprises is a must. Recent experiences have demonstrated that if climate-resilient agriculture is done right, we can produce triple wins. Hence, despite the ongoing challenges brought about by the climate change, the pandemic and emerging conflicts, we can still ensure that we can achieve the DA battlecry "Masaganang Ani at Mataas na Kita".

POVERTY INCIDENCES ARE HIGHEST AMONG FARMERS WITH 1 OUT OF 3 CONSIDERED AS POOR (PSA, 2018)



OUR PROBLEM Climate change

Climate change is the long-term change in temperature and typical weather patterns in a place. Studies show that most of the impacts of climate are negative and with the archipelagic structure and location of the Philippines, it has been identified as one of the countries globally that is most at risk of climate change leading to food insecurity. PAGASA confirms the same with empirical evidences showing the increased in temperature, sea level rise, reduced water for irrigation, occasional deaths in poultry, and frequent and strong typhoons in the agriculture sector alone. Protection of our food systems is an understatement considering that, as an agricultural country with 47% of our 30 million hectares of land area, we are in peril and our farmers will bear the greatest brunt. Data from 2010 to 2019 showing the real threats at hand are:

- Rice is the most damaged crop by climate-related events that occur in the country.
- Ninety-nine percent (99.9%) of production loss is due to climate-related hazards (Table 1).
- Total production loss due to climate-related events is ₱290,743,535,269 (Table 1).
- Typhoons caused 88% of the total production damages and are then regarded as the most destructive climate-related hazard to agriculture; 8 typhoons per year that enter the county are destructive to the agriculture sector.
- Most super typhoons happen during the fourth quarter of the year (Table 2).
- The losses and damages are highest during the fourth quarter of the year when most super typhoons occur (Figure 1).

TABLE 1: Ten-year total value of production loss per hazard type (2010-2019)

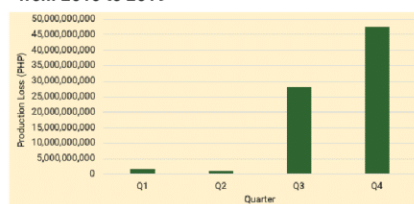
Hazard type	Production loss (PhP)
Typhoons	243,082,454,750
Floods	4,938,484,418
Moisture Stress	42,413,824,073
Pests & Diseases	308,772,028
Earthquake	167,282,455
Volcanic activity	4,088,000
Total for all natural hazards	290,914,905,724

TOTAL PRODUCTION LOSS DUE TO CLIMATE-RELATED EVENTS ₱290,743,535,269

TABLE 2: Typhoons that caused ₱5 billion or more in damages (2010-2019)

Typhoon	Category	Total production value lost (₱)	Total area affected (has)	Month of occurrence
Nina (Nock-Ten) 2016	Category 5 Super Typhoon	5,445,444,310	138,356	October
Nona (Melor) 2015	Category 4 Typhoon	7,260,632,221	385,838	December
Juan(Mag) 2010	Category 5 Super Typhoon	7,640,378,731	330,203	October
Lando (Kappu)2015	Category 4 super typhoon	12,062,685,626	563,531	October
Ompong (Mangkut) 2018	Category 5 Super Typhoon	27,442,484,331	752,513	September
Pablo (Bopha) 2012	Category 5 Super Typhoon	29,102,638,433	163,181	November
Glenda (Rammasun) 2014	Category 5 Super Typhoon	33,703,951,618	398,682	July
Yolanda (Haiyan) 2013	Category 5 Super Typhoon	35,735,946,720	693,305	November

FIGURE 1: Total production loss (PHP) from 2010 to 2019



OUR SOLUTION Empowering Farmers in AMIA Villages

To avoid the farmers from experiencing huge losses and damages because of climate change, adaptation actions and mitigation measures are done through mass action at the local level. Since 2017, the DA has been implementing the Adaptation and Mitigation Initiative in Agriculture (AMIA) Program to respond to the challenges of climate change in agriculture and fishery communities, and to mainstream climate resiliency in the DA policies, programs and investments. AMIA enables vulnerable agriculture and fishery communities to test available, mature and scalable CRA technologies, and practices relevant to their respective fields. This is also in consideration of the location-specific climate hazards which vary in different regions of the country, thus, tailor-fitting of support services to match the needs of the farmers with the interventions provided to them is an imperative. This makes the efforts of building a climate-resilient village where farmers and fisherfolk can have a thriving production and income becomes an ideal program for them. The AMIA Village, established by DA through the Climate-Resilient Agriculture Office, exemplifies a climate-resilient village.

