



SCIENCE AND TECHNOLOGY INTERVENTION IN THE NATIONAL DISASTER MANAGEMENT PROGRAM

**International Training Workshop on Natural
Disaster Reduction
10-14 May 2010**

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Department of Science and Technology



Presentation Objectives

- To disseminate the S&T intervention efforts & initiatives on disaster management
- To strengthen local and international linkages and expand network among various disaster management entities and stakeholders



Presentation Outline

- NDCC Structure and Program
- DOST Structure
- PCIERD Sectoral Concerns and Priorities
- S&T Disaster Management Initiatives
- Future Thrusts of S&T DM Program



National Disaster Coordinating Council

Philippine Disaster Management Framework

- Mitigation
- Preparedness
- Response
- Rehabilitation



Republic of the Philippines

National Disaster Coordinating Council



National Disaster Coordinating Council

Four (4) Point Action Plan for Disaster Preparedness :

- **Upgrading PAGASA & PHIVOLCS Forecasting Capability**
- **Public Information Campaign on Disaster Preparedness**
- **Capacity Building for Local Government Units in Identified Vulnerable Areas**
- **Mechanisms for Government & Private Sector Partnership in Relief & Rehabilitation**



National Disaster Coordinating Council

NDCC Members

- DND
- DSWD
- **DOST**
- DILG
- DPWH
- DOH
- DepEd
- DA
- DENR
- DOTC
- DOF
- DOLE
- DBM
- DOJ
- DTI
- PIA
- PNRC

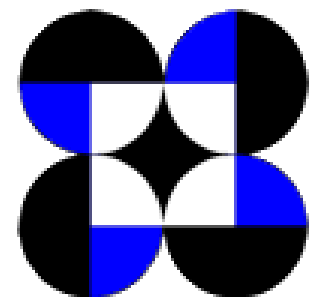




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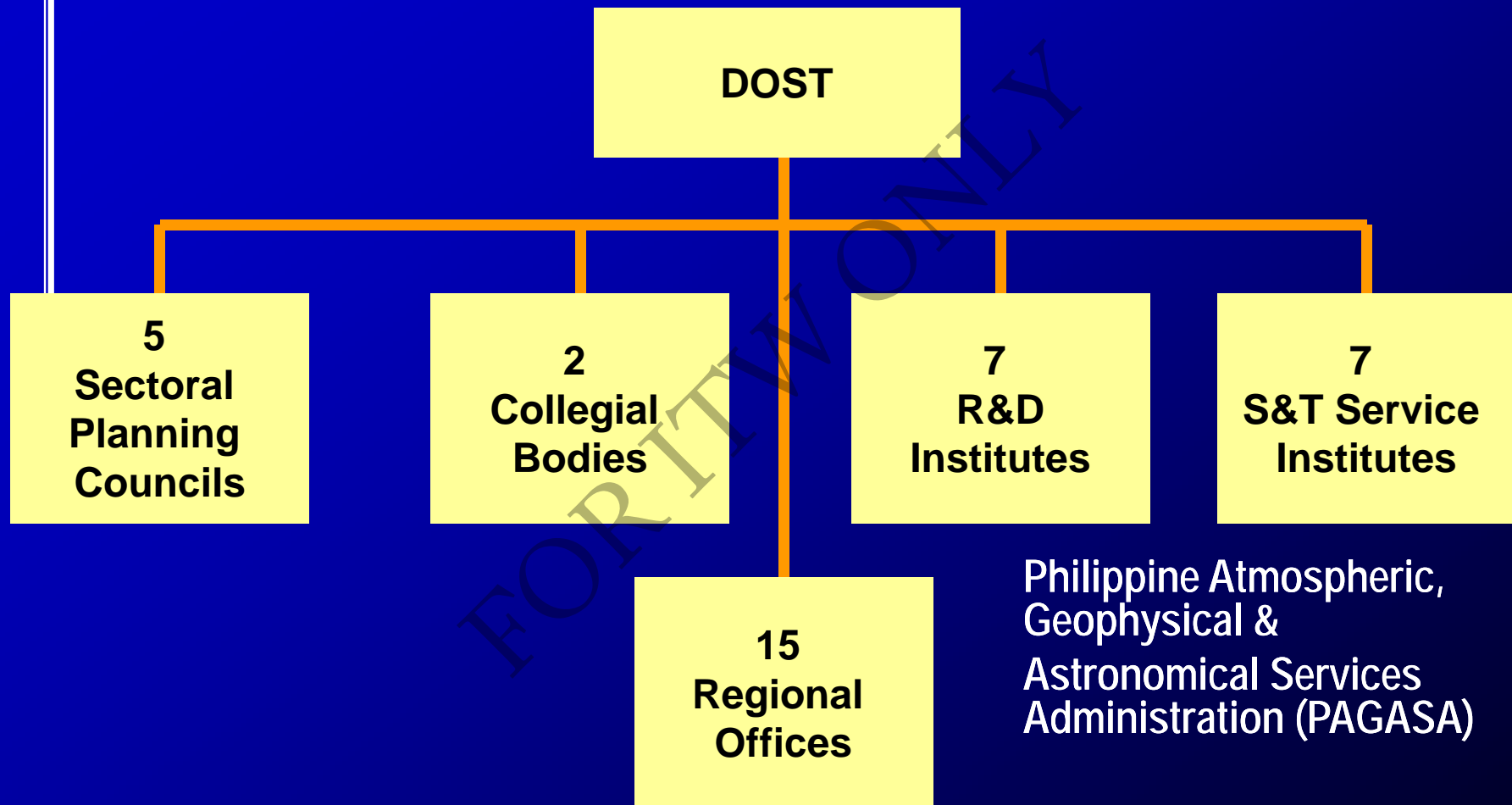
Mandated Function:

- Provide central direction, leadership and coordination of all scientific & technological activities
- Formulate policies, program & projects to support national development





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Philippine Atmospheric,
Geophysical &
Astronomical Services
Administration (PAGASA)

Philippine Institute of
Volcanology & Seismology
(PHIVOLCS)



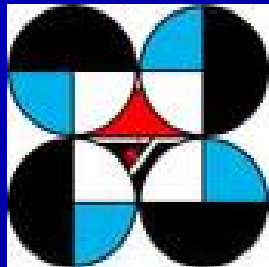


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PAGASA

Provide protection against natural calamities and utilize scientific knowledge as an effective instrument to insure the safety, well-being and economic security of all the people, and for promotion of national progress

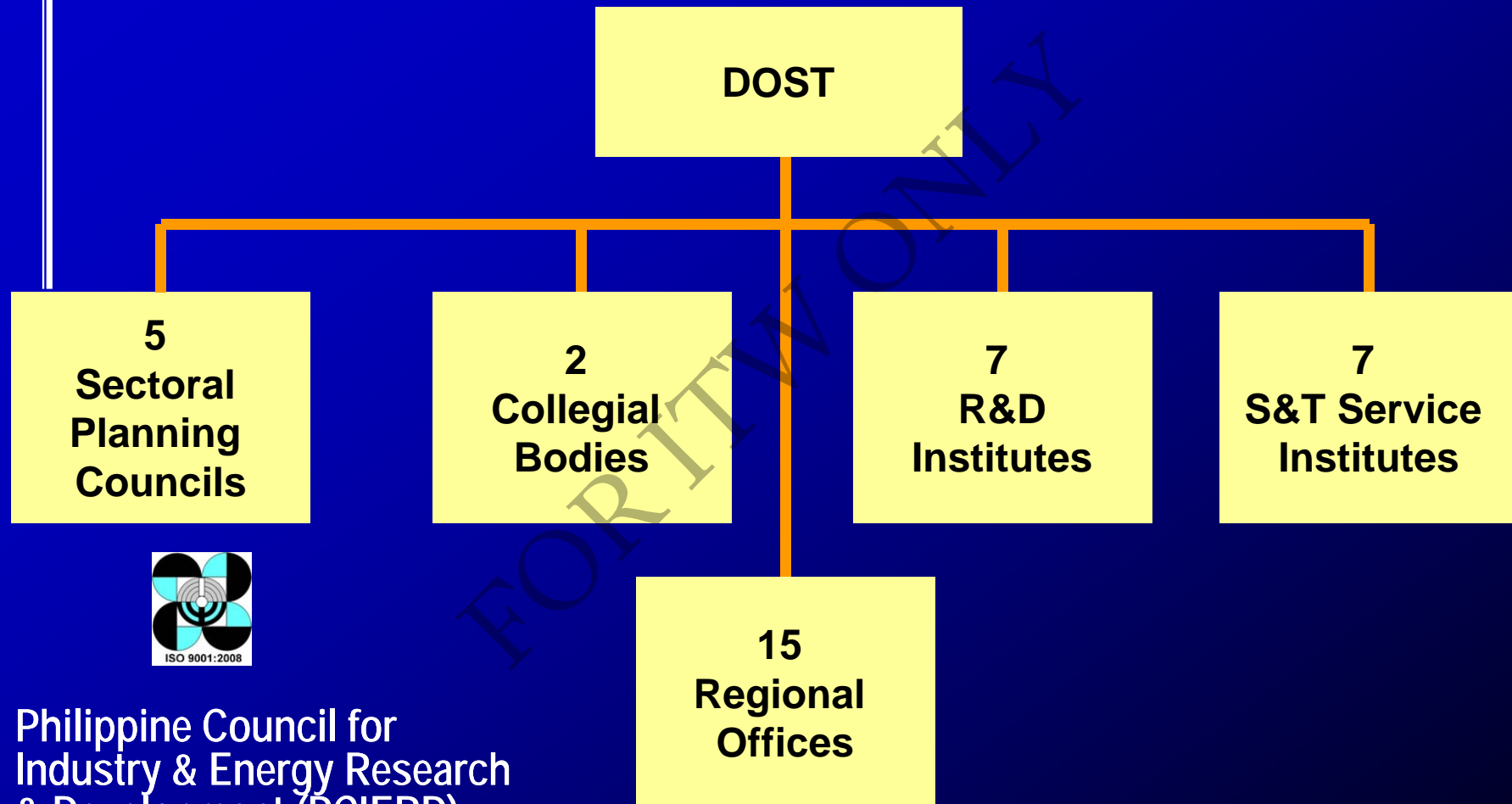


PHIVOLCS

Formulate up-to-date and comprehensive disaster preparedness and loss reduction actions plans for volcanic eruption, earthquake occurrences and related geotectonic processes/phenomena which imprint significant impacts on man and his environment



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& Development (PCIERD)

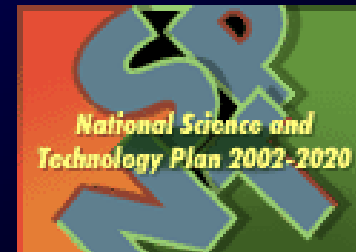
DOST Major Agencies Involved in Disaster Management



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- Formulate strategies, policies, programs and projects for S&T development
- Program, allocate and rationalize government funds for R&D
- Monitor & promote S&T research
- Generate external funds to support R&D Monitor & promote S&T research
- Generate external funds to support R&D





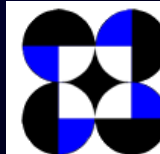
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- Process / Chemicals
- Food and Feed
- Metals and Engineering
- Mining and Minerals
- Energy
- Transportation
- Construction
- Textile and Garments
- Environment
- Disaster Management



Framework Plan Overview





S&T DM Thrusts

S&T Intervention Areas

- S&T Services & Infrastructure
- Human Resource Development
- Research & Development
- S&T Policy
- Network Linkages



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S&T Disaster Management Initiatives

- **Community / Area-Based Meteorological & Observation Network**
 - Heavy Rain-Induced Area Prone to Flashflood
 - River Basin Flood Prone Community
 - Hazard Maps
- **Institutional and R&D Priority Area**
 - Doppler Radar
 - Satellite / Radar Communication Network
 - Unmanned Weather Stations



