



從人定勝天的治理思維到
人與自然的諧和共生

-以荷蘭的水環境治理為例

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報告大綱

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理論模式

3

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建議

Collaborative governance

Topics of program

Energy



Water



Agri & Food



Elderly care



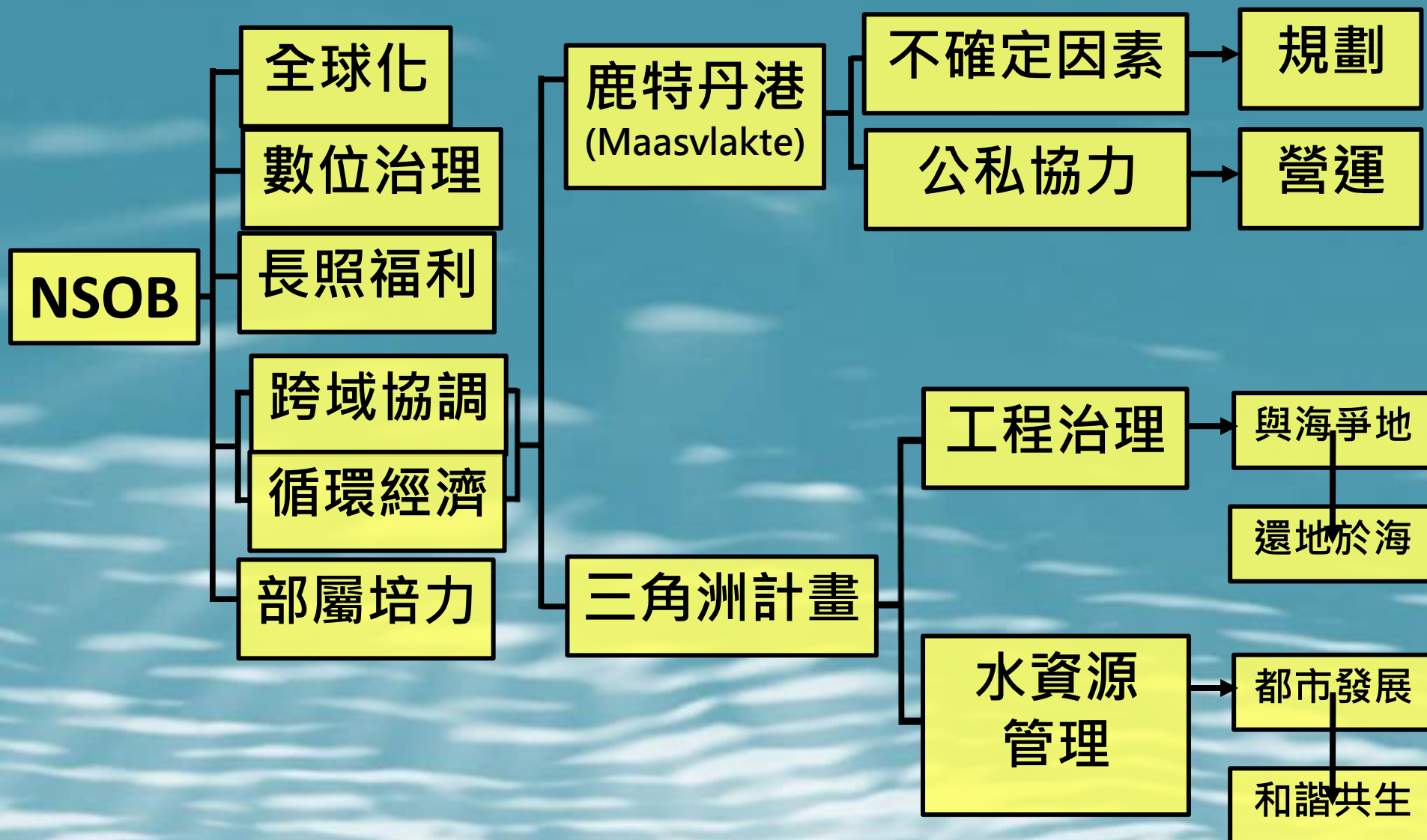
Circular economy



E-government

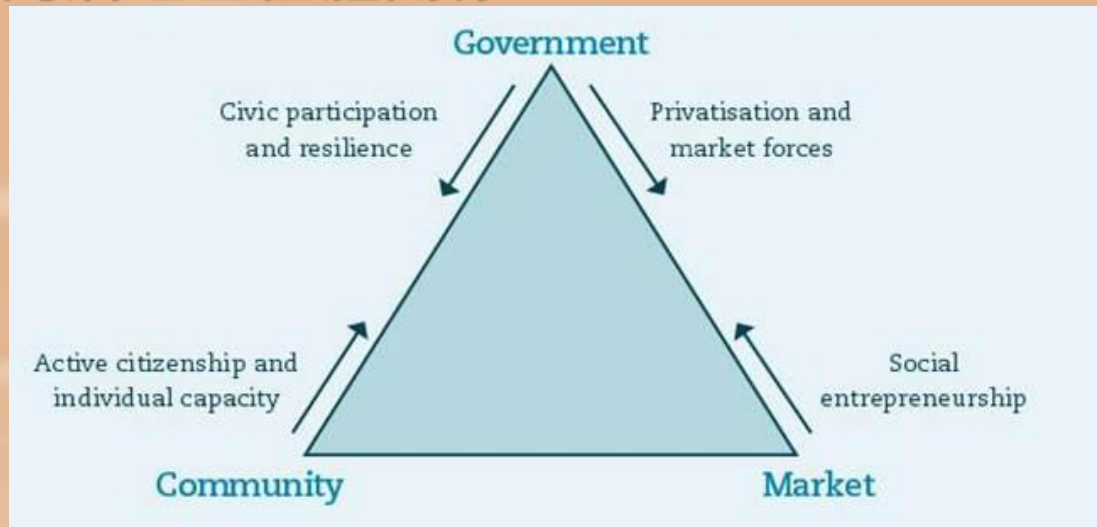


一、前言



二、理論模式(Prof. Dr.Martijn van cler Steen)

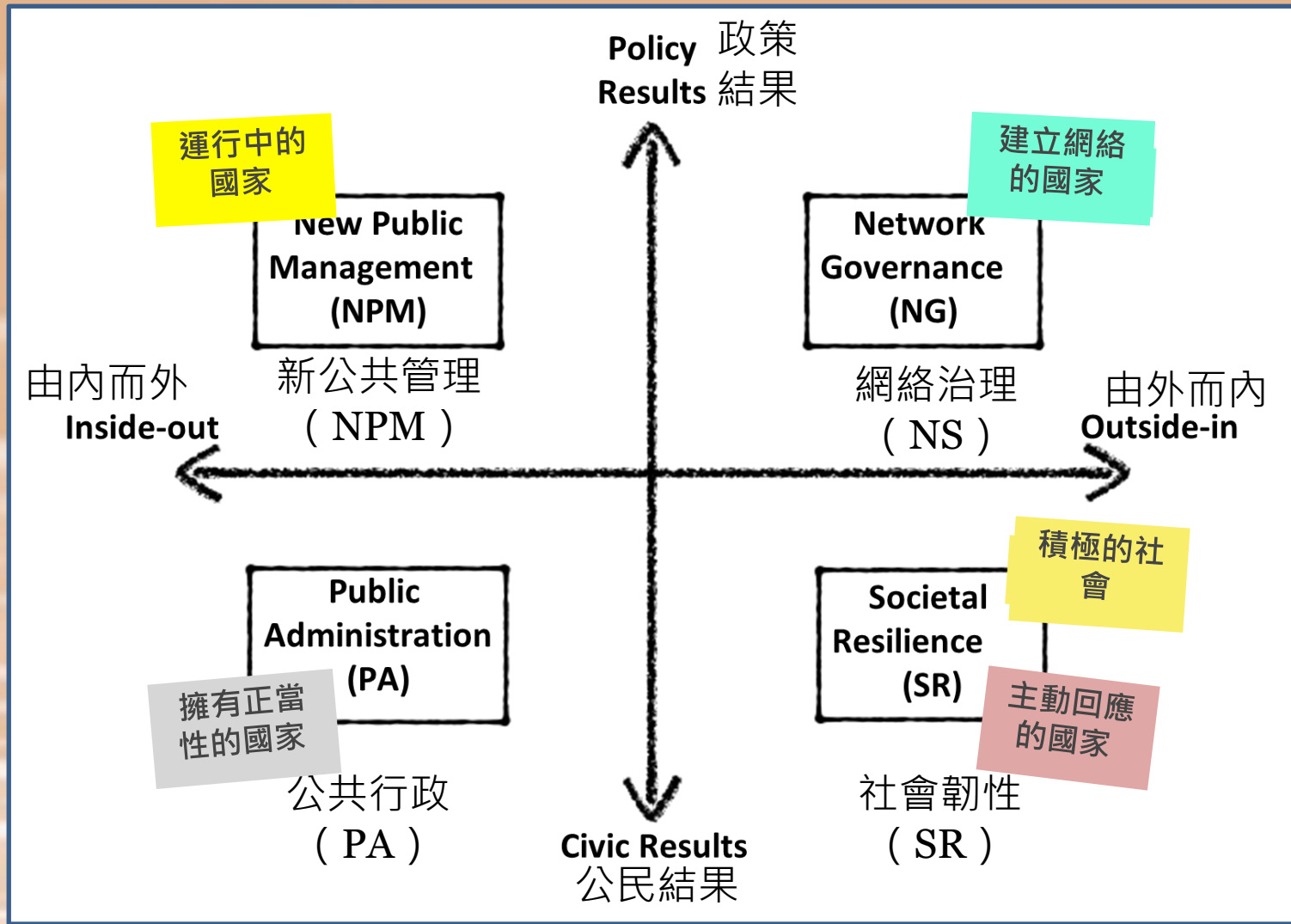
(一)協同治理三位體關係



1. Dissolving borders between public and private
2. Seeking the middle of the triangle
3. Collaboration of national, provincial and local level (European level?)
4. Collaboration of government, business, academia and private citizens in varying compositions

