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## Framing purposeful evaluation through critical systems thinking

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# Framing Purposeful Intervention

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## **Abstract**

Two traditions of practice – evaluation and systems – share three significant concerns regarding development intervention: (i) making sense of complex interrelationships and the continual change brought about by such relationships; (ii) engaging with multiple (including exogenous and endogenous), often conflicting, perspectives on situations; and (iii) challenging vicious cycles of practice and understanding by cultivating a more radical learning culture. These challenges might be described successively in terms of cultivating a shift from (i) summative to formative evaluation (ii) positional bargaining to interest based negotiation, and (iii) purposive to purposeful action. Some ideas from traditions of social learning and critical systems thinking are presented to support a re-framing of intervention and evaluation from one serving the ‘project state’ towards one serving more radical transformative practice.

Key words: social learning, critical systems thinking.

## **Introduction**

*Glendower:*

**I can call spirits from the vasty deep.**

*Hotspur:*

**Why, so can I, or so can any man; but will they come when you do call for them?**

From William Shakespeare (Henry IV Pt.1 Act III Scene 1)

The Shakespeare quotation above was used as part of an introduction in a UK parliamentary committee report<sup>2</sup> on the implementation of the European Water Framework Directive (WFD) (Bloch 1999). The WFD came into force in December 2000 and sets a framework for managing water resources based on river basin districts (one or more neighbouring river basins with associated areas of land and sea). The WFD is an ambitious programme for rural development which appears to appreciate (i) the complex social dimension to water management; (ii) the need for integrated

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<sup>2</sup> House of Commons Environment, Food and Rural Affairs Committee (March, 2003) The Water Framework Directive: Fourth Report of Session 2002-03 Volume 1 p.5. HC130-1

planning; (iii) implementation requiring *encouragement of* ‘active involvement’ of all stakeholders; (iv) a common implementation strategy (CIS) involving *guidance on* implementation rather than a *blueprint for* implementation; and (v) a specific CIS on ‘participation’ including reference to ‘*learning approaches*’.

Such aspirations bode well for a more enlightened approach to rural development. Moreover, the quotation used by the UK Committee appropriately warns against the complacency of resting on mere good intentions. What I find remarkable about this use of quotation is an appreciation of shortcomings in the ‘command-and-control’ approach underpinning a framework of a European Directive. Though such directives may easily ‘command’ action, there are clear limitations on what ‘control’ they may have. The WFD is a framework directive at European programme level, inviting intervention at local level through a multiple series of projects. It prompts a number of questions regarding the role of frameworks shaping rural development projects. What features of a framework might enhance and/ or diminish command-and-control? How much confidence might we have in a framework that can deliver at once an *understanding* of, say, natural resource dilemmas and a means of *practice* for resolving such dilemmas? How might a framework enable *space* for adapting to change in socio-ecological situations, as well transforming ourselves as part of the situations we inhabit and wish in turn to transform?

My ‘framework’ point of departure for addressing such questions is the framework of project management. Projects have long provided a common currency for delivering development intervention. Marsden & Sonnino describe this situation as the *project state*: “[a]n acceptance that the only way to govern is through setting up more and more competitively organised ‘projects’.” (quoted in High and Nemes, 2007). In what follows, I focus on a generic framework of project management and explore its shortcomings for delivering the kind of ambitious intentions set out in programmes like the WFD.

Alternative ideas of a framework arise from my involvement in deliberations between two communities of practitioners associated with project management, each with different academic traditions – systems practitioners and professional evaluators. In 2005, Bob Williams and Iraj Iman of the American Evaluation Association (AEA) triggered and supported a book proposal inviting myself and a number of other systems practitioners to contribute systems ideas to support professional evaluators. A workshop was convened in San Francisco involving the contributing authors along with members of the AEA. This was followed by an extensive continuation of dialogue through email and video conferencing resulting in the book publication, *Systems Concepts in Evaluation* (Williams and Imam 2006) and the design of collaborative workshops for professional evaluators in America. It was during the course of these dialogues amongst contributing authors, editors, evaluators and others,<sup>3</sup> and the co-design of workshops, that a pattern of three distinct though not mutually exclusive areas of concern emerged. My own understanding of these concerns are represented below with the suggestion that these are concerns relating

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<sup>3</sup> Particularly Derek Cabrera from Cornell University Cabrera, D. and W. Trochim (2006). A Protocol of Systems Evaluation. *Systems Evaluation and Evaluation Systems Whitepaper Series*. D. Cabrera. Ithaca NY, Cornell University National Science Foundation Systems Evaluation Grant No. EREC-0535492.

not just to systems practitioners and professional evaluators, but to anyone involved with project management:

- (i) making sense of complex interrelationships and the continual change brought about by such relationships;
- (ii) engaging with multiple, often conflicting, perspectives on situations; and
- (iii) challenging our frameworks of understanding and practice

I address each of these concerns in turn providing for each a suggested alternative framing of activity that shifts attention from a linear command-and-control orientation imbued in conventional project management. For the concern relating to complex interrelationships, I draw on experience with critical systems thinking and particularly the notion of an eternal triangle associated with boundary critique (Ulrich 2002; Ulrich 2003). For the concern relating to multiple perspectives, I draw on work with a large European project - **SLIM** (social learning for the integrated management and sustainable use of water at catchment scale) - associated with the WFD, in constructing a heuristic for social learning (Ison, Steyaert et al. 2004; Blackmore, Ison et al. 2007). For the concern relating to challenging boundaries, I draw on work with colleagues in Guyana, Switzerland and the UK on an action research intervention - **ECOSENSUS** (Electronic/Ecological Collaborative Sensemaking Support System) - exploring distributed process-orientated environmental management as an alternative to conventional project-orientated management types of intervention (Berardi A. 2006; Reynolds, Berardi et al. 2007).

