THE PHILIPPINE CLIMATE CHANGE AGENDA: *The Potential Role Of The Academic and R&D Sector*

Naderev M. Saño, Climate Change Commission

Climate Change is now the most cross-cutting policy theme

What happened to the Climate Talks?

FAILED

COP15
COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009

DID NOT SAVE
THE CLIMATE

COP16
CMP6 Mexico2010
United Nations Climate Change Conference

Why Cancun Failed to Save the Planet

- Action delayed is action denied
- Sense of urgency is lower
- Pledges to reduce emissions fall short of what is required according to the latest science
- We have compromised the chances of development for the majority of the world's poor

UNFCCC Art. 4.1

- All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
- (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases…

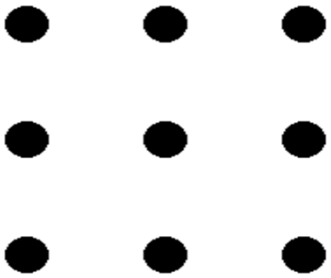
UNFCCC Art. 4.1

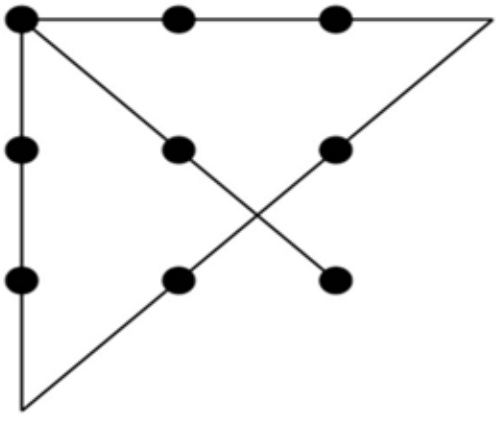
- (g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

UNFCCC Art. 4.1

- (h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;
- (i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of NGOs;

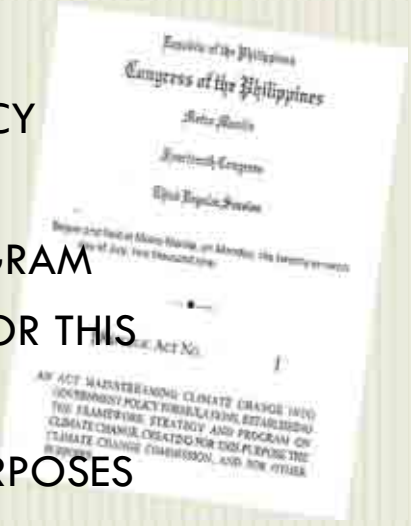
Draw Four Straight Lines
through all nine dots
without lifting your pen

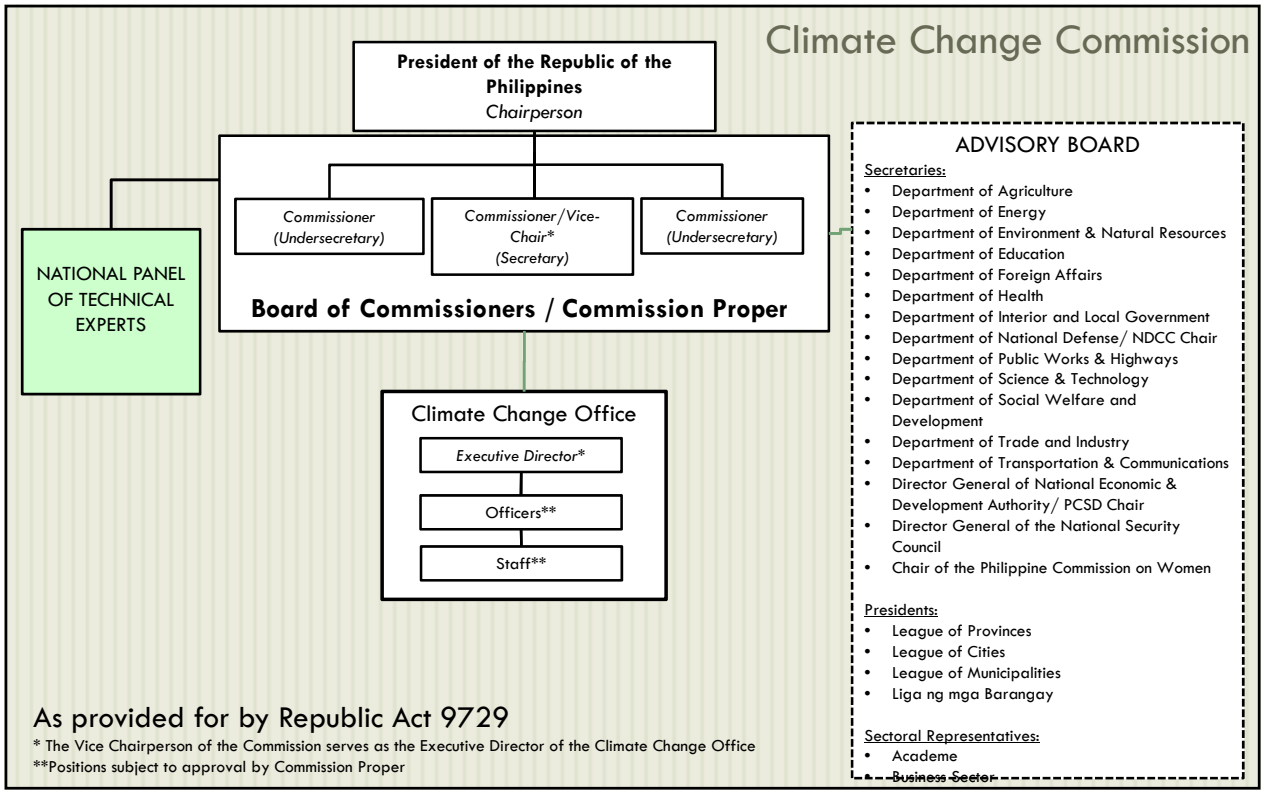


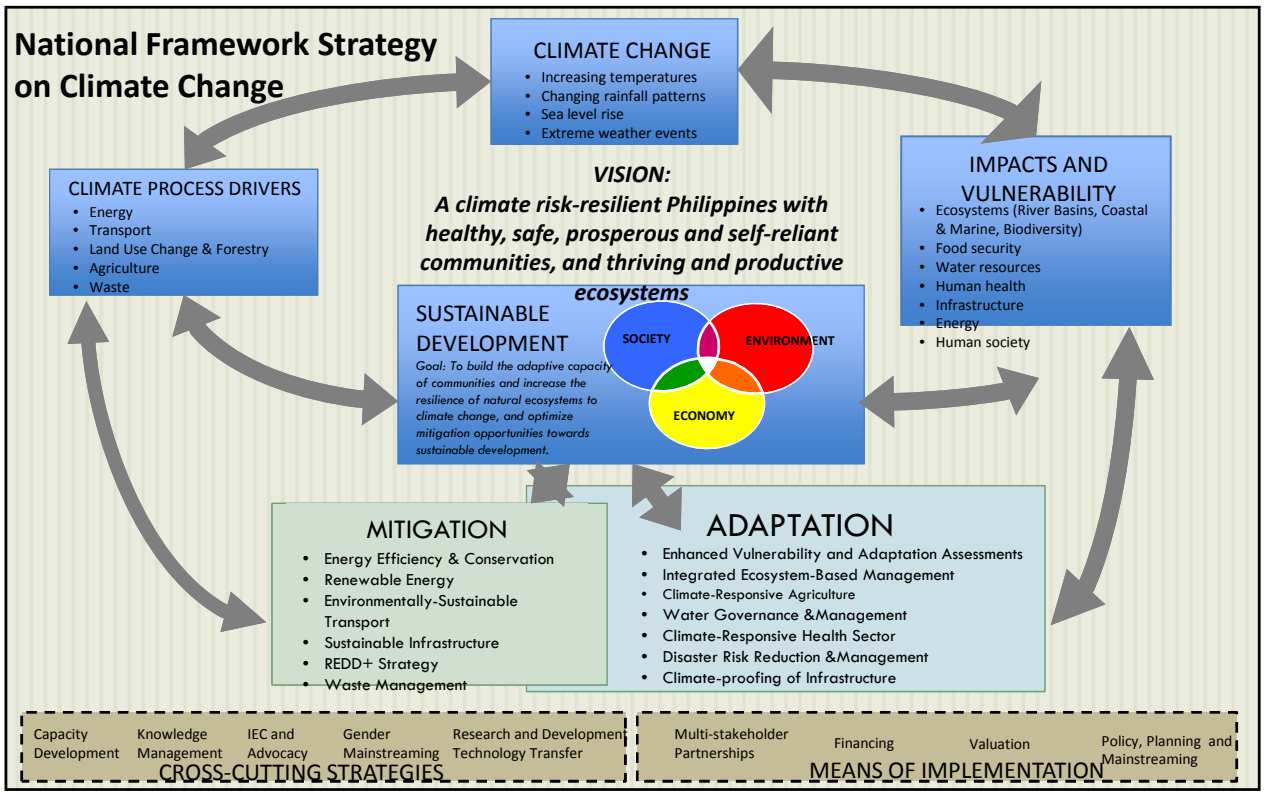


Republic Act No. 9729

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


Congress of the Philippines


Climate Change Commission
President of the Republic of the Philippines
Chairperson
Commissioner (Undersecretary)
Commissioner/Vice-Chair* (Secretary)
Commissioner (Undersecretary)
Board of Commissioners / Commission Proper
NATIONAL PANEL OF TECHNICAL EXPERTS
Climate Change Office
Executive Director*
Officers**
Staff**
ADVISORY BOARD
Secretaries:
Department of Agriculture
Department of Energy
Department of Environment & Natural Resources
Department of Education
Department of Foreign Affairs
Department of Health
Department of Interior and Local Government
Department of National Defense/ NDCC Chair
Department of Public Works & Highways
Department of Science & Technology
Department of Social Welfare and Development
Department of Trade and Industry
Department of Transportation & Communications
Director General of National Economic & Development Authority/ PCSD Chair
Director General of the National Security Council
Chair of the Philippine Commission on Women
Presidents:
League of Provinces
League of Cities
League of Municipalities
Liga ng mga Barangay
Sectoral Representatives:
Academe
Business Sector
As provided for by Republic Act 9729
* The Vice Chairperson of the Commission serves as the Executive Director of the Climate Change Office
**Positions subject to approval by Commission Proper


