Chapter 5: Planning and Management: Philosophy

Trend

Growing interest in how the environment shapes human development and the need for anticipatory action:

- Considers the interaction between the environment and humans
- Public Stewardship
- Planners, administrators and people's awareness of environment as a key control of quality of life

Barriers

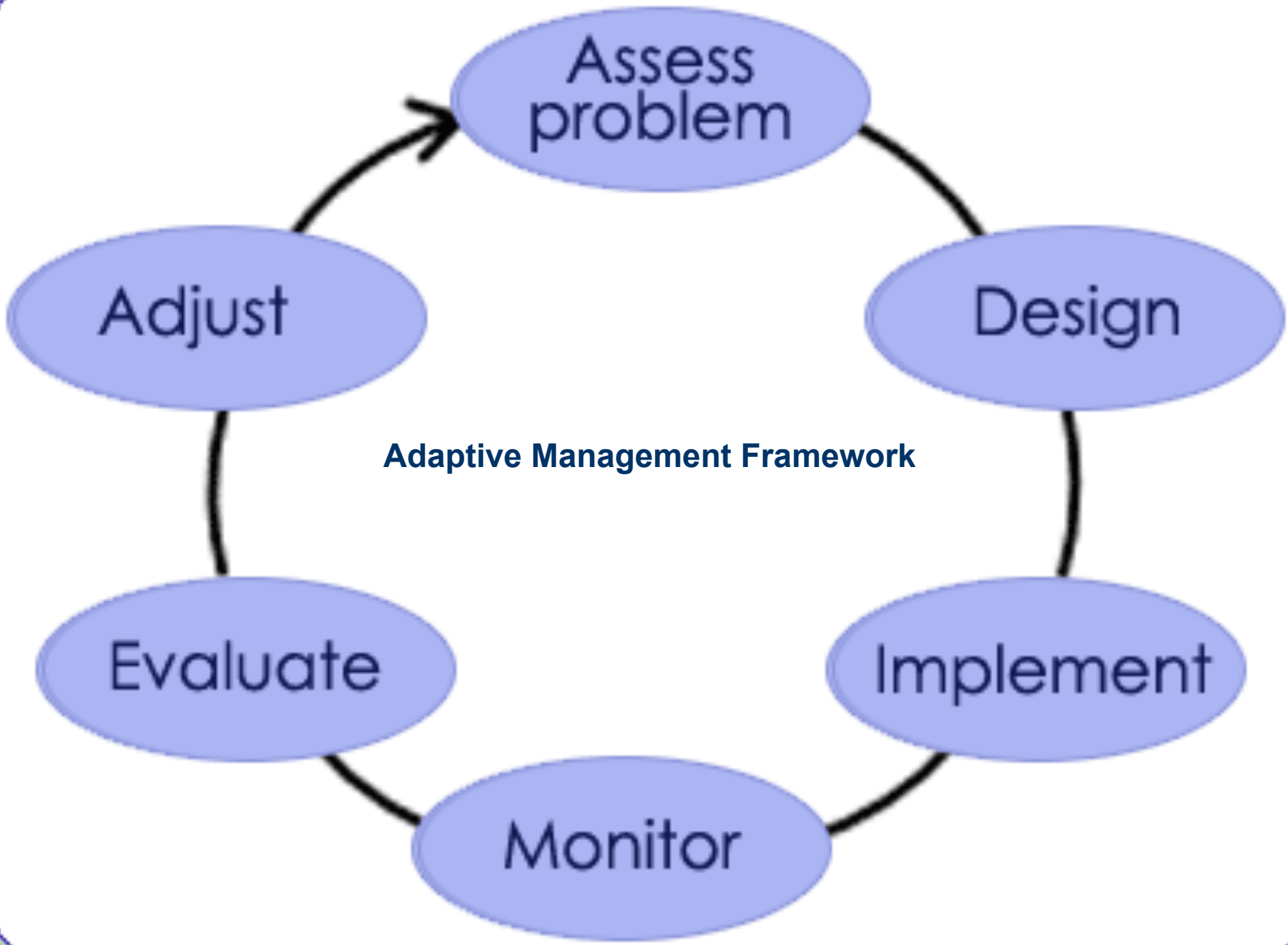
Relative disinterest from government and voters:

- Anticipatory studies
- Contingency planning
- Adaptive strategies

Solution

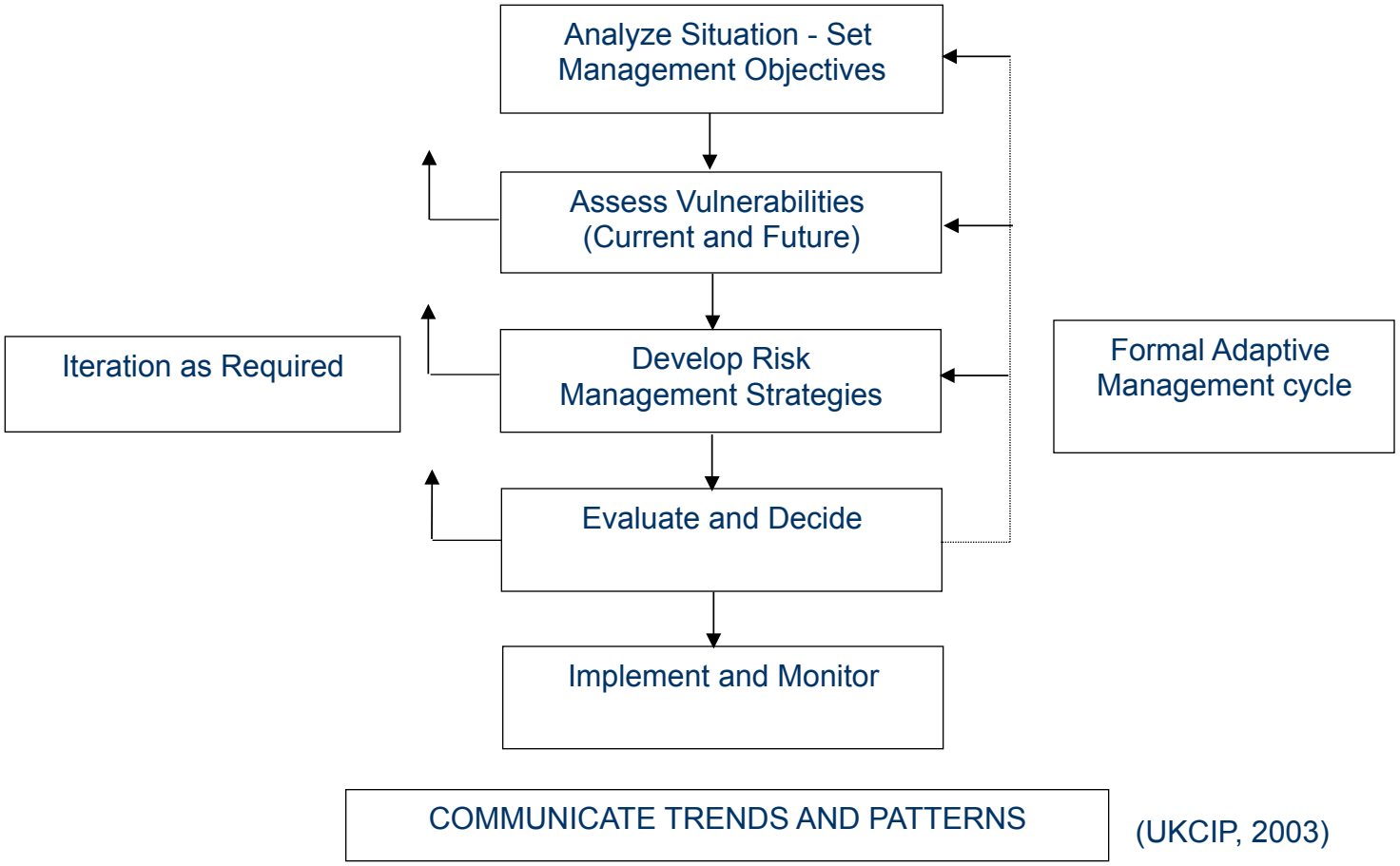
Study how the environment can affect humans and plan for development that includes vulnerability reduction and improvement of flexibility and adaptability (reduce disaster)