This paper does not detail the empirical output from these interventions. Such information can be sought through references and the associated websites, each with downloadable material protected by creative commons licences (<http://slim.open.ac.uk> which includes a set of seven policy briefings along with twelve case study monographs, and <http://kmi.open.ac.uk/projects/ecosensus>). My focus here is on the respective heuristic devices associated with each intervention.

Before examining these different framings some further exposition of conventional project framing is required to provide the grounding for proposing alternatives.

### ***The 'evaluative state' underpinning project framing***

There are a number of variants of project management cycles. Most start with some stage of initiation through identifying an issue needing to be addressed, followed by stages of conceptualising what needs to be done through planning and ending with the execution of the plan through implementation which itself might specify stages of monitoring and evaluation. Figure 1 illustrates a simple expression of a project management cycle consisting of phases of initiation, planning, execution and closure.



Fig. 1 Project Management Cycle<sup>4</sup>

Some immediate shortcomings might be identified with such cycles. Firstly, the framework appears quite abstract. Where is the human presence in this? Secondly, the framework appears closed and insular. There appears little room for external input and influence. Thirdly, the process is very linear, albeit in this instance of a circular linearity. Expressions of project management cycles tend towards ending with specified stages of ‘execution’ and ‘closure’ or ‘phasing out’. This is not surprising given that projects by definition are short term (compared with programmes) with a defined finishing point. Project management might be considered a process of command and control; it consists of predefined command-set objectives or goals, involving a set of resources (including physical and natural capital as well as finance) under the control of decision makers, and identifiable experts necessary to implement (command and control) the process.

Perhaps the most widespread use and expression of a tool for project management used in rural development is the logical framework approach (LFA) or logframe for short (NORAD 1999).. LFA works as an **objectives-oriented** tool making clear the agreed purpose of intervention at the outset from which clarity might then be gained on: the **target** groups, necessary resource **inputs**, implementation of **activities**, and resulting **outputs** which can be clearly **measured**. The framework also clarifies a number of external **assumptions** important for the success or failure of implementation. The actual *use* of LFA by practitioners will determine the level to which it allows flexibility from command and control imperatives. But users work within particular contexts of use, and it is perhaps worth noting the cultural context in which LFA developed. LFA was originally developed by the United States Department of Defence and adopted by the United States Agency for International Development in the late 1960s primarily to monitor donor expenditure on aid support for developing countries. Its widespread context of use amongst donor communities and associated organisations for managing projects in the global South has been reinforced during the past 50 years.

In this sense, LFA has been a key constituent of not just the *project state* but what Parsons refers to as an associated *evaluative state* underpinning ‘new public

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<sup>4</sup> From a project management kit provided on <http://www.method123.com/project-lifecycle.php> (accessed July 2007)

management' in the public sector during the 1980s (Parsons 1995; Neave 1998). In the evaluative state, ideas from the private sector in controlling resources for the command of profit were imported: public organisations should be driven by a sense of mission and focus on earning as well as spending; clients were considered more as 'customers' rather than citizens; governments should steer development, leaving control more to market forces encouraging competition in the delivery of services; and funding was linked with outputs assessed by measures of performance. The evaluative state is characterised by attention to performance measurement. It generated a growth in the number of state-sponsored agencies specifically dealing with evaluating development projects. The logframe of LFA developed with prominence in this culture of evaluation in project management.

Like any framework, the actual *use* of LFA by practitioners in different and changing contexts will determine the level to which project managers and other stakeholders are trapped by its cultural roots of command and control. Alternatively, one might seek possibilities where LFA might be adapted to (i) manage change in interrelationships, (ii) express and accommodate different perspectives, and (iii) reformulate objectives and purpose. The following three sections provide some alternative framing devices that may inform such adaptations.

### ***Making sense of complex interrelationships***

In the opening chapter of *Systems Concepts for Evaluation* Gerald Midgley maps out the terrain of systems thinking in terms of three waves (Midgley 2006). Each wave corresponds to the three concerns framing this paper. In the first wave systems thinking is most commonly associated with joined-up-thinking and holistic approaches to intervention. The key contributing ideas to this wave include general systems theory, cybernetics – including systems dynamics - and complexity science.<sup>5</sup> These ideas complement many other methods and tools from a range of other disciplines that might be used with the primary intention to make sense of complex interrelationships in the real world. But in project management the imperative is not simply to passively absorb the real world (as implied by the term 'sense-making') but to actively evaluate or make judgements. The intricate relationship between making sense and making judgements is captured in Werner Ulrich's notion of boundary critique.<sup>6</sup>

Ulrich describes boundary critique in terms of an eternal triangle consisting of a continual interplay between judgements of 'fact', 'value' judgements, and 'boundary' judgements:

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<sup>5</sup> The second wave deals with the problem of engaging with multiple perspectives, and includes problem structuring methods or soft systems approaches. The third wave addresses more explicitly the boundaries of intervention and issues of marginalisation – who and what is in and who and what is out – and principally involves methods associated with critical systems thinking.