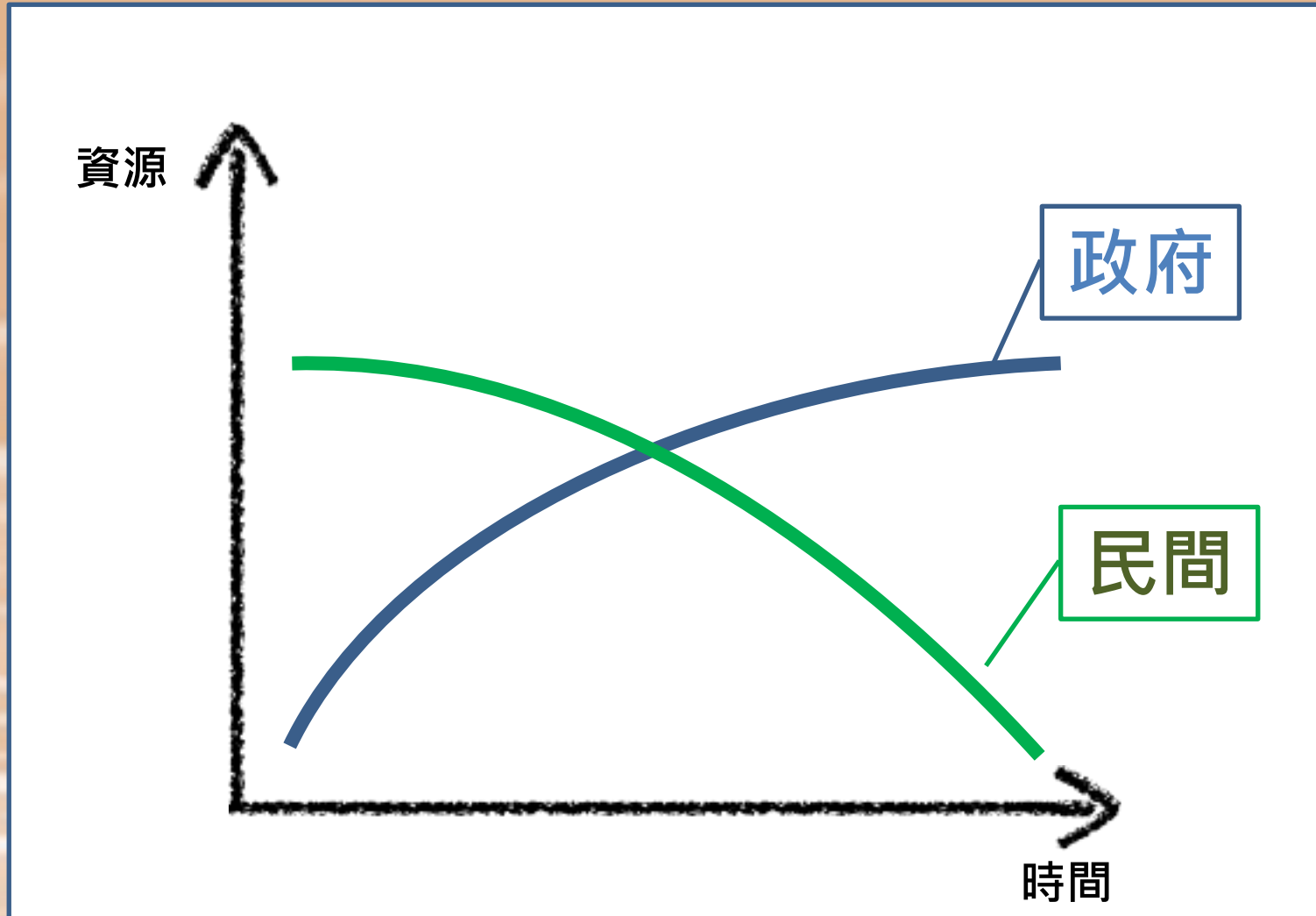
二、理論模式 (Prof. Dr. Martijn van der Steen)

(二) 公共治理象限圖



二、理論模式(Prof. Dr.Martijn van cler Steen)

(三) 政府-民間資源互補



二、理論模式(Prof. Dr.Martijn van cler Steen)

(四) 圩田政策(Polder model)

Improving flood protection and reclaiming land



circa 1580



circa 1700

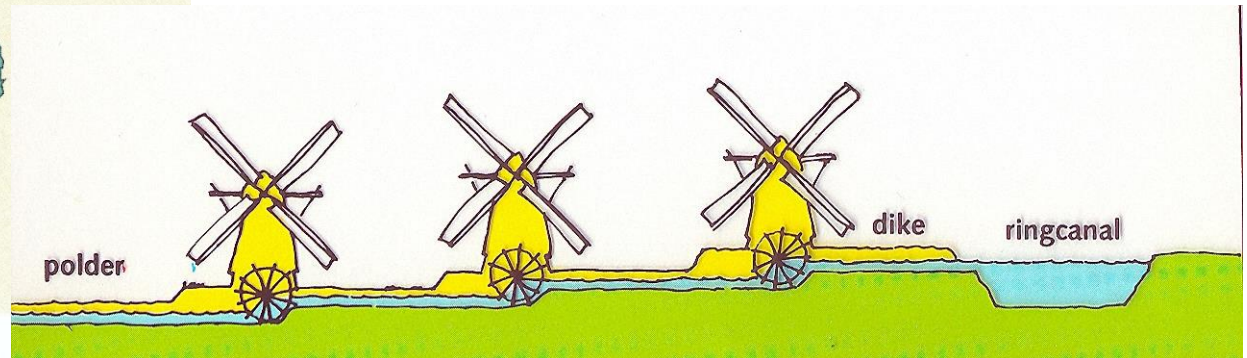
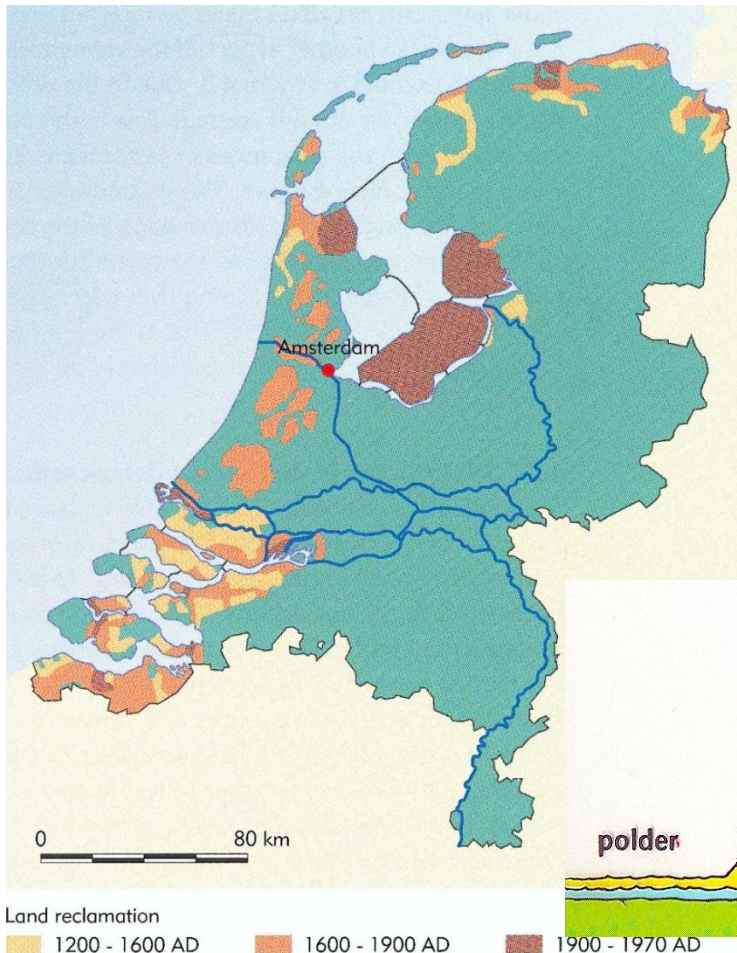


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二、理論模式(Prof. Dr.Martijn van cler Steen)

(四) 圩田政策(Polder model)

