



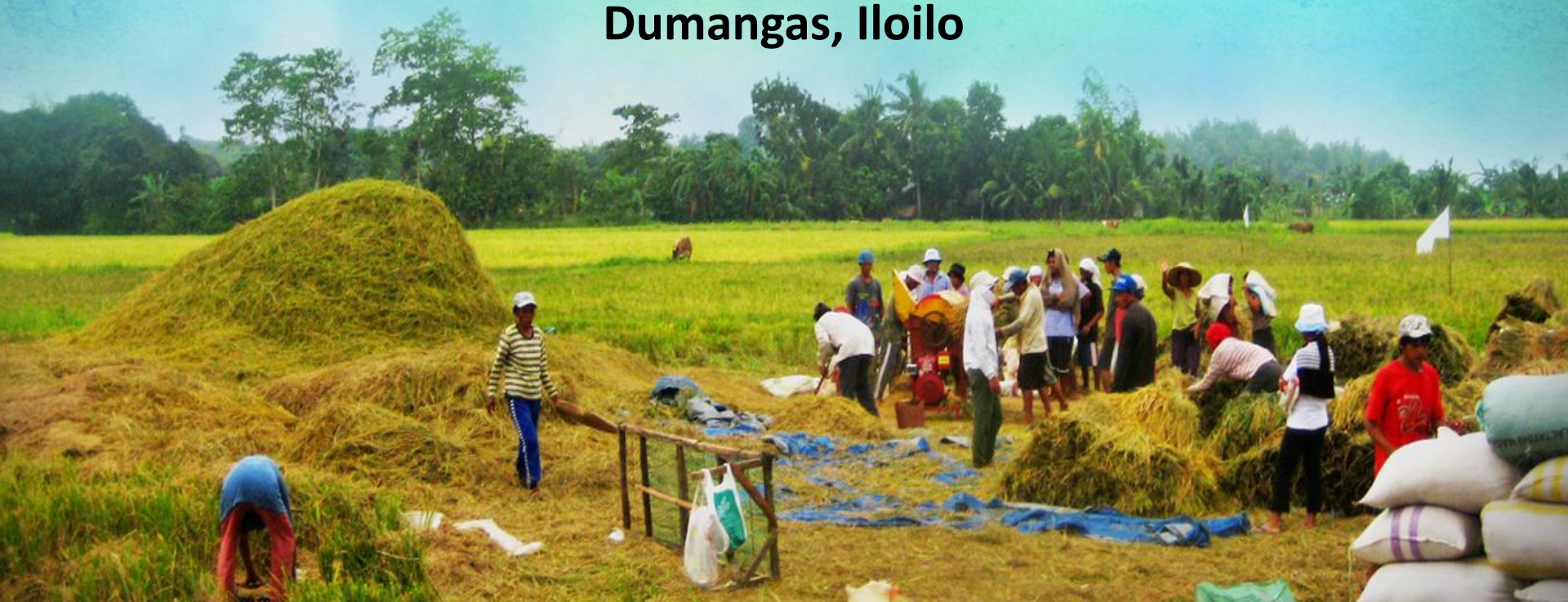
Climate Field School

**Municipality of Dumangas
Province of Iloilo
Philippines**



A joint project of the
Municipality of DUMANGAS
& Asian Disaster Preparedness Center (ADPC)
A Gawad KALASAG Awardee 2011
As Best in Community-Based DRM

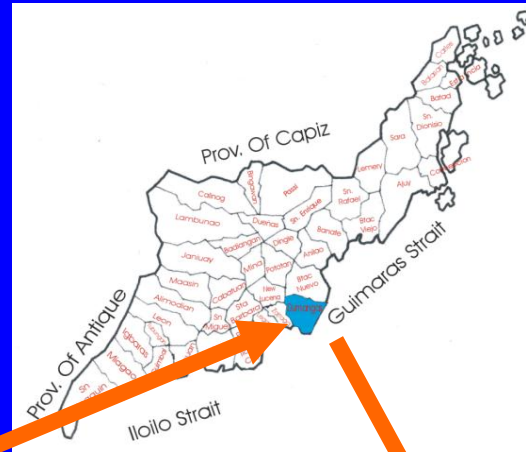
Presenter
Hon. RONALDO B. GOLEZ
Municipal Mayor
Dumangas, Iloilo



