Chapter Three –

Methodology

3 Chapter Three - Methodology

3.1 Introduction

The WFD poses many challenges related to participatory planning. These imply the need to focus on the *process* of participation, providing mechanisms to link participation with ecological design to produce innovative, sustainable plans. In this research, the DesignWays process was tested in the context of the Mersey Basin Campaign, in the NorthWest of England.

3.1.1 Structure of this Chapter

This chapter introduces the methodology applied in this research. The five research questions are introduced. Issues raised in the previous chapter about the context and challenges of integrated river basin planning are reflected in the research questions. Aspects of axiology, ontology and epistemology are discussed in relationship to this research. The action research approach is outlined, including stages of the research, sampling strategy, and sources of evidence used to answer the research questions. The methodological reasoning behind the seven-stage research process is discussed.

3.2 Overview

The previous chapter introduced the field of Integrated Catchment Management, concluding with an overview of the Water Framework Directive (WFD), a broad and ambitious application of ICM. The general field of this research is participation in 'planning for sustainability'. Participation is required for implementing legislation such as the WFD. This research looks at ways of maximising the value of this participation in terms of meeting five inter-related challenges of the WFD.

This research is timely, as the WFD has recently been enacted. There is considerable debate about how to implement it, at regional (e.g. workshops to discuss research requirements, Mersey Basin Campaign 2003), national (e.g. through the Environment Agency's Pilot Project in the Ribble Catchment), and supra-national levels (e.g. guidance emerging from the Common Implementation Strategy, in European

Commission 2001b; and in workshops organised by WWF on key issues in WFD implementation, in Jones 2000). Despite increased interest in participation in planning, and a plethora of case studies and practical methodologies for engaging participation, van der Helm (2003, pg. 564) suggests, *"concepts for meaningful participation are still underdeveloped".*

3.2.1 Research Aim and Questions

The overall aim of this research was to explore the use of a systems thinking paradigm to inform participatory ecological design, with a view to developing a toolkit for 'planning for sustainability' from the site to the landscape level of scale[15].

This posed five interrelated research questions:

1. What are the characteristics of an effective process for developing integrated, ecologically sound solutions in river catchments?

2. What are the characteristics of an effective process for engaging meaningful participation through capacity building in ecological planning?

3. What processes and tools help to link such planning across different geographical levels of scale?

4. What are the operational, institutional and policy implications of a holistic approach to active involvement in planning?

5. How do these findings fit into the broader theoretical framework of ecological planning and systems thinking?

These questions were approached though action research, testing the DesignWays participatory planning process in a river catchment at both the landscape and site levels of scale. Research into sustainable development is responding to a relatively new imperative, often using new approaches. Action research, or research in which there is intervention in a system through the research project, is thus an appropriate approach. Similarly, research into information systems often takes an action-orientated approach,

[15] There are many definitions of scale and level, which are often used interchangeably. In a survey of *Scale and the human dimensions of global change*, Gibson et al (2000, pg. 219) suggest it is important to distinguish between the two. The definitions put forward in their survey are used in this thesis. Scale is *"the spatial, temporal, quantitative, or analytical dimensions used by scientists to measure and study objects and processes"*. The term level refers to *"locations along a scale".*

as the focus is on a *'newly invented technique'* (Baskerville and Wood-Harper 1996, pg. 240).

This research could not fairly compare the *effectiveness* of DesignWays with other participatory processes, as the researcher was the developer of the DesignWays process. The theoretical basis of a range of different participatory methodologies was, however, reviewed, and DesignWays was positioned in relation to these methodologies. This research did not involve a test of the effectiveness of the DesignWays process per se. Instead it explored DesignWays's theoretical framework, through investigating its ability to help deliver more integrated solutions through meaningful participation. This implied particular attention to the experiences and understandings of the participants, and exploration of the social learning that emerged through the use of the process.

3.2.2 Research Context

The context of the research can be summarised as:

1. Relevant policy context - European Union Water Framework Directive.

2. Appropriate levels of scale – sub-catchment of major river basin (landscape level) and site level exemplar within that landscape.

3**. Cooperating research partners –** Sponsor (ESRC CASE award) and partner - Mersey Basin Campaign (MBC). Action research carried out with the Irk Valley Project (IVP) a partnership of Manchester City Council based in Groundwork, and partner of MBC.

4. Preferred research tool - testing the prototype DesignWays methodology.

3.2.3 Objectives of the research

The objectives were orientated both to practice and theory. They were to:

1. Test a process of ecologically informed participatory design in the context of river catchments, as the basis of a toolkit for 'planning for sustainability'.

2. Provide recommendations to institutional players for increasing effectiveness of participation and partnership models in 'planning for sustainability'.

3. Develop the theoretical basis of the DesignWays planning process.

4. Contribute to the emerging theoretical underpinnings of ecologically focused planning methodologies for long-term sustainable development.

3.2.4 Assumptions

The research is characterised by the following assumptions:

Sustainability offers a valid and important conceptual framework for planning and design. An interdisciplinary approach is essential to understand the complex issues involved in 'planning for sustainability'.

Public and stakeholder participation in this process is essential for the long-term success of 'planning for sustainability'. It is valuable to encourage an open exploration of future possibilities in order to realign environmental and social systems towards a more sustainable state.

People are competent meaning-makers and interpreters of their environment.

It is possible and valid to explore participants' understandings, and changes in understanding, through action research.

The following section explores the philosophical underpinnings of this research.

3.3 Philosophical Framework

The overall research paradigm could be described as critical embodied constructivism.

This implies a normative orientation, in which the research is designed to enable practical changes towards a sustainable future, and to better equip participants to engage with planning that future. The underlying ontology is one of 'new paradigm living systems', in which humans are seen as organisationally closed organisms that interact with nested systems[16] at different levels of scale. Constructivism implies an epistemology in which understandings are constructed through interactions, both embodied interactions with the physical world, and in social interactions with other humans. Meaning is understood to be socially constructed, which implies the value of a naturalistic approach to research (e.g. Denzin 2000; Lincoln and Guba 2000).

[16] In this context, a system is taken to include the environment and ecosystems, social structures, physical infrastructure of the human culture in a place, and the set of values and norms that govern human interactions with the physical environment.

The axiology (values orientation), ontology (nature of reality) and epistemology (how we can apprehend and learn about reality) of this research are explored in more depth in the following sections.

3.3.1 Axiology

This research falls into the broad field of *"action for improvement"* (Midgley 2003, pg. 91). Its ethical orientation lies in attempting to increase human capacity to engage meaningfully with the environment, in a way that has a tendency to increase ecological integrity and social equity.

A pivotal tenet of this axiology is to seek to enhance ecological health through human interventions with the environment, agreeing with Leopold (1968, pg. 224 - 225) that an action is right when it tends *"to preserve the integrity, stability and beauty of the biotic community".*

Interwoven with this eco-centric concept of intrinsic value in natural systems, the concept of sustainability suggests that inter and intra-generational equity is vital to maintaining the integrity of social systems. Max-Neef (1991b) contends that development to meet human needs should be endogenous, driven from people's own concepts and values, not imposed by a development programme and structure. Such a concept implies the need for critical theory and an investigation into structural causes of inequality and oppression, as suggested by thinkers such as Foucault (1972), Freire (1970) and Illich (1971). Threaded through this methodology is an acceptance of the need for critique of globalisation and unfettered free-market capitalism, with a concomitant awareness of a need to democratise dialogue around futures thinking.

3.3.2 Ontology

> *"The natural environment is the theater in which the human species evolved and to which its physiology and behavior are finely adapted. Neither human biology nor the social sciences can make full sense until their world views take account of that unyielding framework" (Wilson, E. O. 1998, pg. 192).*

This section describes the ontological perspective of the nature of the physical world and of social life of this research.

In a mechanistic[17] ontology reality is seen as made up of atomistic pieces that can be fragmented and understood in isolation from each other. Instead, in this holistic ontology, each part of reality is seen as embedded in a larger whole. An understanding based on relationships is essential to comprehension of the system. The very building blocks of matter are not the indivisible billiard balls responding to time-independent rules of Newtonian physics, but rather waves of energy whose existence springs from a dance of relationships. This is a fundamentally different view of reality than that espoused by much of modern science, but it is increasingly recognized as a more accurate description of the world than that of a mechanistic worldview. This systems view of the nature of the physical world is explored in more depth in Chapters 5, 7 and 9.