Centuries of land reclamations works

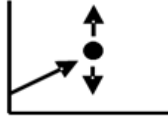
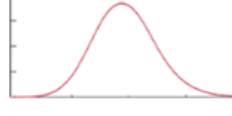
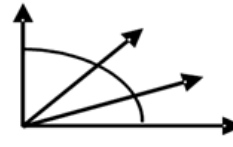
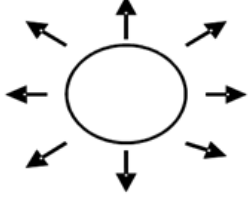


三、參訪心得

(一)鹿特丹港M2確定性分析(規劃階段)

1.Marchau教授模型

(1)不確定性的級別

		LEVEL			
		Level 1	Level 2	Level 3	Level 4
LOCATION	Context (X)	A clear enough future 	Alternate futures (with probabilities) 	A multiplicity of plausible futures 	Unknown future 
	System Model (R)	A single (deterministic) system model	A single (stochastic) system model	Several system models, with different structures	Unknown system model; know we don't know
	System Outcomes (O)	A point estimate for each outcome	A confidence interval for each outcome	A known range of outcomes	Unknown outcomes; know we don't know
	Weights on outcomes (W)	A single set of weights	Several sets of weights, with a probability attached to each set	A known range of weights	Unknown weights; know we don't know

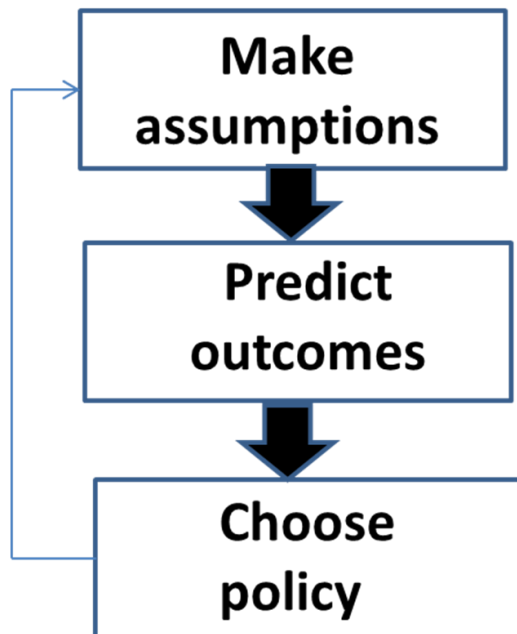
三、參訪心得

(一)鹿特丹港M2確定性分析(規劃階段)

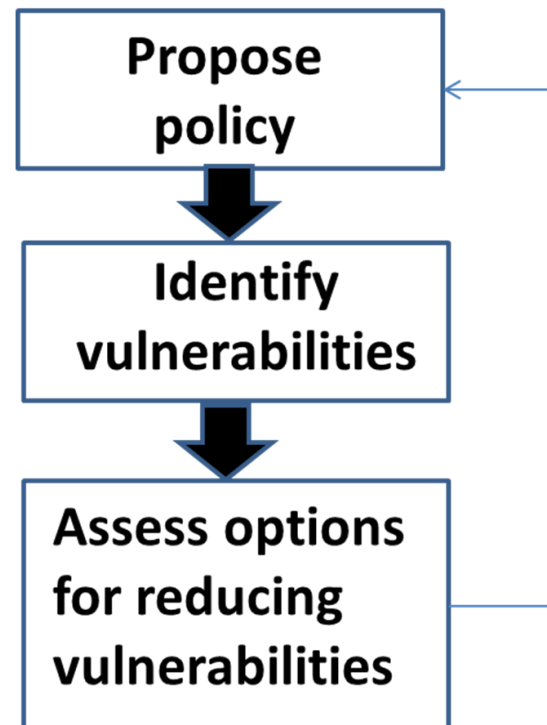
1.Marchau教授模型

(2)傳統及適應性計畫比較

Traditional Approaches



Adaptive Planning

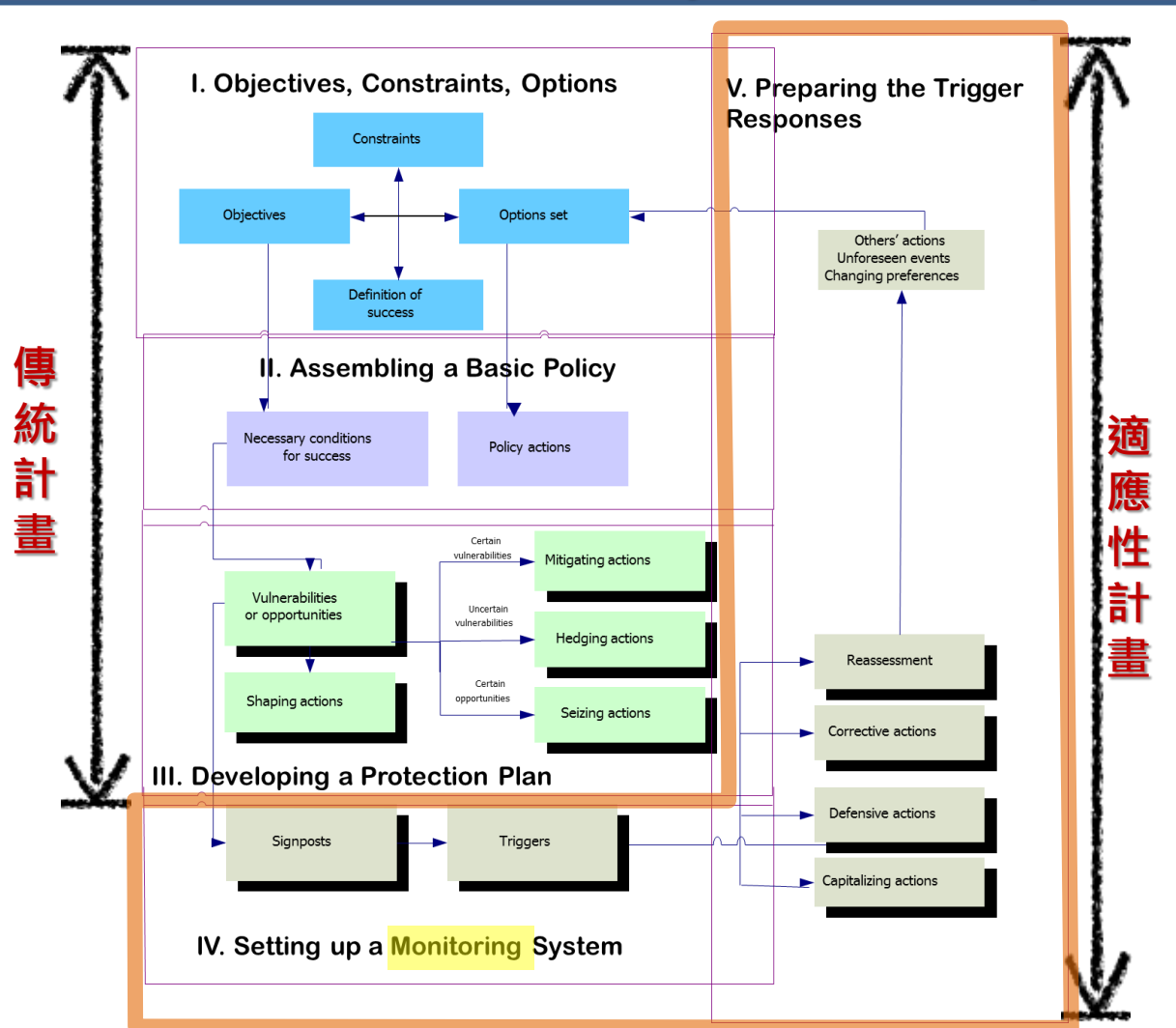


三、參訪心得

(一)鹿特丹港M2確定性分析(規劃階段)

1. Marchau教授模型

(3)動態適應計畫(Dynamic adaptive Plans)



由傳統的假設性靜態預測加入動態監測未來走向, 隨時調整為適應性計畫

計畫滾動檢討

三、參訪心得

(一)鹿特丹港M2確定性分析(規劃階段)

2.鹿特丹港不確定性內容

(1)Master Planning is static, and updates to the Master Plan.

- 未來的科技發展無法被預測

(2)Port Competition remains on uncertain quantity.