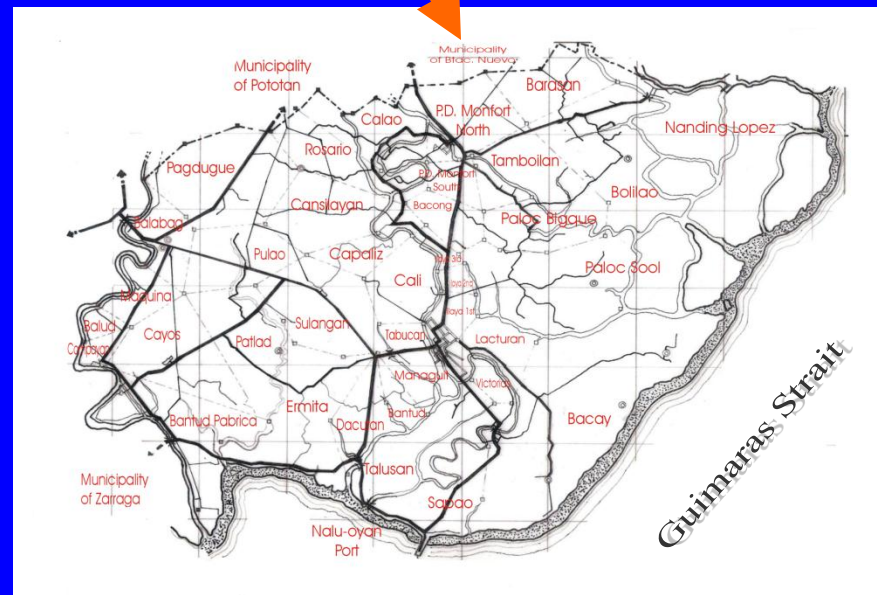
Geographical Location of Dumangas



Map of the Philippines



Map of the Province of Iloilo



Map of the Municipality of Dumangas

Brief Profile of Dumangas

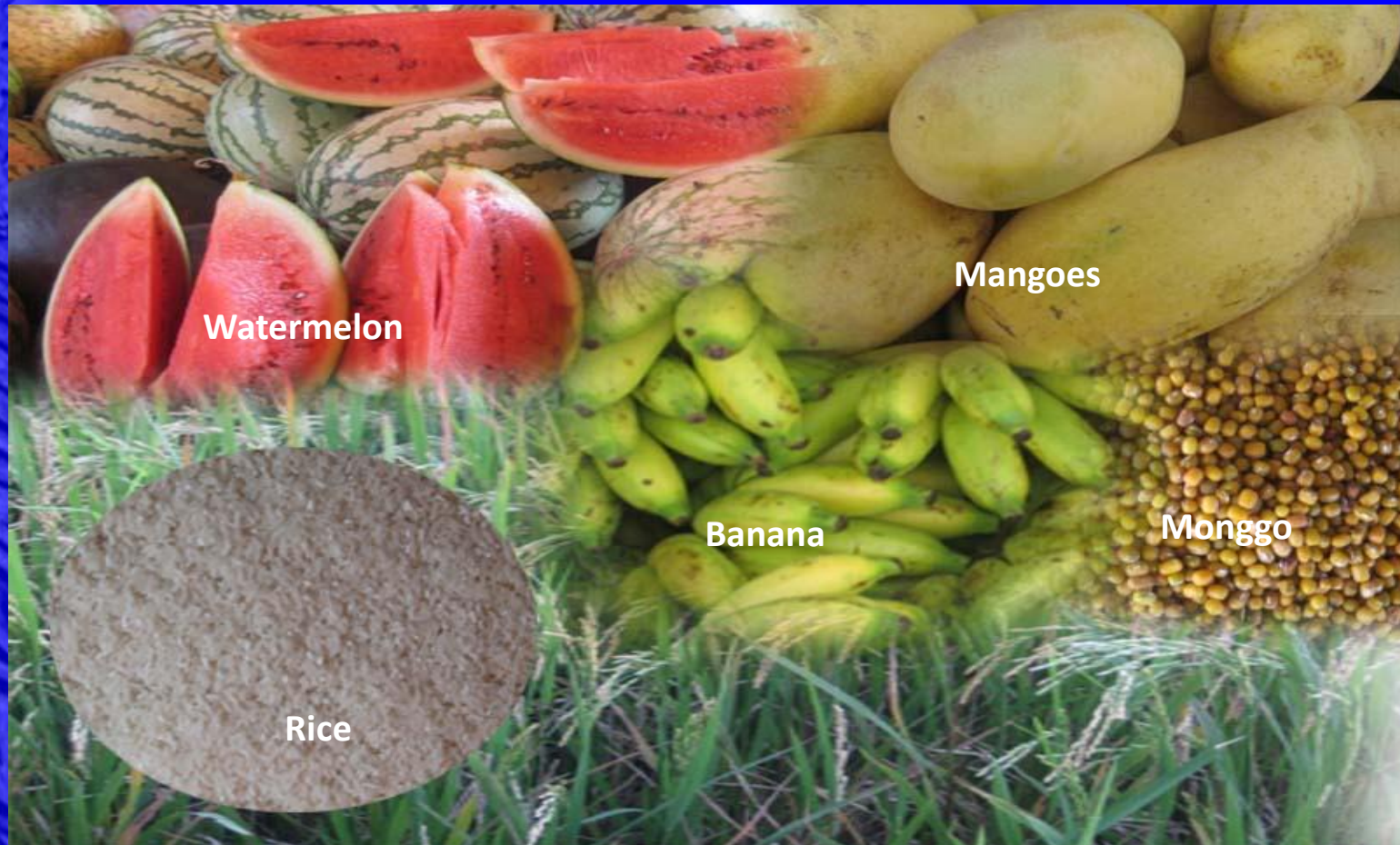
CLASSIFICATION	TOTAL LAND AREA		POPULATION	NO. OF HOUSEHOLDS	
1st Class Municipality	12, 870 hectares		62,769 as of 2007 Census	14,308 House holds	
	AREA DEVOTED TO AGRICULTURE 6,820 has.				AREA DEVOTED TO FISHPOND 4,535 has.
	Irrigated area 5,460 has.	Non- Irrigated area 1,360 has.			
NO. OF BRGYS.					
45 Barangays					

Various Fishery Products



Dumangas is one of the coastal town in the Province of Iloilo and No.1 producer of Milkfish (Bangus) in the Province