These shifts in understanding are echoed in the field of ecology, with an increased awareness of the importance of flows of energy and materials, and maintenance of process integrity at multiple scales. The theory of 'autopoiesis' provides a view of life that is characterised by processes and patterns, in which emergent properties arise from dynamic interactions of the components of a system. Maturana and Varela (1987) coined the term autopoiesis to denote their understanding of the organisation of living beings. It is derived from the root 'auto', or self, and the Greek word 'poiesis', which means making, and shares the same root as the word poetry (Capra 1996). Thus autopoiesis can be seen as self-making. Living organisms are characterised by the process of self-reproduction (Maturana and Varela 1987).

This theory suggests that cognition involves an active relationship between the organism and its environment. Such an ontological position implies a fundamental emphasis on process, as opposed to objects, as the major focus of inquiry, a shift presaged by the philosopher Whitehead (1929). There is a dynamic relationship between systems operating at different levels of scale. An organism's behaviour is affected by its environment, but at the same time its actions shape and change the ecosystems of which it is a part.

In constructivism, the underlying metaphor for the process of learning about the world of is that of 'making meaning', not 'finding' it. A constructivist position views reality as

[17] A 'mechanistic worldview' sees components of the world (e.g. living organisms) acting 'like machines', in which each part functions independent of the whole. This can be contrasted with a holistic worldview, in which the world is seen "as an integrated whole rather than a dissociated collection of parts" (Capra 1996, pg. 6).

mentally constructed, so that multiple realities exist in different contexts. Some ecological economists have criticized this paradigm, as it denies the biological arena that provides constraints on social life. Tacconi (1998, pg. 99) suggests the following reformation of the constructivist position: *"There exists a physical reality subject to different interpretations by human beings. Thus, there exist multiple socially constructed realties".*

An ontological dialectic realises that we are both meaning makers in a social context and biological entities. Such a realisation has parallels in several fields, such as in the work of the educationalist Dewey (1925; 1937; 1954), *"who focused on the whole complex circuit of organism and environment interactions that makes up our experience, and he showed how experience is at once bodily, social, intellectual, and emotional"* (Lakoff and Johnson 1999, pg. 97).

How we can know is not just influenced by what we see, but also fundamentally by *how* we can see and feel. Discussing their concept of *'embodied realism'* (a cognitive linguist approach developing in parallel to the theory of autopoiesis) Lakoff and Johnson offer a new way of looking at the nature of human knowing. They illuminate ways in which humans construct meaning through metaphor, and suggest that the way in which we are able to reason is fundamentally linked with the way in which our bodies orientate spatially in the world and interact with the environment. In *Philosophy in the Flesh* (1999, pg. 3) they make three central assertions:

> *"The mind is inherently embodied.*
> *Thought is mostly unconscious.*
> *Abstract concepts are largely metaphorical".*

They conclude, *"Philosophy can never be the same again".* 'Embodied realism' rejects a 'Cartesian separation' of mind and body, instead it is *"a realism grounded in our capacity to function successfully in our physical environments"* (Lakoff and Johnson 1999, pg. 95). The concept of embodied realism was developed in the field of cognitive science and linguistics. This exploration of the functioning and development of living systems can be traced to Gregory Bateson's work on ecology and mind (Tognetti 1999).

At the same time as implying a 'realism' based on the physical nature of the body and its interactions with its environment, embodied realism implies an active process of constructing meaning. Mingers (1997, pg. 500) describes embodied cognition thus, *"as*

an individual confronts new situations various experiences are gained through thinking, sensing and moving".

The concepts of embodied realism and autopoiesis suggest that a stark division between ontology, the nature of the world, and epistemology, the nature of how we can know about the world, is in itself problematic. We can only know the world through being in the world, thus any description of 'reality' is inherently filtered through, or created by, our physical bodies and its interactions in the world. Extensions of our ability to directly perceive reality through the senses, through technological instruments and conceptual frameworks, may provide alternative means of comprehending the universe around us. All data gathered and sorted in this way still has to be filtered through, and attributed with meaning, in the 'wetware' of our biological minds.

3.3.3 Epistemology

> *"Knowing does not and cannot refer to an independent reality" (Maturana 2000, pg. 262).*

The notion of 'objective truth' has been dealt blows from a variety of sources. Whorf and Sapir (1956) showed the ways in which language can determine the types of thought *possible* for an individual in a society. Cultural anthropology has shown ways in which different cultures can have radically different interpretations of phenomena (e.g. Milton 1993; Mudimbe 1988; Turner 1967; Vidich and Lyman 2000). The concept of paradigms elaborated by Kuhn (1996) has encouraged a debate about the ways in which scientific knowledge is socially constructed (e.g. Funtowicz and Ravetz 1994). Feminist and post-colonial thought has elucidated the influence of the structural (and often unexamined) effect of power relations on both assumptions and processes of research (for example, determining who gets asked questions, criteria used for analysis) (e.g. Harding 1986; Mudimbe 1988). Postmodern and post-structuralist analysis has shown ways in which entrenched power structures influence discourse and constrain actions (e.g. Benamou and Caramello 1977; Foucault 1984a; Spretnak 1991).

These shifts have opened up the possibility of a multiplicity of interpretations of meaning. Combined with developments in interpretive and hermeneutic methodologies, they can seem to leave researchers with a fundamental choice to make between a view of objective truth and relativism (e.g. Lincoln and Guba 2000).

In this research, objectivity in the sense of the researcher as detached observer is seen as neither a possible, nor necessarily desirable, goal. It can thus be seen as broadly post-positivist research. With an acceptance that it is not possible to erase pre-conceived notions and values in order to allow for 'pure' observation of facts (a classic definition of objectivity), the researcher can still look at how assumptions colour both data gathering and analysis. Thus, objectivity can only be approached through an analysis of the researcher's Weltanschauung[18], and through an attempt to reduce its influence on analysis (Harding 1986).

The researcher has attempted to pay attention to the ways that her own pre-conceptions could influence analysis in this research, agreeing with Midgley (2003, pg. 92) that: *"marginalizing the exploration of values makes science more prone to ideological manipulation, not less so".* This has taken several forms: from the exposition of assumptions and the axiological basis of this research (discussed above), to keeping a reflexive journal, to inviting feedback on analysis and interpretation from participants. Testing a process in a real-world application provides mechanisms for probing assumptions. Participants provide many different perspectives. The research design can help to bring different voices into analysis as a counterpoint to the researcher's own view.

Early developments of the notion of constructivism incorporated an understanding of context and process in studies of behavioural change (Kelly, G. A. 1955). The methodological tradition of constructivism has been linked with autopoiesis, through the concept of structural coupling, *"a history of recurrent interactions leading to the structural congruence between two (or more) systems"* (Maturana and Varela 1987, pg. 75). It has also been linked with action research, through its emphasis on *'transactional knowledge'*. It is seen as a means of bridging practice and theory (Denzin and Lincoln 2000b, pg. 158). Coulter (1989) suggests that all meaning is constructed through social processes, thus knowledge is not only an active phenomenon, it is an inter-subjective creation. A consideration of the social nature of thought could strengthen Lakoff and Johnson's concept of embodied realism, responding to some critiques that they over emphasise the role of biological bodily experience at the expense of the cultural nature of understanding (e.g. Sinha and Jensen De Lo Â Pez 2000).

[18] Weltanschauung can be translated as 'world view', and includes the ontological and epistemological foundation of a person's thought, which filters and colours their perception and interpretation of data.

The concept of embodied realism allows for a meaningful interplay between an interpretive, grounded approach, and a framework of commonly agreed principles of sustainability based on ecology. Varela (1999) describes the enactive approach, *"reality is not a given: it is perceiver-dependent, not because the perceiver 'constructs' it as he or she pleases, but because what **counts** as a relevant world is inseparable from the structure of the perceiver".* Recent developments in living systems theory, including increased awareness of the role of consciousness in understanding complex systems (e.g. Midgley 2000), allow for a methodology which combines a science-based framework and inquiry into actors' perceptions and interpretations of meaning in research.

3.4 Methodological Approach

Several methodologies with similar, though not identical, epistemological underpinnings were explored in the design of the methodology, including:

- Grounded theory;
- Soft systems modelling;
- Ethnomethodology;
- Soft systems modelling
- Phenomenology;
- Case studies;
- Participatory action research;
- and Appreciative inquiry.

