Adaptation & Mitigation Initiative in Agriculture
resilient & yet progressive
AGRICULTURE AND FISHERY LIVELIHOODS & COMMUNITIES
Through . . .

* the provision of highly responsive (efficient & resilient) agriculture & fishery support services.
Enabling Policies in the Philippines: National Context

Climate/ Disaster Risk Management and Sustainable Development
“Mainstream Climate Change in the DA Programs, Plans, and Budgets”
1. AMIA - national initiative on climate change in agriculture
2. Planning agriculture development be integrated, holistic based on a landscape
3. DA’s Systems-Wide Programs (SWPs) on Climate Change
4. DA Systems-Wide Climate Change Office (DA SWCCO)
Policy development initiatives that will help the DA to craft appropriate CC policies and translate them into systems wide programs with the corresponding budget for national implementation.
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strategic Mainstreaming of Climate Change Adaptation And Mitigation Initiative In Agriculture</td>
</tr>
<tr>
<td>2</td>
<td>Climate Information System</td>
</tr>
<tr>
<td>3</td>
<td>Philippine Adaptation &amp; Mitigation in Agriculture Knowledge Toolbox</td>
</tr>
<tr>
<td>4</td>
<td>Climate- Resilient Agriculture Infrastructure</td>
</tr>
<tr>
<td>5</td>
<td>Agriculture &amp; Fisheries Financing &amp; Risk Transfer Instruments</td>
</tr>
<tr>
<td>6</td>
<td>Climate –Resilient Agriculture &amp; Fisheries Regulations</td>
</tr>
<tr>
<td>7</td>
<td>Climate- Resilient Agriculture and Fishery Extension System</td>
</tr>
</tbody>
</table>
WHAT HAVE WE DONE?
Mainstreaming AMIA in Planning and Implementation/Operations

- **Planning based on landscape approach using integrated Climate Change (CC) risks and hazard maps**
- **Adjusting development programs/projects and**
- **Capacitating people to adequately address CC risks**

*Integrated climate change and multi-hazard maps (2,205) and databases (41,995) for strategic planning for river basins, watersheds, regions, provinces, municipalities and cities.*
**Multi-hazard Risk Management**

**Integrated Map**

**Thematic Maps**

**Geospatial Technology**

**Slow Onset**
- Rainfall
- Temperature

**Extreme Events**
- Landslides
- Erosion
- Flooding
- Drought
- Storm Surge
- Wind Speed

**Disaster**
- Geohazard
- Liquefaction
- Ground tremor
- Volcanic eruption
- Tsunami

WHERE WE ARE

WHAT WE WANT TO ACHIVE
<table>
<thead>
<tr>
<th>No</th>
<th>CC Impacts to Agri and Non Agri</th>
<th>Hectares</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agriculture + Landslide + Storm Surge + Flooding + Drought</td>
<td>15.15</td>
<td>0.31</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture + Landslide + Flooding + Drought</td>
<td>185.05</td>
<td>3.73</td>
</tr>
<tr>
<td>3</td>
<td>Agriculture + Storm Surge + Drought</td>
<td>902.35</td>
<td>18.19</td>
</tr>
<tr>
<td>4</td>
<td>Agriculture + Storm Surge + Flooding</td>
<td>880.70</td>
<td>17.75</td>
</tr>
<tr>
<td>5</td>
<td>Agriculture + Drought</td>
<td>1,596.82</td>
<td>32.19</td>
</tr>
<tr>
<td>6</td>
<td>Agriculture + Flooding</td>
<td>1,380.45</td>
<td>27.83</td>
</tr>
<tr>
<td></td>
<td><strong>Total Agriculture</strong></td>
<td><strong>4,960.51</strong></td>
<td><strong>100.00</strong></td>
</tr>
<tr>
<td>1</td>
<td>Non Agriculture + Landslide + Storm Surge + Flooding + Drought</td>
<td>70.50</td>
<td>0.59</td>
</tr>
<tr>
<td>2</td>
<td>Non Agriculture + Storm Surge + Flooding</td>
<td>1,625.63</td>
<td>13.58</td>
</tr>
<tr>
<td>3</td>
<td>Non Agriculture + Storm Surge + Drought</td>
<td>1,539.73</td>
<td>12.86</td>
</tr>
<tr>
<td>4</td>
<td>Non Agriculture + Flooding + Drought</td>
<td>151.79</td>
<td>1.27</td>
</tr>
<tr>
<td>5</td>
<td>Non Agriculture + Drought</td>
<td>7,190.07</td>
<td>60.05</td>
</tr>
<tr>
<td>6</td>
<td>Non Agriculture + Flooding</td>
<td>1,396.61</td>
<td>11.66</td>
</tr>
<tr>
<td></td>
<td><strong>Total Non Agriculture</strong></td>
<td><strong>11,974.33</strong></td>
<td><strong>100.00</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tacloban Total</strong></td>
<td><strong>16,934.84</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
Climate Information System
For better and timely advisories - FARMER’S bases on what to plant, when to plant and what cultural management practices to adopt