<sup>6</sup> Ulrich's notion of boundary critique is not addressed directly in the *Systems Concepts in Evaluation* publication though is referred to by Midgley (2006, p.25). It does though provide the methodological underpinning to critical systems heuristics which is addressed Reynolds, M. (2006). Evaluation based on critical systems heuristics. *Using Systems Concepts in Evaluation: An Expert Anthology*. B. Williams and I. Imam. Point Reyes CA, USA EdgePress: 101-122. Midgley's own notion of boundary critique is also described (Midgley, 2006, pp. 27-28).

“Thinking through the triangle means to consider each of its corners in the light of the other two. For example, what new facts become relevant if we expand the boundaries of the reference system or modify our value judgments? How do our valuations look if we consider new facts that refer to a modified reference system? In what way may our reference system fail to do justice to the perspective of different stakeholder groups? Any claim that does not reflect on the underpinning ‘triangle’ of boundary judgments, judgments of facts, and value judgments, risks claiming too much, by not disclosing its built-in selectivity” (Ulrich, 2002 p. 42).

Figure 2 represents this overall process as a dynamic triad of interplay.

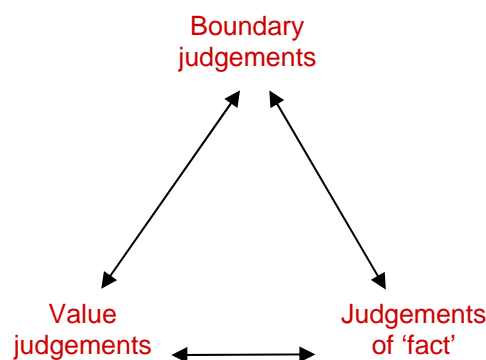


Fig. 2 Eternal Triangle  
(adapted from Ulrich 2002)<sup>7</sup>

This interplay resonates with observations from another key systems practitioner, Geoffrey Vickers, in his description of an appreciative system: “...[It] seems to me to carry with those linked connotations of *interest*, *discrimination* and *valuation* which we bring to the exercise of judgement and which tacitly determine *what* we shall notice, *how* we shall discriminate situations from the general confusion of ongoing events and how we shall *regard* them” (Vickers 1987 p.98-99 My italics). Vickers’ notion prompts the need to continually question and review judgements around any intervention. Co-joining Figures 1 and 2, boundary judgements are associated with conventional ideas of *planning*, whilst judgements of ‘fact’ and value judgements occupy the conventional domains of *initiation* and *execution* respectively (in conventional project management terms).

The advantage of this heuristic if mapped over the project management cycle (Figure 1) is that it reminds us not to be complacent with *an* understanding of the situation, but to be alert to changing circumstances regarding the situation (the ‘facts’) and our own internal changes for evaluating the situation (our ‘values’). Both types of judgement inform change in our framing of understanding and practice - boundary

<sup>7</sup> Ulrich’s original drawing differs in that I have inter-changed the positioning of judgements of ‘fact’ and value judgements. Whilst this makes no difference to the overall dynamics of the heuristic, this revised alignment enables further alignment with the project management cycle.

judgements - to effect change in the situation. In short the eternal triangle may provide a generic antidote to the linearity of project management. The model of boundary critique proposed here crystallizes the focus from *summative* evaluation towards more continuous *formative* evaluating. For example, implementing an ambitious programme like the WFD requires not only continual alert to the changing complexity of river basin districts, but also the knock-on changes to stakeholders' values and their frames of reference for understanding and practicing activities associated with water management.

If we accept that the domain of complex interrelationships is located principally in the 'real' world from which we make judgements of 'fact', and such judgements are determined by value judgements and boundary judgements, two questions arise. Firstly, given that we operate projects and interventions amongst multiple stakeholders, how might different value judgements be reconciled? Secondly, to what extent might conventional boundary judgements be challenged to enable improved framing as circumstances change? Each question is addressed successively with respect to the two remaining concerns in the two ensuing sections. The first emphasises the tension between *practice* and *understanding* through concerted action of social learning. The second emphasises the need to address ongoing tension between *systems* and *situations*.

### ***Engaging with multiple perspectives***

“*Stakeholding* expresses the idea that individuals *actively construct*, promote and defend their stake” (SLIM 2004 p.1 original italics)

In Drentsche Aa – a designated National Landscape area in the Netherlands – an official deliberative platform (or forum) to represent stakeholders was established with the aim to develop a management plan for the area. After many meetings, the forum appeared to make little progress:

“One of the platform members, in frustration with the official process, has set up an informal multistakeholders' group. They call themselves 'cake bakers', developing new recipes together, to distinguish themselves from the 'cutting up of the cake' deals that seem to characterise the official platform process.”