- Local Planning
- Regional Linkages
- Global Information Sharing



Adaptive Management Framework

Climate Change and Adaptive Planning



(UKCIP, 2003)

Step 1: Analyze situation

A. Bio-Physical Factors:

- Key (potential) risks and hazards
- Impacts and Indicators (cumulative)
- Physical uncertainties and gaps in knowledge, information

B. Socio-Economic Considerations:

- Affected economic activity, socio-cultural values (Regional/local linkages)
- Indicators or social impacts that are of concern (values)
- Social issues, concerns, patterns and trends both short and long-term

C. Policy and Institutional Considerations

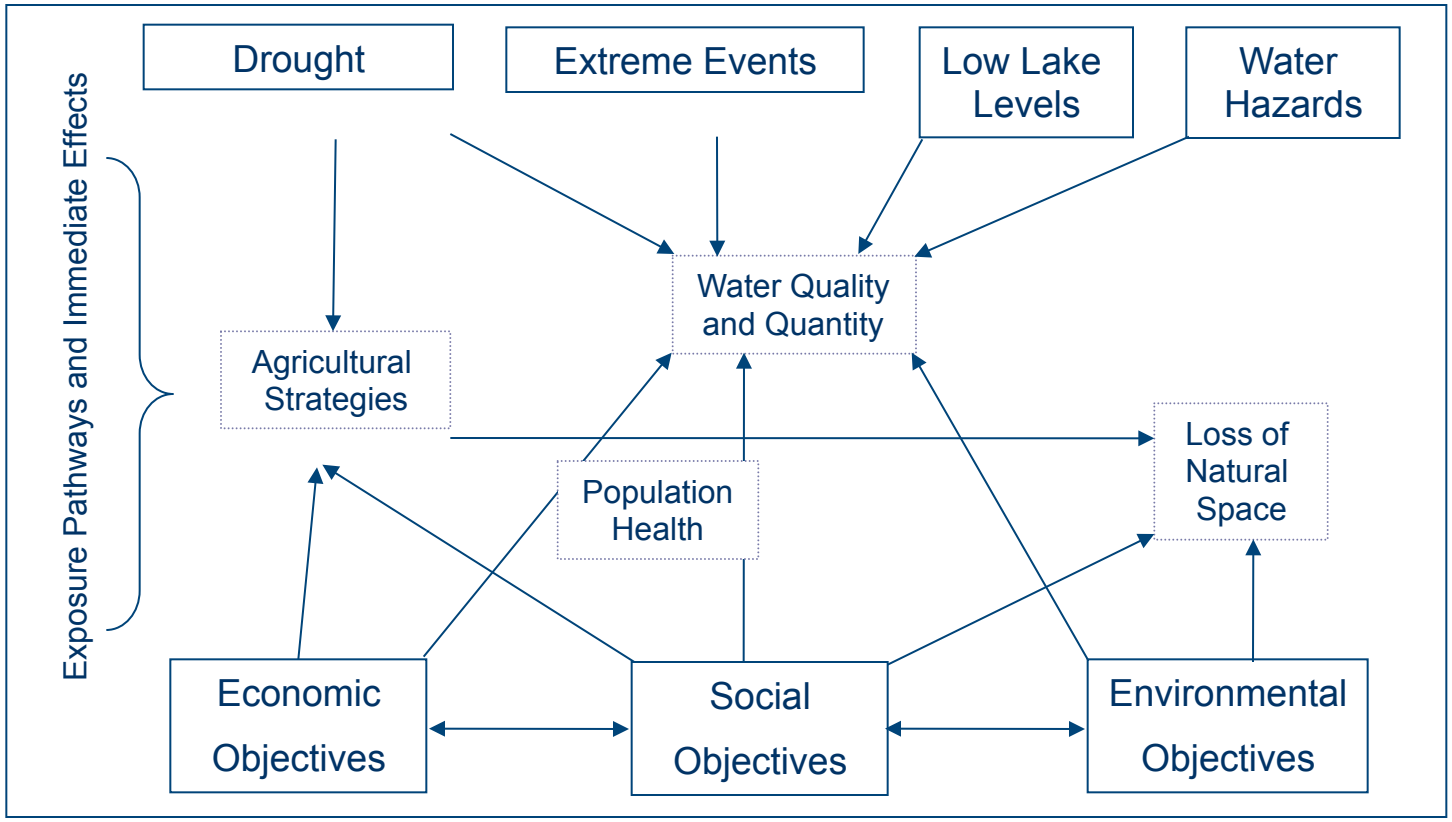
- Define existing policy and regulatory framework and constraints and timeline
- Identify the institutions, jurisdictions and stakeholders (authority and mandates)
- Identify available resources and capacity

