

Organisers:



Event partners:



Practitioner's and policy-makers exchange on climate change adaptation in agriculture

Philippine Participants

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The Philippine Agriculture

- Importance to the economy:
 - ✓ *Around 1/5 of the total economy*
 - ✓ *Provide food for the people*
 - ✓ *Generates employment and income*
- By its nature:
Agriculture is highly sensitive to climatic conditions



1. Major Crop Agricultural Industries and Production Systems

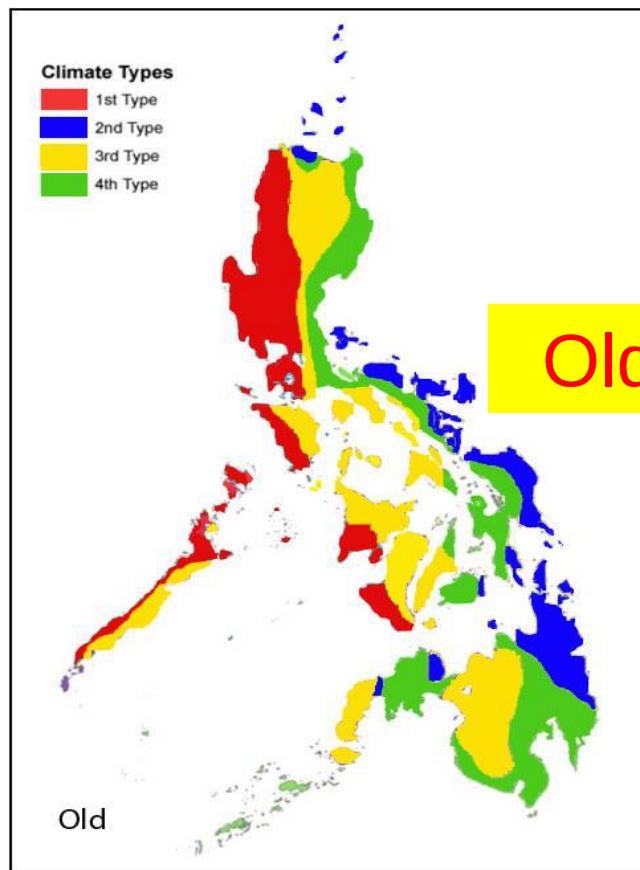
Cereals	Fruit Crops	Non-Food & Industrial	Vegetables, Root Crops & Tubers
Palay Irrigated Non-Irrigated Corn White Yellow	Banana Pineapple Mango Calamansi Papaya	Abaca Cacao Coconut Coffee Rubber Sugarcane Tobacco	Peanut Mongo Cassava Camote Tomato Garlic Onion Cabbage Eggplant

2. Current and Emerging Climate-related Threats/Risks to Food Security

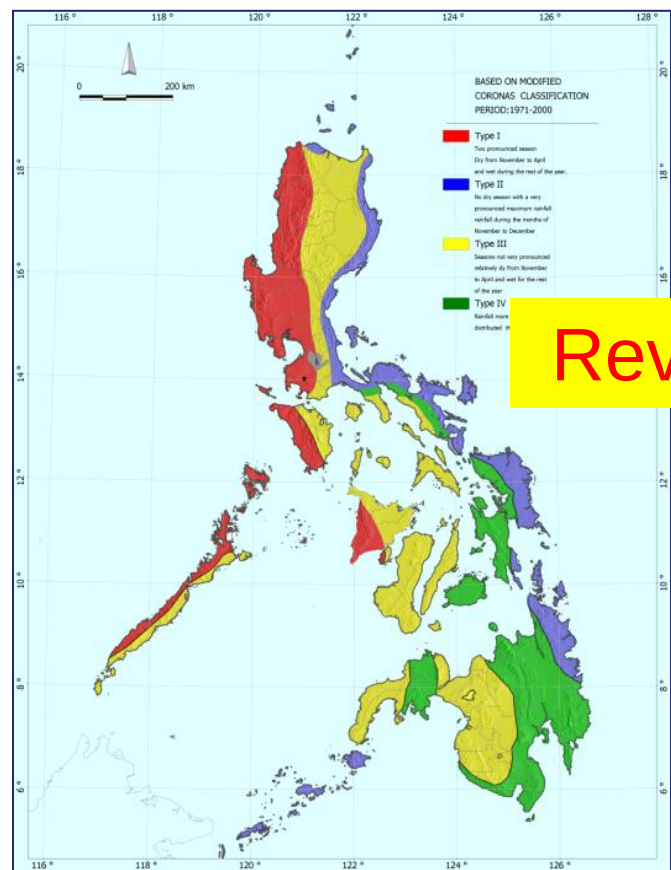
Observed changes in patterns during the past few decades:

- Warm months of March, April and May have become even noticeably warmer;
- Nights have also become warmer, with days also getting hotter;
- Patterns of rains and rainy seasons have also changed; and
- Droughts have been noted to be more frequent in some areas.