National Framework Strategy on Climate Change
CLIMATE CHANGE
Increasing temperatures
Changing rainfall patterns
Sea level rise
Extreme weather events
CLIMATE PROCESS DRIVERS
Energy
Transport
Land Use Change & Forestry
Agriculture
Waste
VISION:
A climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems
IMPACTS AND VULNERABILITY
Ecosystems (River Basins, Coastal & Marine, Biodiversity)
Food security
Water resources
Human health
Infrastructure
Energy
Human society
SUSTAINABLE DEVELOPMENT
Goal: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.
SOCIETY
ENVIRONMENT
ECONOMY
MITIGATION
Energy Efficiency & Conservation
Renewable Energy
Environmentally-Sustainable Transport
Sustainable Infrastructure
REDD+ Strategy
Waste Management
ADAPTATION
Enhanced Vulnerability and Adaptation Assessments
Integrated Ecosystem-Based Management
Climate-Responsive Agriculture
Water Governance &Management
Climate-Responsive Health Sector
Disaster Risk Reduction &Management
Climate-proofing of Infrastructure
Capacity Development
Knowledge Management
IEC and Advocacy
Gender Mainstreaming
Research and Development Technology Transfer
CROSS-CUTTING STRATEGIES
Multi-stakeholder Partnerships
Financing
Valuation
Policy, Planning and Mainstreaming
MEANS OF IMPLEMENTATION

NATIONAL CLIMATE CHANGE ACTION PLAN 2011-2028

Philippine Climate Change Commission

Responding to PNoy's Social Contract "Keeping the Promise"

- Alleviate poverty through the creation of ECO-JOBS and green jobs
- Determine the "total economic value" of the environment and natural resources as a true driver of economic growth
- Preserve natural riches for the benefit of the present and future generations

Guiding Principles

Adaptation and mitigation shall be national priorities, **with emphasis on adaptation** as the anchor strategy, whereas, measures for adaptation are based on equity, in accordance with the principles of "common but differentiated responsibility;"

Plans and actions are derived from **scientific contributions and best practices from communities** taking into considerations local circumstances and indigenous practices;

Guarantees equal and equitable protection of **the poor, women, children** and other vulnerable and disadvantaged sectors;

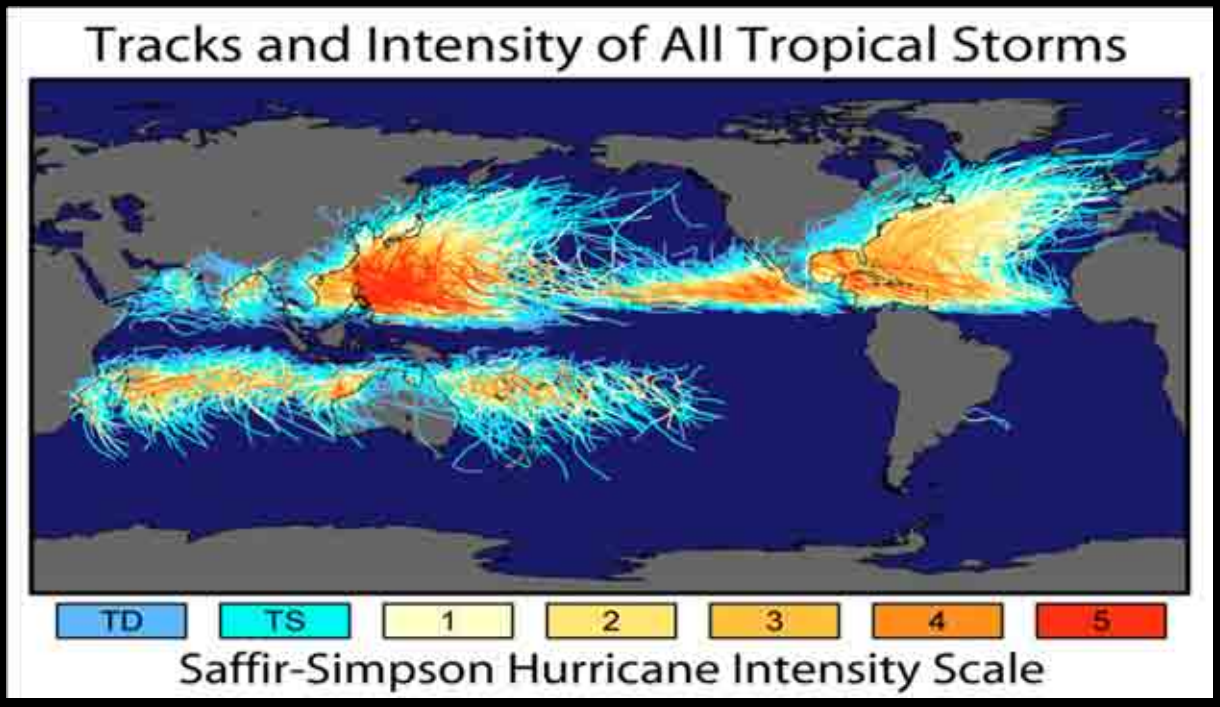
Guiding Principles

Recognizes of the **roles of agencies** and their respective mandates as provided by law, and the **role of local governments** as front-liners in addressing climate change;

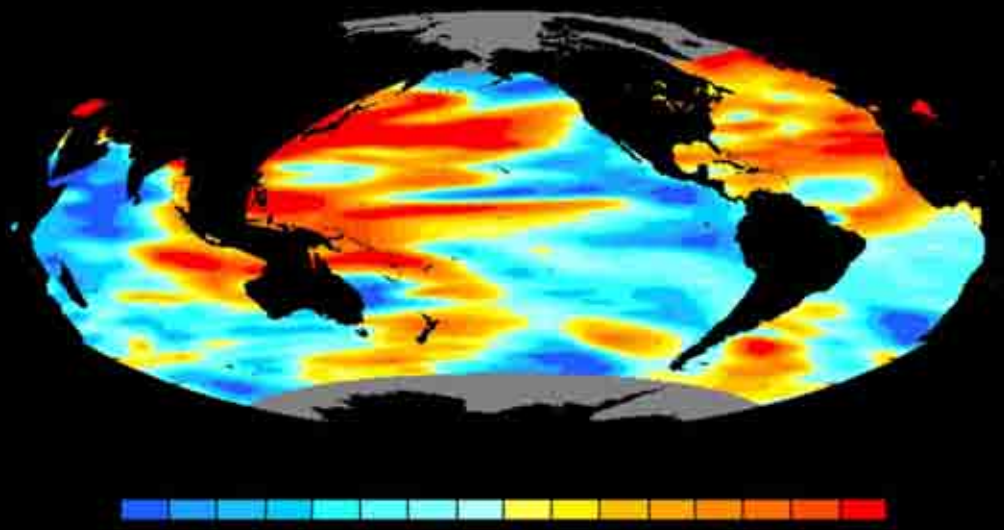
Take **logical and effective actions** towards achieving the goals by building on existing strengths, and forging of partnerships with civil society, private sector and local communities

Ten Warmest Years on Record

2010
2005
1998
2003
2002
2006
2009
2007
2004
2001



Sea level rise



Pampanga/ Central Luzon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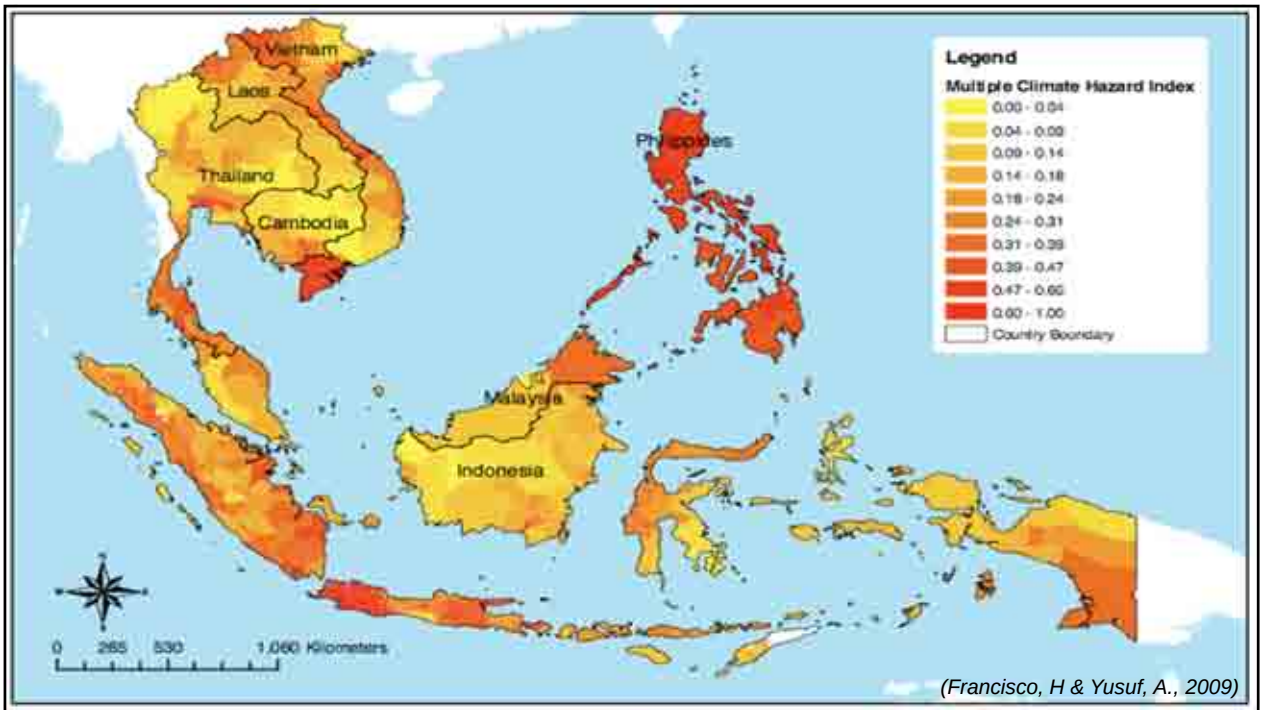
We are in the “eye of the perfect storm”.