Various Agricultural Products



**Dumangas also ranks 2nd in rice production
in the Province**

Historical Landmarks



Roman Catholic Church



Aglipay Church



Ermita Shrine



Don Bosco

Dumangas Facilities



Dumangas Port is operated by Philippine Ports Authority (PPA) and it is part of Strong Republic Nautical Highway (RoRo)

Dumangas Port caters Inter-island ferry boats plying Negros Island to Dumangas to Boracay to Manila and vice versa



Dumangas Facilities



North Bound Terminal, Burgos-Regidor, Dumangas

**It caters
passengers going
to Central and
Northern
Barangays of
Dumangas**

**It caters
passengers going
to Iloilo City and
Southern
Barangays of
Dumangas**



South Bound Terminal, Tabucan, Dumangas

Dumangas Facilities



Dacutan Wharf



National Food Authority (NFA)



South East Asian Fisheries and Development Center (SEAFDEC)

Dumangas Facilities



Department of Public Works and Highways 2nd Engineering District



Philippine Long Distance Telecommunication



Regional Trial Court Branch 68



Dumangas Barotac Nuevo Water District

Dumangas Facilities



Slaughterhouse



Public Market



Ice Plant

Dumangas Facilities



Municipal Health Center

Dumangas Facilities



Dumangas Pasalubong Center

Schools

2 Colleges
4 Public High Schools
3 Private Schools

District I

15 Elementary Schools
2 Primary Schools

District II

12 Elementary Schools
2 Primary Schools



Climate-Related Hazards Experience

The Municipality of Dumangas is Prone to Two (2) Extreme Conditions:

Flooding

during RAINY season



Drought

during DRY season



Damages brought by Floods:

1. Damages on Infrastructures and facilities
2. Damages on Properties
3. Damages on Poultry & Livestock
4. Damages on Agricultural Crops and Fishery Products
5. Damages on Livelihood



Why is Dumangas Prone to Drought?

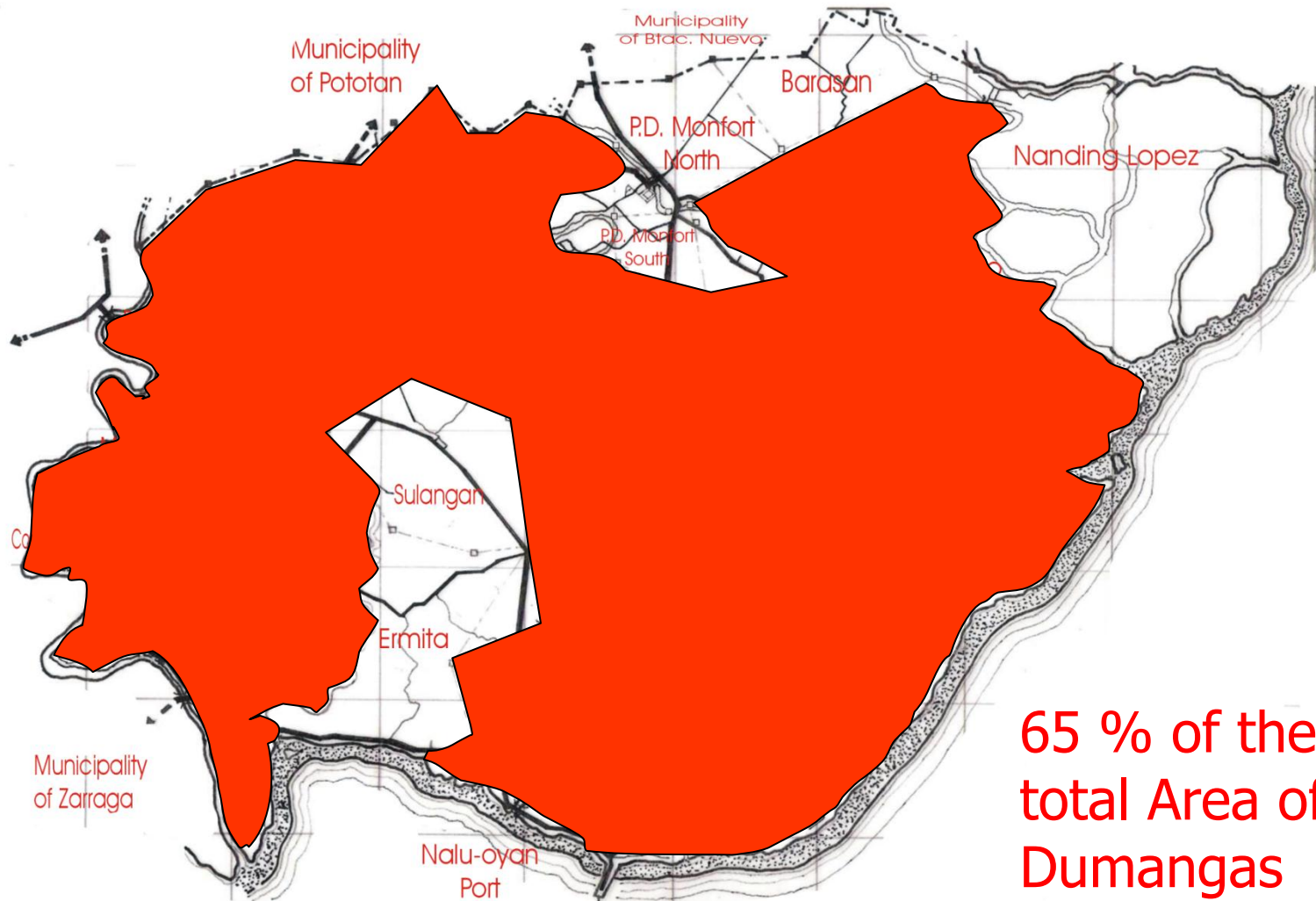
- It is located at the tail end of the *Jalaur-Suage Rivers Irrigation System* with a **dilapidated 1954 model run-off-the-river dam** which resulted to *insufficient* water supply during dry season.