The Philippine climate changes



Old

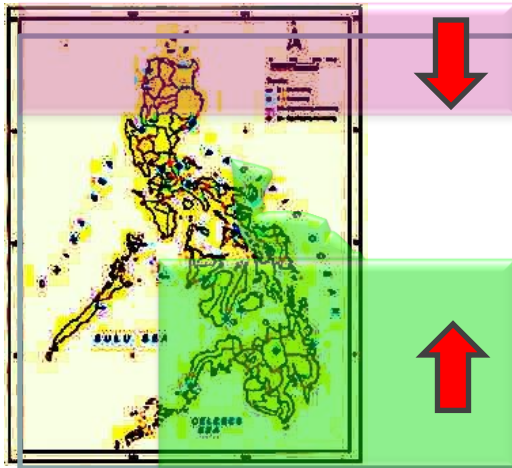


Revised

■ Revision in climate classification in the Philippines due to changes in rainfall patterns

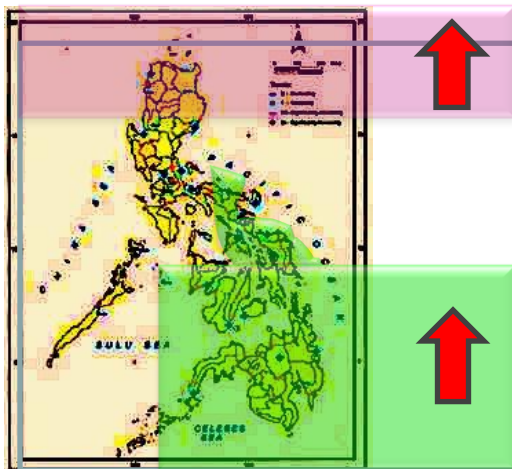
Source: PAGASA

Rainfall Trend



Total Rainfall

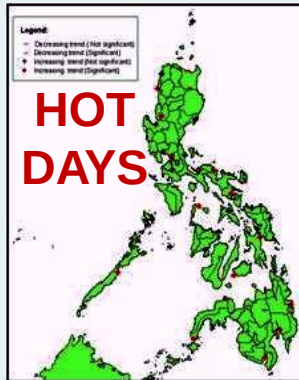
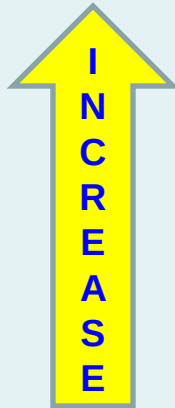
- *Decreases in the top northern part of Luzon.*
- *Increases in the Bicol Region (except Daet),*
- *Increase in Visayas & Mindanao*



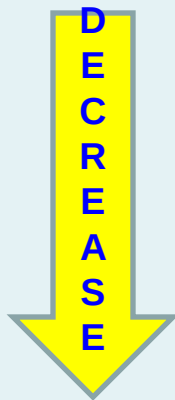
Number of Rain Days

- *Increases in the top northern part of Luzon.*
- *Increases in the Bicol Region, the Visayas and Mindanao*

Temperature Trend 1961 – 2003



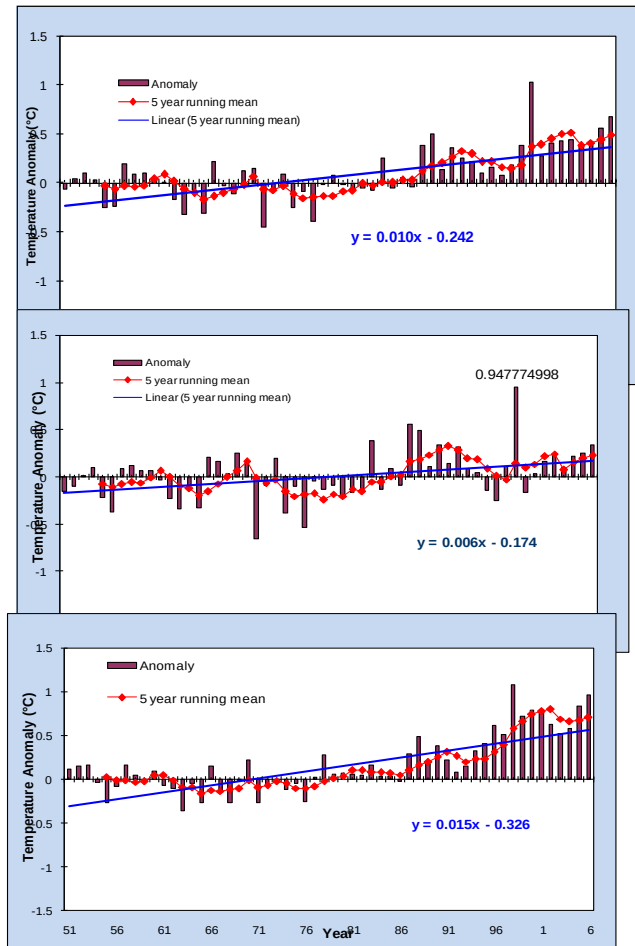
- Hot days & warm nights
Significant increase in frequency