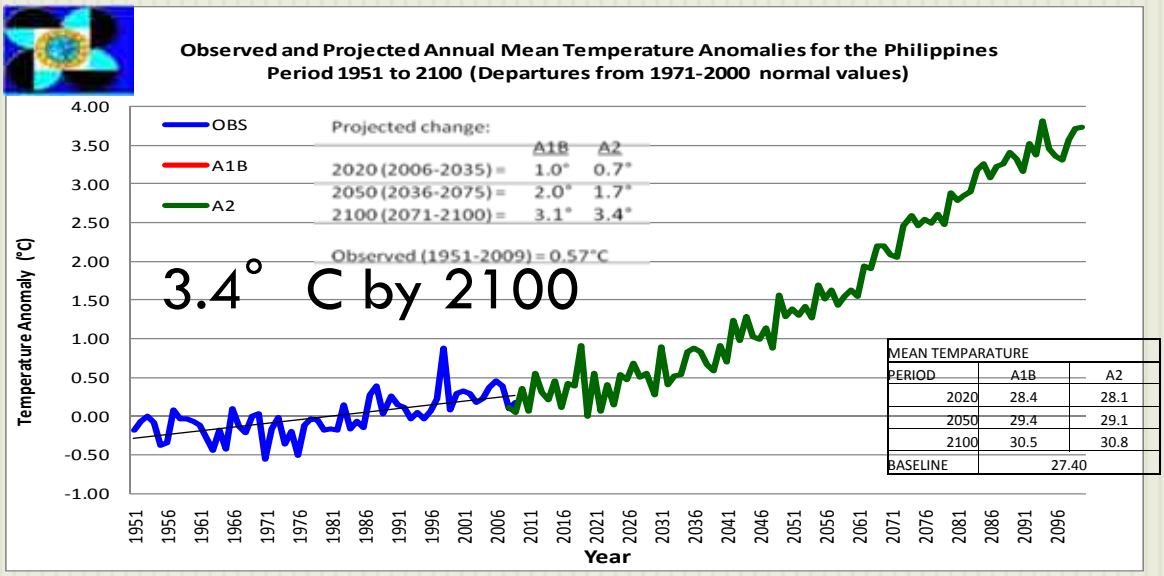


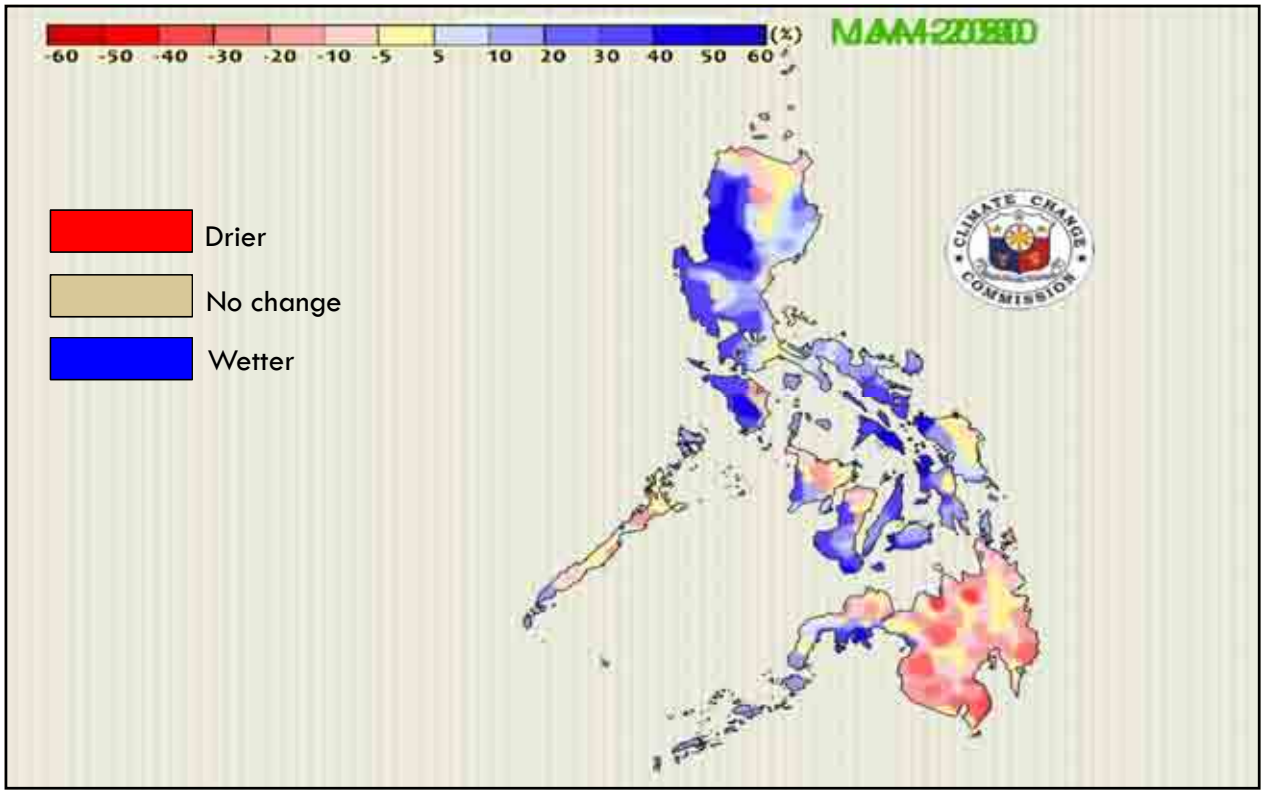
CLIMATE HAZARD INDEX

IDRC CRDI Sida

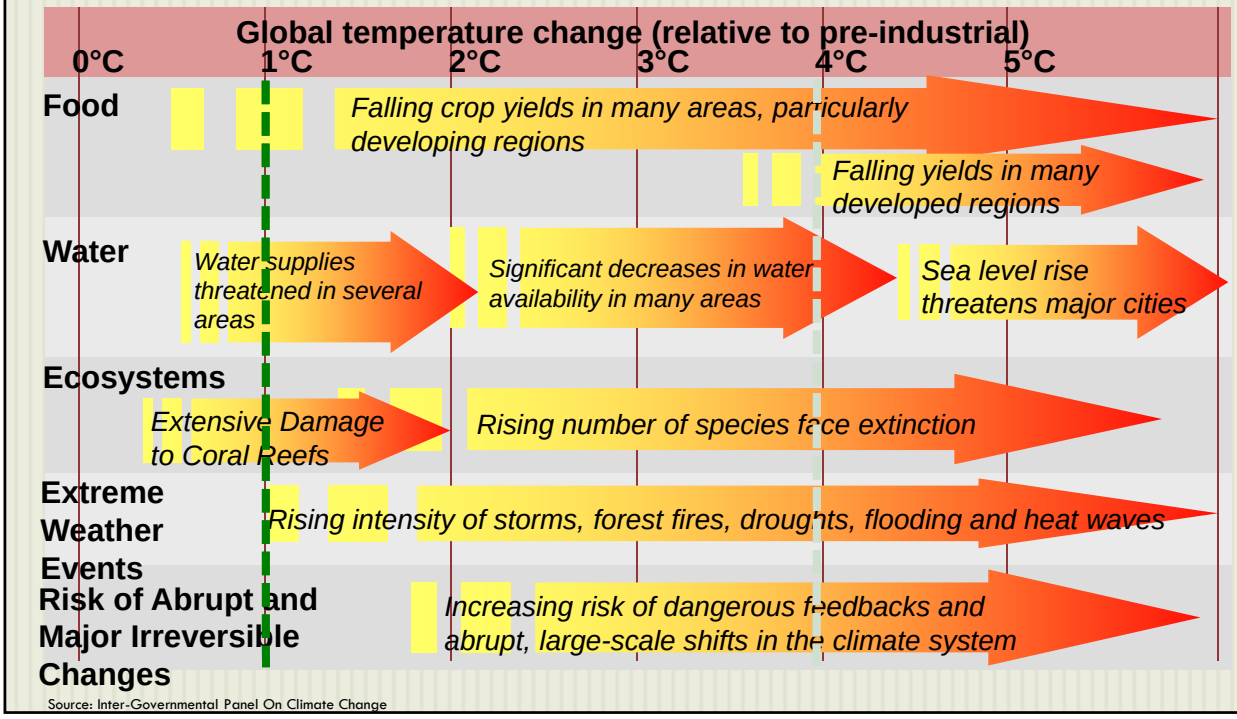
How warm?