Whilst this exploration was instructive and has added to the researcher's understanding of research methods, none of these approaches were ideally suited to answering the research question. For this research project no singular methodological tradition was ideal. In 'Ecological Economics', an approach that looks at the interconnections of social, economic and ecological factors, researchers have called for *'methodological pluralism'* (e.g. Funtowicz and Ravetz 1994; van de Kerkhof and Leroy 2000; Waltner-Toews and Wall 1997).

Qualitative research should not be seen as a 'grab bag' of handy techniques that can be combined at will. This research was designed around the goals and questions to be answered, paying attention to the epistemological and ontological underpinnings of the research methods used to inform the approach. The nature of the research approach taken is described in the following section.

3.4.1 Key components of methodology

The overall methodological strategy for the research was an action-based interpretive approach. An in-depth, qualitative approach was appropriate at this stage because there are few examples of creative collaborative design approaches in Integrated Catchment Management.

O'Riordan (2000a, pg. 15) states *"interdisciplinarity starts from the premise that there is no distinction between a natural system and human interpretation of that system".* Integrating social and natural science perspectives is increasingly seen as important in moving towards sustainable development, which inherently includes ecological, economic and cultural concerns. This research integrated insights from social and natural science.

The planning process was tested at both site and landscape levels of scale. Analysis included focus on individual participants' perceptions and the regional context of the research, thus the research looked at three levels of scale: site, landscape and region.

3.4.1.1 Phronesis

Lakoff and Johnson (1999) call for an *'empirically responsible philosophy'*, which they suggest carries on the tradition of John Dewey and Merleau Ponty. This research is inspired by the concept of *'phronesis'* first developed by Aristotle, and applied to planning research by Flyvbjerg (2001).

Flyvbjerg (2001) describes phronetic social science as *"a pragmatically governed interpretation of the studied practices".* It is an approach in which values are seen as an implicit part of the process, and which aims to develop a more refined sense of judgement of practice. He suggests asking the questions:

> *"1. Where are we going?*

2. Is this desirable?

3. What should be done?"

Flyvbjerg (2001, pg. 73) emphasises the value of *"concrete, context-dependent knowledge".* Phronetic research is seen as a development of Foucault's (1972) development of genealogies of ideas. This work is grounded in the concrete, and has an emphasis on testing theory in practice, as Foucault (1984b, pg. 374) reflected, *"If I have insisted on all this 'practice', it has not been in order to 'apply' ideas, but in order to put them to the test and modify them".* This exploratory approach sits well with this research, in which concepts of systems thinking and participatory communication were tested in a particular context.

Whilst Flyvbjerg (2001, pg. 163, 132) suggests *"phronetic science can be practised in different ways",* he cautions against *'simple action research*', in part due to the danger of *'going native'.* Action research has been applied extensively in the fields of education and nursing. Considerable guidance for improving the quality of action research can be found in the academic literature reflecting on such research (e.g. Coghlan and Casey 2001; Darling-Hammond and Snyder 2000; Kelly, D. and Simpson 2001; Waterman 1995). This literature was used in constructing a process for assessing this research, and is revisited in Chapter 9. In particular the emphasis on the importance of taking a reflexive attitude, coupled with testing interpretations through different perspectives, shares similarities with the phronetic approach outlined by Flyvbjerg (2002).

3.4.1.2 Action orientation

Midgley (2000) suggests that all research involves action in some way. Kemmis (2000, pg. 578) reminds us that even *"to study practice is to change it".* The fact that the researcher has to create conditions for the research to happen implies an active role. Mc Clintock et al (2003, pg. 722) suggest that such *"facilitation can never be neutral, or non-directive".*

The methodology of action research is explicit about a more active involvement in the formation and undertaking of a real-world research project. It seeks to develop knowledge through a process of intervention in the system being studied. The early development of action research is widely attributed to Lewin (1947; 1948), who argued that research should be directly *"harnessed for the benefit of human society…*

Lewin's argument is that the institutions of science invest massive resources into research that has largely become divorced from the goals of meeting human need and satisfying human desires" (Midgley 2003, pg. 81 - 82). An action orientation in research offers a bridge between tools for investigating social life, such as naturalistic inquiry, and making effective use of the knowledge gained in applied projects.

Action research includes an emphasis on developing the reflective practitioner, who has an increased awareness of gaps between theory and practice (Argyris and Schon 1974). Participatory Action Research emerged from movements to encourage social transformation in 'less industrialised' countries (Kemmis and McTaggart 2000). Reason (2002) has argued that action research may be essential for developing sustainable solutions to pressing social problems.

Truth is seen in an action-based methodology as *"authentic in the light of lived experience"* (Kemmis and McTaggart 2000, pg. 580). In order to achieve a degree of methodological rigour, there are several iterative processes that aim to increase the researchers' reflexive attention to methodical issues.

The first stage involves collaboration between the researchers and participating stakeholders to diagnose the problem(s). Researchers and stakeholders then collaborate in action planning, or in deciding how to investigate the problem, which is followed by implementation of these plans. The next phase is one of evaluation, involving the researcher and the collaborating stakeholders. This stage may involve a further action planning process, in which further steps are planned to take account of the learning from the first cycle of research (e.g. Baskerville and Wood-Harper 1996; Stringer 1999).

The stages and their relationship to this research are set out in Table 3-1.

Table 3-1 Stages of action research

Stage in action research	Process in this research
problem(s) diagnosis	• whilst the IVP steering group had identified a need for strategic planning, the author initiated the project by approaching the IVP Project Officer • the IVP Project Officer decided the appropriate project for the site level planning, in consultation with the researcher
action planning	• researcher worked with key stakeholders to determine timing and discuss stakeholder mapping for project, but participants were not engaged in designing the tool for testing in the research
implementation	• researcher worked with participants in a series of workshops to develop a plan for the Irk Valley and Moston Vale
evaluation	• the main source of data for analysis came from interviews with the participants • participants were asked to keep journals reflecting on their learning • to an extent, evaluation has been participatory, as participants were invited to a presentation of results of the planning process, in which they facilitated workshops with regional stakeholders, who were invited to ask them questions about the process • in this research, detailed analysis has been largely by the researcher, working with participants' reflections • participants were offered opportunities to comment on analysis

There are several possible degrees of collaboration between researchers and participants. Whilst this research was based on the real-life application of a participatory process, it did not include collaboration with participating stakeholders at each of these stages. Badger (2000) states that action research can be seen as a continuum from endogenous research to the more classic process as developed by Lewin, that of an expert outsider working with participants to develop and test new ideas in practice. It is not uncommon in research into complex social phenomena to use elements of an action, or a participatory evaluation approach, without engaging collaboration of research subjects at each stage of planning and evaluation. For instance, Kesby (2000, pg. 1726) utilised participatory diagramming techniques researching attitudes towards communication about sex in rural Zimbabwe, but described participation in the research as *"shallow in the sense that the principal researcher maintained control over the research agenda and process".*

3.4.1.3 Interpretive evaluation process

Warburton (2002. pg. 10) suggests, *"It is important to make clear the distinction between participatory evaluation and the evaluation of participation".* In this research the participatory process was evaluated largely by the author, with elements of participatory evaluation used to develop concepts and test

theory. Comments on interpretation and analysis received from participants were taken into account. The *data* for evaluating the process came largely from in-depth 'before' and 'after' interviews with participants. Participants' criteria for success of the project were taken into account in analysis, though they were not the determining frames for assessing the process.

Warburton (2002) also points out that the choice as to whether or not to use a participatory approach will depend on the objectives of the evaluation. She suggests participatory evaluation has an important role to play in the evaluation of ongoing programmes, as part of good governance. Such evaluation of programmes was seen as less relevant at this early, exploratory stage of a particular design process. Thus, whilst the subject of the research was active involvement in participation, the research methodology used 'shallow' participation. This analysis process could be seen as third-and-a-half generation evaluation in Guba and Lincoln's (1989) terminology[19].

It seems important to construct a research methodology to study the application of DesignWays consistent with the methodology's epistemological underpinnings. There is a potential that such an attempt could be open to an accusation of circular logic. For example, by attempting to assess the process using criteria intrinsic to the process, the project is bound to reach certain conclusions, due to the way the questions are asked. This dilemma is discussed in Bushe and Coetzer's (1995) research into Appreciative Inquiry as a team-building tool, in which they used objectivist research methods to investigate a participatory tool that has a constructivist epistemology. There are advantages to undertaking such a research project, which may provide fruitful avenues for research into DesignWays at a later date. There were, however, several reasons for not using an objectivist research methodology for this research project, which are discussed below.

