Integrating the knowledge of technical experts and the public in water policy and decision-making: The socio-ecological perspective to open systems theory framework (OSTE)

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Outline

- Setting the context
- The model
  - As in strategic planning and policy making
- Relevant conceptual grounding of the model
  - As in the practice of deliberation
- Questions

Theory and behavior: The self-fulfilling prophecy

- Theories adopted by institutional and organizational designers transform "image into reality"

- Theories:

  - Become accepted truths and norms that govern behavior

  - Provide a language for comprehending the world

"Our beliefs about human nature help shape human nature itself" (Frank, 1988: 237)

OSTE's basic assumptions about people

- People are purposeful and, in anticipating the future, <u>can</u> be ideal seeking

- People want to learn and create their own desirable future

Rationality is a belief-based deliberative judgment (Scheffler, 1982; 1986) requiring structural corroboration (Pepper, 1942)

OSTE's conceptual grounding relevant for deliberation

- Pepper's (1942) world hypothesis of contextualism
- Ecological learning, theory of information pick up (J. J. Gibson, 1966; 1994)
- Rationalization of conflict
- Ash's (1952) properties of influential communication
- Charles Sanders Peirce's method of inquiry

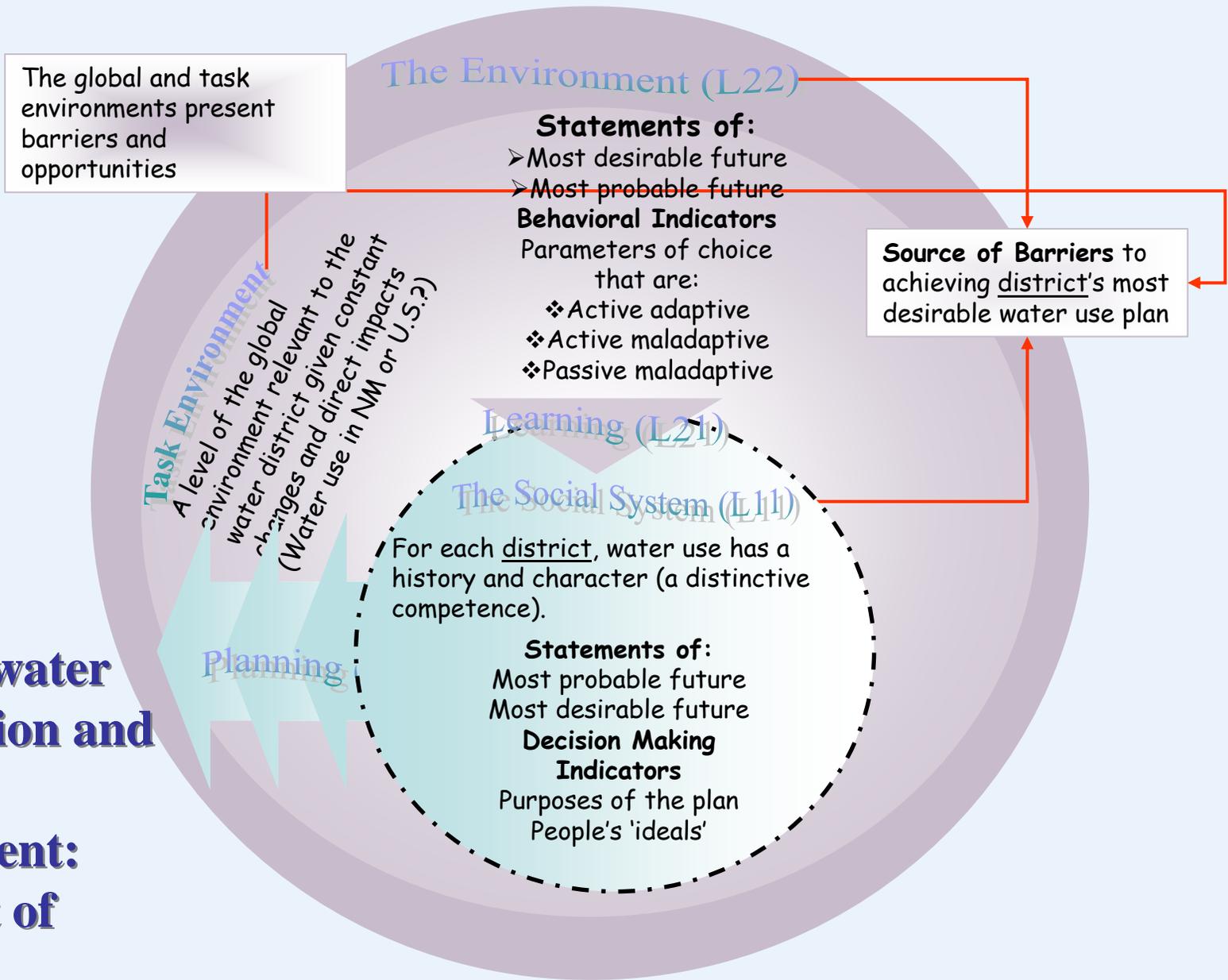**OSTE framework (Emerys and colleagues)**

