

Emergency Response to Environmental Disasters in Taiwan

Current Status and Future Outlook

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Introduction (1): 4+1 Policy formula

- ✚ 4 critical factors: regulations, budget, organization, and manpower
- ✚ 1 essential element: strong determination of the leader
- ✚ Fulfillment of this 4+1 formula should ensure a comprehensive environmental disaster response policy

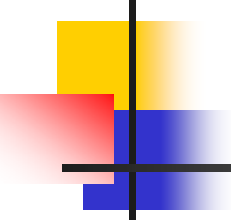


Introduction (2):

Types of environmental disasters

- ✚ Environmental disasters include natural and manmade disasters
- ✚ **Natural disasters:** flooding, typhoons, earthquakes
- ✚ **Manmade disasters:** toxic chemical disasters and pollution caused by air, water, marine, soil and groundwater.





Introduction (3): EPA's role in environmental disaster response

 Natural environmental disaster response:
assisting role

▲ Assist the National Disaster Prevention and Relief Center, Executive Yuan

 Manmade environmental disaster response:
leading role

▲ Implement regulations and organize response action

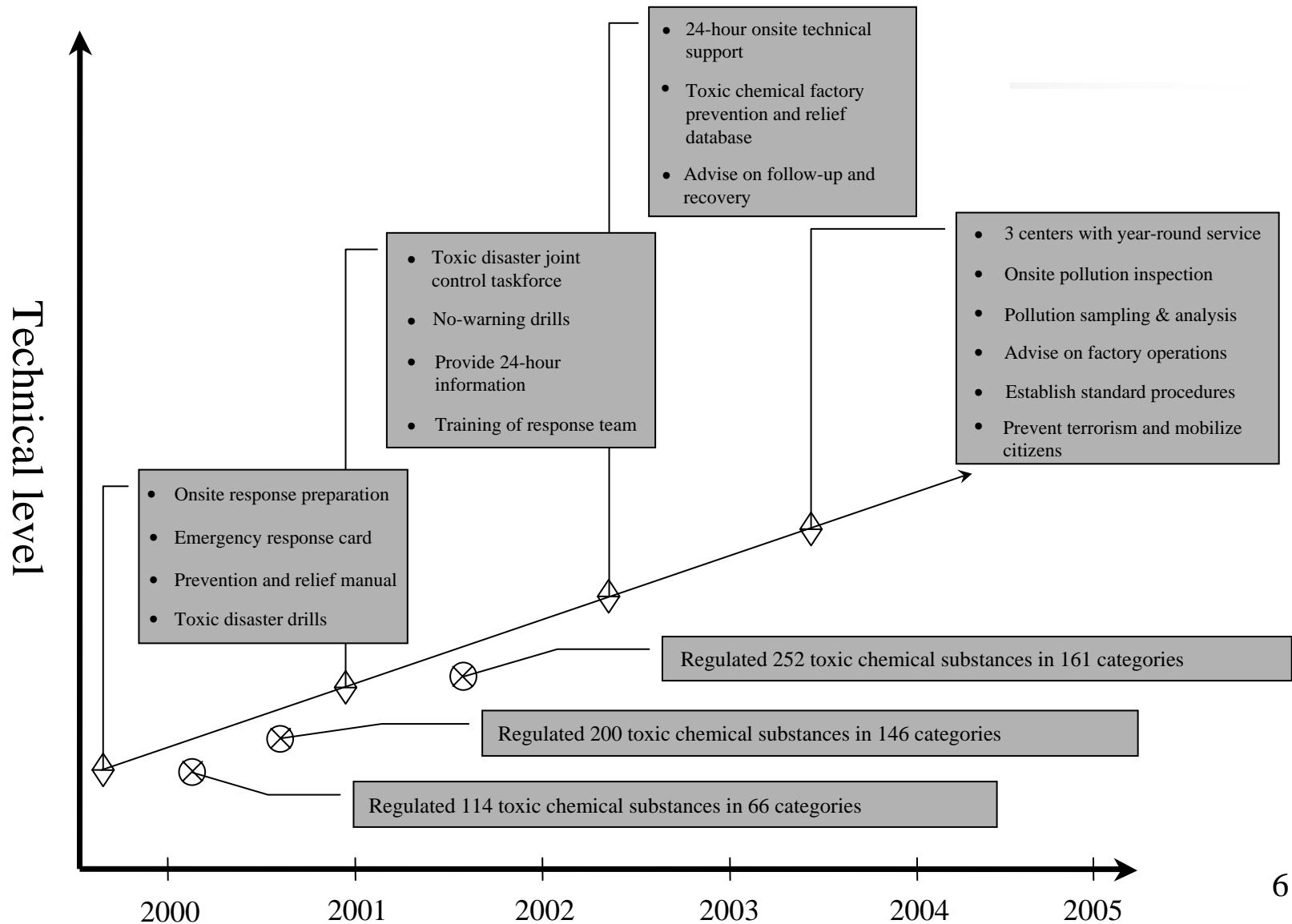


Current status (1): EPA division of authority by type of disaster

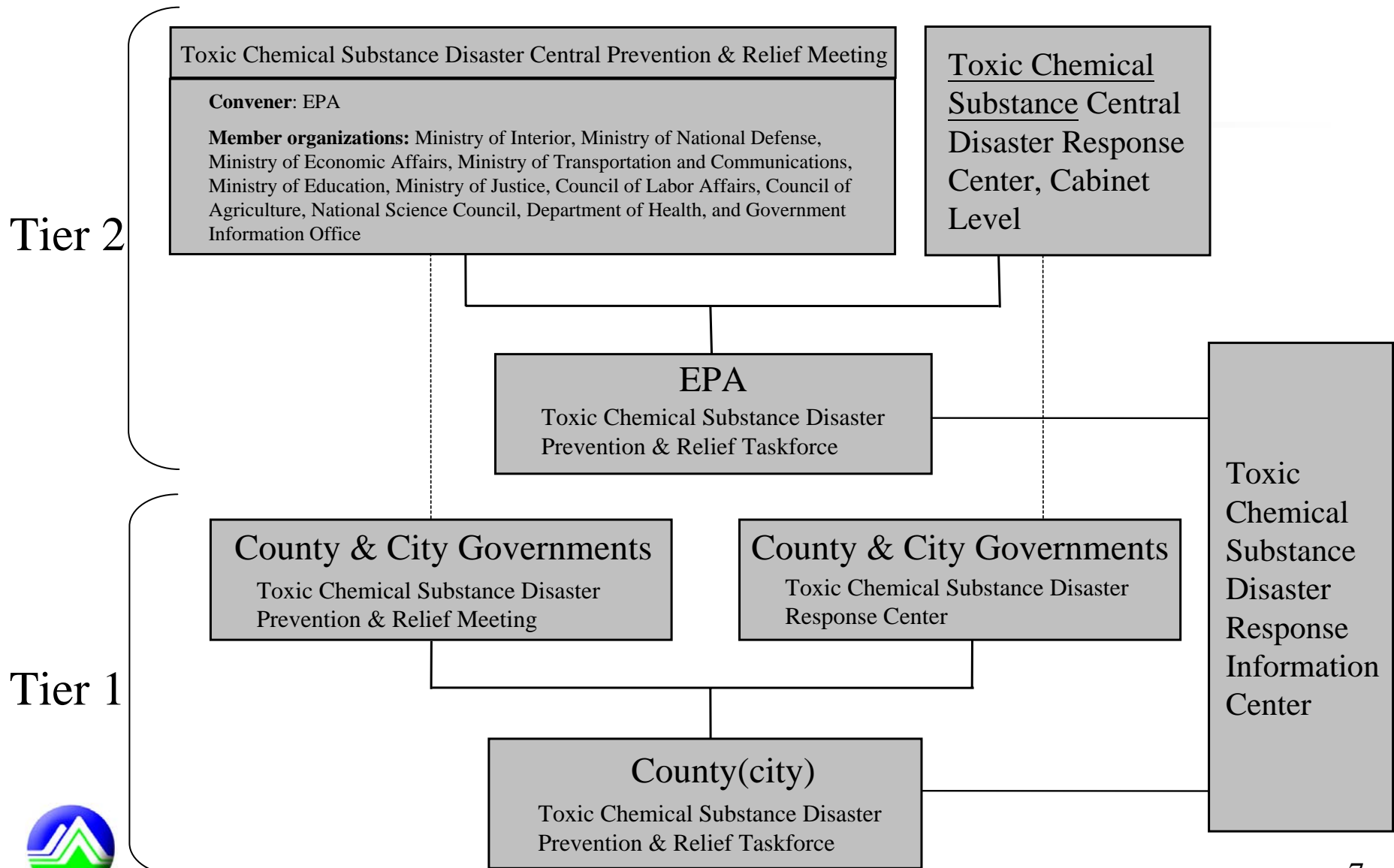
Type	EPA Department	Act	Budget & manpower
Toxic Chemical Substances	Dept. of Toxic Chemical Substance Management	Toxic Chemical Substances Management Act	<p>1. Budgets are determined by departments, and manpower is supplied by environmental inspection units.</p> <p>2. Private resources are also invested according to regulations.</p>
Oil spill	Dept. of Water Quality Protection	Marine Pollution Control Act	
Water pollution	Dept. of Water Quality Protection	Water Pollution Control Act	
Air pollution	Dept. of Air Quality Protection and Noise Control	Air Pollution Control Act	
Soil & groundwater pollution	Soil & Groundwater Pollution Remediation Fund Management Board	Soil and Groundwater Pollution Remediation Act	