- Cold days & cool nights
Significant decrease in number

Source: Pagasa

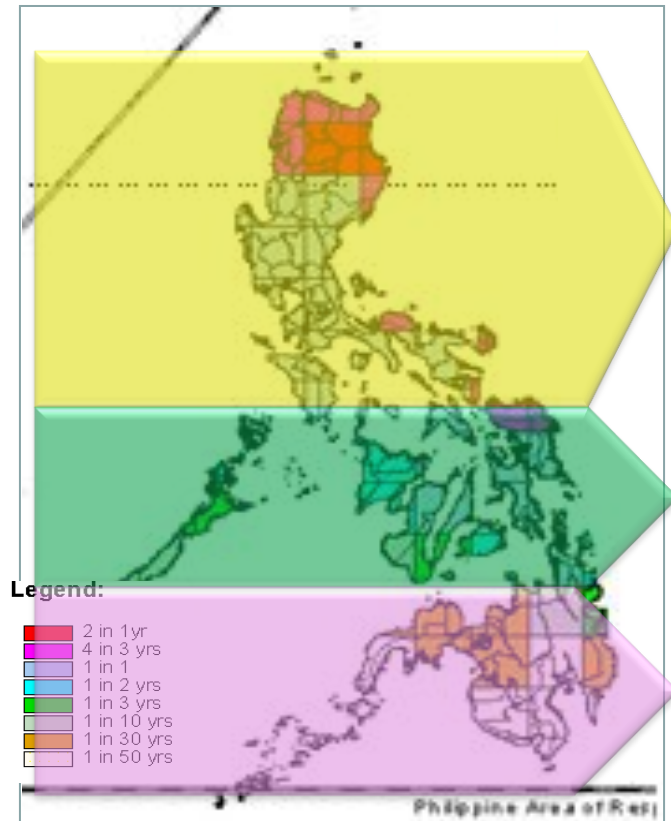
Observed annual temperature anomalies 1951-2006



- **Mean** - An increase of **0.6104°C**
- **Maximum** - An increase of **0.3472°C**
- **Minimum** - An increase of **0.8904°C**, almost 3 times increase than maximum temperatures