(SLIM 2004 p.2)

The notion of cake-baking captures the essence of stakeholding development and concerted action implied in the idea of social learning as developed by **SLIM** (social learning for the integrated management and sustainable use of water at catchment scale). The Drentsche Aa provides one of many case studies embraced by the project which operated between 2001-04 as a European Commission supported intervention investigating the socio-economic aspects of the sustainable use of water. SLIM involved about 30 researchers from France, Italy, the Netherlands, Sweden and the UK. The main focus of interest lies in the application of *social learning* as a conceptual framework, as an operational principle, as a policy instrument, and as a process of systemic change. SLIM offers social learning as another way of conducting



public business in managing natural resources, alongside the use of three conventional top-down devices: (i) legalistic regulatory measures (ii) fiscal incentives and disincentives for particular practices, and (iii) conventional transfer-of-knowledge models of instruction.

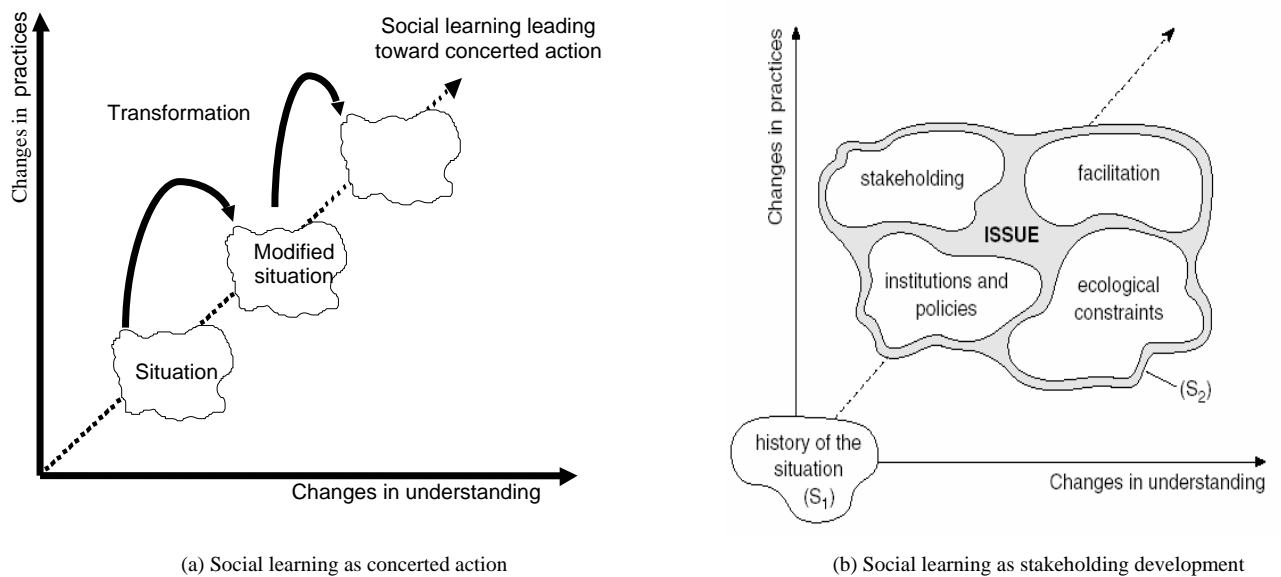
As stated in the final SLIM report (Ison, Steyaert et al. 2004) social learning practices help to:

- Recognize and reframe our mental models.
- See issues through fresh eyes.
- Resolve social dilemmas.
- Define and articulate what we value.
- Discover a shared purpose.
- See through conflicting views to a shared vision for the common good.

The notion of social learning builds on earlier recognition of the importance of nurturing the tension between changing *practice* and *understanding* between stakeholders. John Friedman, for example, describes social learning as the third of four traditions informing planning (the other three being 'social reform', 'policy analysis' and 'social mobilization') (Friedman 1987). He contrasts social learning with the more control-oriented tradition of policy analysis:

"Policy analysis is focused on decisions; it is a form of anticipatory decision-making, a cognitive process that uses technical reason to explore and evaluate possible courses of action.... Social learning, on the other hand, begins and ends with action, that is, with purposeful activity. It is a complex, time-dependent process that involves, in addition to the *action* itself (which breaks into the stream of ongoing events to change reality), *political strategy and tactics* (which tell us how to overcome resistance), *theories of reality* (which tell us what the world is like), and the *values* that inspire and direct the action. Taken together, these four elements constitute a form of *social practice*. It is the essential wisdom of the social learning tradition that practice and learning are construed as correlative processes, so that one process necessarily implies the other." (Friedman, 1987 p. 181, italics original)

In SLIM social learning is considered an emergent property of the process to transform a situation. It is modelled on a constructivist - as against a positivist - view of knowledge, suggesting further that more effective learning is enhanced by the interplay between practice and understanding. The learning here though is collaborative (hence 'social') involving multiple stakeholders. Such co-creation of knowledge provides insight into the causes of, and means to transform, a situation. Evidence from the SLIM field-based case studies suggest that learning through practice amongst multiple stakeholders can lead to concerted action. Figure 3 illustrates the SLIM heuristic.