- 港區競爭優勢變動性
- 未來趨勢改變，常規無法指導

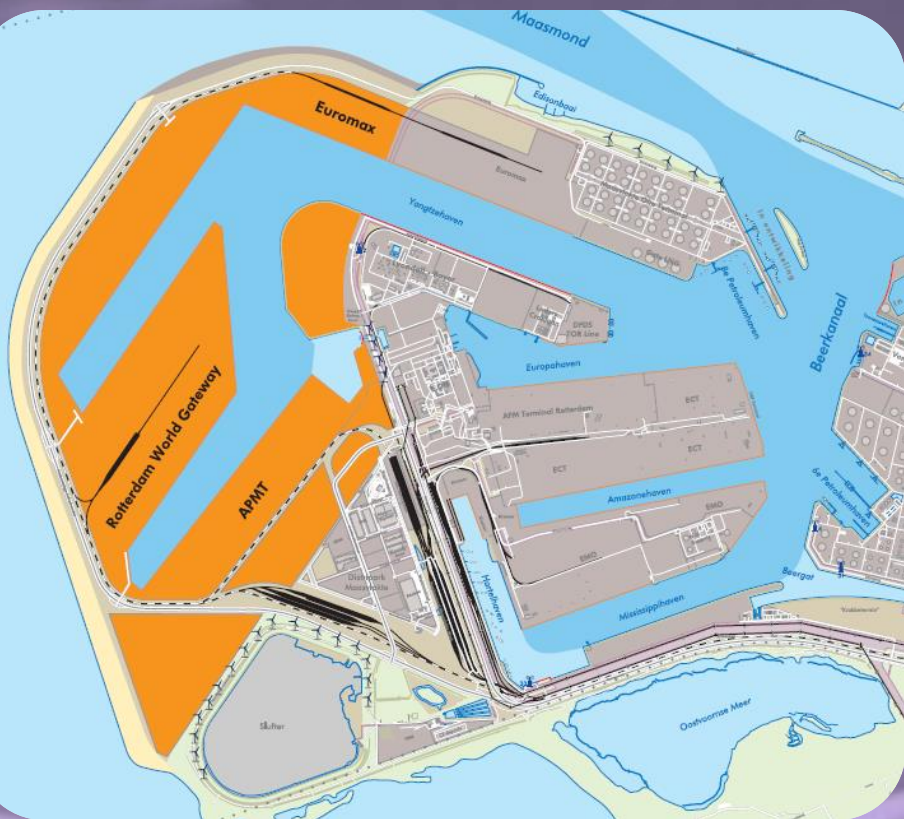
(3)Longer the time horizon, greater the uncertainty.

- 規劃造成的延遲錯失良機

三、參訪心得

(一)鹿特丹港M2確定性分析(規劃階段)

3.港區的適應性規劃步驟

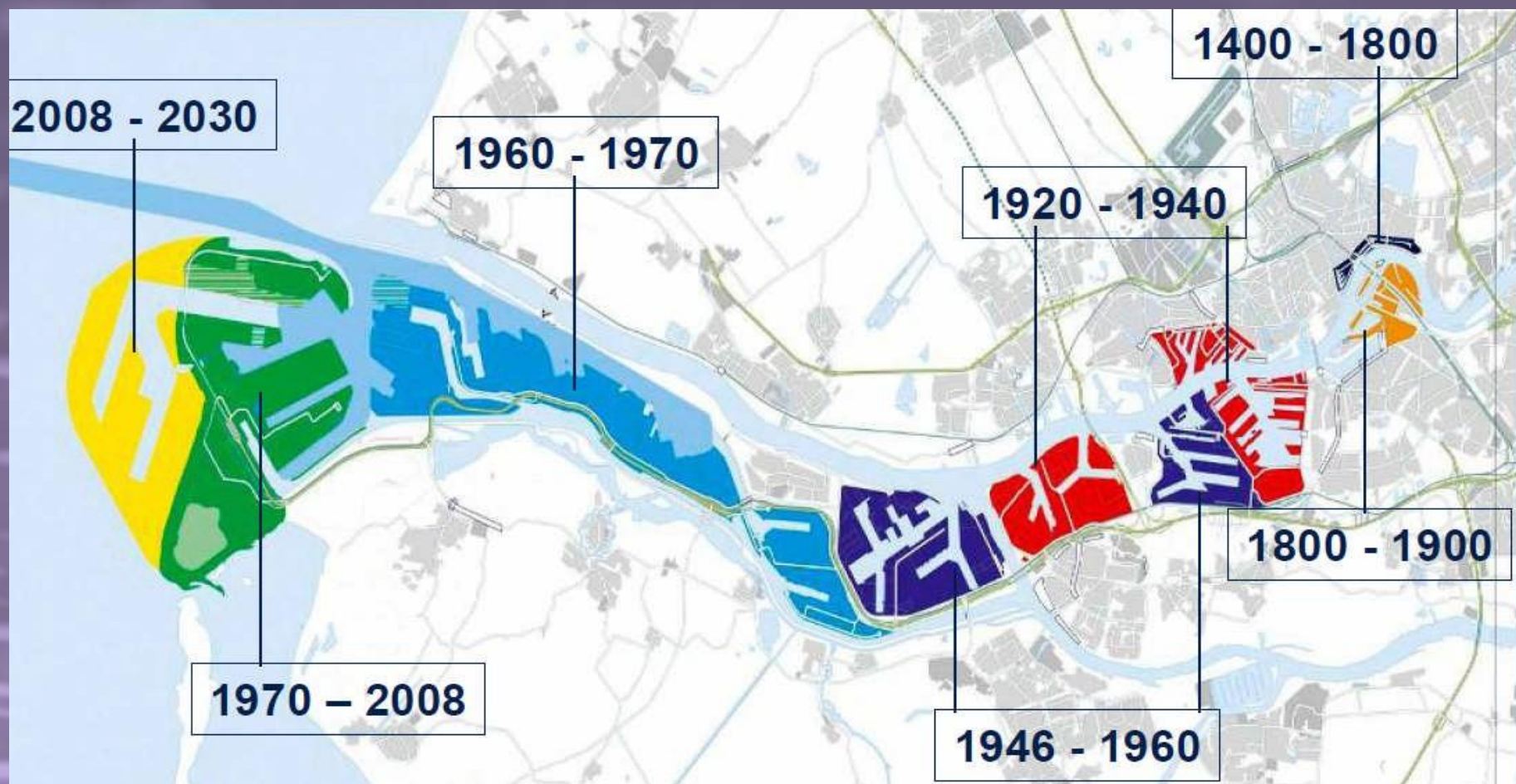


- 檢核主計畫**目標**及**狀況**
- 發現計劃的**威脅**及**機會**
- 尋求保護及**改善**的**方法**
- 設定**監測**計畫達成**目標**
- 因應狀況為**適應性**計畫

三、參訪心得

(二)鹿特丹港Maasvlakte 2 公私協力(營運階段)

1.Maassvlakte 港區沿革



三、參訪心得

(二)鹿特丹港Maasvlakte 2 公私協力(營運階段)

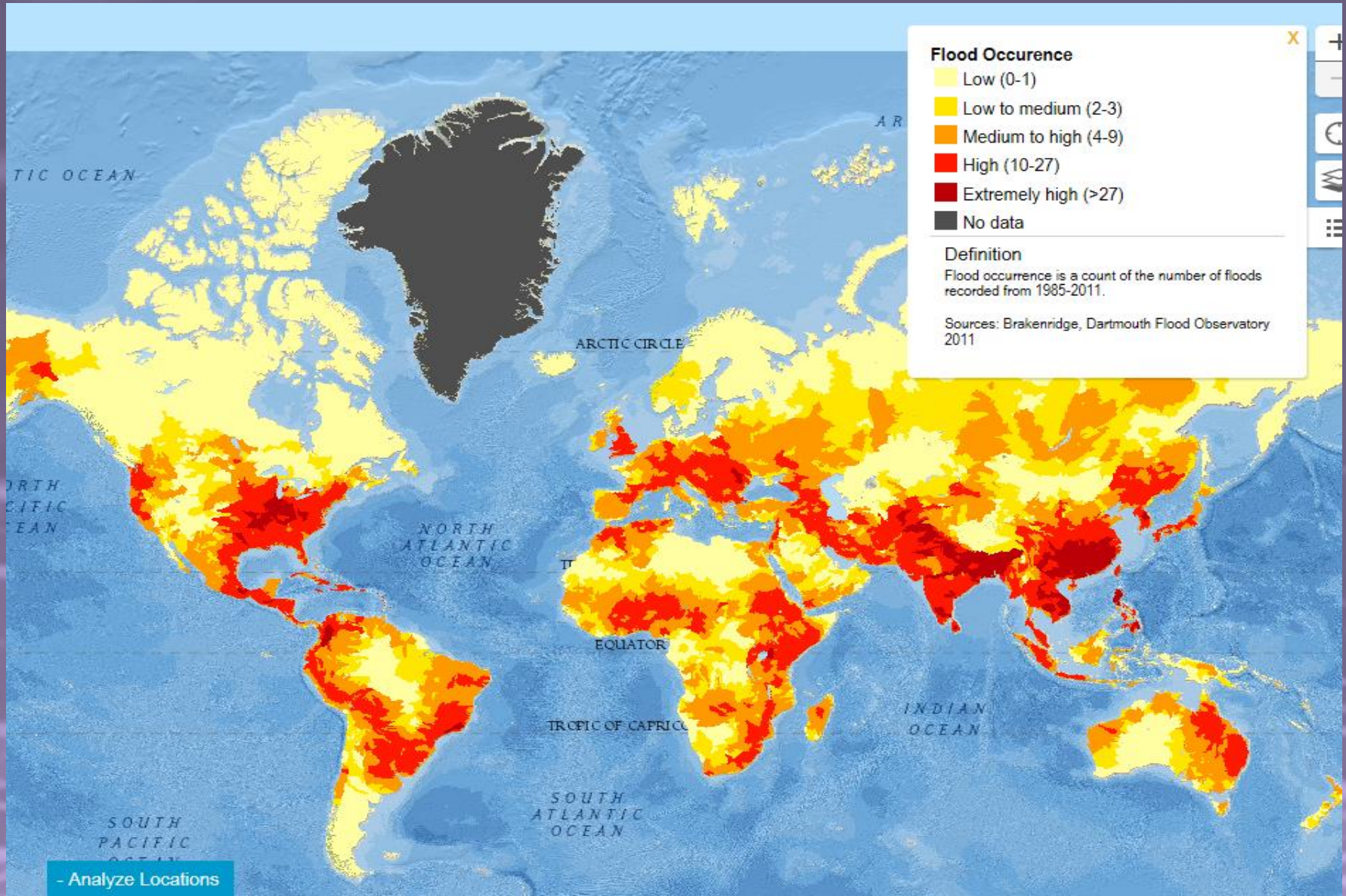
2.港區發展策略議題

議題	對策	治理型態
港口競爭優勢不足 (漢堡、安特衛港)	擴建二期港區	新公共管理 網絡治理
建設經費籌措	- 降租引資 - 提高稅收	網絡治理 社會韌性
環保永續課題	- 降低內陸運輸 - 綠能、LNG能源使用	公共行政 網絡治理 社會韌性
經營永續課題	- 逐降官股(7成) - 民營化 - 智慧物流 - 陸空聯營	公共行政 網絡治理