Source: Pagasa

Trend in the number of tropical cyclones 1948 - 2005

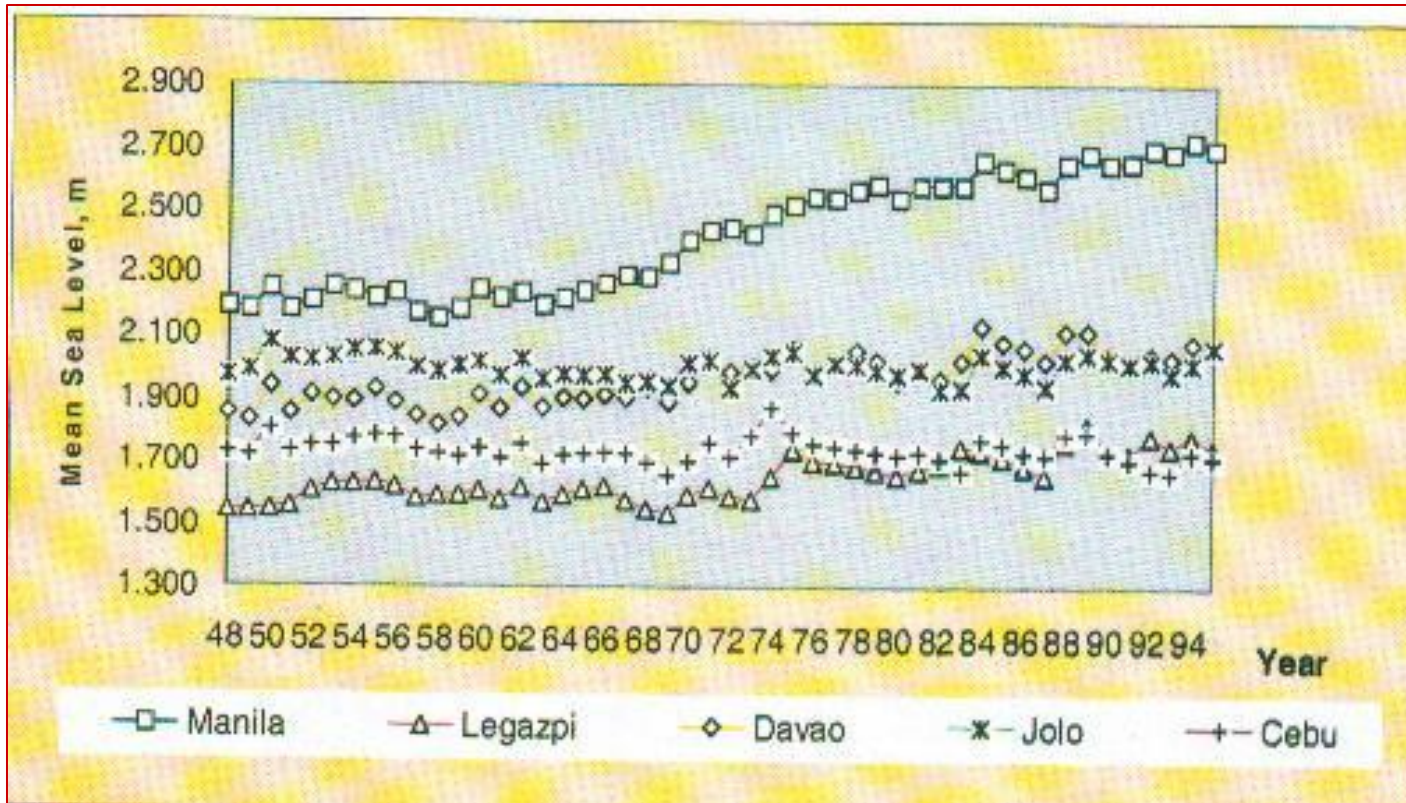


- No trend in Luzon.
- Increase in the Visayas
- Decrease in Mindanao.

Source: Pagasa

Northern Luzon is most frequently hit by tropical cyclones followed by Catanduanes and Northern Samar and least in the Mindanao area.

Sea Level Rise



The Philippines has:

- ***7,107 islands;***
- ***36,289 km of coastline;and***
- ***many river systems***

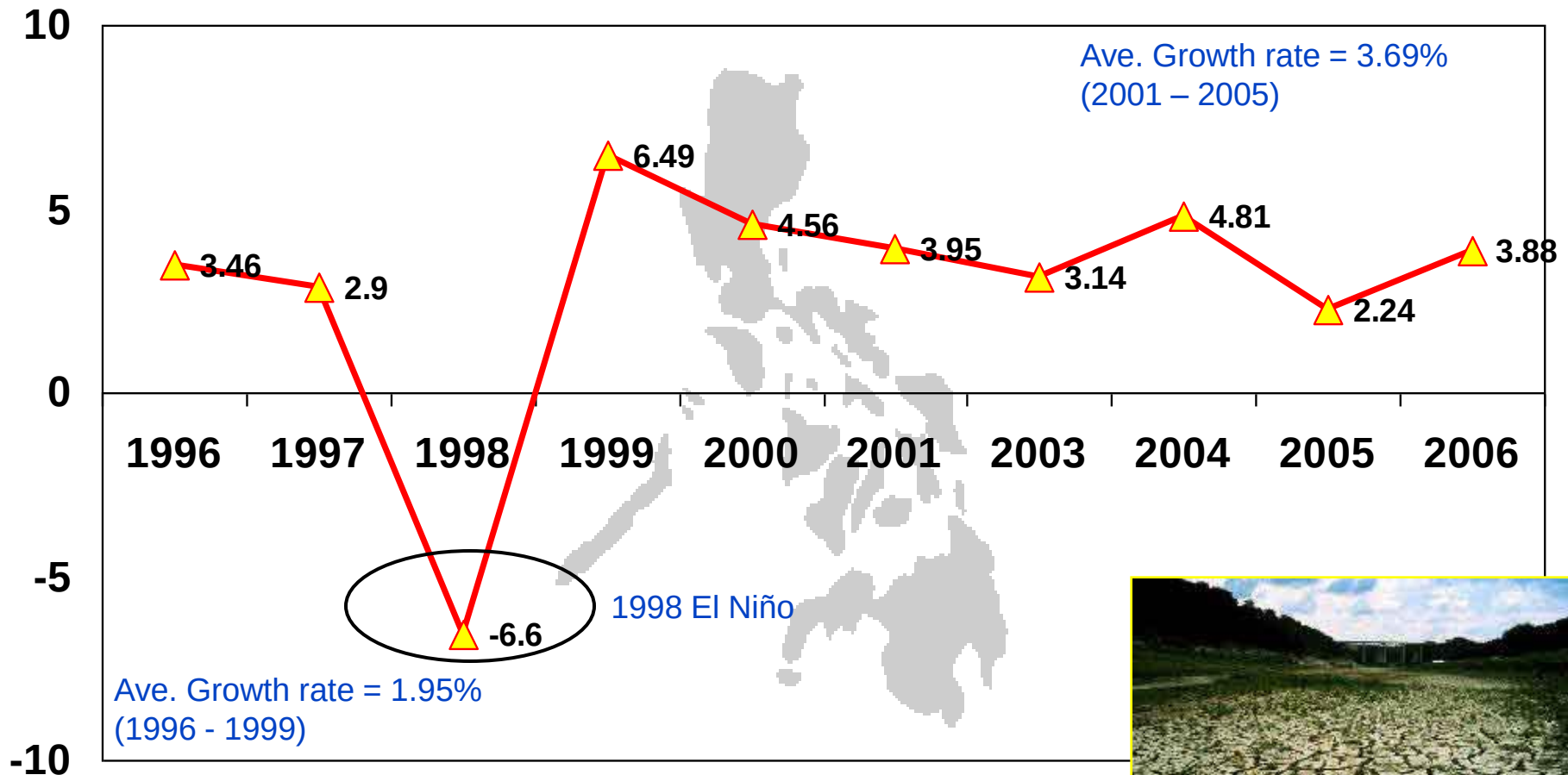
How do these risks impact the country's agriculture production and food security?