Change in Mean Temperature

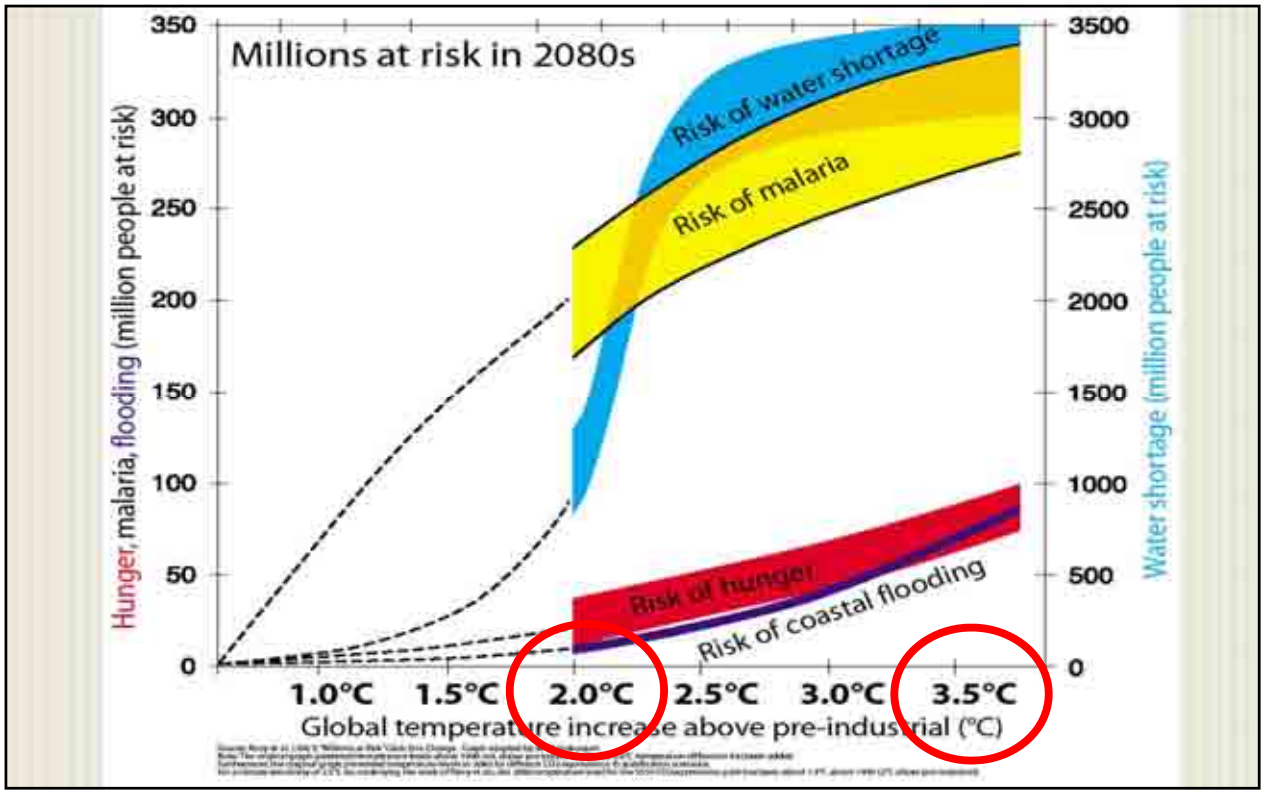




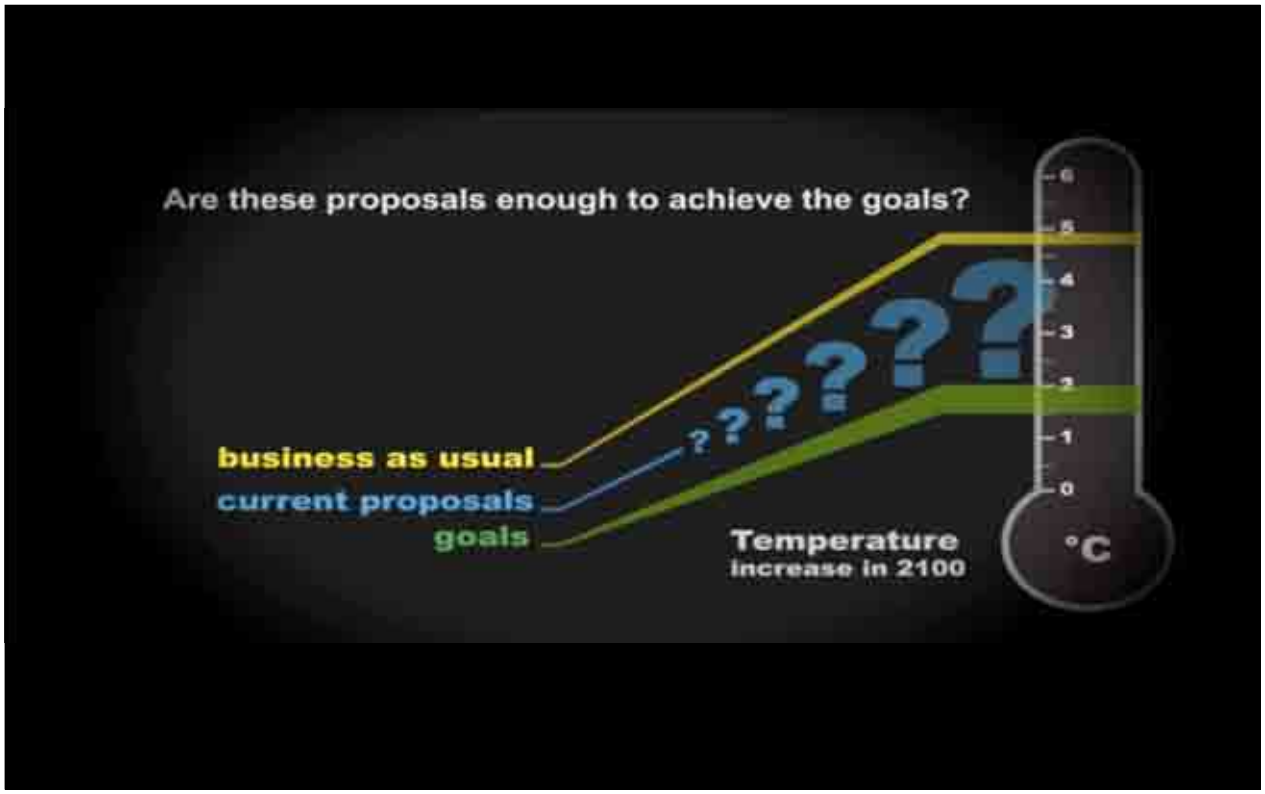
Projected Impacts of Climate Change

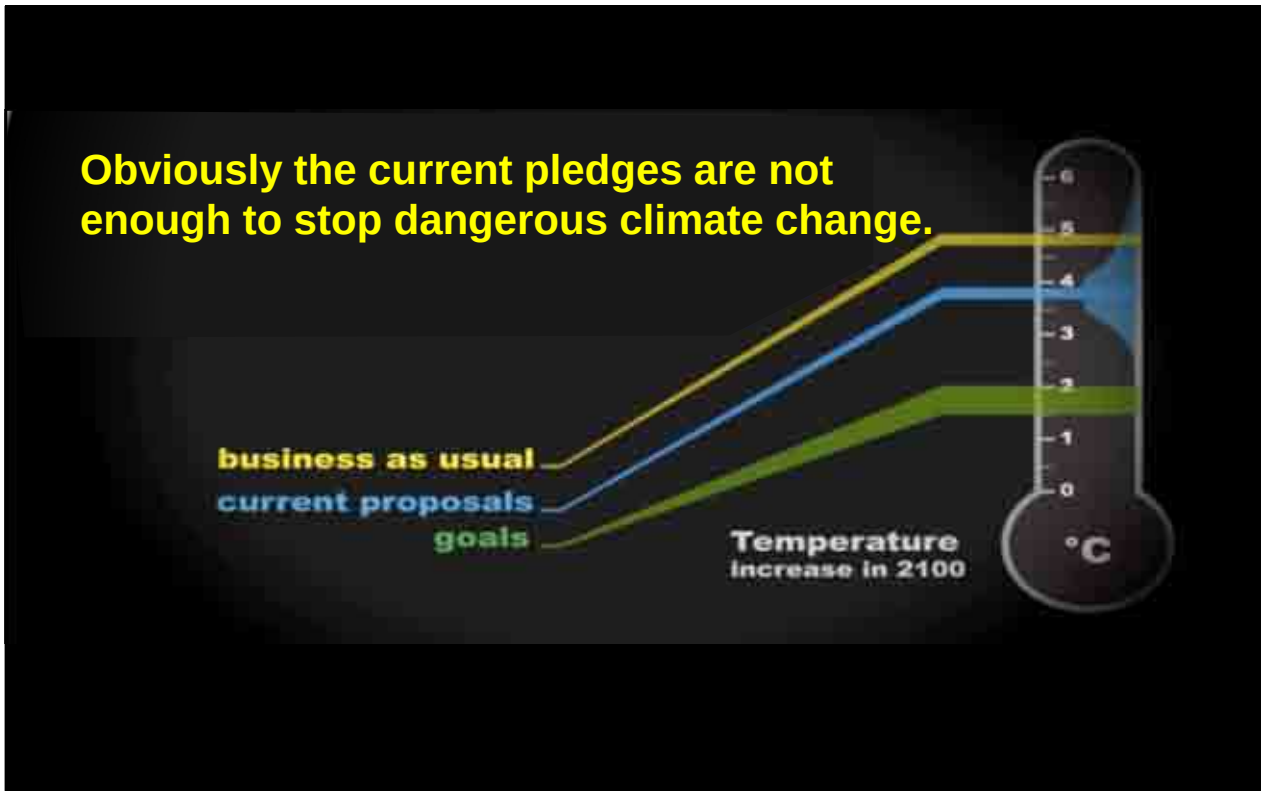


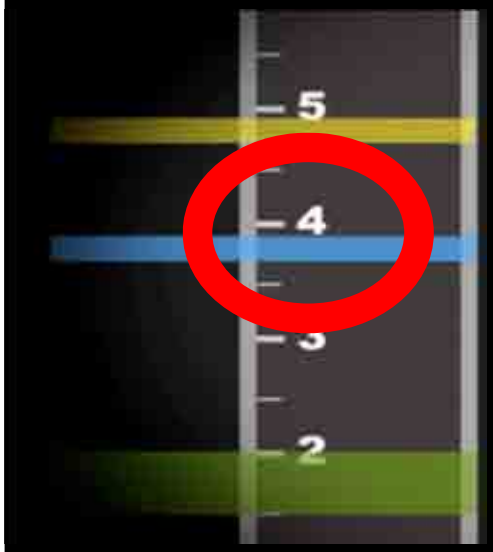
Source: Inter-Governmental Panel On Climate Change



Based on the most recent developments in the international negotiations under the UNFCCC and the Kyoto Protocol… (Cancun Summit)


Are these proposals enough to achieve the goals?
business as usual
current proposals
goals
Temperature
increase in 2100
°C


Obviously the current pledges are not enough to stop dangerous climate change.
business as usual
current proposals
goals
Temperature
increase in 2100
°C

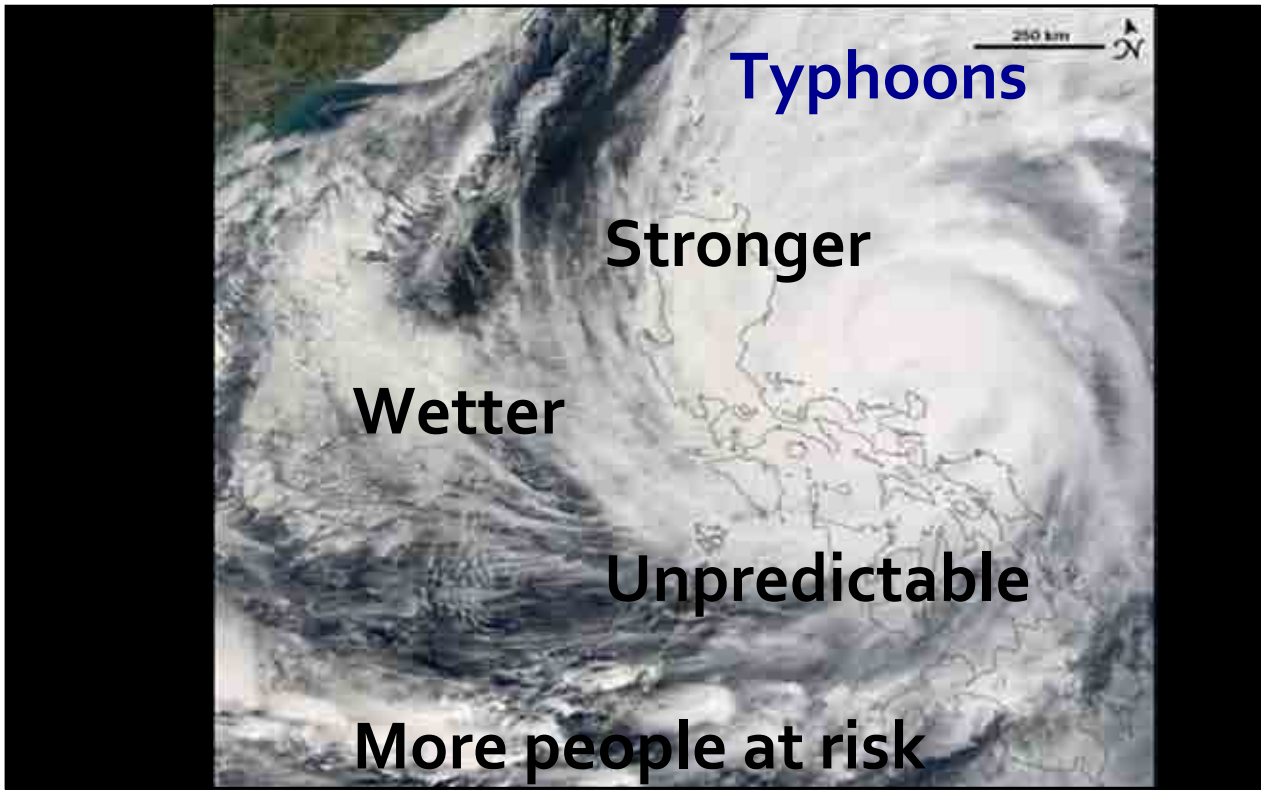


We have to deal with the impacts of a 4° C warmer world

the Earth is warming more

2010

is now the hottest year on record


Typhoons
Stronger
Wetter
Unpredictable
More people at risk


ONDOY - LOSSES
956 deaths
floods and landslides
86 missing
84 injured
US$ 4.3 Billion
(2.7% of PHL GDP)
damages to crops, property and infrastructure (WB)
249 deaths
from diseases
US$730M losses by housing sector
9.3 million impacted
US$2.34 B
damage to enterprises
US$849.3 M
losses by farmers
Photo by Reuters