Damages Brought by Drought



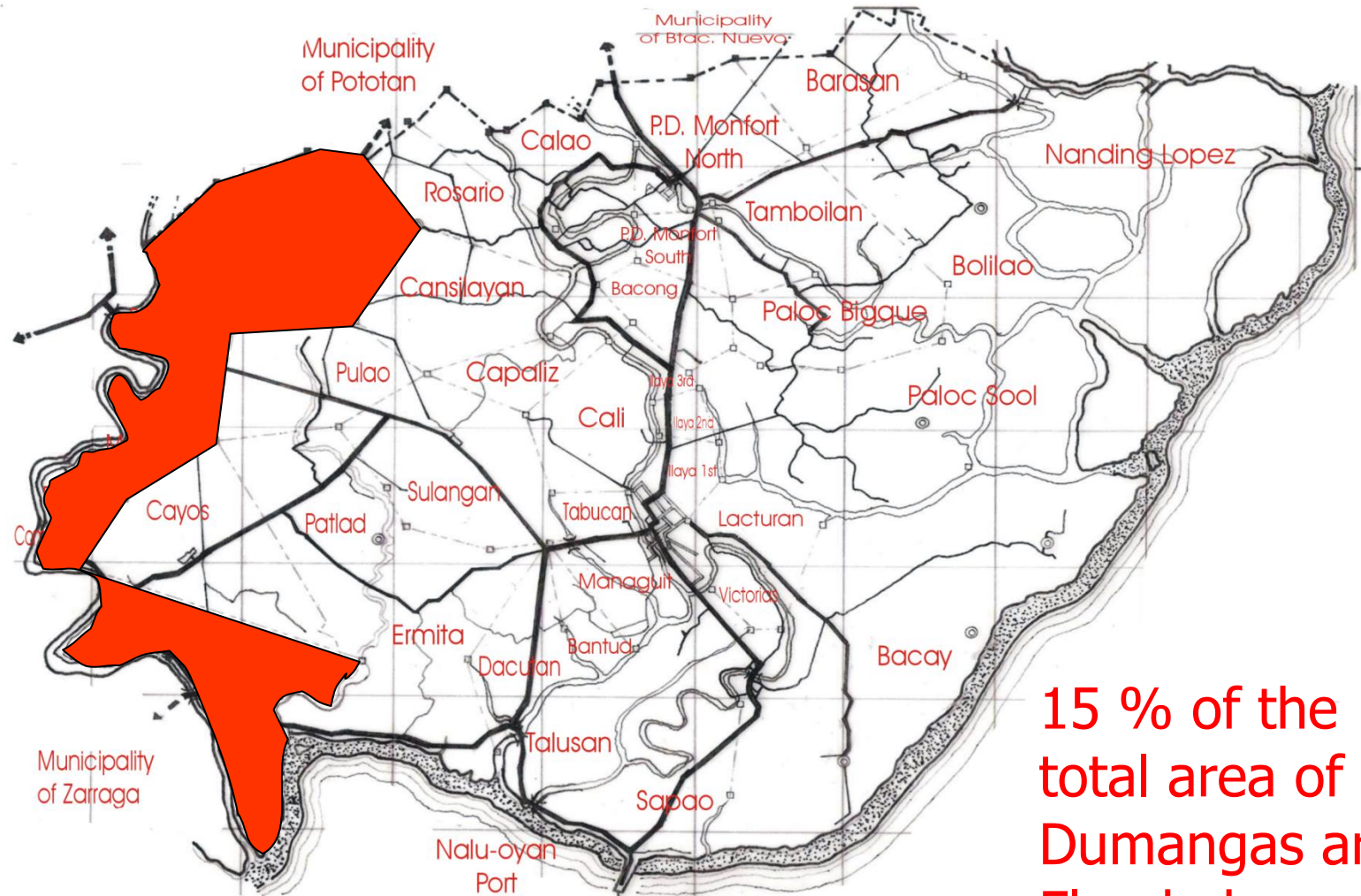
1. Damages on Agriculture
2. Damages on Fishpond Operations
3. Damages on Livelihood

Flood Prone Barangays



65 % of the
total Area of
Dumangas
are Flooded

Flooded Area after the Construction of Mega Dike



15 % of the
total area of
Dumangas are
Flooded

LGU Initiatives & Strategies



1. Re-Training of Community based volunteers (DREAM)



2. Construction of Appropriate/ needed Infrastructure Facilities.



3. Maximum utilization of the Municipal Quarry



4. Procurement of needed equipment, tools & materials



5. Institutionalization of communication system

- VHF Radio handsets in every barangays.
- Repeater System

LGU Initiatives & Strategies



**6. Nurtured Collaboration w/ other
NGA`S & PO`S**



**7. Maintenance and additional
construction of Mega Dikes.**



**8. Setting-up of community based flood and
Drought forecasting & warning system**



**9. Maintenance and Enhancement of
Agro Met Station**

LGU Initiatives & Strategies



Purchase of Ambulances



Dumangas Patrol Cars

LGU Initiatives & Strategies

Information, Education Campaign

Pulong-Pulong sa Barangay (Public Consultation) - Organization of Network and Activation of Leadership (ONAL) sa BARANGAY and Medical Civic