Impact to Agriculture

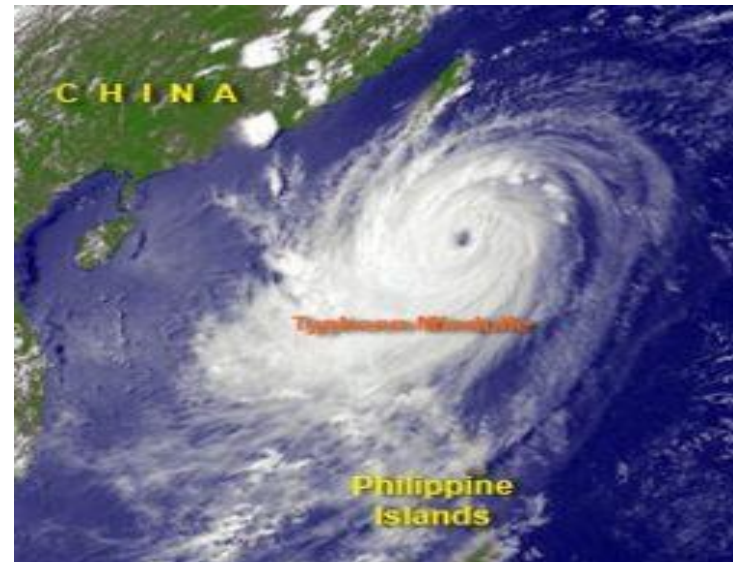
- Potential decrease in agricultural outputs
- Affect our national food self-sufficiency program
- Affect the farmers/ fisherfolks main source of livelihood

Impact of Drought/El Niño

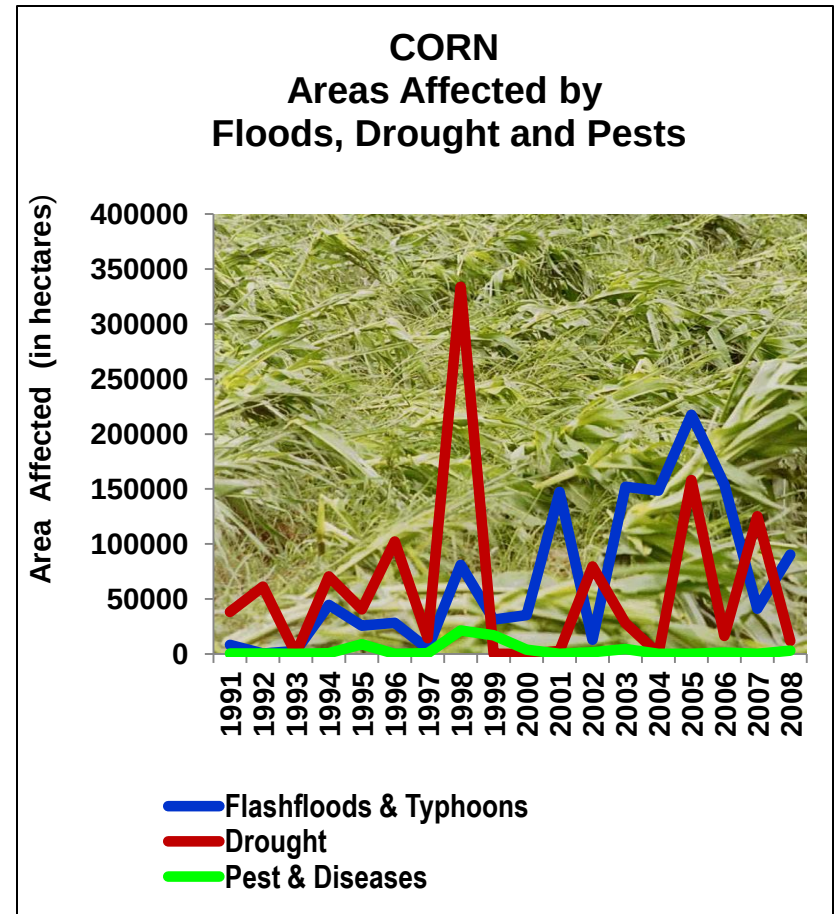
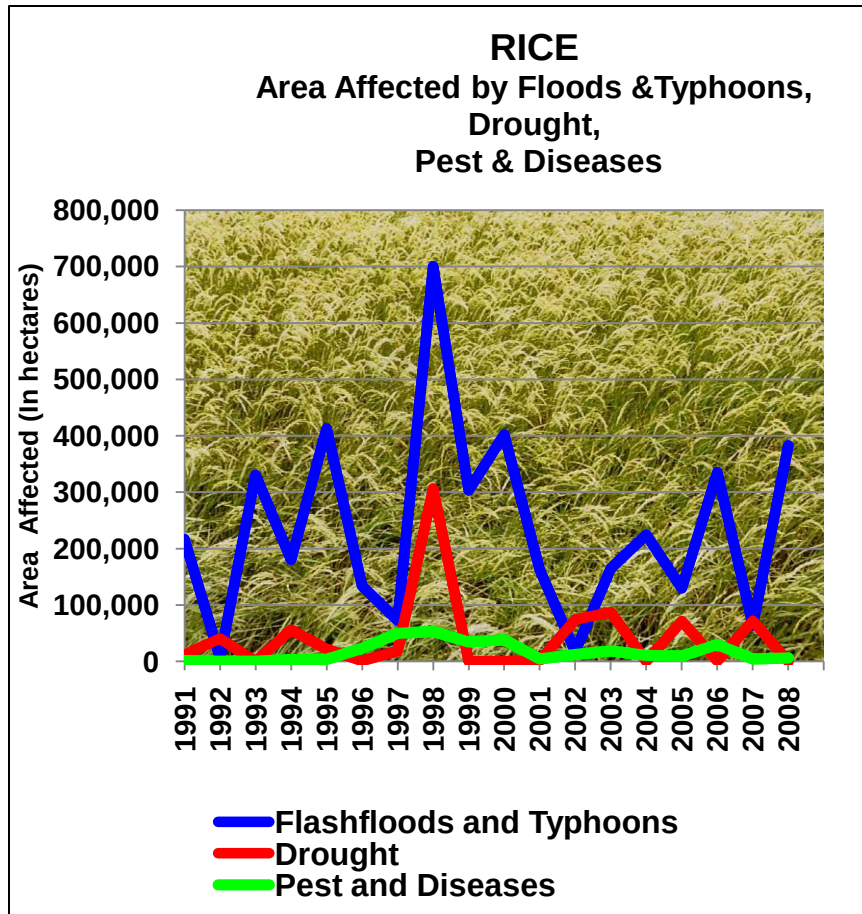