See Step 1 Table

Step 2: Setting Management Objectives

	Management Objectives	Performance Measures	Required Data, Tools and Info
Environmental	•How to Ensure sustainable water resources •Flood Resilience	•water quality and quantity •Magnitude •probability	•Water monitoring and sampling •Inventories •Quantitative/qualitative
Economic	•Maintain Agriculture tax base •Maintain tourism and recreation use	•Hazards and yields inventory •Property values •Business diversity	•Municipal tax rolls •domestic./international exports •Tourism jobs, profits
Social	•Aesthetics •Environmental friendliness •Demographic adjustments	•Sustainability/value measures •Recreational use •Suitability to demographics	•Communication •Taxes •surveys •Census info

Step 3: Assess Vulnerabilities



Step 4: Develop Risk Management Strategies

Brainstorm and categorize individual actions

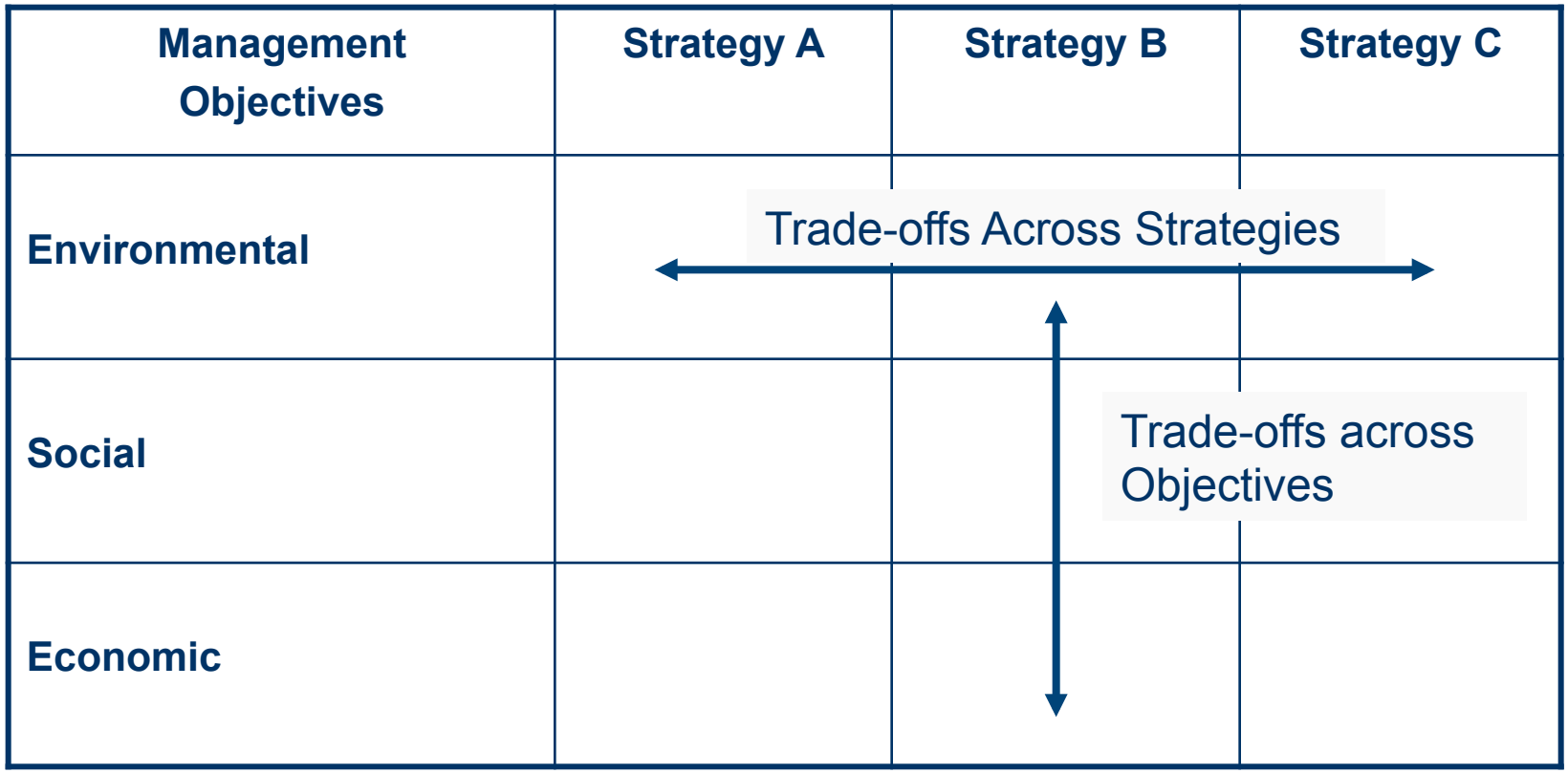
1. ways to meet each management objective
2. ways to address each vulnerability pathway
3. Try to identify *no regrets* options

