

台菲氣候變遷專家論壇



服務機關: 行政院國家科學委員會

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出國期間: 99年04月06日至99年04月09日

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1 目的：台菲氣候變遷專家論壇

時間： 2010年04月06日至2010年04月09日

地點： **Dusit Thani Hotel, Makati**

團長： 陳副主委正宏（國科會副主任委員）

團員： 國合處承辦人陳禹銘

依據民國98年9月16日之第二屆台菲部長級科技會議決議，台菲將於本(99)年4月間於菲律賓馬尼拉舉辦「台菲氣候變遷專家論壇」。國科會有陳副主委率學者團與會，論壇主要針對三個主題進行探討，分別為 (a) Climate Change Adaption、(b) Climate Change Mitigation、(c) Observation, Monitoring and Scenario Projection。

雙邊學者再針對上述三個主題下探討溝通後，預期可以辨識出相關共同研究議題及可合作之計畫。同時也希望透過論壇的方式讓台菲雙邊學者可以有機會進一步的認識及交流。

國科會陳副主委正宏這一次也藉由「台菲氣候變遷專家論壇」近一步的與菲律賓的科技部高層，包含菲國科技部部長 Alabastro, 次長 Yumul 及菲律賓大學校長 Emerlida Roman 交流。此外也同時拜會菲律賓氣象局(PAGASA)，Philippine Institute of Volcanology and Seismology (PHILVOCS Center - 火山與地震研究所)。

2 2010 Climate Change Technical Expert Forum Photos





3 氣候變遷議程

3.1 4月7日議程

8:00 ~ 9:00	Registration
9:00 ~ 9:45	Opening Ceremony Welcome Remarks Amb. MECO, Opening Remarks Amb. TECO, Messages Deputy Minister CHENG-HONG CHEN, UnderSEC. Yumul
9:45 ~ 10:00	AM Snack
10:00 ~ 10:30	Climate Change: Philippine Context FLAVIANA HILARIO PAGASA
10:30 ~ 11:00	Climate Change in Taiwan SHAW-CHEN LIU Research Center for Environment Change, Academic Sinica
11:30 ~ 12:00	Climate Change Modeling Scenario PAGASA
12:00. ~ 13:00	Lunch Break
13:00 ~ 13:30	Climate Change Projection CHENG-TA CHEN National Taiwan Normal University Downscaling the IPCC AR4 Future Climate Projection over Asia
13:30 ~14:30	Disaster Reduction Vulnerability Study GLENN J. RABONZA National Disaster Coordinating Council
14:30 ~ 15:00	Disaster Reduction and Vulnerability Study LIANG-CHUN CHEN National Center for Disaster Reduction
15:00 ~ 15.15	PM Snack
15:15 ~ 15:45	Public Health EDUARDO C. JANAIRO Department of Health
15:45 ~ 16:15	Public Health HUEY-JEN SU National Cheng-Kun University
16:15 ~ 16:45	Water Resource ISIDRA PEÑARANDA National Water Resources Board
16:45 ~ 17: 15	Early Warning System YIH-CHI TANG National Taiwan University
18:00 ~ 20:00	Dinner

3.2 4月8日議程

8:30 ~ 9:00	Sustainable Development ANTONIA Y. LOYZAGA Manila Observatory
9:00 ~ 9:45	KUO-YING WANG National Central University PGGM: Pacific Greenhouse Gases Measurement Project
9:45 ~ 10:15	Environmental Adaptation PORFIRO ALEXANDER M. ALIÑO University of the Philippines – Marine Science Institute
10:15 ~ 10:30	AM Snack
10:30 ~ 11:00	Shin-Cheng YEH National Taiwan Normal University TBD
11:00 ~ 11:30	Energy and Technology NUNA E. ALMANZOR Industrial Technology Development Institute
11:30 ~ 12:00	Energy and Technology FANG-HEI TSAO Industrial Technology Research Institute
12:00 ~ 1:00	Lunch Break
13:00 ~ 15:00	Focus Group Discussion: Areas for Future Collaboration TECO-MECO S&T Cooperation Overview Observation, Monitoring and Scenario Projection Adaptation Strategies Mitigation Strategies
15:00 ~ 15.15	PM Snack
15:15 ~ 15:45	Observation, Monitoring and Scenario Projection
15:45 ~ 16:15	Adaptation Strategies
16:15 ~ 16:45	Mitigation Strategies
16:45 ~ 17: 00	Closing Remarks (NTU)
18:00 ~ 20:00	Cocktails

4 航程資料

出發日	2010年4月6日 (星期二)
回程日	2010年4月9日 (星期五)
旅館	Dusit Thani Hotel, Makati
班機	中華航空
4月6日出境	中華航空 <u>CI703</u> (第一航站) 16:10 出發：桃園國際機場 18:10 抵達：馬尼拉
4月9日入境	中華航空 <u>CI702</u> (第一航站) 10:35 出發：馬尼拉(MNL) 12:35 抵達：桃園國際機場

表 1: 中華航空航線資訊

5 心得與建議

本次「台菲氣候變遷專家論壇」分別以三個主題進行探討: (a) Climate Change Adaption、(b) Climate Change Mitigation、(c) Observation, Monitoring and Scenario Projection。台菲專家分別於這三個主題下探討雙邊可能合作的方向及題目,並於每一個主題下各辨識出一位聯絡窗口(細節如下)。後續這些成果將會透過台菲雙邊計劃公告落實,積極促成雙邊於氣候變遷議題下落實區域性合作。