Impact of Strong Tropical Cyclones (2006-2009)

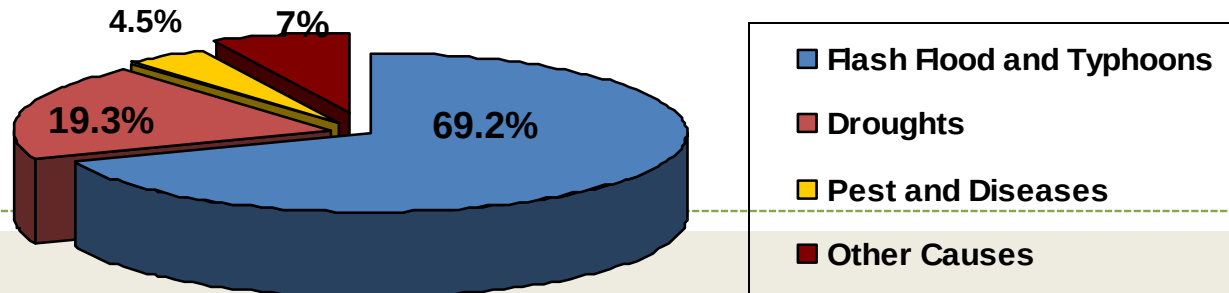
- Strong typhoons (i.e. Ondoy and Pepeng in 2009, Frank in 2008 and Milenyo, Paeng and Reming in 2006) resulted to billions of damages to the sector
 - *Rice (P 16.3 B)*
 - *Corn (P 1.0 B)*
 - *Coconut (P 1.1 B)*
 - *Fisheries (P 1.2 M)*
 - *Irrigation (5.0 B)*
 - *Other agri-infra (P1.3 B)*



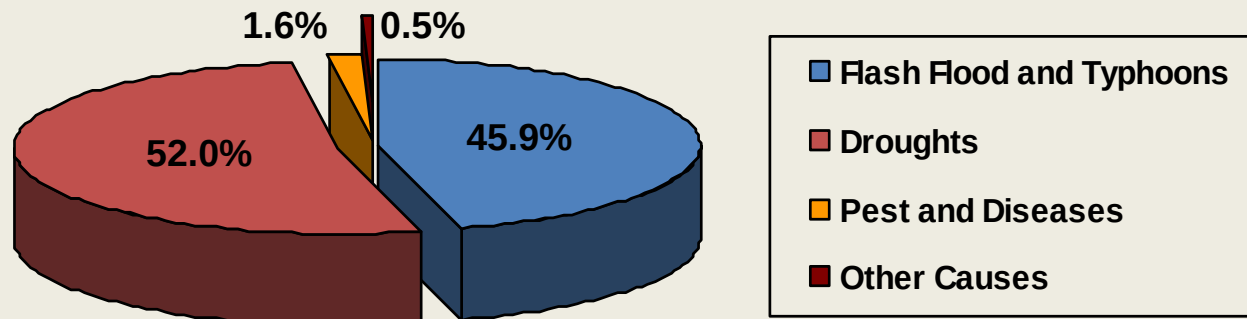
Rice and Corn Losses due to Typhoons, Floods, Drought & Pests