In this research, the main aim was to explore the potential of a systems thinking paradigm to inform participatory ecological design. Thus, the criteria used to test the approach needed to relate to the underlying research questions. The criteria used to evaluate the process were developed from an exploration of the challenges of the WFD,

[19] Where first generation analysis is concerned mainly with technical, measurable aspects of evaluation, second generation analysis includes a description of context and patterns of relationships, third generation analysis includes an element of judgement on behalf of the researcher, and fourth generation analysis involves analysis emerging from dialogue about meaning and judgements of results in a dialogue process between researcher and subjects (Guba and Lincoln 1989).

a new policy instrument that aims for integrated, and sustainable outcomes. These criteria were derived from both the academic and practitioner literature.

The nature of the research questions, which aim to explore different aspects of a complex problem from a perspective of social learning, suggests an interpretative approach. This research employed an exploratory approach, in which the main test of the theory was to apply it in practice, and to expose its theoretical propositions to rigorous qualitative analysis, paying close attention to participants' words and perceptions. The systematic and rigorous analysis of participants' perceptions provided the means to test the implications of the underlying systems paradigm of the DesignWays process. Waterman (1995, pg. 784) suggests that *"action research may be viewed as a method for bringing tacit knowledge to the fore".* In this instance, the key findings of the research emerged from participants' use of metaphors and descriptions of systems concepts when describing their experience and understanding of ecological design after experiencing the DesignWays process. This knowledge could best be brought to the fore through experience, and the opportunity to reflect on that experience.

Freire (1970) suggested that unless the most vulnerable in society are involved in participatory efforts to solve problems, a hegemonic culture of science will be perpetrated. Talking of Freire's conception of *"transformative action from the inside out"* Christians (2000, pg. 148) suggests that it is necessary for the people in poverty to be active participants in the process. Thus, research *"is not the transmission of specialised data but, in style and content, a catalyst for critical consciousness".*

This research was carried out in a setting of relative poverty, in North Manchester (see Section 6.2.1 'Social Context' on pg. 207 in Chapter 6). Community members were invited to participate in developing the plans that formed the action-based part of the research, by reflecting on the process, and by providing feedback on the way their reflection was portrayed in the analysis. They were also invited to comment on the analysis. The practical reality for the community members, however, was that it was difficult enough for them to take the time to attend workshops directly related to their environs, much less to spend time looking at the theoretical analysis of systems thinking in relationship to the Water Framework Directive.

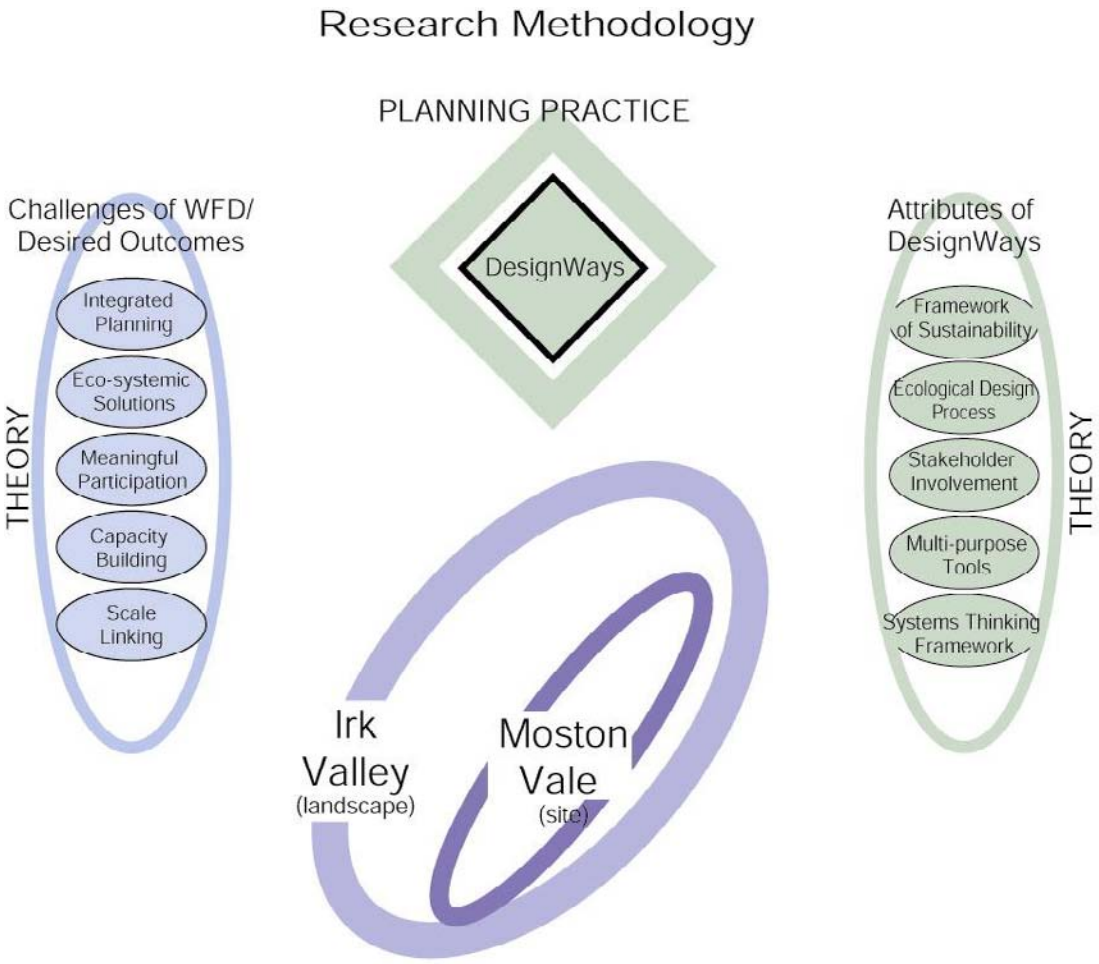
Discussing his experience with participatory research into local environmental groups, David (2002) says researchers have to remember that they are involved in an expert process of developing knowledge, which brings its own dynamics to the action research. Quintanilla and Packard (2002, pg. 16) write that in participatory evaluation *"inequities of power and voice among participating stakeholders must be acknowledged and addressed".* This research tested a process that aims to encourage dialogue between many different stakeholders. Techniques and approaches used to give participants a greater voice in the process are described in Chapter 7. In the research process itself, participants were offered an opportunity to reflect on their experiences, but addressing inequalities of power in this stage of analysis was not an explicit focus of discussion, nor did researcher and participants share responsibility for writing the evaluation report (as suggested in Quintanilla and Packard 2002).

The following section sets out the steps of the research process and the methodological reasoning underpinning them.

3.5 Steps in the Research Process

This research was carried out in the context of the WFD, applying action research in the Irk Valley, using the preferred research tool of the DesignWays process. The major components of the research process are shown in Figure 3-1.

Figure 3-1 Components of Methodology



A variety of data sources and analysis techniques were used to attempt to provide different perspectives in answering the research questions. These are summarised in Table 3-2, which also indicates which the data sources were used to answer which research questions.

Table 3-2 Sources Of Data To Answer Research Questions

Research Questions	Developing integrated, eco-systemic solutions	Engaging meaningful participation	Link planning across different geographical levels of scale	Operational, institutional and policy implications	Theoretical framework of planning and systems thinking
Sources of Data	1	2	3	4	5
In-depth interviews with participants - before and after (Irk Valley)	■	■	■	■	■
In-depth interviews with participants on Moston Vale planning process	▒	■	■	■	▒
In-depth interviews with key decision makers in the region to reflect on research findings	■	■	■	■	▒
In-depth interviews with stakeholders of the Mersey Basin Campaign	■	■	■	■	▒
Participants' reflective journals as part of course work (Irk Valley)	■	■	■		▒
Anonymous survey after process, giving opportunity for anonymous feedback (Irk Valley)		■	■	■	
Participant reflections on final presentation, having facilitated workshops with regional stakeholders (both written and verbal)		■	■	■	
Observations of process by external moderator for Open College Network Accreditation and peers (Irk Valley)	■	■	▒		▒
Facilitator's description of, and reflections on, process including research journal	■	▒	■	■	■
Photographs of process	■	■	■		
Maps, plans, artefacts and database of ideas produced in workshops (the results of the process)	■	■	■		■
Prior reports prepared for the Irk Valley Area (1997 and 1999)	■	■	■		■
Discussion reflecting on process and what had been learned elicited in workshops (including business workshop)	■	■	■	■	
Comments and feedback from wide range of stakeholders at presentation of results and workshops facilitated by participants	■	■	■	■	
Participant observation at IVP and MVRA meetings and events	■	■	■		
Participant observation at MBC (CASE partner) meetings and events	■	■	■	■	
Meetings with MBC Management group to discuss recommendations	■	■	■	■	
Precedents to DesignWays – practitioner and academic literature, consultation with experts in the field	■	■	■	■	■
Practitioner and academic literature about systems thinking	■	■	■	■	■

There were seven steps in the research process:

1. Developing criteria for assessing the planning process from the challenges of the Water Framework Directive.

2. In-depth theoretical exploration of participatory, ecologically informed design.

3. Choosing case study and setting up project.

4. Action research - applying DesignWays in practice.

5. Analysis of participants' experience, structured around the attributes of DesignWays.

6. Analysis of process and plans produced against criteria developed from the challenges of the WFD.

7. Developing recommendations for delivering the WFD and improving participatory planning practice, including discussion of research findings and recommendations with key decision makers in the region.