Topics:

1. Basic of Local Governance (DILG);
2. Peace and Order (PNP);
3. Fire Safety and Prevention (BFP);
4. RA 9262, Anti-Violence Against
5. Women and Children; RA 7610,
Child Abuse (PNP-WCPD);
6. Penology and Corrections (BJMP)
7. Disaster Management (MDCC)
8. Anti-Rabies Control (MRCC); and
9. Medical Services (MHO)



LGU Initiatives & Strategies

Information, Education Campaign

Pulong-Pulong sa Barangay (Public Consultation) - Organization of Network and Activation of Leadership (ONAL) sa BARANGAY and Medical Civic



LGU Initiatives & Strategies

Re-Training of Dumagas Rescue Emergency Assistance Movement (DREAM)

- GAWAD KALASAG AWARDEE as Outstanding Volunteer Group given by NDCC year 2003
- Plaque of Recognition as one of the Best Performing Non-Government Emergency Responders Given by RDCC year 2006



a. Earthquake Drill



b. Bandaging

1st Dumangas Rescue Olympics

The 1st Rescue Olympics conducted in the Province of Iloilo, Philippines initiated by LGU Dumangas last June 23-24, 2010



Bandaging



Carries



Water Rescue



**DRRM Training of Barangay Tanods last
April 11-12 & 14-15, 2011**



DRRM Training of Barangay Tanods last April 11-12 & 14-15, 2011



Distribution of CFS Bulletin Board to 45 Barangays during the DRRM Training of Barangay Tanods last April 11-12 & 14-15, 2011





MDCC & BDCC of Brgy
special project of Mayor Onal Colez
on Disaster Risk Reduction & Climate Adaptation Program

Dumangas, Iloilo



DATE: NOV. 17, 2011				
SUNRISE	AM	5:59		
SUNSET	PM	5:24		
HIGH TIDE	AM	6:52 / 9m		
LOW TIDE	PM	1:06 / 0.5m		
WEATHER FORECAST	SUNNY	RAINY	PARTLY CLOUDY	CLOUDY
3 DAYS WEATHER FORECAST		✓		✓
5 DAYS WEATHER FORECAST		✓		✓
EXPECTED TYPHOON				
SIGNAL NO.	1	2	3	4
ALERT LEVEL	1	2	3	
FLOOD				
ALERT LEVEL	1	2	3	

ANNOUNCEMENT

Ang bisayas ilakip ang banwa
sang Dumangas magaxperiensiya kun
kaisa magal-umon nga kalangitan nga
may pagtulutalithi ukon may pagpangilat
kag pagpanagu-ob ilabi na gid sa kahapunanon
ukon kagab-ihon

RAIN FALL: 16.8 mm.
TEMPERATURE: 25-32 degrees
HUMIDITY : 86 %

2nd Dumangas Rescue Olympics

Held on June 23-24, 2011 at Dumangas Municipal Plaza and Sitio Bo-ol, Sapao, Dumangas



Bandaging



Carries



Water Rescue

2nd Dumangas Rescue Olympics

Held on June 23-24, 2011 at Dumangas Municipal Plaza and Sitio Bo-ol, Sapao, Dumangas



2nd Dumangas Rescue Olympics

Held on June 23-24, 2011 at Dumangas Municipal Plaza and Sitio Bo-ol,
Sapao, Dumangas



Barangay Tanod Participants

DRRM Training & Enhancement/Training for Food Production last June 27-28, 2011



Barangay Health Workers' DRRM Training on Oct. 24-25, 2011



Barangay Health Workers' DRRM Training on Oct. 24-25, 2011



A total of 360 Barangay Health Worker participants

The Agro-Met Station

(Climate and Weather Forecast Station)



Dumangas Agro - Met Station



Agro-Met Station Facilities

***Dumangas Agro-Met Station* was established in November 2002 and it is supported by Asian Disaster Preparedness Center (ADPC) headed by Dr. Arjunapermal Subbiah. The Agro-Met station is the pilot project of PAGASA and ADPC in the Philippines.**

The Agro-Met Station

The ***Dumangas Agro-Meteorological Station*** has played a key role in use of the local climate-weather informations such as *climate-weather forecasts and farming advisories* that are given/issued to farmers and makers of agricultural applications.

CLIMATE FORECAST APPLICATION FOR AGRICULTURE

Climate and Weather Forecasting

In the field of Agriculture, has been in demand due to its efficiency in crop patterns and rotations in the recent years, which resulted to increased farm productions.



Adapting to climate and weather changes can be highly beneficial in farming, by obtaining and understanding the right informations that can help farmers to produce and earn more.

Agro-Met Station Sustainability

Sources of Funds:

- 5% calamity funds (30% Rehabilitation / 70% Mitigation and Preparedness)
- 20% IRA Development Funds.
- General Fund
- Financial Assistance from outside sources (Provincial, National & International Partners)
- Enactment of ordinance appropriating the amount of P 200,000.00 per annum for the operation of Dumangas Agro Met Station.
- Financial and Technical supports from Asian Disaster Preparedness Center (ADPC) for the development and sustainability of Agro Met and its services.