三、參訪心得

(三)三角洲計畫

Flood Occurrence

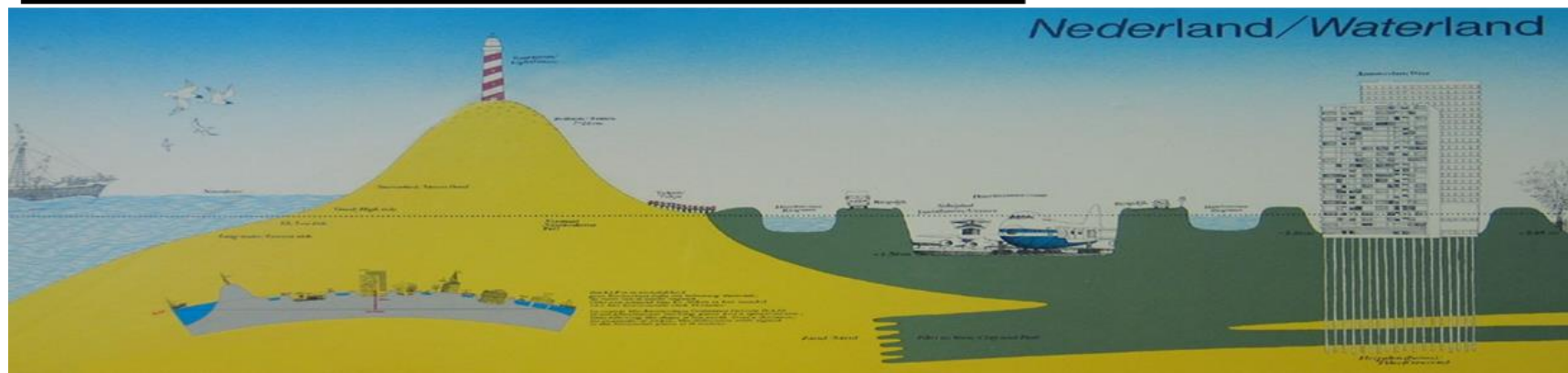
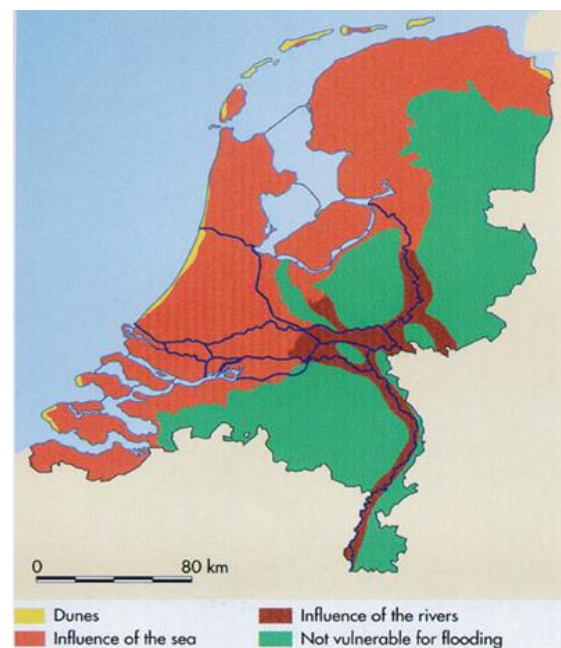


三、參訪心得

(三)三角洲計畫

水患影響圖

	Total	Vulnerable to flooding
Surface Area	41.528 km ²	55%
Inhabitants	16,8 million	60%
GNP	700 billion US\$	65%



三、參訪心得

(三)三角洲計畫

過去的三角洲計畫

Past: The 20th century

- 1916 floods (North)
 - Structural solutions with dams and barriers (Afsluitdijk dam to create IJsselmeer)
- 1953 flood disaster (South-West)
 - Structural solutions with dams and barriers (Delta Works)
- 1993/1995 high water levels (rivers)
 - Also spatial solutions (Room for the River/Meuse Projects)

