

United Nations Regional UN-SPIDER Workshop: Building Upon  
Regional Space-based Solutions for Disaster Management and  
emergency Response for the Pacific Region

---

16-19 September 2008, Suva, Fiji

**ESCAP's New Priority in  
Disaster Risk Reduction**

*WU Guoxiang*

*Section Chief*

*Information & Communication Technology and  
Disaster Risk Reduction Division  
UN ESCAP*

---

# DRR as an ESCAP new priority

---

- Frequent disasters has lagged socio-economic development and poverty reduction efforts in A-P region
    - **2006 statistics**
      - 74% of over 21,000 causalities in the world
      - 8 ESCAP members were ranked in top 10
    - **2008 most catastrophic disasters in the world**
      - Cyclone Nargis -- early May in Myanmar:
        - Estimated more than 20,000 dead
      - Wenchuan Earthquake -- 12 May in China
        - Near 89,000 dead or missing
  - DRR becomes a major regional issue
  - ESCAP resolution 64/1 in May 2008
    - **Established two subsidiary committees**
      - Information and Communication Technology
      - Disaster Risk Reduction
  - Previous Information, Communication and Space Technology Division was restructured as ICT & DRR Division
-

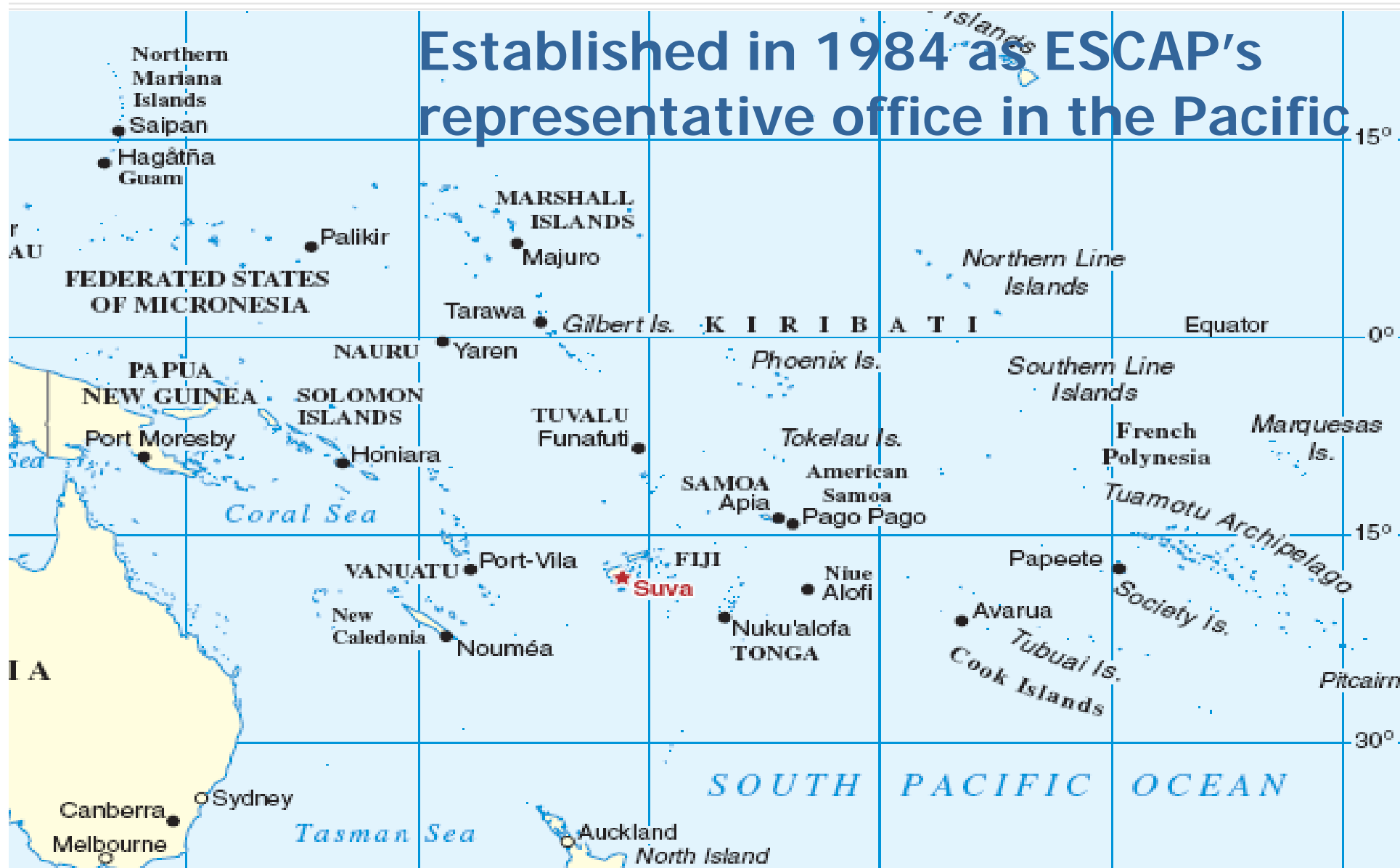
# ESCAP Strategic objectives in DRR

---

- Increased sharing of knowledge among ESCAP member States on policy options, strategies and best practices for integrating multi-hazard disaster risk reduction into national development
  - Strengthened regional cooperative mechanisms supporting disaster management
    - To be started from space based information tools
    - To be expended to other technical fields
  - Improved capabilities of ESCAP member States for multi-hazard assessment, preparedness, early warning and response to disaster risks
  - ICT applications for disaster risk reduction
-

# ESCAP Pacific Operations Centre (EPOC)

Established in 1984 as ESCAP's representative office in the Pacific



# Major functions of EPOC

---

- Channels ESCAP assistance to Pacific island developing countries
    - Major assistance activities are implemented by Bangkok-based divisions
  - Assists Pacific island developing countries in
    - conducting research on economic and social issues
    - promoting regional cooperation
    - providing regional advisory services
    - building institutional capacity
  - Disaster risk reduction is considered an important requisite for sustainable development in the Pacific island development countries
  - More information at [www.escap.org/epoc](http://www.escap.org/epoc)
-

# DRR information management

---

- Effectiveness of disaster management relies greatly on effectiveness of management of relevant information
    - Integration of multi-hazard information
    - Integrating with knowledge and decision supporting tools