Climate Change Adaptation

Climate Change S&T Current Initiatives & Future Direction

Philippines	Taiwan
Geologic investigation, Geohazard mapping	Geohazard map (contamination and envi. Infrastructure) Information Distribution, Scholarships,
Susceptibility Assessment (tools)	Capability building in collaboration with the Phil. Capability building of LGUs
Vulnerability and Impact Assessment, Capacity building	Emergency response plan mandated to all schools (trainings)
Research, Data gathering	Risk Assessment, ITGP
Environment & Health, component of the national unified health research agenda	Geohazard mapping (flooding and landslides)
Disaster risk management plans, Capability building of Local Government Units	Disaster Risk Management
Value systems	

Possible S&T Cooperation Areas

Project Area	S&T Mode of Cooperation	Interested Institutions	
		Philippines	Taiwan
Climate Change Risk Studies			
- Risk Assessment	Data sharing (satellite images)	PCARRD	NTU, NCU, NCKU,
- Capacity Building		PCIERD	Academic Sinica,
- Risk Communication	Intensive Training Courses on all levels	PCASTRD	NTNU, NCDR,
- Flood and Drought		PCAMRD	Water Resources Agency (WRA), Central
- Socio-economic impacts	Exchange of Human Resources	PCHRD	Geological Survey (CGS), Soil
- Risk Management		NRCP	Conservation Bureau (SCB)
	Joint Research	HEIs	

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Climate Change Mitigation

Climate Change S&T Current Initiatives & Future Direction

Philippines	Taiwan
Biomass Energy Utilization - ricehull gasifier	
Biodiesel Plantation - microalgae varietal selection - jatropha -	Biodiesel from Used Cooking Oil, Microalgae (by-product utilization)
Bioethanol from biomass residues -	Bioethanol from Cellulose Materials
Biofuel from Different Feedstock Life Cycle Assessment	Biofuel Life Cycle Assessment from Used Cooking Oil
Biogas from Swine Wastes Biogas from Landfill Industrial Waste Water Treatment (Biogas Capture)	Biogas from Swine Wastes
Marine Current Energy Resource Assessment	Marine Current, Tidal & Wave Resource Assessment & Technology Development
Pyrolysis of Waste Plastics for synthetic fuel production	Refuse-derived fuel (Municipal & Industrial Wastes – pelletized fuels) Small Scale Pyrolysis System
Decentralized/Distributed PV Systems	Solar PV Development (new/raw material development)
Fuel Cells (Ethanol PEM)	Fuel Cell Development (natural gas, LPG) for Back-up and Supplemental Power
Energy efficiency technologies - Commercial building/households energy savings technology	Light Emitting Diodes (LED) efficiency improvement - light source design - lighting fixtures

<ul style="list-style-type: none"> - Automation & System Analysis - Efficient Lightning System 	
Micro/Pico-hydro power systems	
Carbon Sequestration (Indigenous Tree Farming)	Carbon Sequestration – National Consortium (Private Sector)
Geo-sequestration through CO2 storage/recycle (In-land & Off-shore Basins)	
Renewable Energy Hybrid System	
Solar Thermal Drying System	
In-situ Wind Resource Assessment	Wind energy – off shore installation Wind Resource Assessment & In-situ/Micro Siting Assessment
	Hydrogen Production (Direct H2O Splitting) Hydrogen Filtration (Separation Materials)

Possible S&T Cooperation Areas

Project Area	S&T Mode of Cooperation	Interested Institutions	
		Philippines	Taiwan
Community Scale Energy Modeling for Optimal Energy Mix	Exchange of experts, capacity building	FEATI, DHVTSU, URS	NTNU
Biofuel feedstock LCA Modeling	Experts Forum, Technology Information Sharing, Capacity building	DOST-PCIERD	ITRI, NSC (to identify relevant universities)
Biogas from Swine Waste	Technical Information Exchange, Study visits	ITDI, URS, DHVTSU	NSC (Pingtung University of Technology)
Refuse-Derived Fuel (RDF)	Technology Transfer, Demonstration Plant	ITDI, DHVTSU	ITRI

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Observation, Monitoring & Scenario Projection

Climate Change S&T Current Initiatives & Future Direction

Current Initiatives :

Philippines	Taiwan
Enhancement of observation/Climate Monitoring <ul style="list-style-type: none"> • Usage of AWS and Doppler Radars for extreme weather monitoring • Training program for PAGASA 	Central Weather Bureau National Taiwan University
Atmospheric monitoring using remote sensing technology for climate change, Formosat-iii, laser technology De La Salle University	National Central University and Academic Sinica
Developing downscaling technique for climate change projection for the Philippines PAGASA	National Taiwan Normal University
Projection of changes in future weather extremes in the Philippines PAGASA	NCDR/NCU/NTNU/NTU

Possible S&T Cooperation Areas

Project Area	S&T Mode of Cooperation	Interested Institutions	
		Philippines	Taiwan
Satellite and laser remote sensing techniques	Joint-Proposal/visitor program	De La Salle U	NCU
Doppler weather radar application on extreme weather monitoring	Training/visitor program	PAGASA	CWB/NTU
Downscaling	Joint-Proposal/visitor	PAGASA	NTNU

techniques development	program		
Climate projection modeling technique	Joint-proposal/visitor program	PAGASA	NCDR

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