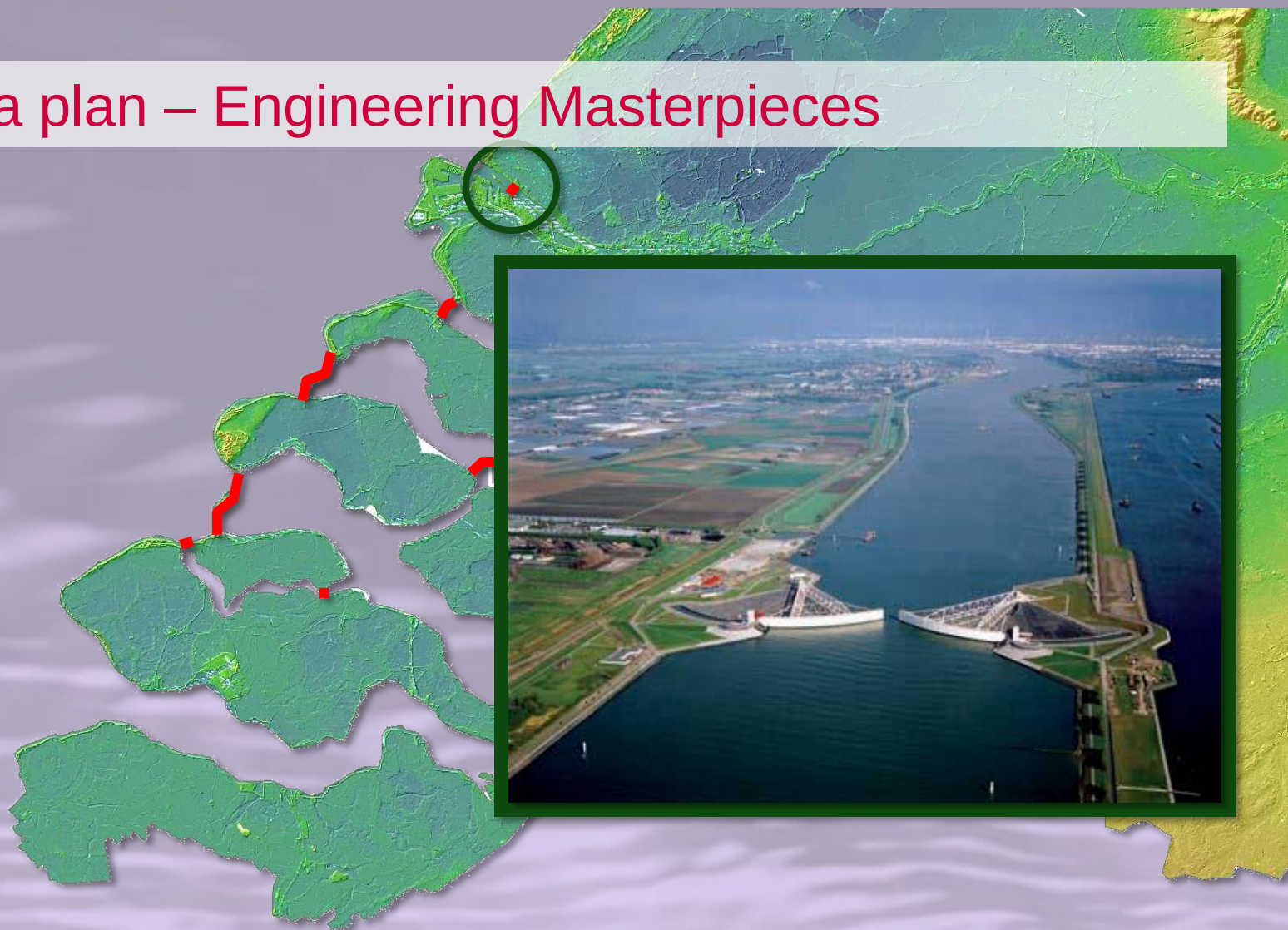
History of flood protection in NL



三、參訪心得

(三)三角洲計畫 治理思維(圍堵)-馬士朗風暴擋潮閘

First Delta plan – Engineering Masterpieces



三、參訪心得

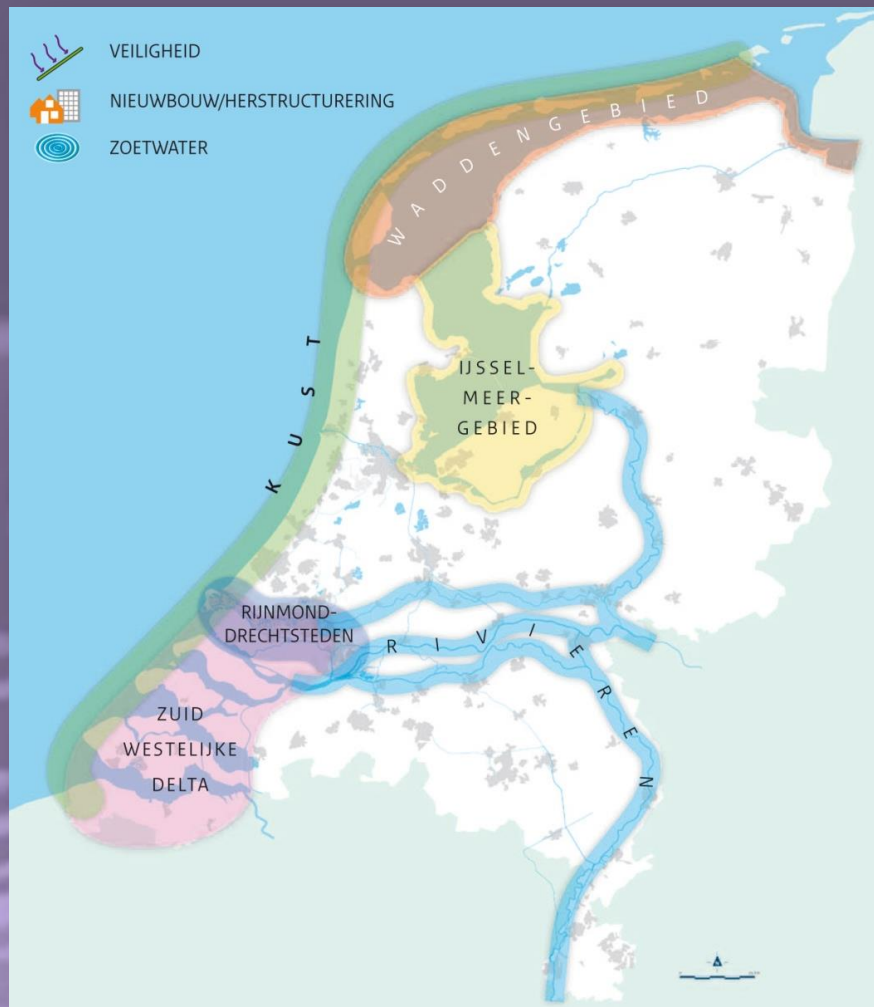
(三)三角洲計畫

治理思維的改變(Delta program)

三個國家計畫

- 安全
- 淨水策略
- 空間調整

六個地區性計畫

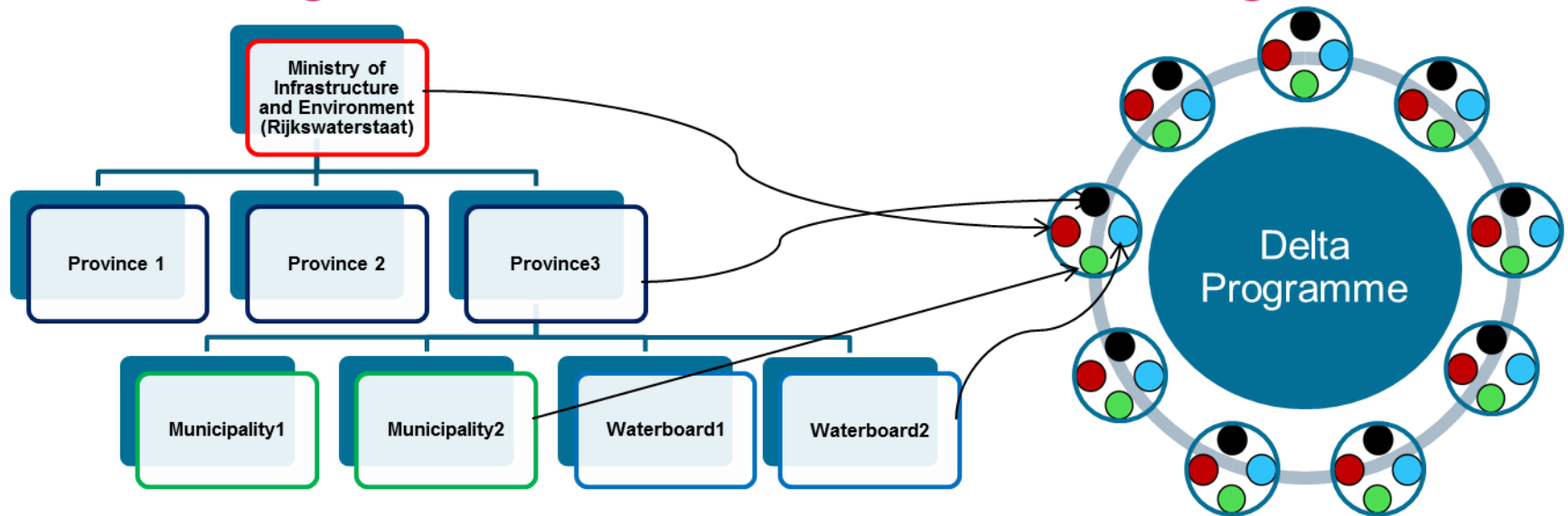


三、參訪心得

(三)三角洲計畫

國家計畫由上而下分級治理(Multilevel Governance)

Dutch governmental institutions and DP governance



- **Ministry** – Policy guidelines, Rijkswaterstaat - national watersystem
- **Provinces** – spatial planning, supervise municipalities and waterboards
- **Municipalities** – spatial planning, sewage&drainage system
- **Waterboards** – regional watersystem, waterquality, waterquantity

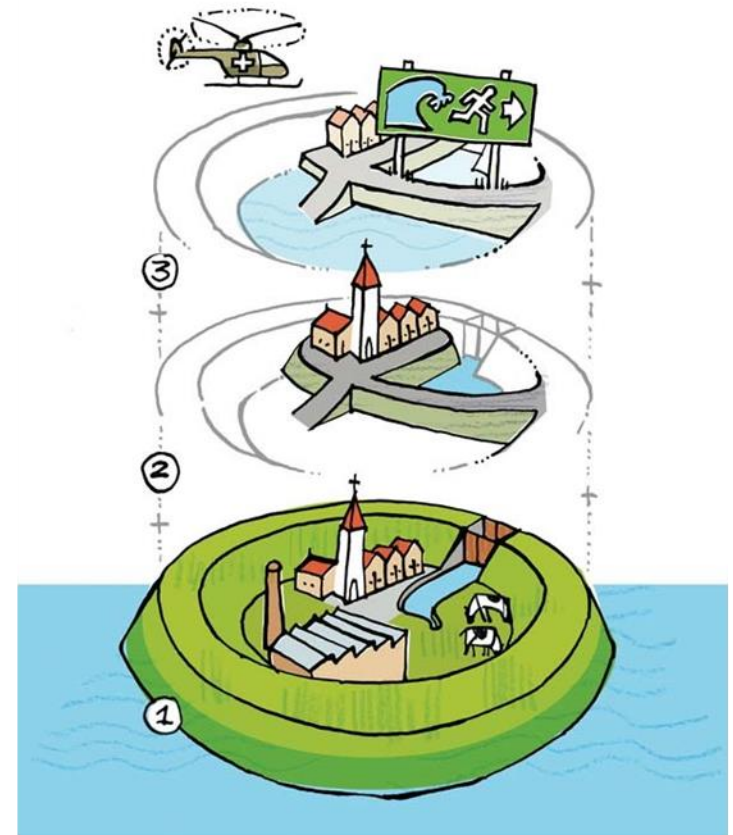
三、參訪心得

(三)三角洲計畫

防災策略導入

Policy: Multy layer safety approach floods in the Netherlands

- Crisis management (3)
Reducing casualties of a flood
- Sustainable spatial planning (2)
Limiting the effects of flooding
- Prevention (1)
*Limit the probability of a flood disaster
(dikes, dunes and barriers)*