S&T Disaster Management Initiatives

Completed Projects 2005 - 2008

- Rapid Earthquake Damage Assessment System (REDAS)
- Landslide & Flashflood Critical Threshold Determination & Hazard Mapping
- Typhoon Wind Damage Scale Upgrading
- Flood Susceptibility Assessment
- Aviation Forecast World Area Forecast System
- Application of S-Band Radars for the Improvement of Weather Forecasting



S&T Disaster Management Initiatives

Completed Projects 2005 - 2008

- Landslide and Flashflood Critical Rainfall Threshold Determination and Hazard Mapping
- Establishment of a Community-Based Rainfall Observation Network (CBRON)
- Tsunami Risks Mitigation Program: Project 1
Tsunami Hazard Mapping and Risk Assessment
- Tsunami Risk Mitigation Program: Project 2
Tsunami Education, Awareness Promotion and LGU Capacity Building



S&T Disaster Management Initiatives

Completed Projects 2005 - 2008

- Tsunami Risk Mitigation Program - Project 3: Enhancement of Earthquake and Tsunami Monitoring and Communication Capabilities of PHIVOLCS
- Upgrading Water Level Monitoring facilities for Flood Forecasting and Warning: GOP's Counterpart in PAGASA-JICA Technical Cooperation Project (TCP)
- Enhancement of R&D in Marine Meteorology in the Philippines: "Evaluation of Wave prediction Models for Marine Weather Forecasting & Warning"



S&T Disaster Management Initiatives

On-going projects 2008 – 2009

- Disaster Reduction Through Establishment of Backup Communication and Enhancement of Rapid Tropical Cyclone Impact Assessment and Forecasts Evaluation System
- Establishment of Early Warning System for Disaster Mitigation in the Philippines (KOICA GOP Counterpart)
- GOP's Counterpart in the JICA Grant Aid Project (JICA Grant): Upgrading of Flood Forecasting and Warning System (FFWS) in the Pampanga and Agno River Basins



S&T Disaster Management Initiatives

On-going projects 2008 – 2009

- Strengthening Weather Observational Capability for Natural Disaster Preparedness and Mitigation
- Project Aurora: Bagong Sigla... Kabalikat ay PAGASA Disaster Mitigation through the study of Rainfall Distribution associated with flooding using radar data
- Upgrading of Baguio Radar for Enhanced Early Warning, Weather Forecasting and Typhoon Warning Services



S&T Disaster Management Initiatives

On-going projects 2008 – 2009

- Establishment of Doppler Weather Radar Network to Support Socio-Economic Development in Mindanao
- Enhancement of Weather and Climate Monitoring for Disaster Prevention and Mitigation in Visayas Regions (Cebu Doppler Radar Project)



S&T Disaster Management Initiatives

On-going projects 2008 – 2009

- Development of Nowcasting System for Metro Manila-PGMA Counterpart
- Enabling Communities for the Adoption of Disaster Prevention and Preparedness Measures for Areas Prone to Floods and Rain-Induced Landslides -GOP Counterpart



S&T Disaster Management Initiatives

New Project 2009

- Monitoring the Crustal Deformation Patterns along the Philippine Fault and Cotobato-Sindangan Fault through Global Positioning System (GPS)
- Tephrochronologic Studies in Bicol Region and West Philippine Basin - Project 1
- Tracing the Eastern Philippine arc evolution from Marine and Terrestrial Volcanic Rocks and Ash Records - Project 2
- Influence of large explosive eruptions on primary productivity of Philippine waters (Pacific and Internal seas) - Project 3