Best Local Initiative of the Municipality of Dumangas

Establishment of

CLIMATE FIELD SCHOOL

(CFS 2007)

Dumangas, Iloilo, Philippines

- **First (1st) in the Philippines**
- **Second (2nd) in Asia (Indramayu, Indonesia)**

Climate Field School (CFS)

The **Climate Field School (CFS)** is a flagship activity under the *Climate Forecast Application* for Agriculture and Climate Change Adaptation Program. The Climate Field School aims to enhance the capacity of extension workers and farmers to understand and apply climate information to reduce risk in agriculture.

The ***Climate Field School Training of Trainers*** is for the Agricultural Technologist collaborating on the development of modules and the conduct of the 12 weeks training session for the farmers' group.

The CFS Program

The ***Climate Field School*** program aims to establish sustainable end-to-end institutional system for the generation and application of locally-tailored climate information tools, build capacity to apply these in real-time and to mitigate the impacts of calamity.

Objectives of the Program:

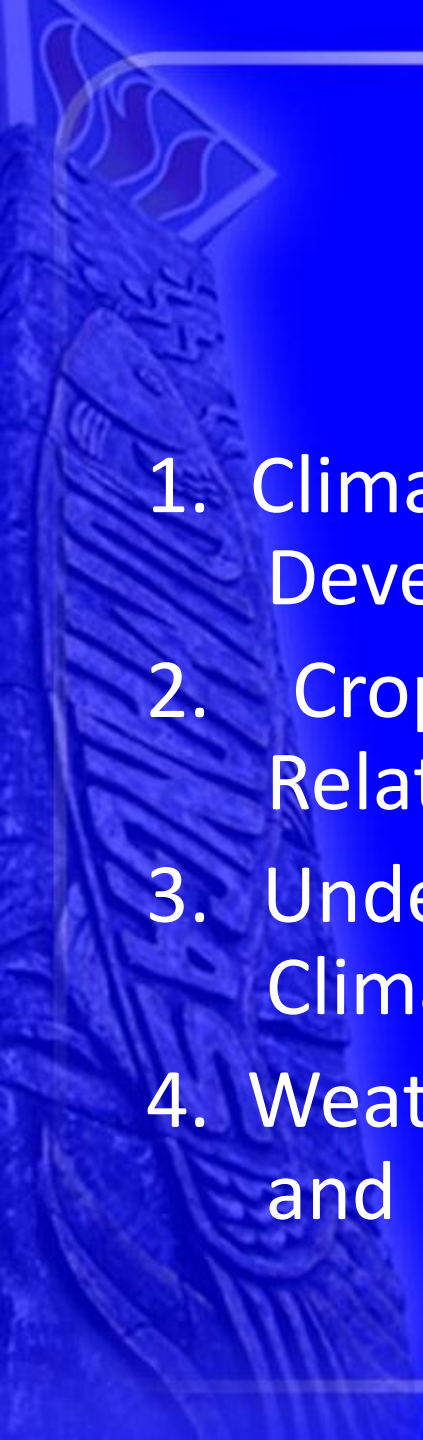
The *Climate Field School (CFS)* sites/areas have defined and applied improved theories and practices and discovered innovative approaches to managing disasters side by side with climate change adaptation by:

- Enabling farmers to understand climate related risks in agriculture and the rice crop management system;
- Knowing the importance of climate in plant growth and development as well as its relationship with plant pests and diseases;
- Familiarization of the participants on forecast implementation, climate parameters and instruments;
- Learning to integrate weather and climate information on disaster management and agricultural planning; and
- Creating awareness of participants on disaster risk reduction and climate change adaptation.

METHODOLOGY

CFS was conducted once a week for twelve (12) sessions

Trainors – we have 7 local Agricultural Technologists from the Office of the Municipal Agriculturist



CFS Modules

1. Climate, Pest and Diseases, Crop Growth and Development
2. Cropping System/Pattern and Climate-Related Risks
3. Understanding Weather and Climate and Climate Parameters
4. Weather and Climate Information Products and Forecasts Generation

CFS Modules

5. Forecast Interpretation, Translation and Communication and Incorporating Climate Forecasts in Decision Making
6. Learning and Implementing the Rice Integrated Crop Management System “*Palay Check*”
7. Summary of Key Checks and Assessment, Monitoring, Analysis and Improvement

Climate Field School Implementation

1st Batch - July 4, 2007

- (P 163,170.00, ADPC Grant)
- **4** pilot barangays (Bacong, PDMS, Nanding Lopez & Sulangan)
- **83** farmers graduated

2nd batch - July 2008

- (P 180,910.00, ADPC Grant)
- **3** Barangays (Bantud Fabrica, Pulao and Paloc Bigque)
- **98** farmers completed the course

Climate Field School Implementation

3rd Batch – August 17, 2010 - October 29, 2010

- (P 80,760.00 from LGU 20% Dev't. Fund)
- 4 barangays (PDMN, Bolilao, Cansilayan & Cayos)
- 106 farmers graduated

4th Batch – July 5, 2011 - September 29, 2011

- (P 86, 800.00 from LGU 20% Dev't. Fund)
- 4 barangays (Balabag, Barasan, Pagdugue & Dacutan)
- 83 farmers

A total of 370 farmers from 15 Barangays graduated from four (4) batches

Result on Weather and Climate Forecast Application thru Climate Field School as of February 2012