**Figure 3 SLIM heuristic (adapted from Ison et.al., 2004)**

Concerted action is itself evidence of the trust developed between different stakeholders as a result of social learning. The notion of concerted action is captured in the metaphor of an orchestra, with multiple individual players doing different things, though all contributing towards some harmonious output. SLIM generated many examples of different forms of practice being used for triggering new understandings and concerted action. In Italy co-operation between SLIM researchers at the Università Politecnica delle Marche, local farmers and the theatre company, “La Botte e il Cilindro”, produced a civic theatre event at the Festa della Cicerchia in Serra de Conti. The process provided an opportunity for co-learning and future collaborative action on water use and pollution in the area. Living and non-living intermediary objects of mutual interest – for example, the Maraîchine cattle in France, and on-farm microweirs in The Netherlands - were used as focal points of reference for mobilising practice and understanding in identifying stakeholders and co-deliberating on stakeholdings.

Shared practice and cultivation of trust requires nurturing of factors identified as important for managing particular situations. In the case of managing water

catchment areas these factors were identified through earlier research in related fields of inquiry and are depicted in Fig.3b. They include, firstly, the history of the situation (including cultural factors), and secondly, in more detail: (i) stakeholders and stakeholding, (ii) institutions and policy, (iii) facilitation skills, and (iv) ecological constraints and practices. More generically, these last four factors might be described in terms of what Ulrich (1983) identifies as four sources of influence that might inform any inquiry into a situation – (i) motivation (ii) control (iii) expertise, and (iv) legitimacy – a template that I have found particularly rewarding (Reynolds 1997; 2004; 2006).

The SLIM heuristic improves framing of project management in several ways. SLIM privileges human presence in complex situations through the notion of concerted action. Stakeholding in a situation is recognised more as a developmental process rather than a fixed attribute. As with the cake-sharing and cake-baking analogy used by stakeholders in the Drentsche Aa, social learning enables a shift from what Delli Priscoli identifies as an intransigent form of *positional* bargaining that imbues most stakeholder platforms, towards more constructive *interest-based* negotiation (Delli Priscoli 2003). Moreover, the SLIM heuristic dispels with a division between exogenous and endogenous evaluation and evaluators (cf. High and Nemes, 2007) – a division that arguably perpetuates the command-and-control attributes of project management. With the SLIM heuristic, stakeholders and stakeholding development involved with an intervention include those deemed ‘outside’ the project – for example, external consultants or quality assurance agencies – as much as what we normally conceive as ‘participants’. Evaluation is not only intrinsically formative but inherently endogenous.

As a framing exercise, there are again inevitable traps and shortcomings. Firstly, despite SLIM’s focus on multiple perspectives, the human presence in the model, and particularly that of the intervenor(s), is not made explicit. Like all framing devices, the heuristic is a tool; a human abstraction which perhaps inevitably masks actual human presence. As a tool, even a heuristic tool, human agency is inferred rather than made explicit. In the domain of development intervention, the absence of the human intervenor might be construed as itself a device for perpetuating hidden agendas and masking human interests, or in Kapoor’s terms of reference, “disavowing complicity and desire” (Kapoor 2005 p.1203). To what extent might framing be part of the problem rather than an assistance?

Secondly, the SLIM framework gives a rather benign image of development. Changes in practice and changes in understanding appear to seamlessly contribute to a synthesis of concerted action expressed through a normative notion of social learning. The implication of the transect lines in Figure 3 is one of progress and improvement. To what extent might the SLIM framework be used to characterise the many situations of ‘business-as-usual’ invoking malignant practice and misguided understanding common in many instances of rural development intervention? Furthermore, to what extent might the framework capture the actual tensions involved between practice and understanding in intervention? Drawing on the limitations of the metaphor of orchestration, one might ask to what degree might concerted action be ‘harmonious’ and how might tension and conflict between players be considered as a constructive expression?

The challenges here speak to a need for more transparency with what might be called ‘ways of worldmaking’ (Goodman 1978) – or what might be referred to as simply framing or systems thinking. Whilst systems thinking informed the development of the SLIM heuristic, my involvement in ECOSENSUS enabled a more explicit development of systems as devices for enabling transparency and the expression of key tensions, both of which continually challenge framing devices.

### **Challenging boundaries of framing**

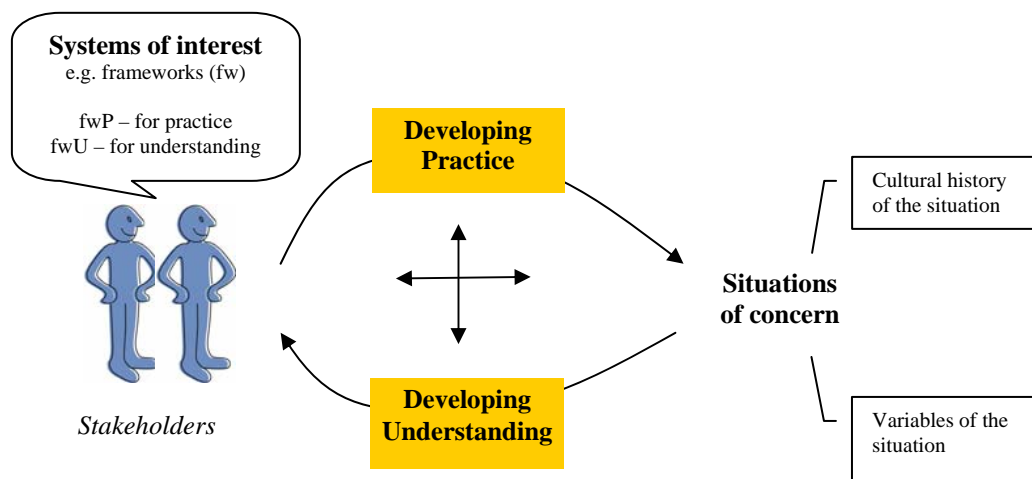
“No problem can be solved from the same consciousness that created it. We have to learn to see the world anew”