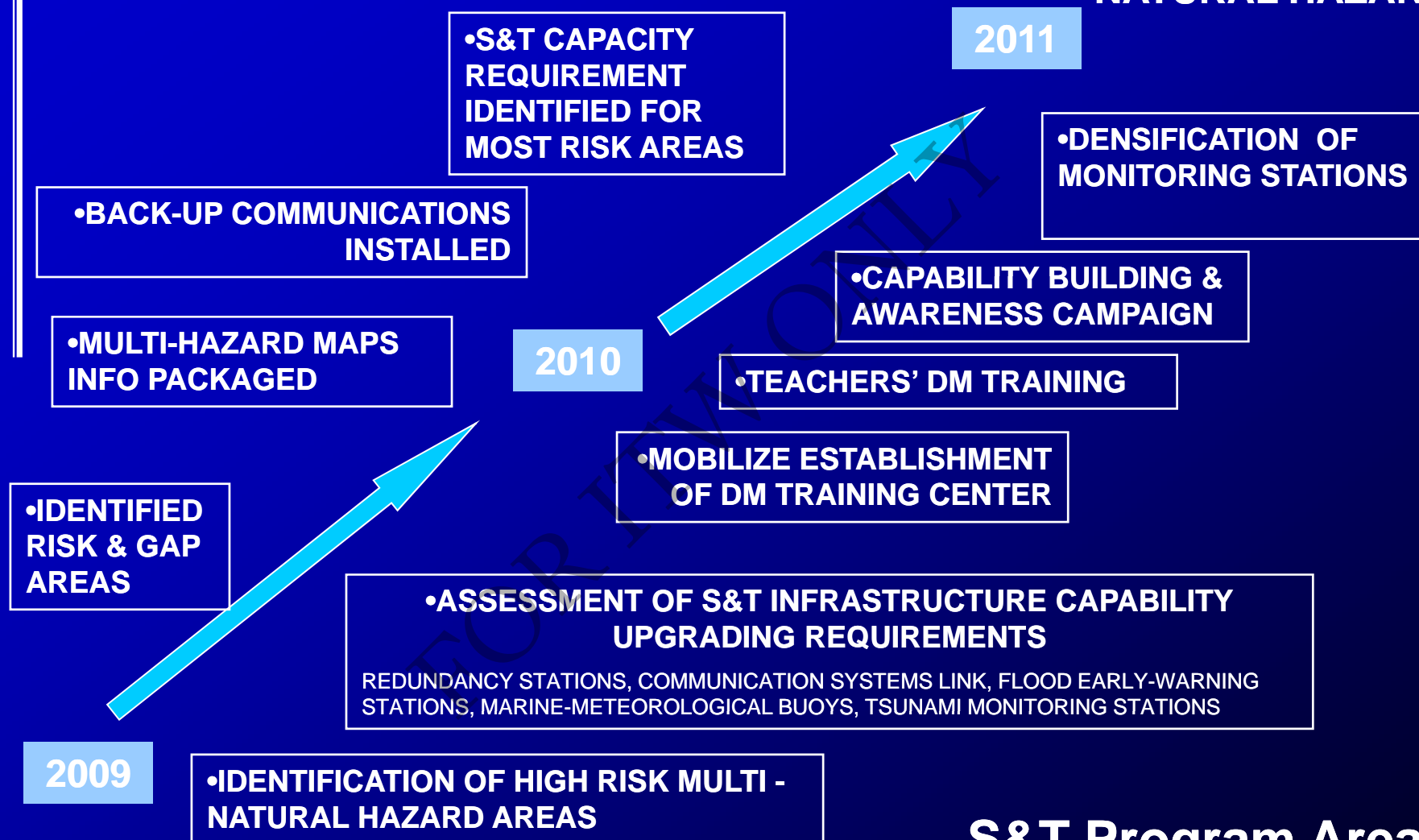
S&T Disaster Management Initiatives

New Project 2009

- Disaster Mitigation Through Enhanced Observation Network Expansion Including Maritime Area
- Extreme Weather Observation Protocol for Provincial S&T Officers
- Enhancement of the Broadcast Capability of PAGASA Through the Full Operation of the Weather and Disaster Alert System in Visayas Region
- Enhancing Communities' Capacity to Confront Extreme Geo-Meteorological Events at the Core of Climate Change



Tangible Outputs



**AN S&T CAPACITATED
COMMUNITY ADAPTED TO
NATURAL HAZARDS**

S&T Program Areas



DISASTER MANAGEMENT S&T INTERVENTION PATH





Thank You!!

www.pcierd.dost.gov.ph