    - Basic requirement for
      - All stages of multi-hazard management
      - Integrating DRR with development regime
  - Relevant capacity should be built at different levels
    - National information system covering local levels
      - Background information and decision supporting tools
    - Multi-hazard information accessing
      - Regional to local levels, even to communities
    - Support emergency responses
      - From global to local level, even community level
  - Space technology provides some indispensable tools
-

# Example space technology applications during response to Wenchuan Earthquake in China

## ➤ Facts of 12 May 2008 Richet-8

- ❑ Fault > 300 km, 100,000 km<sup>2</sup> affected
- ❑ 11 mil. m<sup>2</sup> building totally collapsed
- ❑ ~ 89,000 dead and missing, >370,000 injured
- ❑ 15 million displaced, 46 million directly affected
- ❑ 30 hours no communication with mostly impacted areas

## ➤ 120 satellite image derived maps and reports provided

- ❑ From highest decision making to field actions
- ❑ 1,300 satellite images from 23 satellites, including 270 from 17 foreign satellites (120 via the Charter)

## ➤ Satcom crucially supported rescue and mitigation actions

- ❑ 2,300 satellite mobile handsets, 1,394 IDR & VSAT terminals and 133 emergency vehicles deployed

# Addressed by relevant conferences

---

- **World Conference on Disaster Reduction, Jan. 2005, Kobe, Japan**
  - **Promote application and affordability of information, communication and space-based technologies and related services, particularly for sharing and dissemination of information among different categories of users.**
  
- **Asian Ministerial Conference on Disaster Reduction**
  - **First Sept. 2005, Beijing, Second Nov. 2007, New Delhi**
  - **Third planned for December 2008 in Kuala Lumpur**
  - **Requested to enhance regional cooperation on development of technical supporting systems at regional and sub-regional levels**

**While all space capable countries have made offers**

**Could the practice in meteorological satellite services be replicated from the Asia-Pacific region?**

---

# ESCAP efforts made on space information tools

---

- Through Regional Space Applications programme (RESAP)
    - Easy access to space information products and services
    - Effective uses of space information/communication and relevant decision supporting tools
  - Major modalities
    - Studies on policy frameworks
      - Regional cooperation on space technology supported disaster management
      - Space information products and services for disaster management
    - Promotion of regional cooperative mechanisms
      - Towards regional technical supporting platform
    - Harmonization of supportive initiatives
      - A common platform for agreed products and services
    - Training and education
-