Storm surge risk

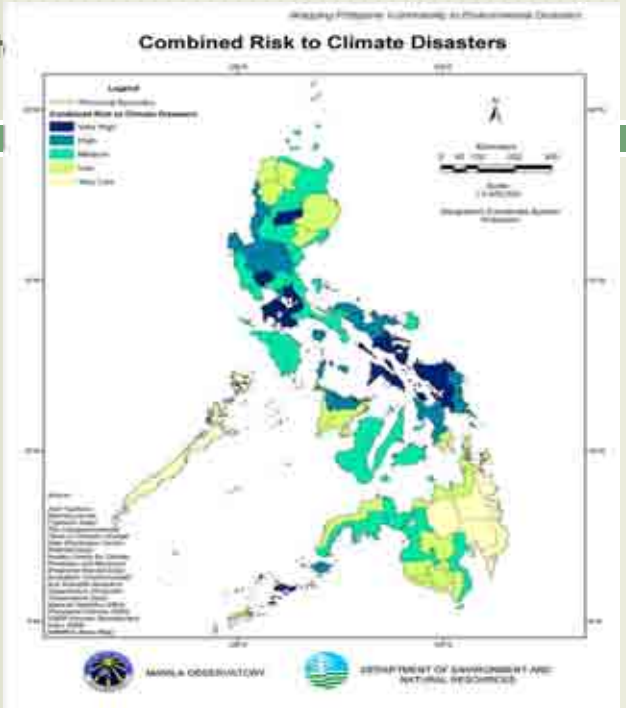
The Philippines ranks among the top 10 countries whose economic activity is most at risk from an intensification of storm surges

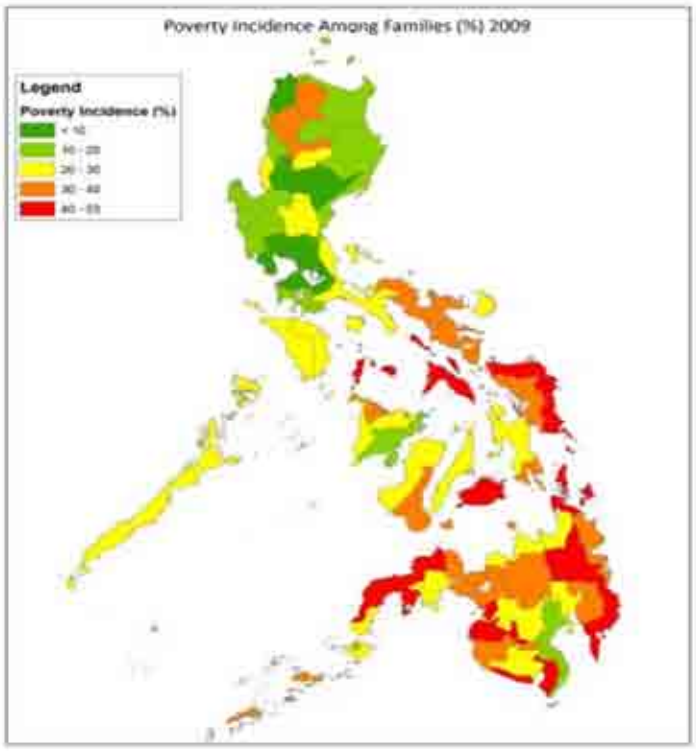
3 cities among the top 25 cities whose population is at risk of storm surges
(Manila (1st), Taguig (23rd), Caloocan (25th)

Out of a larger sample of the 327 largest (i.e., with population above 100,000 inhabitants) coastal cities world-wide most at risk of storm surges, the Philippines contains, by far, the largest number of cities at risk (48), representing 18.3% of global in-cities population at risk (Dasgupta et al, 2009)

Top 20 Provinces at risk to climat related disasters (2000)

1. Albay
2. Pampanga
3. Ifugao
4. Sorsogon
5. Biliran
6. Rizal
7. Northern Samar
8. Cavite
9. Masbate
10. Laguna
11. Batangas
12. Sulu
13. Western Samar
14. Nueva Ecija
15. Tarlac
16. Pangasinan
17. Basilan
18. Metro Manila
19. Camarines Sur
20. La Union





TOP 10 POOREST PROVINCES
NSCB, 2009

1. Zamboanga del Norte
2. Agusan del Sur
3. Surigao del Norte
4. Eastern Samar
5. Maguindanao
6. Zamboanga Sibugay
7. Romblon
8. Masbate
9. Davao Oriental
10. Northern Samar

Addressing the impacts of Climate Change involves the greatest economic and societal transformation

Vision

A climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems.

Goal

To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development

Will there be enough water to drink

Will there be enough

food

NCCAP Objectives

- Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change
- Successful transition towards climate-smart development

National CC Roadmap

Key Result Areas
Food Security
Water Sufficiency
Ecosystem and Environmental Stability
Human Security
Climate-Smart Industries and Services
Sustainable Energy
CC Knowledge and Capacity Development

7 Climate-Smart Outcomes

FOOD SECURITY	Availability, stability, accessibility, affordability, safe and healthy food ensured with climate change.
WATER SUFFICIENCY	Water resources sustainably managed and equitable access ensured.
ECOSYSTEM AND ENVIRONMENTAL STABILITY	Enhanced resilience and stability of natural systems and communities through integrated ecosystem-based management.
HUMAN SECURITY	Reduced risks of the population from climate change and disasters.
CLIMATE-SMART INDUSTRIES AND SERVICES	Climate-resilient, eco-efficient and environment-friendly industries and services developed, promoted and sustained.
SUSTAINABLE ENERGY	SRE and ecologically efficient technologies adopted as major components of sustainable development.
KNOWLEDGE & CAPACITY DEVELOPMENT	Enhanced knowledge on and capacity to address climate change.

Food Security

- **Climate Resilient and Sustainable Agriculture and Fisheries**
- **Climate resilient agricultural and fishing communities**

- Enhanced CC resilience of agriculture and fisheries production and distribution systems
- Enhanced resilience of agricultural and fishing communities to climate change

Water Sufficiency

- **Water Resources Management**
- **Sustainable supply and equitable access to water**
- **Knowledge and capacity development**

- Water governance restructured towards Integrated water resources management in watersheds and river basins.
- Sustainability of supplies and access to safe water ensured
- Knowledge and capacity for CC adaptation in the water sector enhanced

Ecosystem and Environmental Stability

- **Ecosystems and Rehabilitated, Protected and Restored**
- Ecosystems protected, rehabilitated and ecological services restored

Human Security

- **Disaster Risk Reduction and Management**
- **Climate responsive health and social protection service delivery**
- **Adaptive human settlements and population management**
- Integrated CCA and DRR practiced by all sectors at the national and local levels
- Health and social sector delivery systems are responsive to climate change.
- CC-adapted human settlements and population management

Climate-Smart Industries and Services

- **Eco-efficient production**
- **Green jobs**
- **Green cities and municipalities**

- Eco-efficient production adopted by industries.
- Sustainable livelihood and jobs created from green industries and services
- Green cities and municipalities developed, promoted and sustained

Sustainable Energy

- **Energy Efficiency and Conservation**
- **Sustainable Renewable Energy**
- **Environmentally Sustainable Transport**

- Nationwide energy efficiency and conservation implemented
- Sustainable renewable energy development enhanced
- Environmentally sustainable transport promoted and adopted

Knowledge and Capacity Development

- **Knowledge on the science of climate change**
- **National and local capacity development for CCA**
- **CC Knowledge management**

- Knowledge on the science of climate change enhanced.
- Capacity for CC adaptation and mitigation at the national and local level enhanced.
- CC knowledge management established and accessible to all sectors at the national and local levels.

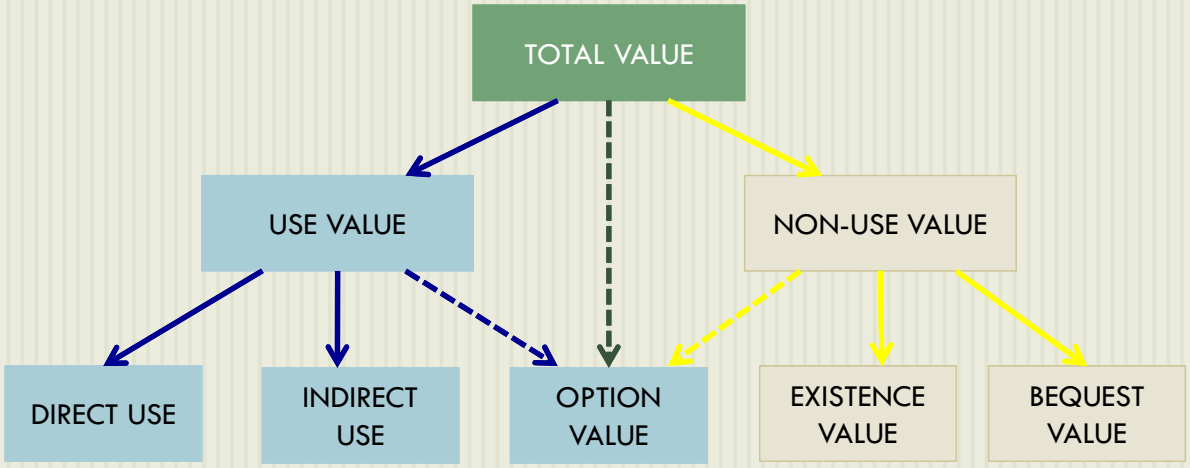
Cross-Cutting Strategies

IEC and Advocacy
Gender Mainstreaming
Technology Transfer
Research & Development

Means of Implementation

Financing	GAA (e.g. CCT, national budget), Climate Financing and ODA, Private Sector, PES
Valuation	Total Economic Value to enable innovative incentives; Natural Resource Accounting
Multi-stakeholder Partnerships	Mechanism of ensuring inclusiveness and buy-in; Encourage Public-Private Partnership
Policy and Planning Mainstreaming	Capacity Assessment and Development