WHAT IS THE AMIA VILLAGE APPROACH?

The AMIA Village approach is a novel extension mode for a group of farmers tilling adjacent farms, approximately 100 hectares, organized to an AMIA village. The farmers in an AMIA Village identify their climate risks, use a common adaptation strategy to increase their productivity and incomes, and are provided with integrated and tailor-fitted support services.



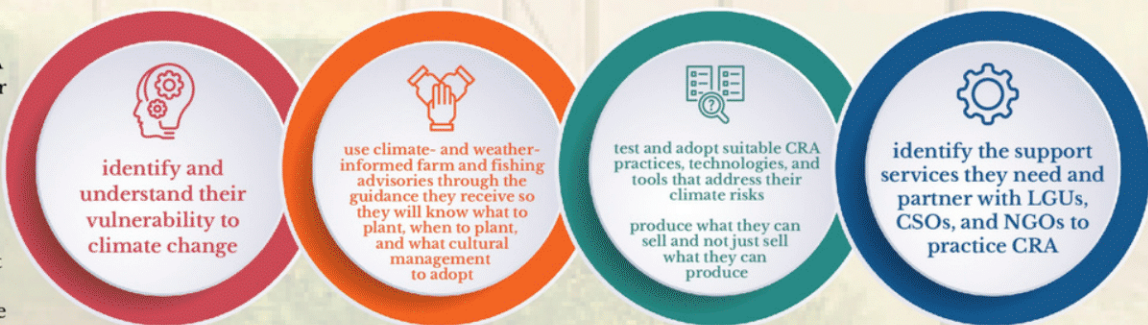
WHAT ARE THE INTEGRATED GOVERNMENT SUPPORT SERVICES GIVEN TO AMIA VILLAGES?

- 1 Community-level climate-resilient agri-fisheries technologies
- 2 Links to market
- 3 Climate Information Service
- 4 Computer-aided decision-making technology
- 5 Training on CCA and disaster risk reduction productivity enhancing practices/technology
- 6 Easy access to credit and affordable insurance

EMPOWERED FARMERS IN AMIA VILLAGE CAN...

Empowered farmers in AMIA Villages is an essential goal for the AMIA Program as only through a well-informed decision-making, guided use of climate- and weather-informed farm and fishing advisories to identify what to plant, when to plant and what cultural management practices to adopt, and a sense

of belongingness will they be able to achieve and sustain a decent living, participate in sustainable production of crops, and invest in climate resilience initiatives. When tangible gains are felt by the farmers, they can be effective partners as advocates to further promote CRA practices and technology to other stakeholders who are skeptics of the existence of climate change and the benefits from adopting CRA.



AMIA DECISION SUPPORT TOOLS

NCCAG Map

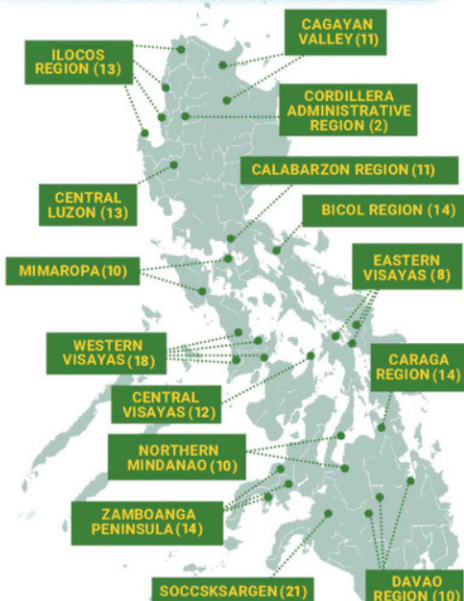
Province	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Ilocos Norte												
Ilocos Sur												
La Union												
Pangasinan												

Typhoon Risk Incidence
Rice farmers are advised to shift their cropping calendar so they will harvest their produce in green days where there are no occurrence of typhoons based on the data from 2010 to 2020.