153 Automatic Weather Stations (AWS) Operational in 2014

- Installed in key agriculture areas which complements DOST-installed AWS in airports, schools and municipal halls
Philippine Adaptation & Mitigation Knowledge Toolbox in Agriculture & Fisheries

**Rice varieties**

<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Commodity Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ma-ayon</td>
<td>Drought-Prone Rainfed Lowland</td>
</tr>
<tr>
<td>Hagonoy</td>
<td>Saline-Prone Irrigated Lowland</td>
</tr>
<tr>
<td>Submarino 1</td>
<td>Flood-Prone Areas</td>
</tr>
<tr>
<td>Matatag 2</td>
<td>Tungro Hot Spot</td>
</tr>
<tr>
<td>Gohang</td>
<td>Elevated</td>
</tr>
</tbody>
</table>

*Source: Philippine Rice Research Institute*

**Green Super Rice (GSR) lines** are adaptable in areas with multiple stresses. Tested in 10 research stations in 2013.

**Philippine Native Animal Development (PNAD) Program**

- Three (3) breeds of native chicken undergoing the phenotypic and molecular characterization and purification procedure: paraoakan (Palawan), banaba (Batangas) and joloano (Jolo/Basilan)
- On-going researches on breeding of native animals which include swine, horse, and goat

- PCC to develop buffalo breeds applicable to Philippine Condition (10,000 heads of Dairy Buffalo)
- To implement Animal Genetic Resource Cryopreservation & Characterization
Climate-Resilient Agriculture Infrastructure

Permanently surfaced farm-to-market roads with proper drainage

“More durable and all-weather”
Financing and Risk Transfer Instruments on Climate Change
Crop, Livestock, Fisheries, and Non Crop

- Climate Change Adaptation Credit Facility
- Quick Response Financing for Agriculture and Fishery

- Insurance = 1.1 M beneficiaries (marginal farmers & fisher folk)
- P1.78B full premium subsidy
- P38.15 B insurance cover
Climate – Resilient Agriculture and Fisheries Regulations

Improved Regulatory System to foster adaptation and climate change resiliency among stakeholders

2015 standards and monitoring systems for climate resilient agriculture infrastructure

2016 standards and monitoring systems for climate resilient fishery infrastructure
Climate – Resilient Agriculture Extension System

Enhanced Climate Farmer Field Schools (ECFFS)

Farmers’ Information and Technology Services (FITS)

Training of Trainors on Climate Change

Climate Change Preparedness and Adaptation Trainings

Improving the timeliness, content and manner of delivery for better messaging
WHAT WE NEED TO DO?
AMIA IN ACTION
Building Climate Resilient Agriculture and Fisheries Livelihoods and Communities
AMIA Framework for Building Climate-Resilient Livelihoods and Communities

1. Establishing enabling environment
   (mainstreamed policies/practices, strengthened capacities, identified emerging opportunities)

2. Vulnerability assessment and risk targeting
   (key risks identified with exposure and adaptive capacity assessed)

3. Developing knowledge pool of CRA options
   (comprehensive resource pool of CRA innovations)

4. CRA community action-learning: initial phase
   (field-validated models and innovations)

5. Enhancing services and institutions
   (improved access and local relevance)

6. Integrating CRAs within agri-food systems and value chains
   (resilience-driven livelihoods)

7. CRA actions and outcomes at-scale
   (implementation within and across regions/systems)

8. Knowledge management for results
   (use-oriented M&E and evidence-based decision-support)

9. Program management and partnership platforms
   (high-performing teams and alliances)

Stronger M&E for DRR and CCA

Learning from previous/on-going work/low hanging fruits

Weather/climate information services to enhance understanding of risk and uncertainty
Evidence for NAPS

AMIA Framework for Building Climate-Resilient Livelihoods and Communities

1. Establishing enabling environment
   (mainstreamed policies/practices, strengthened capacities, identified emerging opportunities)

2. Vulnerability assessment and risk targeting
   (key risks identified with exposure and adaptive capacity assessed)

3. Developing knowledge pool of CRA options
   (comprehensive resource pool of CRA innovations)

4. CRA community action-learning: initial phase
   (field-validated models and innovations)

5. Enhancing services and institutions
   (improved access and local relevance)

6. Integrating CRAs within agri-food systems and value chains
   (resilience-driven livelihoods)

7. CRA actions and outcomes at-scale
   (implementation within and across regions/systems)

8. Knowledge management for results
   (user-oriented M&E and evidence-based decision-support)

9. Program management and partnership platforms
   (high-performing teams and alliances)

Agriculture and Fisheries Modernization Plan for 2017-2023

Philippine Development Plan 2016 - 2022
Let us remember . . .

1. Philippine agriculture is mainly small-hold agriculture.
2. The effects of climate change is worst among AF small-producers.
3. 70% of the poor are in the rural areas, they are mostly AF households.