Whilst these are presented as a linear sequence, there was considerable overlap and iteration between the steps. The following sections explore these steps and the methodological design of this research project.

3.5.1 1. Step 1 – Developing criteria for assessing planning process from the challenges of the Water Framework Directive

There are neither commonly agreed methods nor criteria for assessing participatory planning processes (e.g. de Montfort University and The University of Strathclyde 1998; Warburton 2002). This is partly due to a lack of resources for systematic evaluation of methodologies, and partly to a more general issue, as Rijsberman (2000, pg. 344) states, *"There are no objective solutions to complex problems".*

Discussion of the value of participatory processes tends to stress that the benefits accrue in the long term. This factor further complicates the measurement of benefits, which tends to be geared towards short-term, easily quantifiable indicators (e.g. Linehan and Gross 1998; Luz 2000; Roe 2000; Trenam 2000; van de Kerkhof and Leroy 2000).

Strides have, however, been made towards developing assessment methodologies. The 'Prove It' methodology developed by the New Economics Foundation has been used to

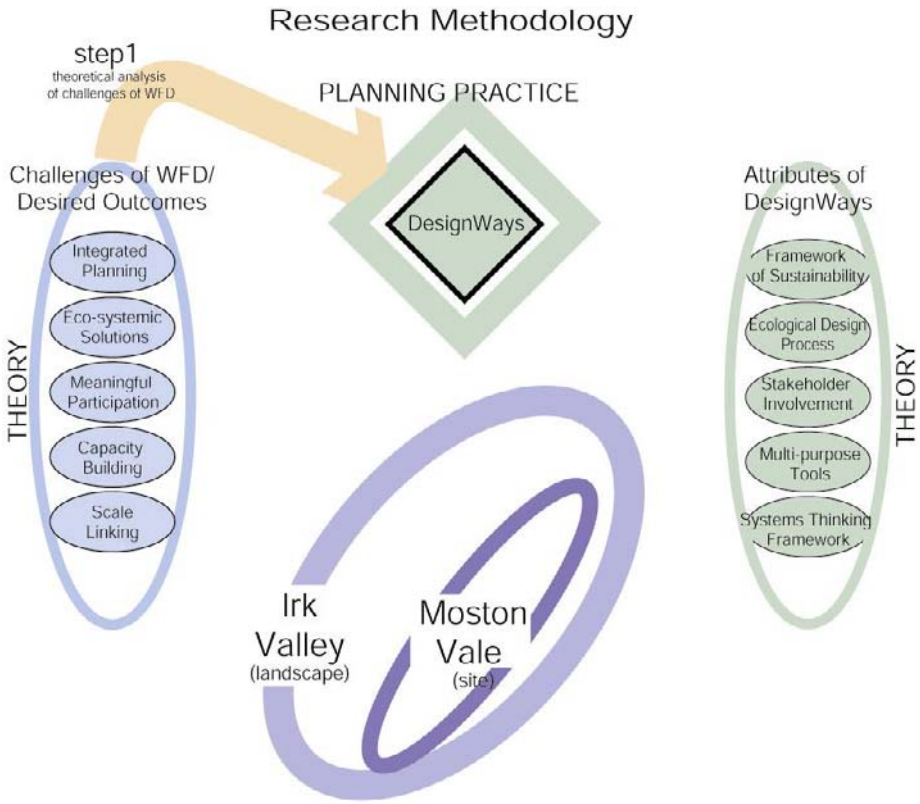
measure impacts on social capital of several participatory planning processes. The role of participants themselves in developing criteria for assessment has been recognised by practitioners such as those in the alliance InterAct (2001). In the 'Prove It' methodology (Walker et al. 2000), participants are able to choose indicators from a set of possibilities, which are *"designed to get beyond measuring just the inputs and outputs of projects"* (New Economics Foundation 2000, para. 2).

In a similar vein, much of the assessment of sustainability planning has been pragmatic, and has attempted to evaluate the use of the concepts as a heuristic tool, developing criteria for evaluation in the light of research context and goals of the participants (e.g. Martinez-Aliera, Mundaa and O'Neill 1998; Thissen 2000).

Discussing innovative interdisciplinary research Mansilla and Gardner (2003) state, *"Where novel territories are charted and few precedents are available, developing validation criteria is part of the inquiry process itself".* In the *'theory of change approach'* to evaluating Comprehensive Community Initiative proposed by the Aspen Institute, participants develop a picture of the planned outcomes against which to assess the project. Evaluation is seen *"as a systematic and cumulative study of the links between activities, outcomes, and contexts of the initiative"* (Connell and Kubisch 1998, section Defining a Theory of Change Approach to Evaluation, para. 1).

Challenges posed by the WFD for participatory planning, identified in the literature search, were used as the source of criteria for assessing this action research. The first stage of the research involved developing criteria for assessing the potential to meet these challenges (Figure 3-2). These could also be seen as desirable outcomes from an ecologically informed, participatory planning process.

Figure 3-2 Research Methodology - Step 1



These criteria were developed from a synthesis of practitioner and academic literature and an analysis of the challenges of the WFD, building on the policy overview in the literature search. They were refined in conversation with key practitioners in workshops run by the MBC to discuss implementation of the WFD[20], and at workshops and discussions at conferences attended by the author[21].

In addition, participants were asked in the 'before' interviews what they considered to be criteria for success of the process, these were taken into account in analysis of results. In interviews after the process, participants were asked whether they felt there were some measures of success from the project.

[20] Implementing the EU Water Framework Directive in the Northwest: the research agenda, April, 2003, and Public Participation in the Water Framework Directive: a review of methodologies, Oct. 2003, Mersey Basin Campaign, Manchester (author presented paper in plenary session)

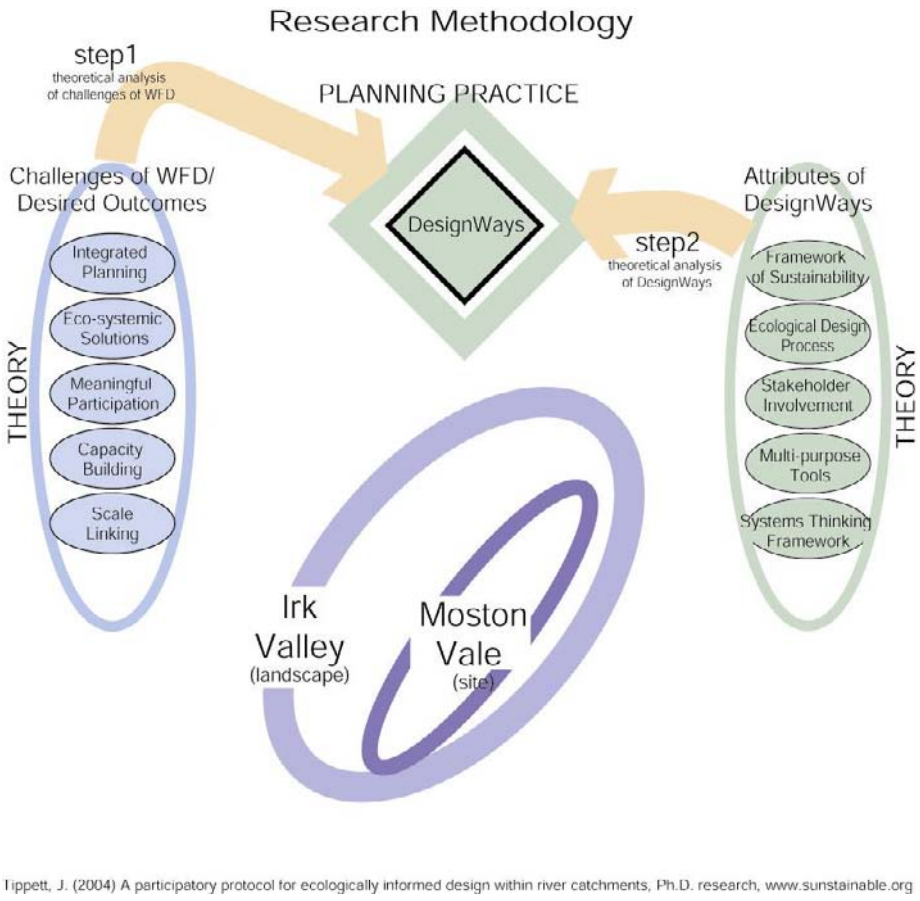
[21] River Basin Management, Sept. 2001, Cardiff, Wales, WIT Press (author presented paper);
The Water Framework Directive: Implications, implementation and impact!, June, 2002, Cranfield University, Silsoe;
The MULINO workshop on Policies and tools for the sustainable water management in the EU, Nov. 2002, Fondazioni Eni Enrico Mattei, Venice (author presented paper).