Early 1950s to the present
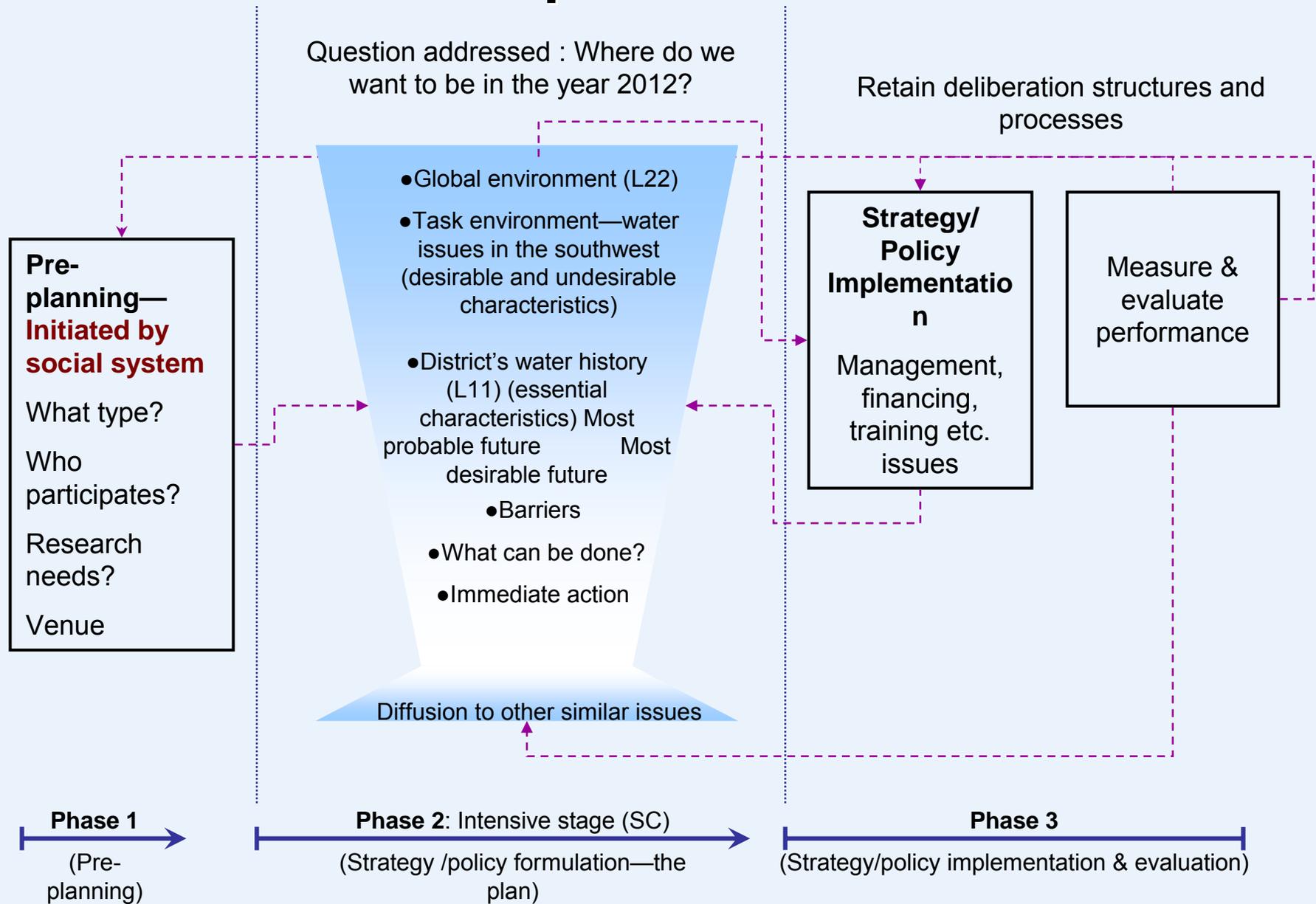
Ecological learning: A theory of information pickup
(Gibson, 1994: 242, 243)

- Information is "the specification of the observer's environment"

- Information pick up "is not to be thought of as a case of communicating"

- Information is not lost when gained by the individual

- "Information is not conveyed"; it's simply there to be picked up.