Batch	No. of farmers graduated	No. of farmers who practiced their learnings	No. of farmers who did not practice their learnings	Remarks
1st batch	83 farmers	73	10	88.00 % of farmers practiced
2nd batch	98 farmers	86	12	87.80 % of farmers practiced
3rd batch	106 farmers	95	11	89.60 % of farmers practiced
4th batch	83 farmers	60	23	72.30 % of farmers practiced
Total	370 farmers	314 farmers	56 farmers	84.40% average of farmers practiced

**Results of the
interview of
farmers who
practiced their
learnings**

1. Increase in rice production irrigated from 4.20 metric tons per ha. to 5.46 metric tons
2. Increase in rice production non-irrigated from 3.36 metric tons to 4.62 metric tons
3. Increase in income in farming activities – 20 to 25%
4. Decrease in farm input utilization of farmers – 15 to 20%
5. Enhanced knowledge and skills
6. Decreased in pesticide utilization – 20 to 25%
7. Diversified farming system (rice-rice, monggo) (rice-rice, watermelon) (rice-rice, vegetables) (rice-rice, corn)

Other remarks of interviewed farmers

1. Maintained rice production but less in cost of farm inputs
2. Decrease in rice production due to natural calamities/erratic weather condition like heavy rains, strong winds which causes the occurrence of pests and diseases

Farming Practices Learned

- 1. Synchronized planting**
- 2. Decreased usage of pesticides due to farmer's knowledge on beneficial and harmful insects (pest management)**
- 3. Organic farming practices**
- 4. Less in using inorganic fertilizer (nutrient management)**
- 5. Thorough land preparation (land management)**
- 6. Water management**
- 7. Use of certified seeds (seeds quality)**
- 8. Right timing in planting , and other farming activities based on weather forecast/information (PAG-ASA weather forecast)**

Impact of the Project

Farmers are able to identify available management options in order to mitigate climate related risks or take advantage of a favorable climate.

They understand the process of forecast interpretation, translation, and communication for agricultural applications.

Socio-Economic Impacts

- **Lessen damages to infrastructures which equate to less reconstruction and rehabilitation expenses for the government.**
- **Livelihood of the constituents are protected & continuously to be productive.**
- **Resources can be utilized to other developmental endeavors.**
- **Increased and maximum agricultural production is attainable.**

Major Collaborators and Partners of the Climate Field School Program

- **Local Government Unit of Dumangas**
- **Stakeholders**
- **Asian Disaster Preparedness Center (ADPC)**
- **Philippine Atmospheric Geophysical and
Astronomical Services Administration (PAGASA)**
- **USAID**
- **Provincial Government**

Key Implementation Steps

The successful implementation of the **Climate Field School** in Dumangas, Iloilo, Philippines involves the following key implementation steps:

1. Coordination of the Municipal Officials with the Barangay Officials and stakeholders on identification of farmer participants.
2. Collaboration between LGU and funding agencies ADPC, USAID, PAGASA, PAO, DILG, DA, and DOST.

Socio-Economic Impacts

- 3. Formulation of training design (training modules) and budgetary requirements.**
- 4. Orientation of Barangay Officials and farmer participants.**
- 5. Funds allocation / sourcing (local, national, international)**
- 6. Implementation of Climate Field School.**
- 7. Monitoring and Evaluation.**
- 8. Output Assessment.**

Citations

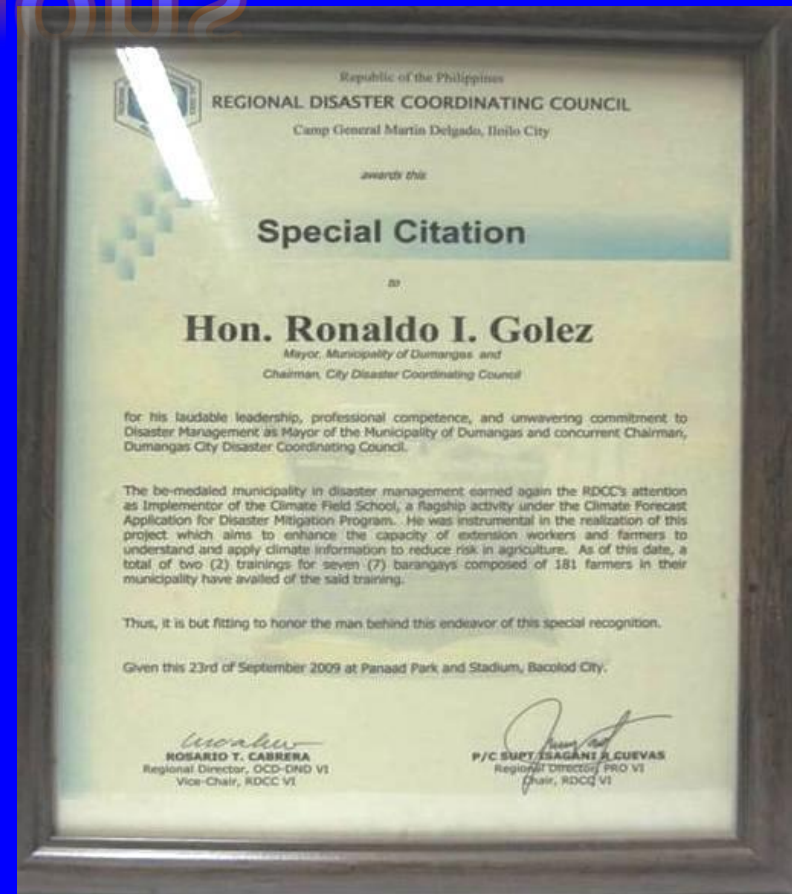


- Chosen as the "BEST" Municipal Disaster Coordinating Council (3rd and 4th Class Municipal Category) August 8, 2005; 2006
- "Gawad KALASAG" Hall of Fame Awardee last August 16, 2007