3.5.2 2. Step 2 - In-depth theoretical exploration of participatory, ecologically informed design

An exploration of the theoretical basis of the major attributes of DesignWays was used to develop the conceptual framework of this research (Figure 3-3). These attributes were used as one of the lenses through which participants' experience of the planning process was analysed.

Developing this theoretical review allowed for an exploration of differences between DesignWays and other methodologies for engaging participation in planning. Five key attributes form the organising structure for analysis of different methodologies and participants' experience of the process. Tables comparing twenty-eight methodologies for each attribute were prepared as part of this review. These tables provide a way to characterise the different processes and understand differences in their make up. During the process of this review a number of experts in the field were consulted, and their comments incorporated into the analysis.

Figure 3-3 Research Methodology - Step 2



3.5.3 Step 3 -Choosing Case Study and Setting up Project

In the early stages of this research the author engaged in a systematic characterisation of the River Valley Initiatives (RVI) of the Mersey Basin Campaign. RVI Coordinators assisted the researcher in compiling comparative tables. The criteria used are summarised in Table 3-3.

Table 3-3 Characteristics for choosing landscape level of scale case study

Characteristics for choosing landscape level of scale case study
Complexity
Landscape in transition, area of change
The landscape is heterogeneous, with different land use types
Not dominated by one particular unique feature or programme
Has at least one area suitable for developing a site level of scale plan as part of the process, with existing links with community group that is interested in the site
Facilities and resources for participation process
Existing mechanisms for involvement in the community, e.g. forums, workshops, networks
Working with NGOs and networks to include hard-to-reach groups
Landscape data and development plan data accessible
RVI Coordinator feels that they will be able to identify and engage key stakeholders and community members
Support for project
Support from project staff and steering group for the project
Ongoing support for project development
Recognition of need for a strategic plan

Several opportunities were explored, including:

- Weaver Valley Initiative – Cheshire Regional Parks;
- Strategic Waterside Reclamation Programme – Gidlow Tip, Wigan;
- Artery Project – Speke-Garston Coastal Reserve[22];
- Trial for Newlands - The Livia Project;
- Flagship project in the Beale RVI – creating linked network of open spaces;
- and the Mersey WaterFront Park.

Most of these projects involved the author meeting with key stakeholders and making presentations to relevant groups. Whilst there was considerable interest in a process like DesignWays, there were timetabling and funding problems with the projects. Several were postponed for long periods of time.

[22] This Interreg project involved the author travelling to Brussels to present to the Artery partnership placing an Interreg bid. The bid was returned for further revision, making the timeline unfeasible for this research project.

In the end, the choice came to two possibilities:

- Darwen RVI with the Cloverhill Residents' Action Group – Landscape reclamation in the urban fringe of Nelson;
- and the Irk Valley Project.

The essential criteria for choosing the Irk Valley Project (IVP) were twofold: timing in relationship to the stage of development of the IVP, and ability of the Project Officer to act upon the project.

The key aspects of the Irk Valley Project that made it suitable for this research are summarised in Table 3-4.

Table 3-4 Key characteristics of Irk Valley Project

Characteristics for choosing landscape level of scale case study	Irk Valley Project
Complexity	
Landscape in transition, area of change	• Whilst there were no funding streams immediately in line to deliver projects, it was likely that they would be developed, as it is an area receiving attention from regeneration initiatives such as Housing Market Renewal Fund, a considerable amount of regeneration funding was targeted for the area. • Awareness of the stock of derelict and underused land in the area has prompted interest from organisations involved in land reclamation, such as Groundwork, which has several projects in the area, and the Red Rose Forest, which is instigating community forest projects.
The landscape is heterogeneous, with different land use types	• Mix of dense urban housing with semi-suburban housing with large gardens, large areas of derelict land, areas of ancient forest, formal parks, allotments and community gardens and industrial sites.
Not dominated by one particular unique feature or programme	• Regeneration of housing schemes complemented by attention to renewal of open spaces and interest in historical features.
Has at least one area suitable for developing a site level of scale plan as part of the process, with existing links with community group that is interested in the site	• There were several sites with potential for creating a landscape plan, with interested Residents' Associations involved with IVP.
Facilities and resources for participation process	
Existing mechanisms for involvement in the community, e.g. forums, workshops, networks	• IVP had developed networks in the area over two years, including contacts with existing Residents' Associations. • Working with local people to enhance capacity and provide training, e.g. sponsoring NVQ in countryside management for volunteer in Friends Of Groups.
Working with NGOs and networks to include hard-to-reach groups	• Working with a drop-in centre for the homeless, photography project on the Irk Valley.
Coordinator feels that they will be able to identify and engage key stakeholders and community members	• IVP Project Officer was able to rapidly contact key stakeholders and players and to provide the researcher with further contacts to invite to the planning process. • Interest in, and support for, the IVP had been built over two years, therefore there was a high degree of willingness on the part of stakeholders to be involved in a strategic planning process.
Landscape data and development plan data accessible	• IVP Project Officer seconded from Manchester City Council, therefore had access to City Council data and maps. • Existing overview of project sites from previous surveys.
Support for project	
Support from project staff and steering group for the project	• The Project Officer was keen and willing to work with the researcher to develop a programme, and he had sufficient autonomy and authority to do so (despite some political resistance to the concept).
Ongoing support for project development	• Existing steering group of key stakeholders in the area, many with ability to implement projects. Momentum developed over two years of IVP, building on success of small projects.
Recognition of need for strategic plan	• IVP steering group had identified the need for a strategic overview and long-range plan. • Early stage of the project, enthusiasm for applying new ideas and developing an innovative plan.

There were three possible sites for the more detailed component of the planning process, Bailey's Wood, Blakeley Forest and Moston Vale. Similar to the choice for the landscape level of scale site, the essential factors in making the choice were willingness and ability of community leaders to work on the project, and its timing. The Friends of Group at Bailey's Wood was in a state of crisis and unable to commit to extra projects. Blakeley Forest was not seen as in as much need of change as Moston Vale, and was somewhat atypical of open spaces in the Irk Valley due to its ancient woodland and historical aspects. Factors taken into account in the choice of Moston Vale are shown in Table 3-5.