OSTE in water conservation and drought management: Basic unit of analysis

The global and task environments present barriers and opportunities

The Environment (L22)

Statements of:
➤ Most desirable future
➤ Most probable future
Behavioral Indicators
Parameters of choice that are:
❖ Active adaptive
❖ Active maladaptive
❖ Passive maladaptive

Task Environment
A level of the global environment relevant to the water district given constant changes and direct impacts (Water use in NM or U.S.?)

Source of Barriers to achieving district's most desirable water use plan

Learning (L21)

The Social System (L11)

For each district, water use has a history and character (a distinctive competence).

Statements of:
Most probable future
Most desirable future
Decision Making Indicators
Purposes of the plan
People's 'ideals'

Planning

OSTE for the water policy and planning practice

Question addressed : Where do we want to be in the year 2012?

Retain deliberation structures and processes

Pre-planning—
Initiated by social system

What type?

Who participates?

Research needs?

Venue

● Global environment (L22)

● Task environment—water issues in the southwest (desirable and undesirable characteristics)

● District's water history (L11) (essential characteristics) Most probable future   Most desirable future

● Barriers

● What can be done?

● Immediate action

Diffusion to other similar issues

Strategy/ Policy Implementation

Management, financing, training etc. issues

Measure & evaluate performance

Phase 1

(Pre-planning)

Phase 2: Intensive stage (SC)

(Strategy /policy formulation—the plan)

Phase 3

(Strategy/policy implementation & evaluation)

OSTE's basic assumptions about the environment: A contrast

Stable Environment

- Planning and policy developed by experts
- **Aim**: feasibility, extrinsic value

- Based on facts only
- Problem solving
- Concentrates on means
- Rational decision making (neoclassical economics)

- **Product**: The plan/policy document

- Narrow definition of cost effectiveness

Uncertain Environment (OSTE)

- Planning and policy developed by those affected
- **Aim**: probability, extrinsic and intrinsic value

- Based on context and facts
- Puzzle solving
- Concentrates on ends
- Rational/irrational decision making (the giving and taking of reasons)

- **Product**: a group of intrinsically motivated people with a plan/policy document

- Broad definition of cost effectiveness

Theory of information pickup: Foundations for deliberation

► The extracting and abstracting of invariants are what happens in both perceiving and knowing (first hand experience)

► Spoken and written words of language, pictures, sculptures, etc. provide information mediated by the perception of the first observer (second hand experience)

► Cooperative, economic and political behavior "all depend on the perceiving of what another person or other persons afford, or sometimes on the misperceiving of it" (Gibson, 1986: 135).

What do we do if most of what the experts and the public know is second hand experience?

Engage in deliberative exchange!!!