(attributed to Albert Einstein)

“A systems approach begins when first you see the world through the eyes of another”

(Churchman 1968 p.231)

Einstein’s often quoted observation provides insight to the general problems associated with framing and becoming fixed with our conventional frames of reference. Churchman’s insight suggests the difficulty in critically exploring our frameworks and the need to step outside of our frames to consider the wider social context of framing. ‘Seeing the world anew’ prompts us to be ever vigilant with our frameworks of thinking; firstly in making conceptual distinctions between our frameworks for practice (fwP) and frameworks for understanding (fwU) (Reynolds and Course Team 2006), and secondly in making frameworks themselves distinct as *systems* of interest from the actual reality of *situations* of concern. With this in mind, Figure 4 provides an alternative framing of the SLIM heuristic.



**Fig. 4 Systems intervention**

Several features of Figure 4 can be highlighted. Firstly, both human presence and the tension between practice and understanding are signalled thus making a point of departure from the SLIM heuristic (Fig.3). Secondly, the human presence and tension between practice and understanding are mediated through the notion of systems thinking.

Two sets of tension become evident in the framing represented in Figure 4. In my view, they provide pivotal points of challenge to our framing devices. I refer to these tensions as dialectic expressions of logic:

1. the internal logic between fwP and fwU, and
2. an external logic between systems (including our frameworks) and situations or contexts of use.

The dialectic nature challenges the dominant logic signalled in project management (e.g., the *logical* framework approach). Both dimensions of logic can be explained further. The tension between practice and understanding requires attention to avoid instances relating to what George Moore in his book *Principia Ethics* in 1903 described as the *naturalistic fallacy*. In brief, the fallacy surfaces the inadequacy of deriving what 'ought to be' (as a normative 'value' judgement) directly from what 'is' (as a judgement of 'fact'). Drawing on the eternal triangle of boundary critique (Figure 2), the naturalistic fallacy is an expression of simply reducing value judgements to judgements of 'fact', rather than appreciating their distinctiveness and the essential *dialectic* relationship between the two.

So, whilst our framework for understanding events might be appropriate for the purpose of understanding, the same framework might not be appropriate for actually doing something about it. For example, we inevitably often use a systematic framework for ordering our sense-making – a way of slotting experiences into preconceived compartments that we are familiar with. But acting systematically using such rigid frames (such as with strictly rigid project management cycles) can distract from more purposeful systemic endeavours. A common example of such fallacious perspectives is in the field of evolutionary biology and genetics. Whilst Darwin's *understanding* of natural selection provides an compelling fwU it's *practical* application in terms of a programme of eugenics is a somewhat less compelling fwP. Richard D. Alexander makes the point in making a defence of controversial genetic science of sociobiology against claims of biological determinism: "To say we are evolved to serve the interests of our genes in no way suggests that we are obliged to serve them. Evolution is surely most deterministic for those still unaware of it." (quoted in Barlow 1998 p. 191).

A further instance of this need to differentiate between fwP and fwU crystallized during the collaboration on the *Systems Concepts in Evaluation* project. Gerald Midgley's chapter depicting three distinct waves of systems thinking provided a helpful framework for *understanding* the historic trajectory of systems practice. However the editors and contributing authors – including Midgley –advise against using this frame for pigeon-holing systems methods in their *practice*. Whilst indicating earlier that the three waves and their associated forms of systems practices correspond to the three concerns outlined in this paper, the concerns expressed are shared to varying degrees by all systems and evaluation methods. Methods might be

suitable for variable contexts depending on (i) the circumstances of use (judgements of fact), (ii) the user (value judgements) and (iii) the experiences of using the method previously (boundary judgements).<sup>8</sup>

The second dialectic between *systems* as conceptual constructs and the real world *situations* to which they address, surfaced more explicitly in the ECOSENSUS intervention. The participants included a European-based team lead by the Open Systems Research Group at the Open University, and colleagues from Guyana including environmental scientists, land-use planners, and indigenous Makushi Amerindians and their representatives associated with the protection and development of the North Rupununi wetlands of Guyana.

ECOSSENSUS aimed to provide an alternative framework for environmental decision making which enables users to break free from the command-and-control imperatives of conventional project management.