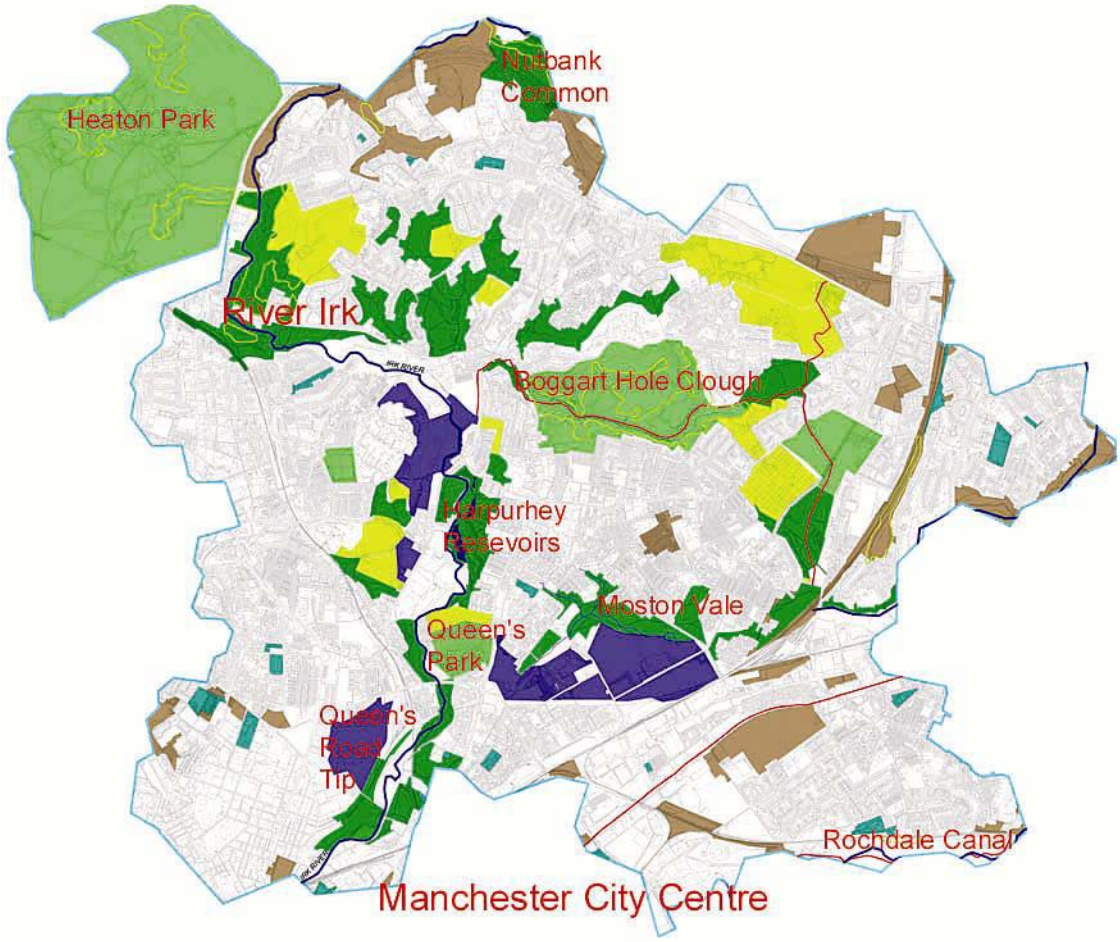
Table 3-5 Key characteristics for site level of scale component of case study, Moston Vale

Characteristics for choosing site level of scale case study	Moston Vale
Complexity	
An area of open land with potential for regeneration	• Under-developed site recognised to have potential.
At least 10 hectares	• Fairly large (twenty-two hectares).
Bordering populated area	• 8,000 residents within 500m radius (walking distance)
Not dominated by one particular unique feature or programme	• Rough grassland with some recreational use, small area of historical interest.
Diverse range of land uses nearby	• Proximity to business activity: the future Central Business Park, also borders primary school.
Facilities and resources for participation process	
Existing Residents' Association	• Established residents' association, Moston Vale Residents' Association, interested to work with IVP on envisioning process and with capacity to do so.
Existing connection between Residents' Association and IVP	• Existing record of work on the ground with IVP (e.g. site boundary fencing and wildflower planting) (ability to build on existing social capital).
Mechanisms for informing residents in place	• Existing Grapevine (MVRA newsletter) distribution and regular meetings, which meant that residents could be informed quickly about potential workshops.
Landscape data and development plan data accessible	• Phase One Habitat Survey and initial site survey information was available.
Support for project	
Site of strategic importance	• Seen to be of strategic importance for IVP.
Ongoing support for project development	• Seen as a possible Newlands[23] site and therefore had potential funding for capital improvements. • Interest from City Council and Red Rose Forest in regenerating the site.

[23] The Newlands project is a funding stream for the regeneration of derelict, underused and neglected land in the North West. The project board consists of the NWDA, Forestry Commission and Forest Enterprise, working in partnership with Groundwork, BTCV and the Community Forests (Red Rose, Mersey and Pennine Edge) to deliver regeneration projects (Newlands 2003a). Twenty four potential sites have been identified for renewal in the North West, using the innovative Public Benefit Recording System (Newlands 2003b), which scores sites on various aspects of potential social, environmental and economic benefit. Newlands 'Phase One' aims to restore 435 hectares of land in 5 years, with a £14 million capital budget and a £7 million legacy fund for management and maintenance over 15 years.

For this planning process, the Irk Valley Project and Moston Vale site boundaries were accepted as given. The planning process did not look at the whole river valley of the Irk, but only at the area encompassed by the IVP's current remit (within the borders of Manchester City Council). A stated aim of the open space strategy is to reduce the open space in the area by approximately 21% through development, thus providing the *"opportunity to allocate the same management and capital resources across a smaller area, so, in theory delivering a higher level of management input and maintenance"* (ABROS 1999, pg. 1). This was not specifically questioned, as this decision had contributed to the current boundaries of the Irk Valley Project's landscapes (more detail of these landscapes can be seen in Figure 6-25 Final Plan - Creative Futures, Irk Valley - Landscape Visions, pg. 248).

Figure 3-4 Map of the Irk Valley Project Area, showing location of Moston Vale site



3.5.3.1 Setting up the Project

The author contacted the Irk Valley Project Officer to see if there was potential for a broad ranging visioning process in the area, coincidentally on the same day that the

need for a vision for the project had been brought up at the Irk Valley Steering Group meeting. Two previous reports, *Proposed Strategy for the Development of Open Space Facilities in North Manchester* and *North Manchester Open Space Strategy* (ABROS 1999; Glen Kemp Hankinson 1997), had identified areas and issues of strategic importance in the North Manchester area, but had not engaged public or stakeholder participation in developing ideas for the Irk Valley.

Several meetings were held with the IVP Project Officer to determine the scope and aims of the envisioning project.

3.5.3.2 Participating Stakeholders

The main aim of this research was to test and explore a particular planning process in-depth, not to develop new processes of stakeholder mapping. Stakeholder identification and recruitment was carried out within the existing contacts, networks and willingness built by IVP over its two years of operation, and with the existing processes and structures of MVRA. Leaflets were sent to the IVP contacts, and 2000 leaflets about the Moston Vale planning process supplemented an announcement in the MVRA newsletter and a presentation at one of the regular MVRA meetings. There were no resources for additional outreach to hard-to-reach stakeholders and social groups, but it was possible to use the networks of the MBC Campaign to inform a wide range of stakeholders about the process, including businesses. These were invited to attend the whole process, a workshop targeted at a business audience, and a presentation of the final plans[24].

[24] An announcement was sent out through several networks, including the North Manchester Environment Forum, MBC Research Advisory Group, and the Red Rose Forest Community Network. The project officer contacted potential participants, and the author discussed the process with key players in the Forestry Commission, City Council and MVRA (Moston Vale Residents' Association). The workshops were introduced at several meetings and invitations extended to attendees, including: the IVP steering group meeting, the Red Rose Forest community Network meeting, an RVI coordinator training day organised by the MBC. The envisioning workshops for the Irk Valley were held in the Harpurhey Neighbourhood Project Community Centre. The workshops for Moston Vale were held in the St. John's Community Centre, both centres are important community resources. The business workshop was hosted by HMG Paints, winner of the 2003 Business and the Environment Awards (of the MBC).

A total of 39 people attended the Irk Valley planning workshops. Nine stakeholders attended the full planning process for the Irk Valley, and of these participants, six also attended workshops held at the site level with MVRA. All of these 'core' participants were interviewed both before and after the process[25]. The community members that attended three or more of the Moston Vale workshops were interviewed (four in total), as was the Groundwork Community Link Officer for the area, who attended all of the Moston Vale and three of the Irk Valley workshops.

Table 3-6 and Table 3-7 show the participants on the planning processes. The first shows the 'core' participants for the workshops for the Irk (a table showing the full list of participants can be found in Appendix Two). All of the 'core' participants were interviewed before and after the process.