三、參訪心得

(三)三角洲計畫

還地於河

Room for the River



circa 1850



circa 2000



三、參訪心得

(三)三角洲計畫

還地於河

Replacement of dyke and making secondary river channel at Nijmegen/Lent



三、參訪心得

(三)三角洲計畫

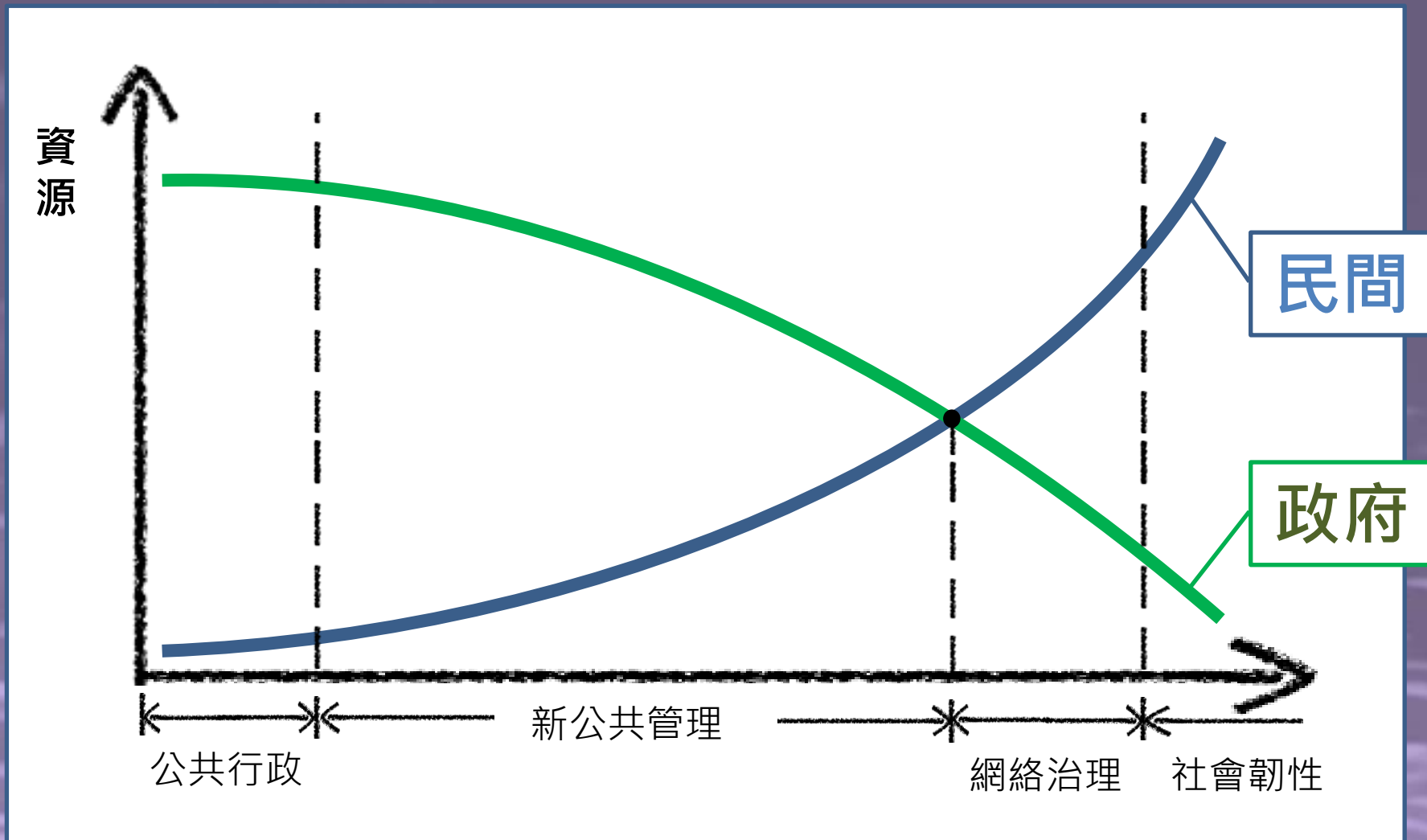
三角洲計畫策略議題

	築堤治理、人定勝天	還地於河、資源永續
議題	防洪、築堤	淨水、生態永續
思維	與水爭地	與水共存(還地於河)
法制	框架式法令	功能式提案
運作機制	傳統官僚治理	民間回應提案
治理型態	公共行政(PA)、新公共管理(NPM)	網絡治理(NS)、社會韌性(SR)
財務型態	政府出資	民間出資
管理	三級三審	委員會審議
案例	馬士朗風暴擋潮閘	_____