Citations



- Certificate of Appreciation given by RDCC during the RDCC VI Culminating Activity last August 21, 2008



- Special Citation to Hon. Ronaldo B. Golez given by the RDCC last Sep. 23, 2009

Citations



- Special Citation was given to the Climate Field School, Dumangas, Iloilo by RDCC VI during the 2010 Gawad KALASAG Award last September 23, 2010

Citations



- Gawad KALASAG Award was given to the Climate Field School, Dumangas, Iloilo as Best in Community-Based DRM by NDRRMC last October 11, 2011

The CFS Training/Seminar Documentations



**Orientation/Briefing of
Participants by trained Local
Agricultural Technicians**



**Identifying Climate Risk and
Management by a local
personnel trained by PAGASA**



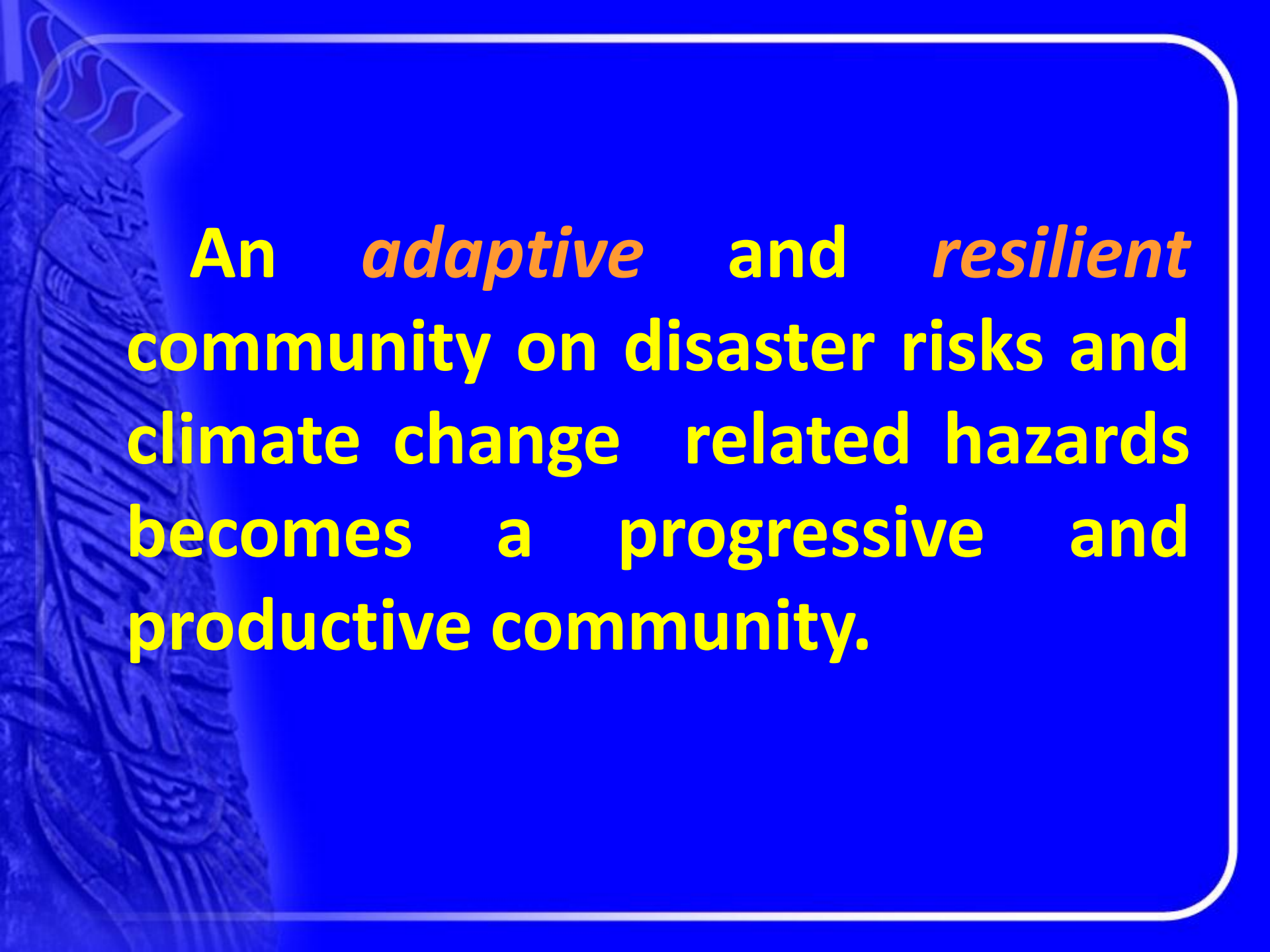
**Identifying pest and
diseases in rice fields**

The CFS Graduates (3rd Batch)



The CFS Graduates (4th Batch)





An *adaptive* and *resilient* community on disaster risks and climate change related hazards becomes a progressive and productive community.



“Impacts of Climate Change can be mitigated through proper disaster risk management and climate change adaptation and innovation. So let us not worry of the cost of disaster risk reduction and climate resiliency programs but let us be concerned of protecting and uplifting the lives of our people.”

Together we will make...



DUMANGAS

On the Go!