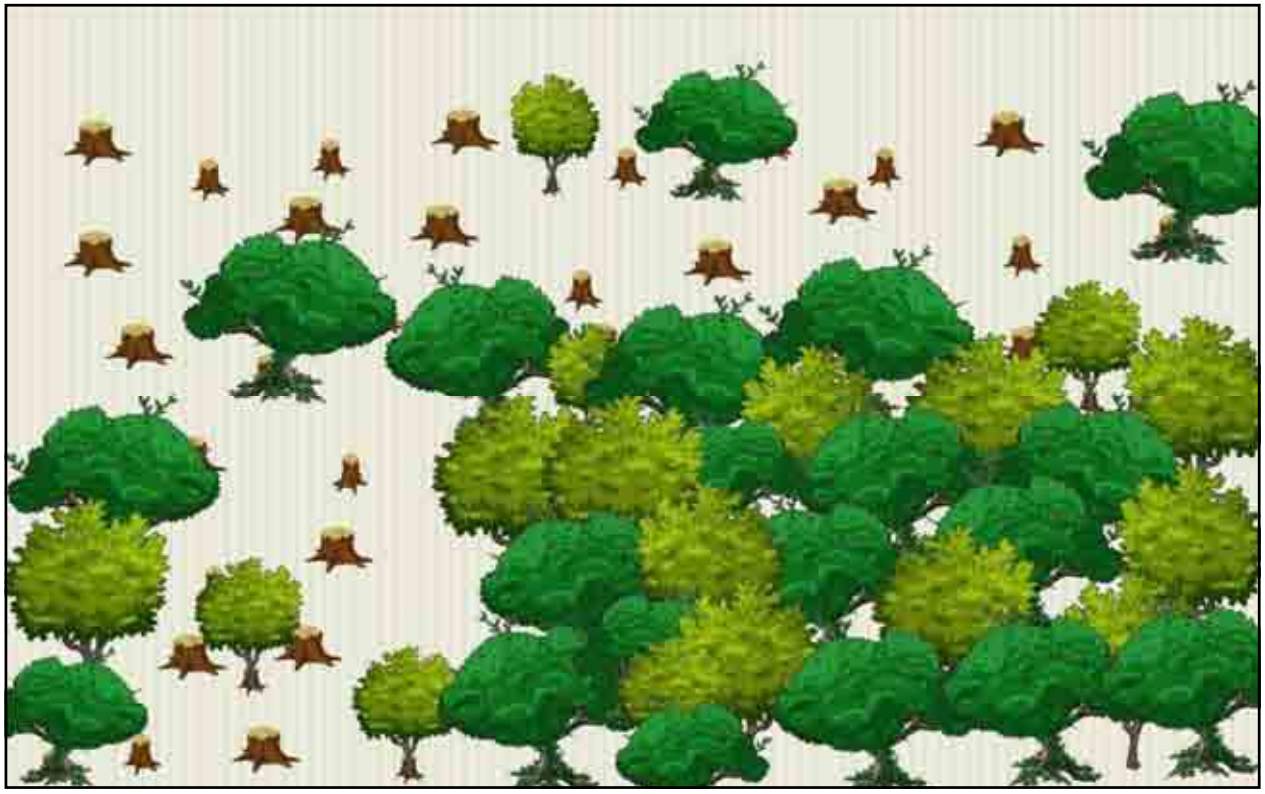
Total Economic Value of Natural Resources

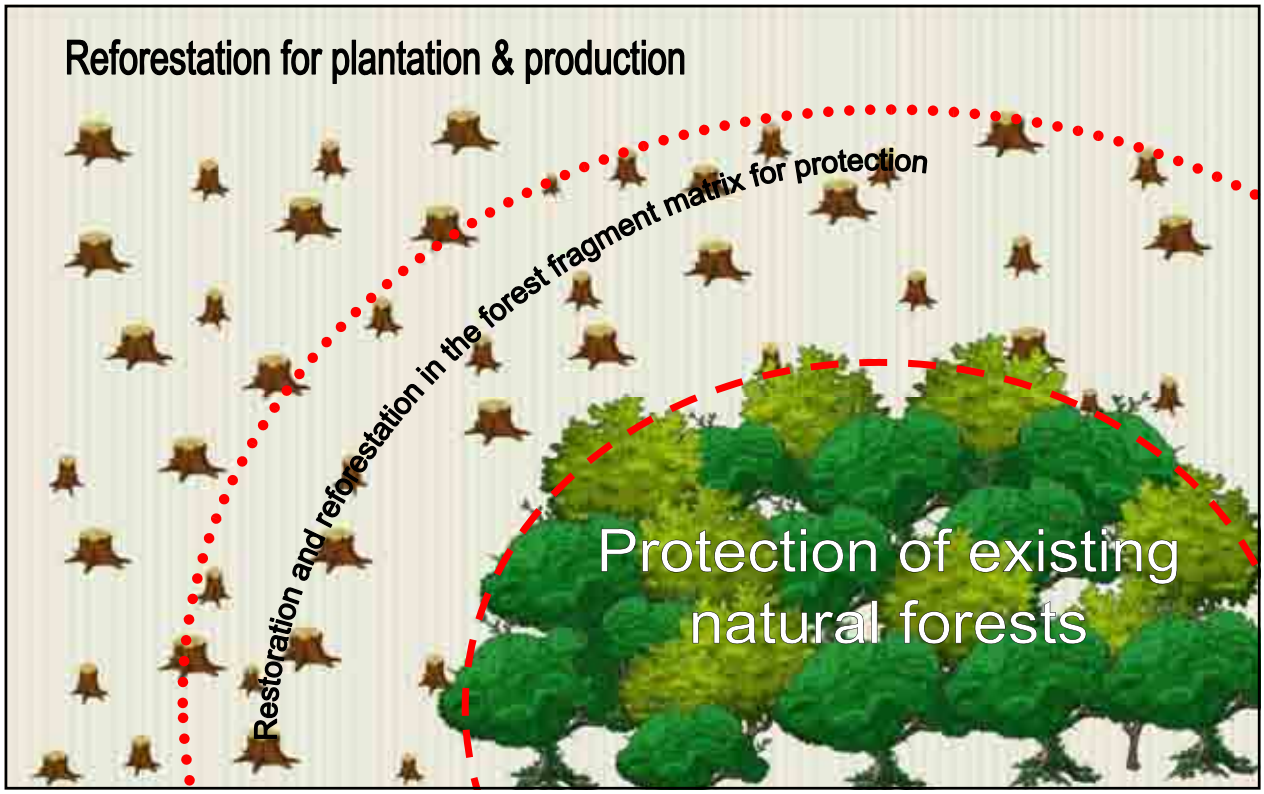


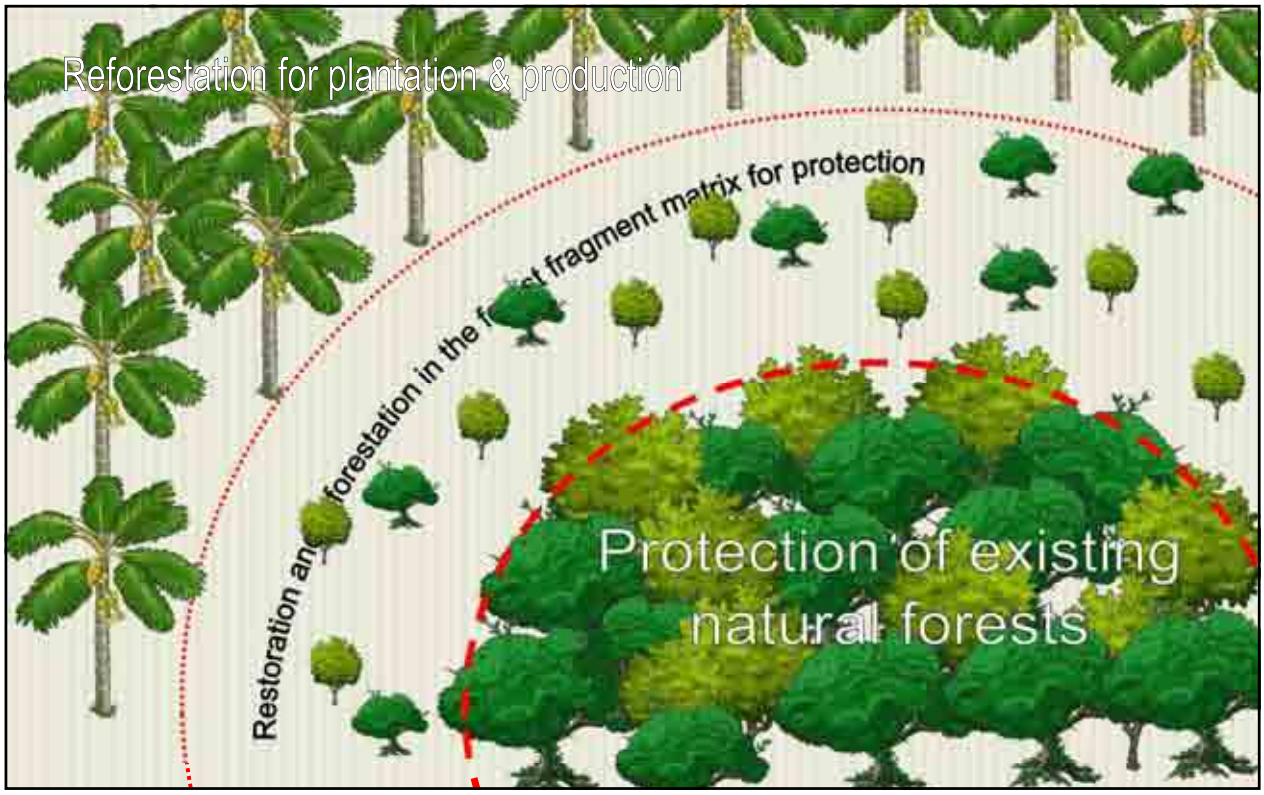
PHL,"Rich" in natural resources; its true value