# Positive initiatives

---

- Major regional cooperation initiatives
    - Asia-Pacific Regional Space Agency Forum (APRSAF)
      - Sentinel-Asia => Second phase
        - Value-added products
        - Use of WINDS satellite for information delivery
    - Asia-Pacific Multilateral Cooperation on Space Technology and Applications (AP-MCSTA) => APSCO
      - Satellite constellation for disaster monitoring
  - Other supporting initiatives
    - UN Platform for Space-based Information for Disaster management and Emergency Response (UN SPIDER)
    - International Charter on Space and Major Disasters
    - Regional drought disaster monitoring and early warning mechanism
    - Other initiatives – SAARC, SOPAC
-

# Regional cooperative mechanisms

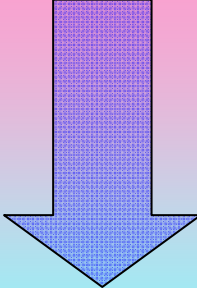
---

- To create a scientifically sound, diplomatically acceptable and politically relevant

## Harmonized DRR supporting platform

- To assist less capable countries'
    - Easy access to and affordable use of space information products and services, and decision supporting tools
    - For effective use of space information for disaster risk reduction
  - Currently : start from emergency response
  - Future: other disaster management stages
    - Monitoring and early warning
    - Risk assessment, mitigation planning and preparedness
-

# Interim P/S for local service providers

Partners	Technical resources	Remote sensing satellite data		Products and services
<b>Major service providers</b>	Application models and methodology	System-corrected images		Primary P/S
			Information extracted Images or thematic maps	<b>Appropriate Interim P/S</b>
<b>Local service providers</b> <small>(including technical supporting team of end users)</small>	Locally available information	Information extraction by Capable LSP	Other processes by-less capable LSP	
<b>End users</b> <small>from central to field levels</small>	User systems and practices	Decision supporting information		<b>Final P/S</b>
		Used with other information and decision supporting tools		

# Modalities of the mechanisms

---

- ❑ Data distribution policy of contributory parties
  - ❑ Policy of beneficiary parties for integrating space component with DRR strategy and practice
  - ❑ Networking information providers, local service providers and disaster management authorities
  - ❑ Service delivery channels
  - ❑ Development and sharing of operational models
  - ❑ Agreement of sets of products and services to be provided through the platform
  - ❑ Extension of national services to less capable countries
  - ❑ Policies for its sustainability
  - ❑ Assisting less capable countries' national institutional arrangement and identifying minimum technical capacity needs
-

# ESCAP cooperates with UN SPIDER

---

- **Development of UN SPIDER regional components in A-P region**
    - **As part of regional disaster management technical supporting system**
    - **Institutional arrangement among space information providers, local service providers and disaster managers**
  - **As regional supports UNSPIDER implementation**
    - **Identifying national capacities in using space and other ICT tools for disaster risk reduction**
    - **Recommendation of national policy frameworks for effective integration of such technical tools**
    - **Identifying national needs for space information products and services, and their delivery channels**
    - **Networking end-users, information providers and local service providers**
    - **Institutional arrangement at regional levels.**
    - **Assessing minimum capacity building needs of less capable countries for accessing and effective use of such technical tools**
-

# Stocktaking and mapping

---

- **On space information for disaster risk reduction**
    - **Status of countries and international initiatives**
    - **Capacity building needs at technical, institutional and policy levels**
    - **Resources available for regional cooperation**
  - **Objective**
    - **Sharing of information among stakeholders**
    - **Identifying overlaps and opportunities**
    - **Identifying gaps to be filled through cooperation**
    - **Foster dialogue and partnership**
  - **Also as one contributing component to the ISDR Asia Partnership effort**
-

# Expectation to the Workshop

---

- **Enhanced understanding of decision-makers**
    - **Effectiveness of space information and relevant technical tools for disaster management**
    - **Cooperation opportunities for easy access to relevant information and technical resources**
    - **National capacity building needs**
  - **Identified actions to be taken at national level**
    - **Policies for integrating space information tools**
    - **Possible cooperation arrangement among Pacific countries**
    - **Institutional arrangement among local service providers and decision makers**
  - **Identified actions at regional/global level for**
    - **Friendly space data/ information distribution mechanism**
    - **Data policy on space information for DRR, particularly on improved quality of products and services**
-

---

***Thank you for attention***

For more information, please contact

[wugu@un.org](mailto:wugu@un.org), [escap-stas@un.org](mailto:escap-stas@un.org)

***Phone: +66 2 288 1456***

---