三、參訪心得

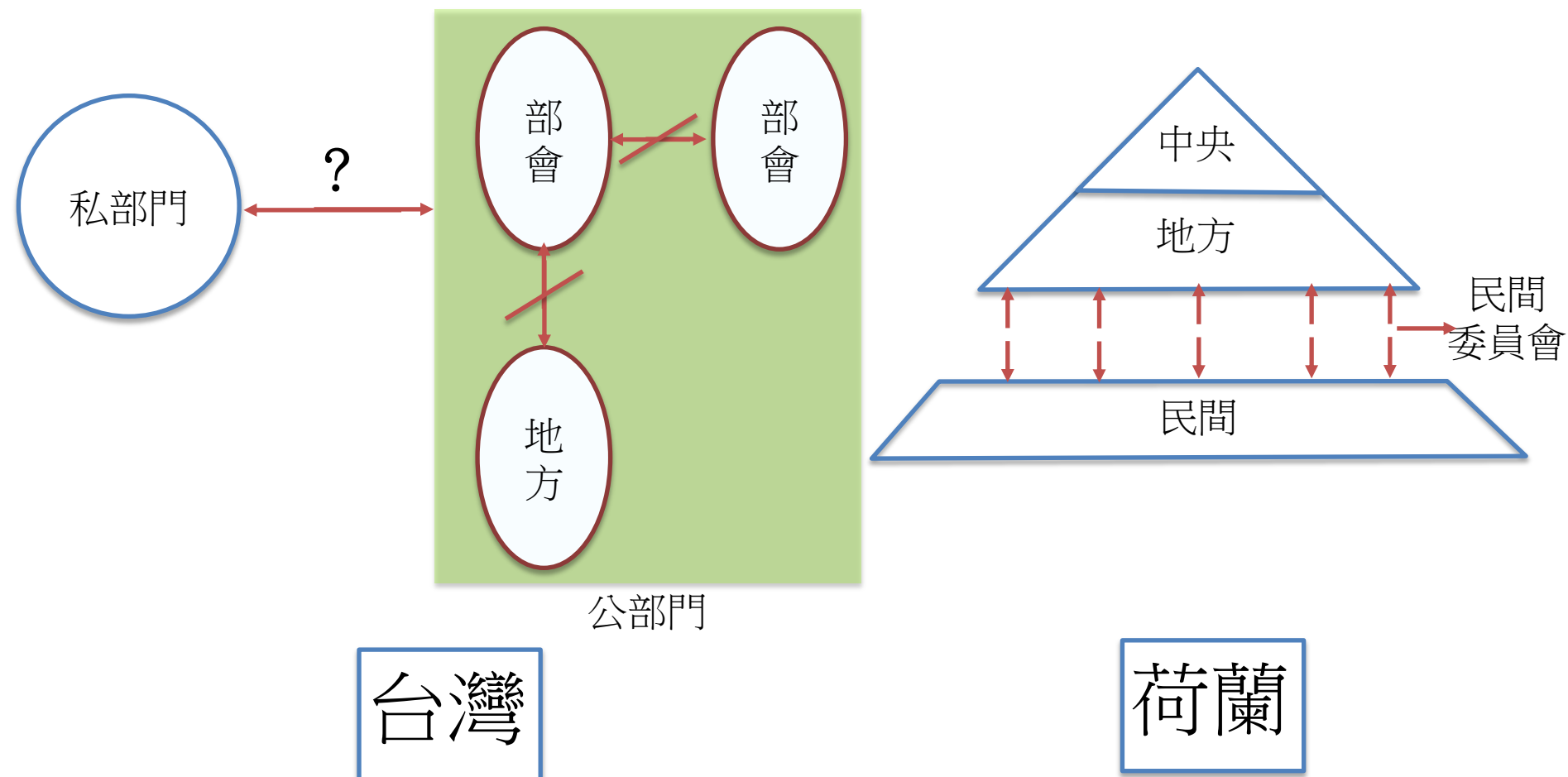
(三)三角洲計畫

治理型態改變趨勢



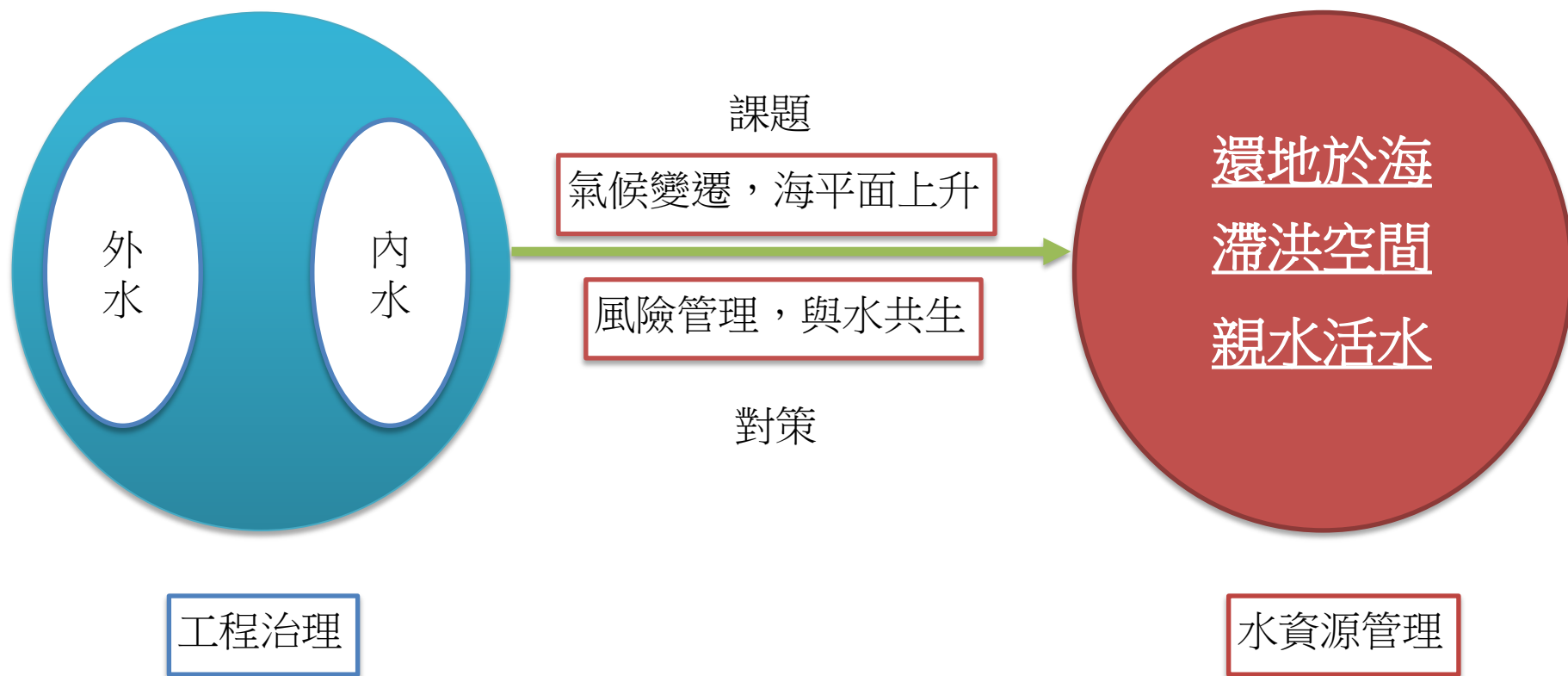
四、建議

(一) 整合公部門橫向溝通，加強居民垂直溝通。



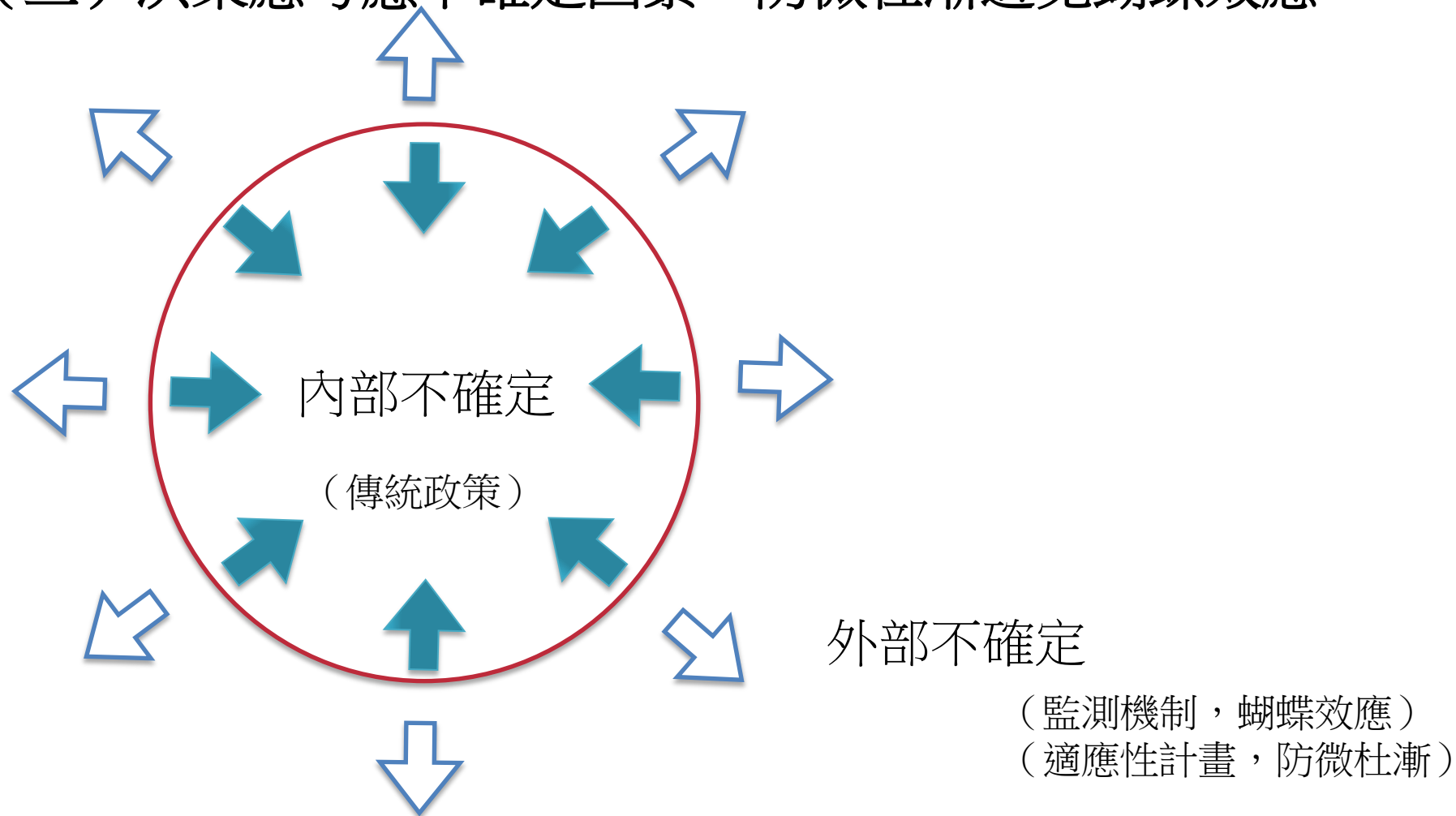
四、建議

(二) 洪氾區土地合理規劃，降低水患風險。



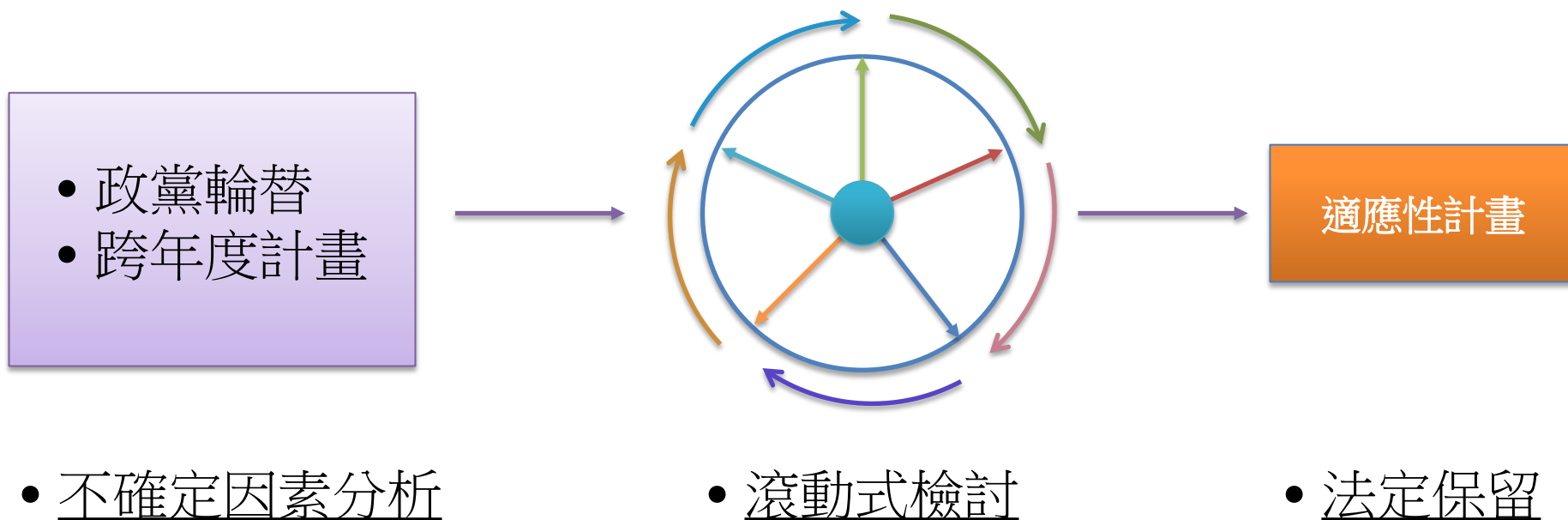
四、建議

(三) 決策應考慮不確定因素，防微杜漸避免蝴蝶效應。



四、建議

(四) 長期且重大工程建設，宜採適應性計劃。



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