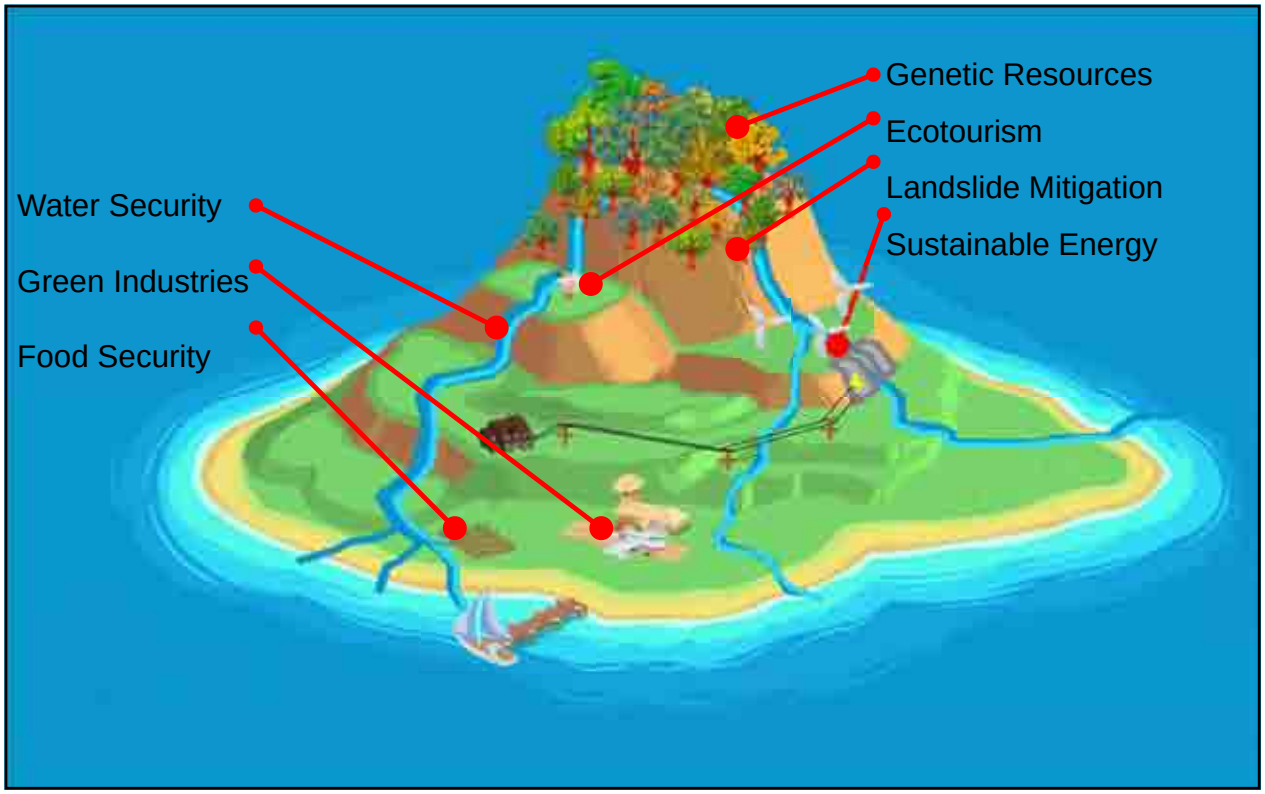
Total Economic Value (**TEV**) appears in environmental economics as an aggregation of the main function based values provided by a given ecosystem. Those include use and non-use values.

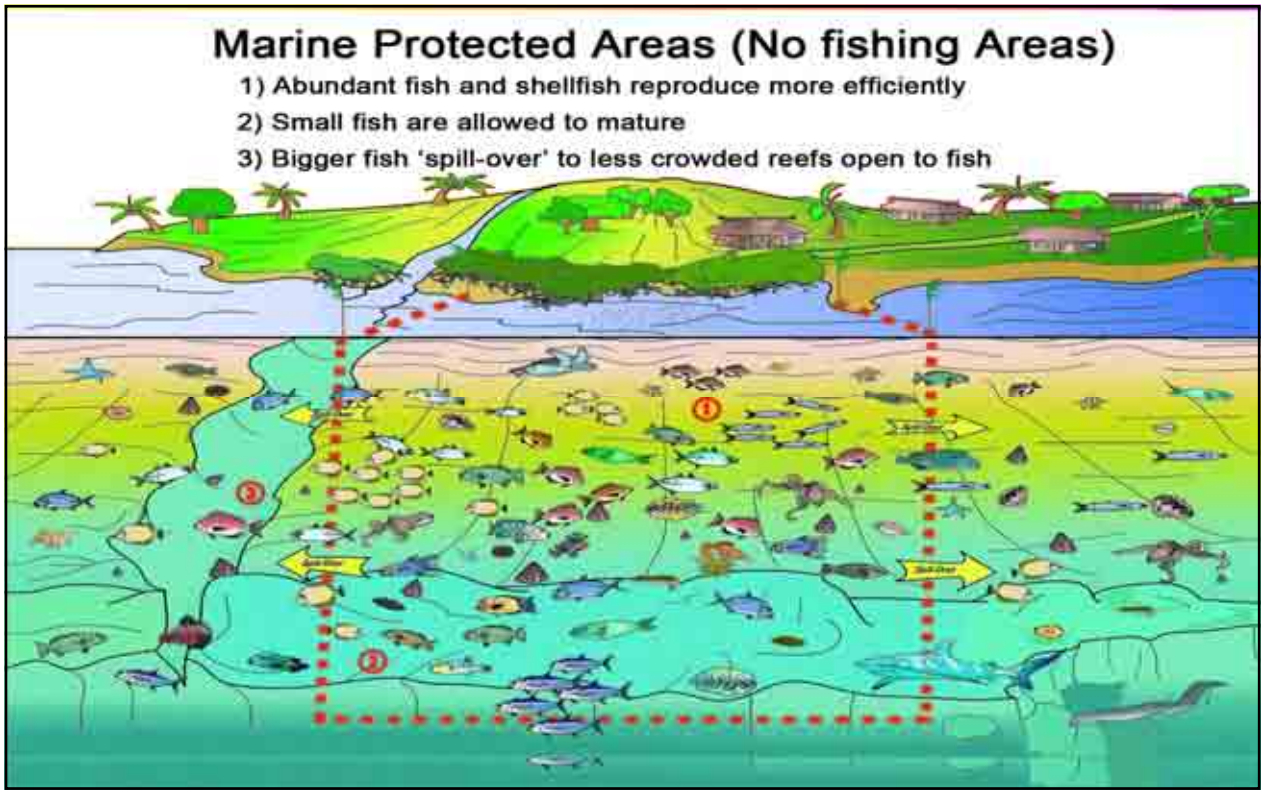
- **Direct USE VALUE:** Obtained through a removable product in nature (i.e. Timber, Fish, Water, minerals).
- **Indirect USE VALUE:** Obtained through a non-removable product in nature (i.e. Sunset, Waterfall, Watershed, Carbon Sequestration).
- **Option Value:** Placed on the future ability to use the environment. This reflects the willingness to preserve an option for potential future use (timber, minerals).
- **Non-Use Value:** Placed on a resource that will never be used, otherwise known as Existence Value or Bequest Value.




Reforestation for plantation & production
Restoration and reforestation in the forest fragment matrix for protection
Protection of existing natural forests


Reforestation for plantation & production
Protection of existing natural forests


Genetic Resources
Ecotourism
Landslide Mitigation
Sustainable Energy
Water Security
Green Industries
Food Security


Marine Protected Areas (No fishing Areas)
1) Abundant fish and shellfish reproduce more efficiently
2) Small fish are allowed to mature
3) Bigger fish 'spill-over' to less crowded reefs open to fish

GREEN GROWTH ENGINES

- Sustainable Energy
- Ecosystem and Environmental Stability

ECO-TOWN

Key Biodiversity Areas

Climate Change is not just an environmental issue.

It is very much a social, economic, and political issue.

Climate Change Adaptation = Pursuing **sustainable** development

we

are **all** here

on a **mission**

A mission to change
the way we look at the future of this country

Crafting the National Climate Change Action Plan … we are all part of a trailblazing endeavor.

"Men occasionally stumble over the truth, but most of them pick themselves up and hurry off as if nothing ever happened."

- Winston Churchill

"You want a **magic key**, so you can go back to watching television tomorrow? **It does not exist**."

-Noam Chomsky

Cmaitle cahgne is an ipmorantt isuse for all of us. Faanciinl, tahcinhcel, and hmaun roserceus shulod be curlfaley mibolezid and allcotead to ensure that our lcoal cmmuotinies, wichh are at the ferofonrt of the baltte angiast cmaitle cahgne, are abel to bluid rsielniece and apadt to the drmaiatc cahgnes tkanig palce.

Aoccdrnig to rsceearch at Cmabrigde Uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoaetnt tihng is that the frist and lsat ltteer be at the rghit pclae. The rset can be a total mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the human mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Yaeh, and I awlyas thought slpeling was ipmorantt. Pterty amzanig, huh?

In the next slide, you will see 6 dolphins

Google

INNOVATION is done by PEOPLE

The solutions are …

in our hands…

Most social, political, economic, and environmental problems are **human behavioral issues**.

Academe, R&D

- Priority on vulnerability and risk assessments
- Immediate and long-term strategies
- Comprehensive education on climate change
- Technology development and diffusion

Important themes

- Resource Valuation
- Indigenous knowledge
- Appropriate Technologies
- Early warning systems
- Localized climate forecasting
- Land use planning
- Financing