Losses and damages



A. **PALAY:** *Distribution of Losses and Damage to Production by Causes, Philippines, 1991-2007*



B. **CORN:** *Distribution of Losses and Damage to Production by Causes, Philippines, 1991-2007*

El Nino 2010 Impact

Losses

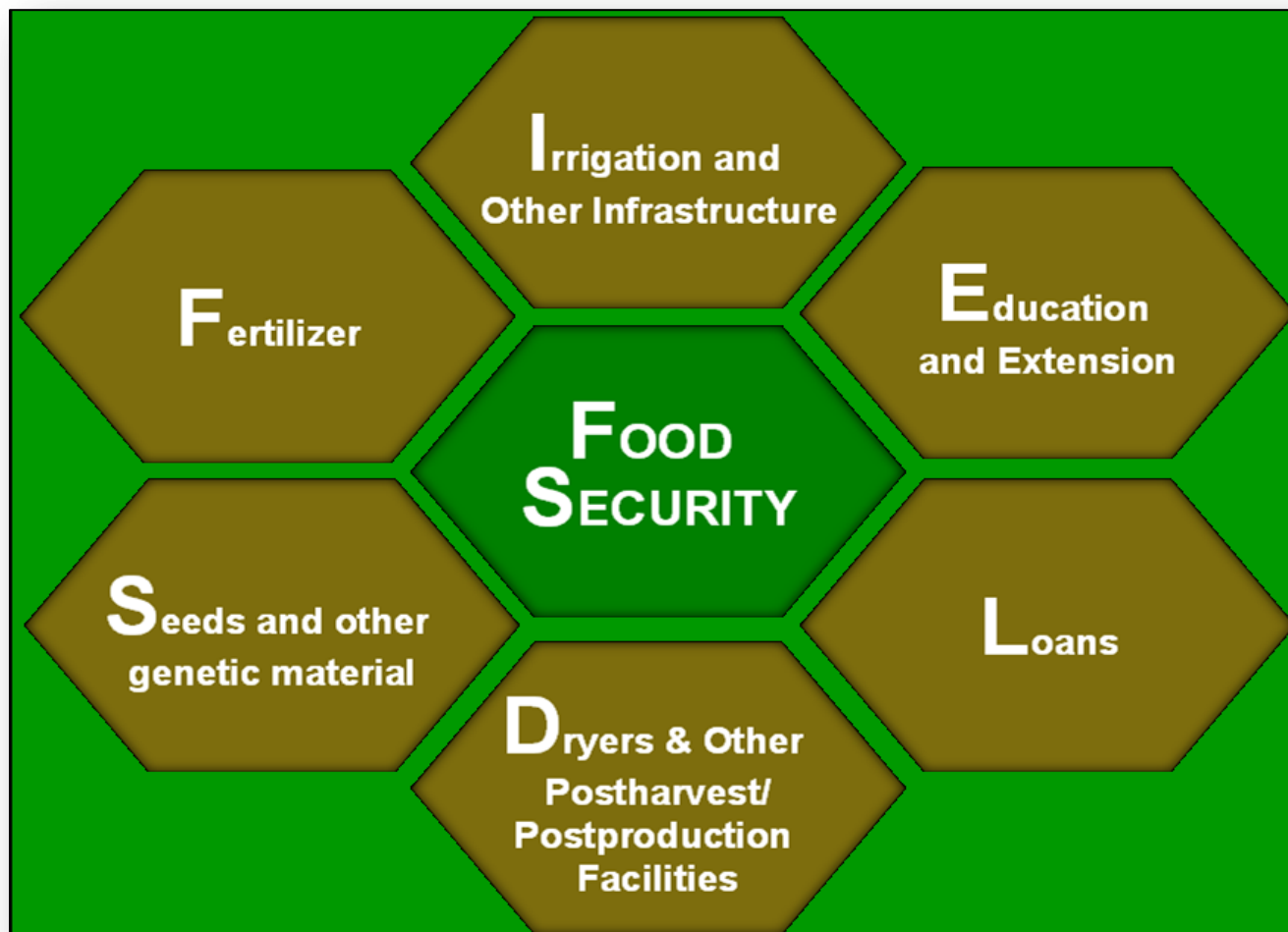
P 8.4 million loss = 0.7% to GVA

Volume

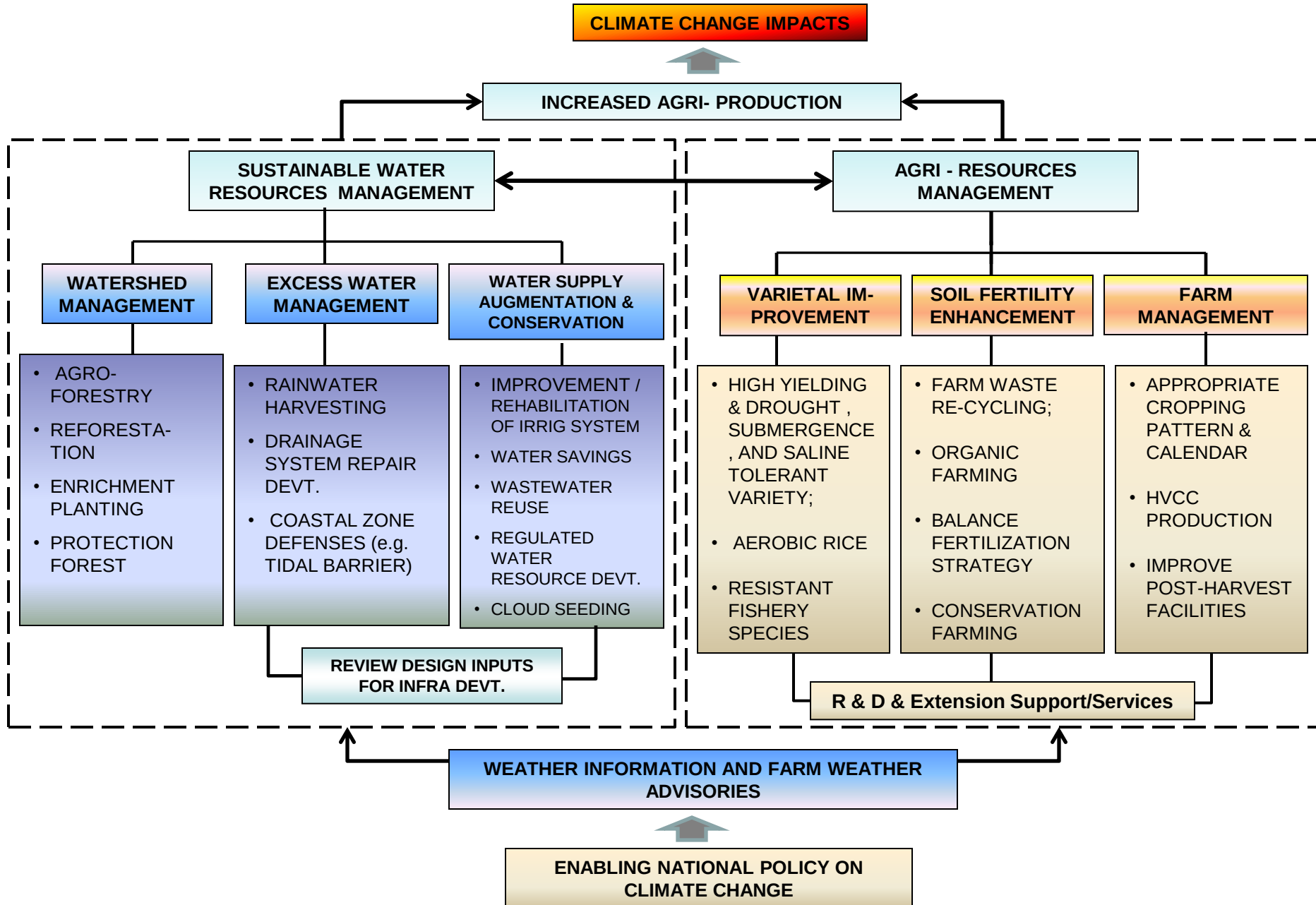
Commodity	Target Prod. (Million MT)	Losses (Million MT)	%
Rice	7.4	0.258	3.5
Corn	3.0	0.307	10.0

3. Existing Risk Management and Adaptation Efforts

The FIELDS PROGRAM



Coping Mechanisms



REPUBLIC ACT NO . 9729

**AN ACT MAINSTREAMING CLIMATE CHANGE INTO
GOVERNMENT POLICY FORMULATIONS, ESTABLISHING
THE FRAMEWORK STRATEGY AND PROGRAM ON
CLIMATE CHANGE, CREATING FOR THIS PURPOSE THE
CLIMATE CHANGE COMMISSION, AND FOR OTHER
PURPOSES**

Section 5. *Composition of the Commission*

Climate-Responsive Agriculture

1. Reduce CC risks and vulnerability of natural ecosystems and biodiversity through:
 - eco-system-based management approaches,
 - conservation efforts,
 - sustainable ENR-based economic endeavors
2. Increase the resilience of agriculture communities through:
 - development of CC-sensitive technologies,
 - establishment of climate proof agri-infrastructure
 - climate-responsive food production systems,
 - provision of support services to the most vulnerable communities

3. Improve CC resilience of fisheries through:
 - Restoration of fishing grounds, stocks, habitats
 - Investment in sustainable and climate change-responsive fishing technologies and products.
4. Expand investments in aquaculture and other production areas.
5. Strengthen crop insurance system weather-based insurance system
6. Strengthen sustainable, multi-sectoral and community based resource management mechanisms.

4. What questions do you have about climate change adaptation in agriculture that you would like addressed at this practitioners exchange?

1. Learn from the experiences of other countries through case studies and/or demonstration of climate change adaptation measures in agriculture
2. Exchange of scientific data and information on recent technologies and researches for soil, water and crop management to adapt to climate change
3. Improve analysis and interpretation of climate change data for managing climate risks as well as adjustments in cropping systems and forecast
4. Agricultural policies that work!

**THANK YOU AND
GOOD DAY**