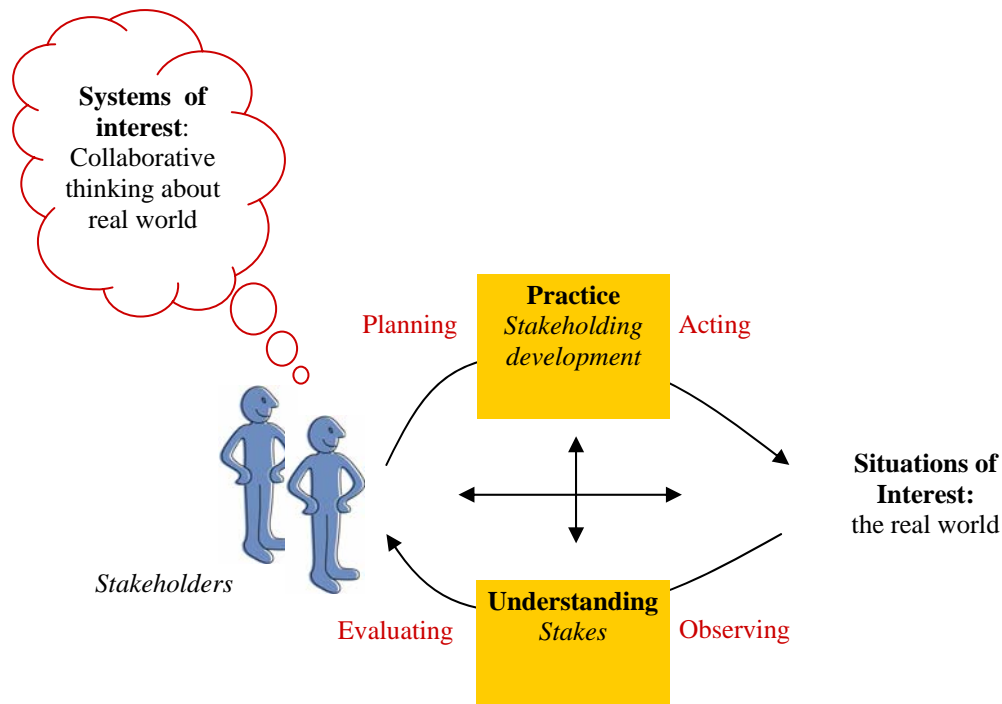
The project had three objectives:

1. To help develop open-source software tools for enabling marginalized communities with (albeit limited) access to the internet to engage with environmental decision making.
2. To develop the capacity for distributed, spatial decision-support for resolving natural resource dilemmas. This required the development of open content learning units to support the use of our tools and processes, thereby enabling development of collaborative skills in managing natural resource dilemmas.
3. To measure the success of objectives 1 and 2 through piloting the use of the tools embedded in an open-source virtual learning environment called Moodle (a community to which the Open University is now the largest institutional partner) administered in the specific cross-cultural context of Guyana (Rupununi Amerindians, and Coastlanders) and Europe (UK and Switzerland).

The second objective involved the development of the ECOSENSUS heuristic as illustrated in Figure 5.

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<sup>8</sup> For example, in framing the notion of complex interrelationships (a concern associated with the first wave of systems thinking) in the earlier section of this paper, I used a tool not developed in the first wave but rather developed in the third wave of systems thinking – boundary critique.



**Figure 5 ECOSENSUS heuristic**

Building on the SLIM dialectic between *practice* and *understanding*, the ECOSENSUS heuristic made explicit the distinction between *systems* and *situations* of interest. The objective was addressed through developing a course framework based on critical pedagogy (Freire 1970) and a participatory action research (PAR) approach (Fals-Borda 1996), both of which emphasised the dialectic between practice and understanding. We also drew on ideas from Soft Systems Methodology (SSM) (Checkland and Scholes 1990) and Critical Systems Heuristics (CSH) (Ulrich 1983) from a contemporary soft systems thinking tradition, to crystallize ideas on the dialectic between systems and situations. These ideas were mapped onto an experiential learning cycle (Kolb 1984) based on *observing* (the contexts), *evaluating* observations, *planning* action, and *acting* out the plans, though significantly emphasising the dialectical tensions in the cycle (represented by double headed arrows) rather than the sequential pathway conventionally used in project management.

Both SSM and CSH represent a significant epistemological shift from conventional ('hard' systems) thinking of systems as actual real world entities towards thinking of systems as conceptual constructs ('soft' systems) to aid understanding and foster improvement in situations. SSM and CSH informed the design of course material used to support team building (for detailed descriptions of these systems approaches in relation to ECOSENSUS see material on the website <http://kmi.open.ac.uk/projects/ecosensus>).

The heuristic provided a template for developing the course outline for supporting team building, with an attempt to focus on keeping alive the tensions between practice

and understanding, and between systems and situated problems. The learning material was organised on the virtual learning environment in three parts. Part 1 addresses issues of stakeholding development (practice and understanding) with a focus on developing software skills in conversational mapping and understanding and using CSH as a means for developing template maps of inquiry. Part 2 addresses the idea of using systems thinking as a means of appreciating and communicating about the specifically situated natural resource dilemmas. This focused more on understanding and practicing on software tools relating to geographical information systems and using SSM for exploring systems of spatial 'representations' in conjunction with systems of the dilemmas being represented. The overall emphasis is on developing an appreciation of the tensions between systems and situations. Part 3 of the pedagogic material was intended to facilitate team working amongst participants in developing action research initiatives using role-play so as to simulate involvement of the full range of stakeholder groups associated with any situated problem.

ECOSSENSUS attempts to continually surface 'a conversation' using systems. The conversation using systems occurs in terms of both an internal conversation between fwP and fwU - as part of an internal logic of social learning - in allowing participants to engage with the learning material and software tools, and systems in terms of an appropriate though open-source framing for different and changing social contexts or situations.