Rationalization of Conflict
Two systems (experts and the public) in disagreement

Consensus

A

B

Rationalization of Conflict
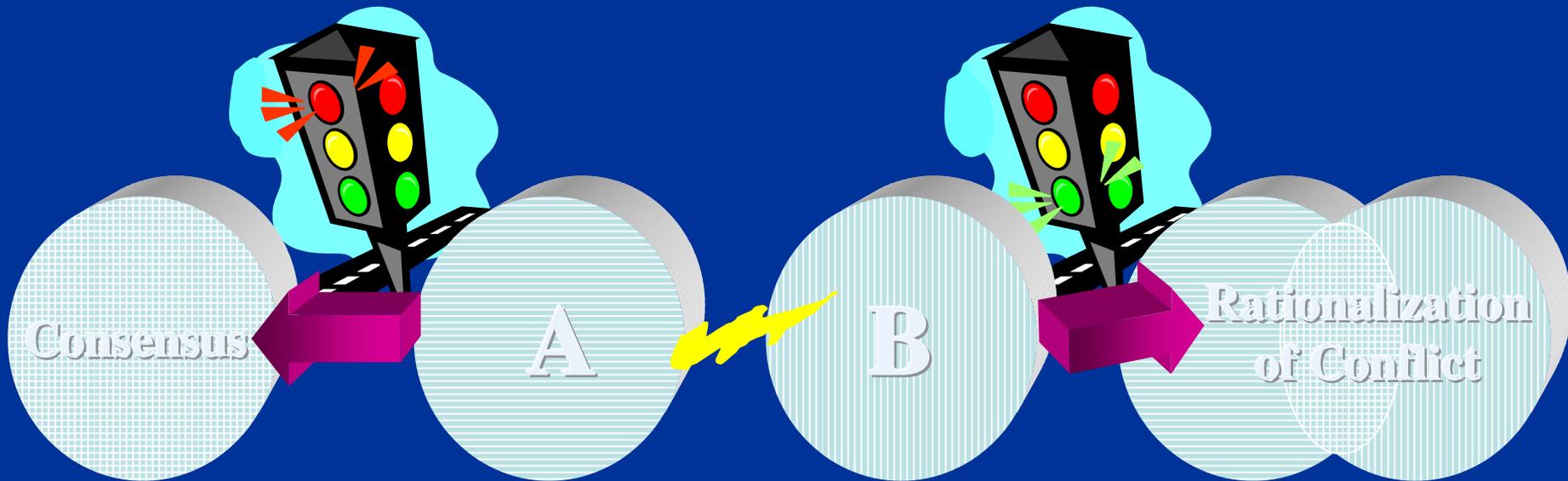
Two systems as one

Two distinctive systems with an agreed upon common ground

Rationalization: as in the giving and taking of reasons making self-interest explicit rather than maximizing hidden individual interest or benefit (Brandon, R. B., 1994).

OSTE for planning policy making: Effective/ influential communication properties

Theoretical

- **Openness**: for exploration and checking of opinions and perceptions

- **Mutually shared objective filed**: 'we all live in the same world'—commonly perceived as background to joint action, taking into account the interdependencies

- **Basic psychological similarity**: 'we are all humans with the same concerns'—can talk as equals and learn from each other

Process design/management

- Pre-briefing on content and process. Minimize threat to participation. Clarify roles and values. All recording is public, visual, verbal, vernacular

- Scan the external social field (global and task environment) using the ground rule: 'all perceptions are valid'—analyzed and used throughout as a benchmark

- Provide opportunities to see common ground—desirable futures based on ideals and used as basis for cooperation, rationalization of conflict, and planning

OSTE for planning policy making: Effective/ influential communication properties (Cont.)

Theoretical

- **Trust—the emergence of individuals as open systems**: will initiate communication that builds self-confidence and intrinsic motivation, generating energy, and leading to action and diffusion.

Process design/management

- No status differences between collaborators and between participants and process managers. No management interference in content. Process managers manage the planning/policy environment to achieve all of the above.

Trust = Collaborative action and diffusive learning

Drowning by Power Point?

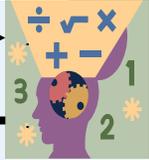No structural corroboration, no deliberation!!!!

Socio-ecological Open Systems Theory: Linking Epistemological Paradigms

Scientific Knowledge

Bits of information impinge as sensations

Complex machine for associating, abstracting and making inferences. Numbers, geometry and cognitive algebra as source of most certain truth
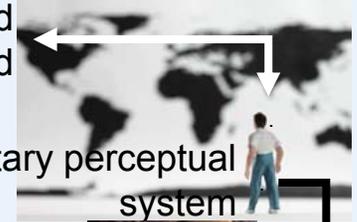
Some but inadequate, meaningful knowledge

Injections of abstract concepts and theories (convincing arguments) via proof—judged by experts, e.g., mathematicians, natural scientists (**Academia, R&D**)

Common Knowledge

Structured informational field

Unitary perceptual system

Directly perceived, structurally corroborated, ecologically adapted and meaningful knowledge

Theories and actions derived from invariances (constant properties of the same type)

Perceptions of higher orders of invariances (**Lay People**)

Highly sophisticated theories of how the world works

EDUCATIONAL PURPOSE

Abstract information transmission　　　**Increasing acuity of perceptual system**

Retroduction

Abduction

Scientific Inquiry
(**Belief-based**)

A "surprising" phenomenon, the observation of something

unexpected (Feibleman, 1946: 282)

Induction

Deduction