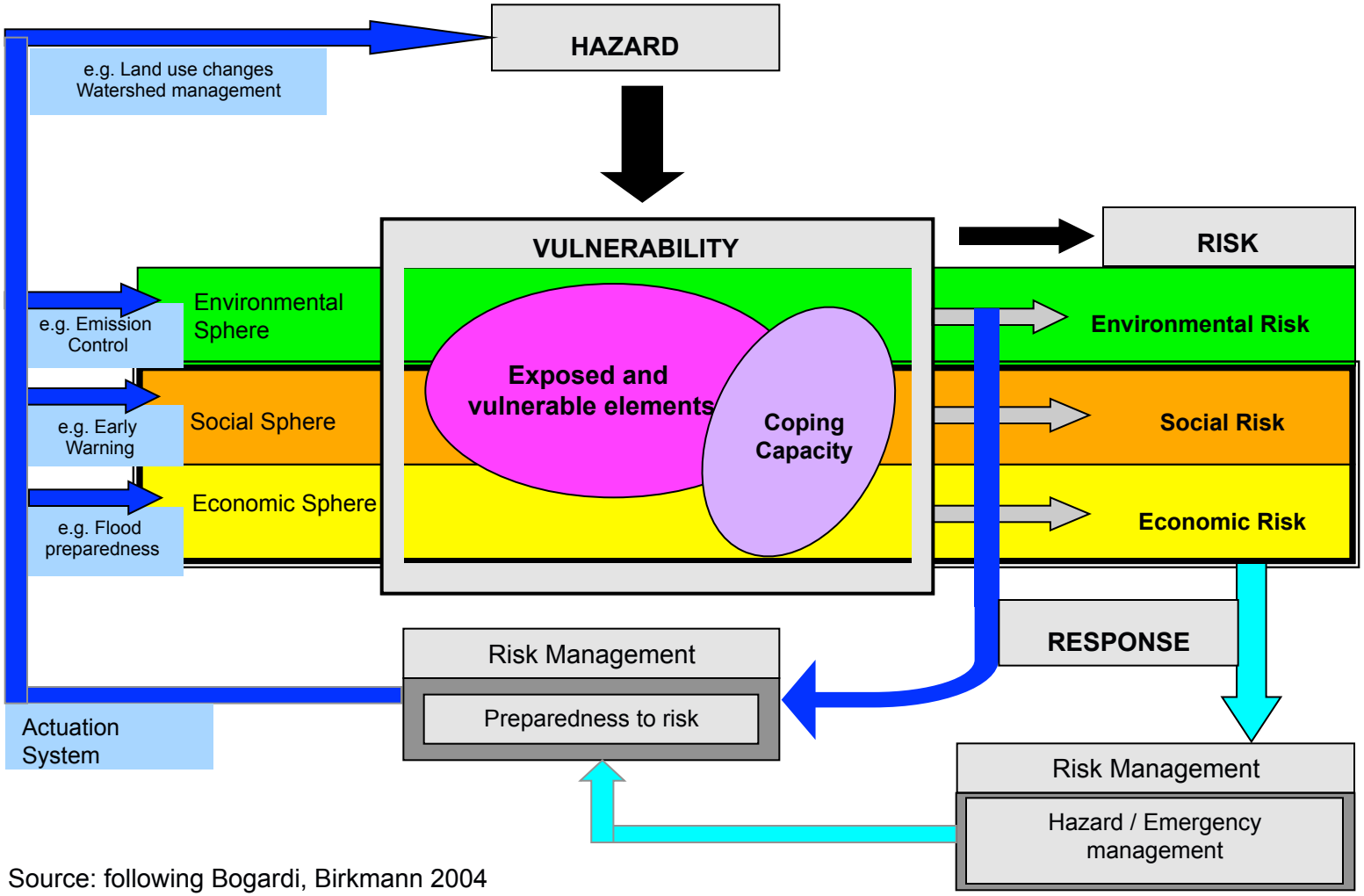
Alternate strategies as logical, internally consistent sets of actions

1. Start with a status quo strategy
2. Develop alternatives: by budget level, theme (diversify, transition, intervention)

Strategies	Category 1 (Water Conservation)	Category 2 (Flood Mitigation)	Category 3 (Emergency Preparedness)	Category 4 (Land-Use Planning)	Category 5 Economic Development
A	Action 1.1	Action 2.1	Action 3.1	Action 4.1	Action 5.1
B	Action 1.2	Action 2.2	Action 3.2	Action 4.2	Action 5.2
C	Action 1.3	Action 2.3	Action 3.3		Action 5.3
	Action 1.4				Action 5.4

Step 5: Evaluation and Decision-Making





Source: following Bogardi, Birkmann 2004

Planning and Management Components

Characteristics of the Ecosystem Approach

- Slocombe suggested that the ecosystem approach has a set of core characteristics:
  - Systems concepts and analysis
  - Ethical perspectives
  - Stakeholder and public participation
  - A bioregional place-based focus
  - Efforts to identify and develop common goals
  - Gaining a systematic understanding of the ecosystem of interest

Planning and Management Components

Characteristics of the Ecosystem Approach

- Slocombe developed ecosystem to address common environmental management problems:
  - Viewing people and their activities as separate from nature
  - Fragmentation of knowledge or disciplines, ecosystems, jurisdictions, and management responsibilities
  - Emphasizing single resource uses or economic sectors; ignoring conflicts over possible alternative uses