Current status (2): Administrative levels of Toxic Disaster Prevention and Relief System (Toxic disaster emergency response system has been established the longest)



2-Tiered Response Framework of Toxic Disaster Prevention and Relief System



Current status (3): 3-tiered water pollution response based on level of disaster

- ✚ 1st level: Local government coordinates response of related organizations
- ✚ 2nd level: EPA coordinates response of local government and related organizations
- ✚ 3rd level: Central inter-ministerial coordinated response

Area \ Level	1 st level	2 nd level	3 rd level
Area of polluted water body surface	< 2 hectares	2~50 hectares	> 50 hectares
Length of river pollution	< 2 km	> 2 km	—



Current status (4): Soil & groundwater pollution disaster response

Explicit regulations exist for soil and groundwater pollution, which is characteristically different from other types of disasters. Clear response measures exist for each period, from time of inspection or pollution report to the time of announcing the site as a control site or remediation site:

- ✚ 24~48 hours: Personnel dispatched to site to confirm pollution.
- ✚ After initial onsite inspection, if pollution is suspected, local EPBs should notify the Soil and Groundwater Remediation Fund Management Board within 48 hours.
- ✚ After pollution is confirmed, the local EPB should file a “Pollution Incident Confirmation Report” within 24 hours.




Current status (5): Air pollution disaster response

- ✚ Current response measures include spraying streets, controlling dust at construction sites, inspecting factory facilities, partial or complete suspension of operations, traffic vehicle use restrictions.
- ✚ The Department of Environmental Monitoring and Information Management daily forecasts air quality in each air quality control zone.

Poor air quality forecast → Counties/cities announce $PSI > 100$ emergency report

1 working day → Each agency conducts pollution source check

 → Counties/cities report response status to EPA **before 5pm** the day of poor air quality

Future policy objectives of disaster response systems (1):

Policy implementation of disaster management authority

- ✦ Essential regulations already exist. Details (including report systems, content and fulfillment of emergency response plans, work reference manuals, etc.) are under constant revision and updating.
- ✦ Although relevant resources (budget, manpower, responsible organizations) have been established for emergency response plans or implementation of prevention measures, they still require constant review and additional investment.



Future policy objectives of disaster response systems (2)

Strengthening toxic disaster response system to become the core framework

- ✚ Establish a comprehensive and unified EPA environmental disaster control center
- ✚ Establish 7 environmental disaster response teams nationwide
- ✚ Integrate environmental response resources so that environmental disaster response teams can coordinate effectively
- ✚ Strengthen clearance and treatment mechanisms for toxic chemical substances