Social Policy Advocacy

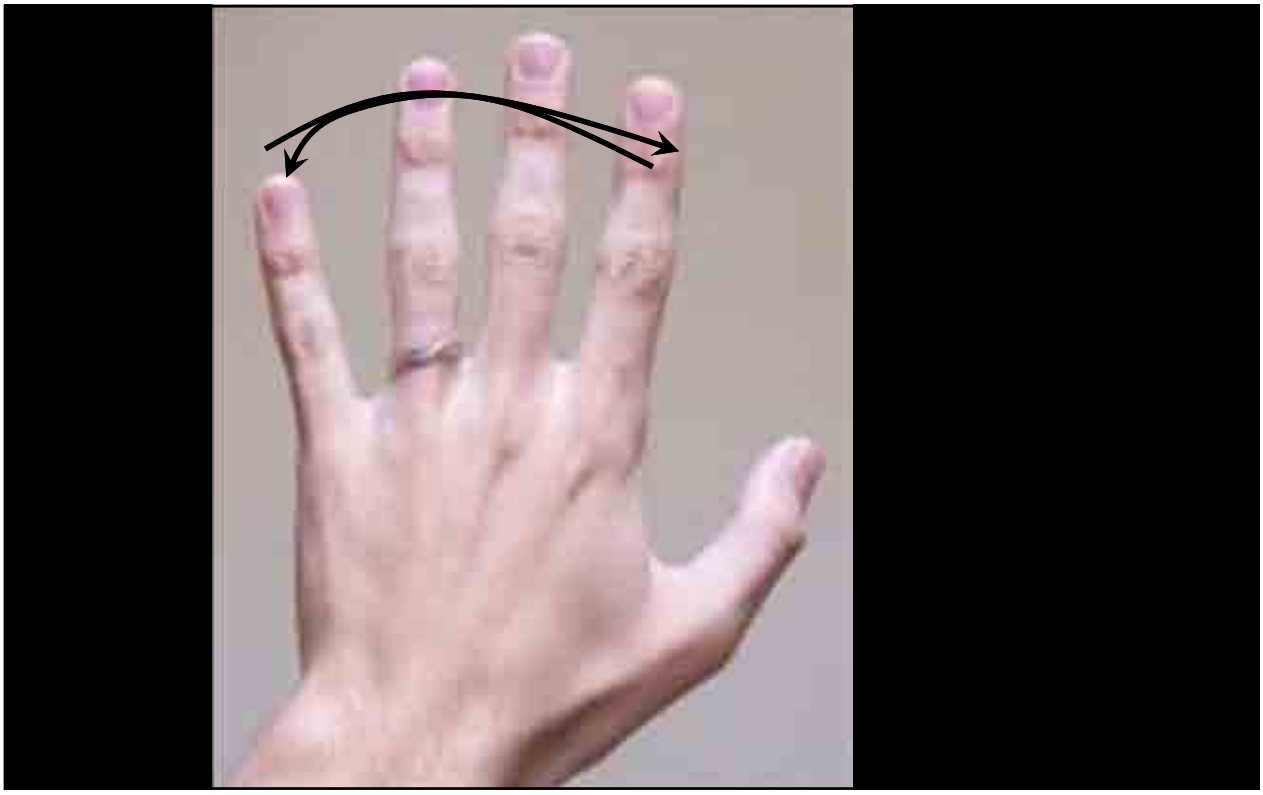
If you want to make changes in the world, you're going to have to be there day after day, doing the tedious, dreary, sometimes mind-numbing, straightforward work… get a couple of people interested in the issue… build a better organization…, carry out the next steps, experience frustration, but eventually getting somewhere

Quick-fixes will never address these critical issues because the struggle against climate change has to be part of the larger fight for a **more just, democratic and equitable world**

There is still time,
but the time is now.

R.S.I.


Tab
Caps Lock
Shift
Ctrl
Alt
Shift
Alt



The Dvorak keyboard

Martha Blackburn, the world's fastest typist uses this keyboard.

Solving the climate change crisis means EMBRACING CHANGE.

Can we **rise** to the **challenge**

Solving the environmental crisis means BUILDING A BETTER NATION.

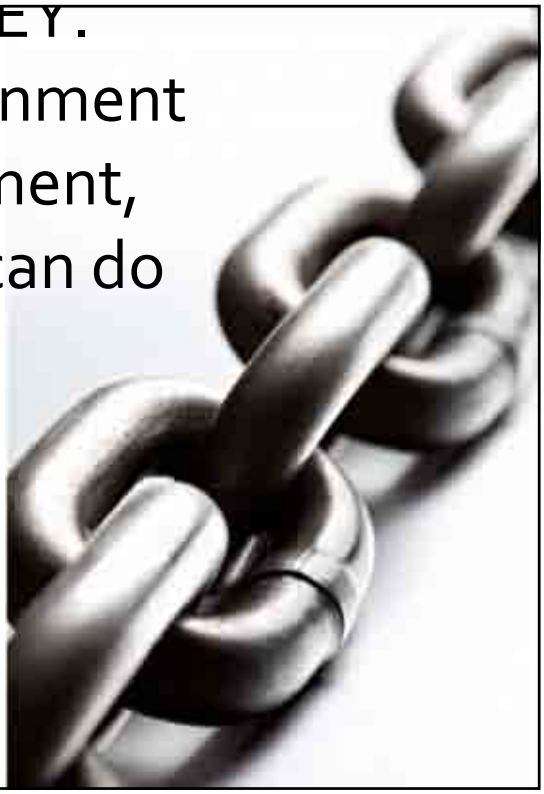
"The people who are crazy enough to **change the world** are the ones who do."

- Apple advertisement

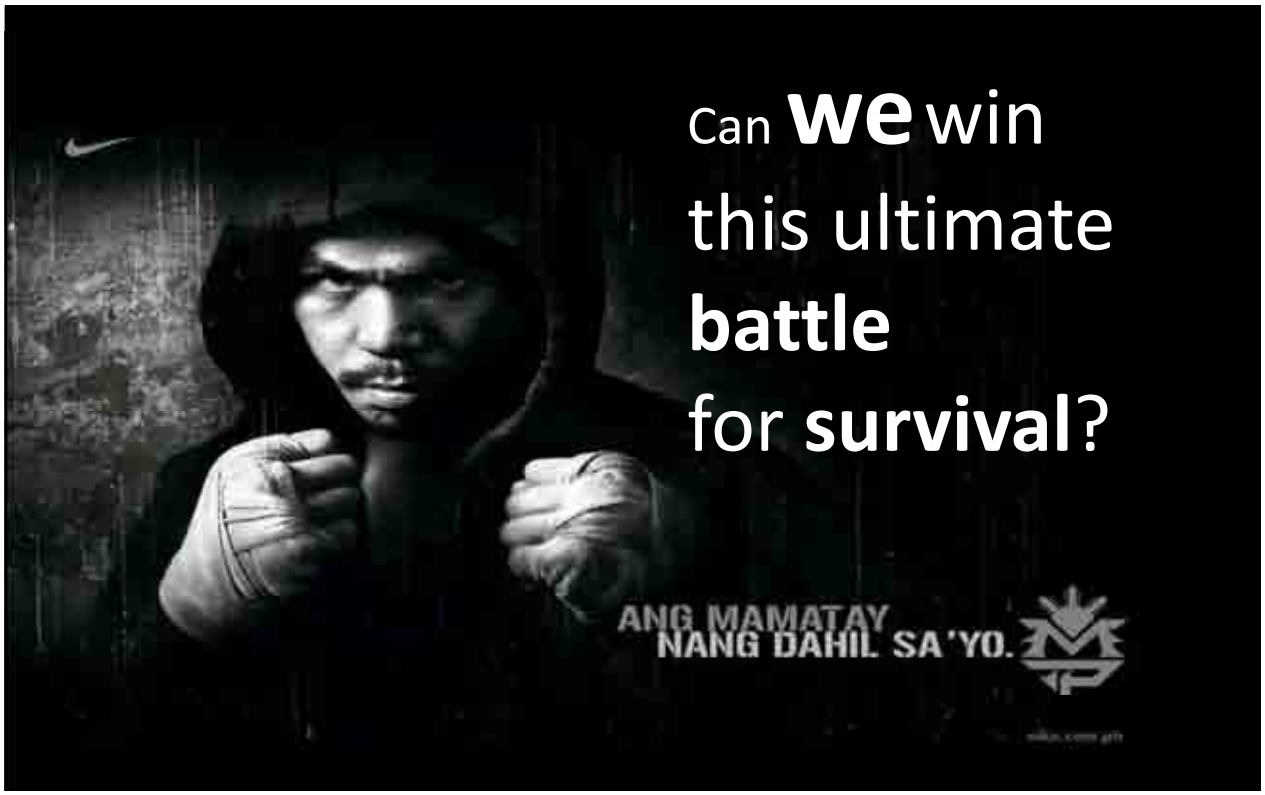
"No power on Earth can stop an idea whose time has come"
- Victor Hugo

PARTNERSHIP IS KEY:

No organization, government agency, local government, academic institution, can do this alone.

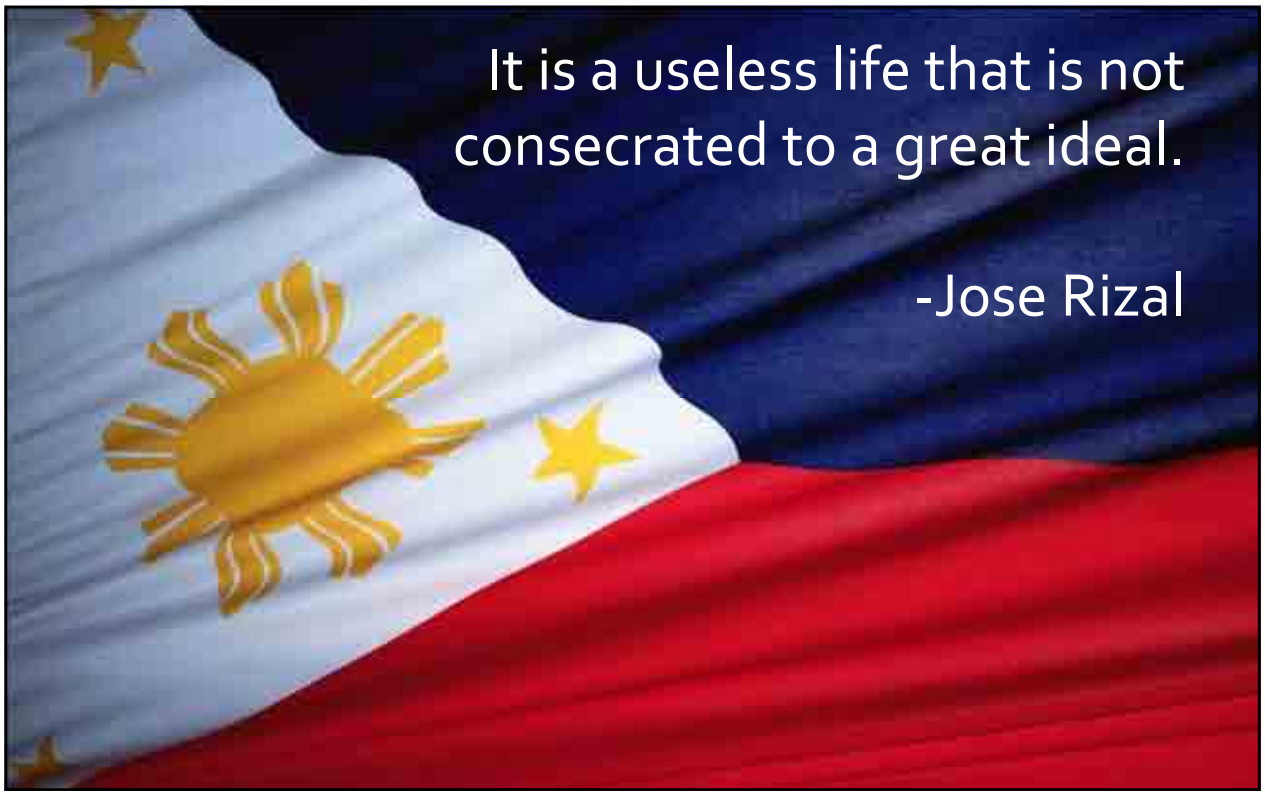


We are at war.



Can **we** win this ultimate **battle** for **survival**?

Together, we can.




Salamat!