CRVA Map

THREE TYPES OF ADVISORIES

OUR MILESTONES



Snaps of the gains of the farmer members in five (5) AMIA Villages across the country.

REGION 1	REGION 2	REGION 4A	REGION 6	REGION 10
CLIMATE RISKS Drought, soil erosion, landslides, typhoon, storm surge, sea level rise	CLIMATE RISKS Drought, flood, tropical cyclones, erosion, saltwater intrusion	CLIMATE RISKS Flood, drought, sea level rise, typhoon, strong wind	CLIMATE RISKS Typhoon, drought, flood, landslides, sea level rise, erosion, storm surge, saltwater intrusion	CLIMATE RISKS Drought, heavy rains, flash floods
SAN EMILIO, ILOCOS SUR	BRGY. LUCBAN, BENITO SOLIVEN, ISABELA	SAN FRANCISCO, QUEZON	SANATE, ILOILO	NORTHERN MINDANAO
↑ 0.15 Average yield (ton/ha)	↑ 361,360 Increased income (Php)	↑ 23,415 DRY SEASON	↑ 148,000 (19%) Increased income (Php)	↑ 66% Increased net income (vs corn monocropping)
Use of NSIC Rc 336 (drought-tolerant variety) 3.9 vs. 3.75 (NSIC Rc 366)	↑ 452 Increased yields (t/ha)	↑ 11,786 WET SEASON	↑ 3.39 (77%) Increased yield (ton/ha)	↑ 605,000 Net income (Php)
↑ 59% Increased net income	Inorganic fertilizer-based soil analysis + 20 bags of organic fertilizer + GAP (area) (used by farmers' practice)	Gross margin or return above variable costs/ha	↑ 3.39 (77%) Increased yield (ton/ha)	↑ 605,000 Net income (Php)
Use of CRA vs. without CRA	Stip cropping (corn) vs. farmers' practice	System for rice intensification	System for rice intensification	Stip cropping (corn) vs. farmers' practice
READY FOR ENTERPRISE DEVELOPMENT: DIVERSED CROPPING	READY FOR ENTERPRISE DEVELOPMENT: CORN-BASED	READY FOR ENTERPRISE DEVELOPMENT: INTEGRATED FARMING	READY FOR ENTERPRISE DEVELOPMENT: RICE-BASED	READY FOR ENTERPRISE DEVELOPMENT: CORN-ORIENTED

181 AMIA VILLAGES nationwide
20 of which are established with Rice Watch Action Network

9 Regions ready for enterprise development or AMIA CREATE (Climate-Resilient Agri-Fishery Technology-based Enterprises)

70 regions with generated maps indicating the results of the CLIMATE VULNERABILITY RISK ASSESSMENT

15 regions with established system for CLIMATE INFORMATION SERVICE

OUR WAYS FORWARD

- Let us empower the most vulnerable and marginalized Filipinos.
- Let us adopt the AMIA Village approach for science-based and evidence-based options and actions to all our stakeholders.
- Let us create more AMIA Villages nationwide to address climate change.
- For LGUs to champion the upscaling of AMIA in a bigger and wider way in partnership with the whole of the government, CSOs, NGOs, academe, and business sector.

The findings are stark, climate change is real and is now here in the Philippines. Thus, its impacts to agriculture are inevitable. Getting our acts together and providing substantial investment for achieving climate-resilient agriculture are imperative now to protect the farm and fishing communities from bearing the brunt of climate change impacts.

SUPPORT OUR CAUSE!

CREATE FOOD SUFFICIENCY.

REDUCE POVERTY.

ADDRESS CLIMATE CHANGE.