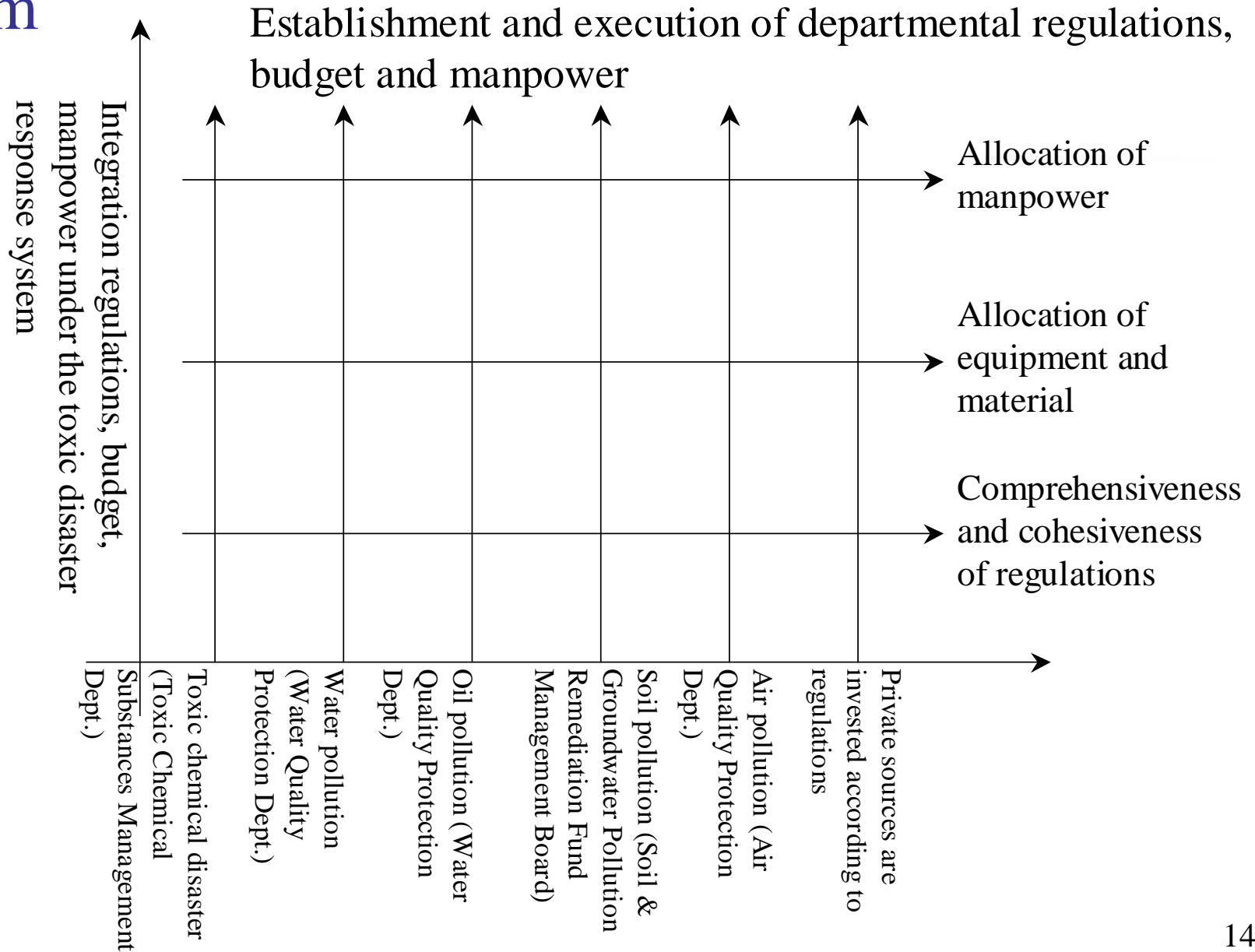
Future policy objectives of disaster response systems (3)

Integration regulations, budget, manpower under the core framework

- Regulations: review and analyze regulations emphasizing comprehensiveness and cohesiveness
- Budget: allocate budget reasonably
- Organization: establish national and regional disaster response agencies
- Manpower: seek appropriate adjustments in current use of manpower



Integrating work based on toxic disaster response system



Future policy objectives of disaster response systems (4)

Disaster response time

- ✦ Currently, only 35% of time does support arrive at disaster site within one hour of disaster.
- ✦ Our future goal is onsite support within one hour of disaster 100% of the time.





Conclusions

- Environmental disaster prevention, preparation response and restoration should be part of a nation's long-term policy. In addition to the leader's determination, the four critical factors need to be implemented to reach anticipated results.
- The government must provide clear, long-term policies for the sustainable management of a comprehensive environmental disaster response mechanism.





Thank you for
your attention