The heuristic is itself a system; a map of a situation or territory, not to be confused with the territory being mapped. It is a conceptual construct with a particular critical take on reality. The point of departure for *soft* systems thinking is in explicitly keeping alive the distinction and continual dialogue between conceptual maps as systems and the actual reality to which they address. A further point of departure for *critical* systems thinking lies with explicitly endeavouring to reveal the ethical and value-laden underpinnings of the constructs that we devise.

As an expression of this endeavour, whilst 'the project' finished at the end of 2006, ECOSSENSUS is now part of a multi-million pound open content initiative at the Open University supported by the Hewlett Foundation called OpenLearn ([www.open.ac.uk/openlearn](http://www.open.ac.uk/openlearn)). The initiative allows access to existing selected parts of OU courses - LearningSpace - and an experimental LabSpace. The ECOSSENSUS project has become one of the first content providers on the LabSpace part of OpenLearn. In short, the hope is for the framing to be taken up by users in the internet open-access community and to be adapted and remoulded for different users in different contexts fulfilling different and changing purposes. The framework thus becomes a living field for *purposeful* action rather than a site of stasis fixed for *purposive* action.

Several traps arise with respect to ECOSSENSUS that might inadvertently reinforce the stasis of project management. Firstly, there is a pre-supposed favourable cultural context of use with affirmative attitude towards use of the internet as a medium for dialogue. Despite our stated aim to produce tools and capacity building materials that enabled individuals on the other side of the digital divide to benefit from e-science developments there is the trap associated with transferring an essentially discursive approach of PAR onto a technologically mediated platform. This can itself prompt further forms of alienation, particularly amongst cultures and sub-cultures not familiar



with, or indeed having access to, internet technology. Secondly, the values embedded in the framework derive from a Western philosophical tradition. Specifically, users need to be alert to possible anthropocentric, ethnocentric and even androcentric biases. Thirdly, the actual language used in the framing device can be alienating – whether it uses terms from systems thinking – SSM and CSH – and or other action research traditions – critical pedagogy and PAR – the language can be very obscure and inaccessible. The language provides a major challenge of translation to (i) *contemporary* (internet literate) Western culture (ii) non-Western cultures particularly of the global South, and (iii) non-literate and/or non-academic sub-cultures in both North and South.

## **Summary**

Project management cycles are expressions of a particular type of systems thinking – a way of framing our *understanding* of a particular issue along with prescribed guidance or framing on *practice* in how to address the issue. the system of project management typically conforms to a command-and-control worldview. It is a worldview that underpins what has been described as the ‘project state’ and the ‘evaluative state’. Both ‘states’ are expressions of a cultural context of neo-liberalism in which intervention is commoditised through the currency of defined projects and monitored and evaluated principally against measures of economic success and profitability. The project management cycle arguably serves to enhance existing sources of power and control in the cultural context of neoliberalism.

From the perspective of systems thinking and practice, and professional evaluators’ experience, three continually challenging issues recur when engaging with the project management cycle. Firstly, there is the real world complexity of continually changing interrelationships between entities. Secondly, there are multiple and often conflicting perspectives on what is understood to be the key issues and problems as well as on what forms of practice are appropriate for addressing them. Thirdly, there are tendencies towards reinforcing an internal logic of malfunctioning practice and understanding, and not allowing conventional boundaries shaping our frameworks to be challenged by external ‘logic’ of the wider society.

In this paper I have suggested alternative forms of framing that addresses each concern, and so may help to supplement and change dominant frameworks informed by conventional project management. In each case the imperative is not to do away with the notion of ‘project’ or ‘evaluation’, but rather to replace the cultural ‘state’ associated with its dominant manifestations. Elsewhere this has been referred to in terms of replacing “a world of stasis whose components interact in fixed and limited ways, indeed in which change is possible only a long fixed and previously definable pathways” (Lewontin, Rose et al. 1992 p.186). Each of the three framings provide a dialectical alternatives to the ‘tyranny of safety’ that Kelly describes as being at root to the problem of much development intervention, and particularly the more contemporary notions of participatory development (Kelly 2004).

Firstly, boundary critique surfaces the interplay between three judgements (fact, value, and boundaries) required to make sense of changing complexity of interrelationships in any intervention. The shift is from one of stasis in fixed *summative* evaluation towards an appreciative system of *formative* evaluation.

Secondly, social learning model triggers ideas of generating concerted action between multiple stakeholders collectively engaging with change in practice and understanding. The shift is from one of stasis in protecting *positional* stakeholding towards developing stakeholding *interests*. Thirdly, systems thinking with action research and critical pedagogy alerts players to the need for keeping their framework boundaries under review. The shift is from one of stasis in goal-oriented *purposive* action towards developing more *purposeful* action adapting to change in situations and change in values.

Such ideas of framing are not meant to offer an alternative to project management tools such as the logframe, but are intended to support the progress of more liberating ideals embraced by wider programmes and initiatives to which such project management frameworks may serve. The European Water Framework Directive, for example, whilst at many levels seeks to reinforce traditional regulatory and fiscal measures of controlling behaviours, provides also some ambitious new ideas on managing water and related resources more purposefully, involving community participation and stakeholding development. Such ideals if served through being framed by conventional project management alone may merely be subject to the type of well-placed cynicism towards command-and-control models expressed by Shakespeare's Hotspur.

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