Planning and Management Components

Characteristics of the Ecosystem Approach

- Slocombe developed ecosystem to address common environmental management problems:
  - Not recognizing the many ways in which ecological and socio-economic systems are interconnected
  - Ignoring the propensity of biophysical and socio-economic systems to change, sometimes rapidly and unexpectedly
  - Being reactive and attempting to eliminate uncertainty by controlling complex, dynamic systems instead of anticipating change and problems and adapting to them

Planning and Management Components

Opportunities through the Ecosystem Approach

1. Challenges the dominant anthropocentric/ technocentric perspective
2. Reminds us to consider management problems and solutions in the context of linked ‘systems’
3. Demands that the links between natural and economic or social systems be considered (exceeding thresholds lead to environmental degradation)

Planning and Management Components

Opportunities through the Ecosystem Approach

4. Reminds us that decisions made (or actions taken) at one place or scale can have implications for other places or scales
5. Raises questions regarding what is the most appropriate areal or spatial unit for planning and management (not political boundaries)
6. Highlights that systems are dynamic or continuously changing (in short and long terms)

Planning and Management Components

Opportunities through the Ecosystem Approach

- Overall, the ecosystem approach incorporates the key ideas that
  - humans are part of nature rather than separate from it
  - interrelationships must be emphasized
  - critical thresholds exist
- Implementing an ecosystem approach requires adjustments to governance and management

Planning and Management Components

Long-Term View

- In resource and environmental management, it is important to have:
  - a short-term view (less than 5 years)
  - a middle-term view (5 to 15 years)
  - a long-term view (more than 15 years)
- Systems often change slowly (but can change suddenly as well; adaptability is needed)
- A significant period of time may be required to change behaviour, attitudes, and values

Planning and Management Components

Long-Term View

- Many problems have developed over long time spans, and can't be 'fixed' or reversed in a few years; patience is required
- Short-term view is caused by
  - short time between elections and other terms of office
  - long time frame required to change attitudes
  - focus on tangible results in short-term
- Preoccupation with short-term results prevents long-term commitment of funds and human resources

Planning and Management Components

Social Learning

- Learning applied not only to individuals but also to social collectives, such as organizations and communities
- Resource and environmental management processes should be designed so that both individuals and organizations are able to learn from their experience and become more knowledgeable and effective in the future (‘theory of action’)
- Both single and double-loop learning should be used

Planning and Management Components

Social Learning

- The emphasis in **single-loop learning** is to ensure a match between intent and outcome
  - e.g., a thermostat receives information and takes corrective action to ensure an outcome consistent with intent
  - *How* to do it
- **Double-loop learning** addresses a condition, when there is a mismatch between intention and outcome
  - Challenges underlying values and behaviour, e.g. why do we want to regulate temperature in the first place?
  - This encourages 'out of the box' thinking
  - *Why* to do it

Planning and Management Components

Environmental Justice

- 'The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies' (US EPA)
  - e.g., we should not dispose of waste and other **LULUs** in less-developed areas or countries
- Resource and environmental policy and management decisions often have public health implications

Implications

- Concepts and ‘philosophy’ that reflect best practice for management of natural resources and environment:
  1. Recognizing the contextual factors that characterize a problem situation and being willing to design solutions that address specific attributes of the problem
  2. Establishing a vision that identifies a desirable future so that appropriate means can be identified to achieve the desired end

Implications

- Concepts and ‘philosophy’ that reflect best practice for management of natural resources and environment:
  3. Appreciating the strengths and limitations of potential desirable futures
  4. Clarifying underlying values that influence attitudes and behaviour and developing ethical principles or guidelines consistent with the desired future

Implications

- Concepts and ‘philosophy’ that reflect best practice for management of natural resources and environment:
  5. Adapting a systems perspective to ensure the interactions of various environmental and human subsystems are considered
  6. Looking beyond the present and immediate future to consider the longer term
  7. Appreciating the significance of social learning
  8. Recognizing the importance of governance issues