Table 3-6 Core participants on Irk Valley Planning Process

Creative Futures – the Irk Valley, Core Participants			
Sector	**Organisation**	**Name**	**Role**
Community	Boggart Hole Clough Community Action Trust	Peter Milner	Resident
NGO/ Partnership	Irk Valley Project	Dave Barlow	IVP Project Officer
	Red Rose Forest	Andy Edwards	Green Tips Project Officer
		Sarah Mcleod	Green Streets Programme Coordinator
	Mersey Valley Countryside Warden Service	Hilary Wood	Environmental Education Warden
Public Sector	Manchester City Council: Manchester Housing Neighbourhood Renewal	Janet Scott	Community Liaison Officer
	Manchester City Council: Environmental Services	Adrian Morgan	Environmental Strategy Officer
Academia	Department of Psychology and Life Sciences, The Bolton Institute	Ann Kolodziejski	Environmental Studies Lecturer
Private Sector	Countryscape	Paul Mahony	Creative Director of Countryscape

Table 3-7 shows participants for the workshops for Moston Vale workshops (excluding the participants at the regular MVRA meetings) and indicates which of these

[25] There were 12 'before' interviews, as there were 12 core participants to start with. Of these, two were told by their workplace that they could not attend the workshops, (though one continued to come to the Moston Vale workshops, and was interviewed after the process) and one, from Manchester Leisure, was unable to come to the second half of the programme due to increased work commitments.

participants were interviewed (note there is some overlap with the above table, as several participants attended workshops at both levels of scale).

Table 3-7 Participants on Moston Vale Planning Process

Creative Futures – Moston Vale				
		Participants		Interviewed
	Organisation	Name	Role	
Community	Moston Vale Residents' Association	Janette Bennett	Chair	
		Brenda Collingwood	Secretary	
		Joe Kerins	Committee Member	
		Phil Duncan	Treasurer (Chair at time of writing)	
		Eileen Stevens	Resident (all her life)	
		Celia Craske	Resident (new to area)	
		Lesley Stretton	Resident	
		Ian Wilson	Resident	
		Joan Agnew	Resident	
		Margaret Merchant	Works at Harpurhey Neighbourhood Project, and former resident	
		Elaine Speakman	Former resident	
	Boggart Hole Clough Community Action Trust	Peter Milner	Resident	
NGO/ Partnership	Irk Valley Project	Dave Barlow	IVP Project Officer	
	Red Rose Forest	Andy Edwards	Green Tips Project Officer	
	Groundwork Manchester, Salford & Trafford	Claire Robinson	Community Link Officer	
	Ramblers Association	Dr. Edgar Ernstbrunner	Chairman and Footpath Co-ordinator of the Manchester & High Peak Area	
Public Sector	Manchester City Council:			
	Manchester Housing Neighbourhood Renewal	Janet Scott	Community Liaison Officer	
	Environmental Services	Adrian Morgan	Environmental Strategy Officer	
Academia	Centre for Urban and Regional Ecology, The University of Manchester	Matthew Wilkinson	Ph.D. Researcher	
	Department of Psychology and Life Sciences, The Bolton Institute	Ann Kolodziejski	Environmental Studies Lecturer	

Legend	
Participants who were interviewed for this research	
Participants who attended workshops at both levels of scale (& interviewed)	

Whilst the total number of interviews 'after' the process (n=15) could be considered quite small, there was a considerable range of people who attended the workshops in addition to the core participants, and contributed to the research in discussions in these workshops. The core participants on the Irk planning process represented four sectors and a wide range of experience and skill levels. This process involved an in-depth exploration of action research in a particular locality. The researcher paid particular attention to the context and participants' prior experience in analysis, and related this context to the emerging findings in the discussion. Thus, a particular case study can provide results that provide a window onto wider processes and concerns. Issues of generalisability of findings are discussed in Chapter 9.

3.5.3.3 Summary of the stages of setting up the participatory planning process

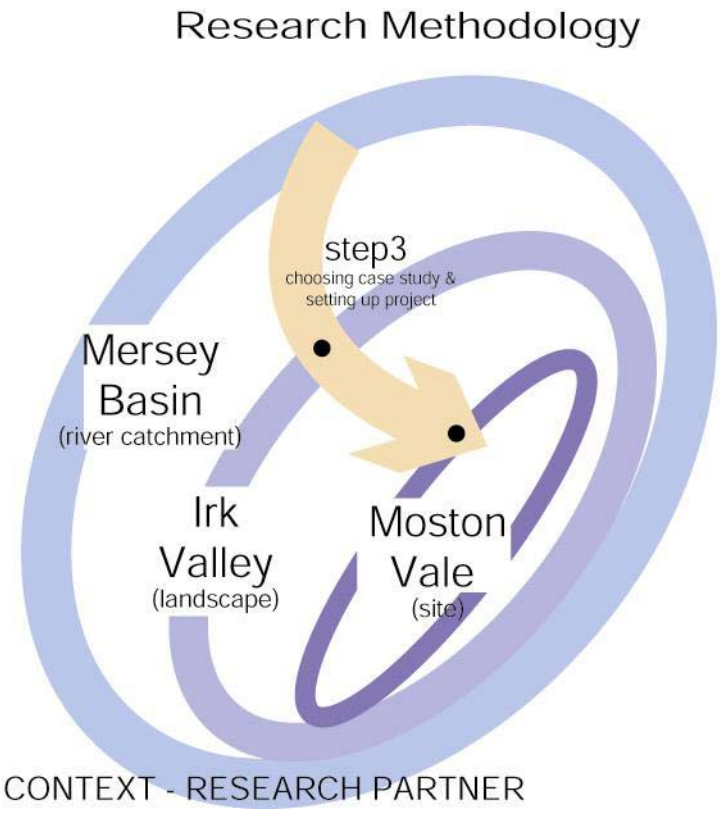
In this action research DesignWays was tested at both the landscape and site levels of scale. This research stage involved choosing the case study and setting up the action research process (Figure 3-5).

It must also be borne in mind that this process sits within in a wider context of decision making and planning processes. Table 3-8 shows the different components of participatory planning, which should be seen as a cycle. This table was developed from a consideration of the practical stages of planning a participatory process, informed by literature into participatory processes (e.g. Arnstein 1969; Birch 2002; Cuff 2003; Enserink and Monnikhof 2003; Roe 2000; Sanoff 2000; Wilcox 1994). The *main* focus of this research is on the process of engaging active participation in creating plans. The relationship of the research to the other stages of participation is indicated in this table. This table is revisited in Chapter 5, with a greater level of detail in the 'Questions and Processes' column.

Table 3-8 Components of participatory planning and relationship to this research

Component of Participation	Questions and Processes	Locating Research Project
Identify project boundaries and scope of participation – WHY, WHERE, WHAT?	• Why carry out participation? • What are the goals and objectives? • Where to do a project? • Is this to be a broad based planning effort, or an attempt to elicit feedback with a more narrow, issue based focus?	• Worked with Mersey Basin Campaign (CASE partner) to identify a suitable project • Scope of project was partly determined by the existing boundaries of the IVP • One site level project was chosen for more in-depth planning (in consultation with IVP Project Officer) • The overall aim was to allow for an open exploration of possibilities for a sustainable future in this geographical area
Identify stakeholders – WHO?	• Stakeholder mapping, identification of key stakeholders and players, and of 'hard to reach' groups.	• Used existing networks and contacts developed by IVP due to time constraints
Inform and engage stakeholders	• Outreach to groups and community members. • Create incentives for stakeholders to participate.	• Outreach carried out through existing networks of MBC and IVP, no additional outreach was possible due to time and resource constraints • Incentives for participation included possibility of gaining OCN credit
Active involvement in planning - developing the vision and action plan - HOW?	• Design - Active engagement in planning process (depending on the level of decision making power given to the process)	• Main focus of the research • DesignWays methodology was used with stakeholders and community members to create plans
Institutional structure and professional capacity to deliver projects and plans	• Can include partnerships and community trusts • Delivery can be through community devolved implementation	• Research situated in the context of Mersey Basin Campaign and the Irk Valley Project, both have capacity to deliver aspects of plan
Monitoring and review	• Can include participatory monitoring of participation process as a review of effectiveness	• Assessment of participatory process subject of this research
Governance	• Interaction of participation with planning process and policy context • How does the process integrate with formal decision making processes?	• Developed recommendations for delivering integrated participatory planning process, working with Mersey Basin Campaign • Invited regional stakeholders to presentation of results and workshop • This process was not part of the statutory planning process, but did involve planners and provide recommendations to key players in the area

Figure 3-5 Research Methodology - Step 3



3.5.3.4 Ethical Considerations

Baskerville and Wood-Harper (1996, pg. 242) stress the importance of informed consent of subjects in action research. The author was careful to make sure that all participants understood that this was a research project and that they would be asked to participate in the research process. Presentations with opportunities to ask questions about the process were made to:

- Mersey Basin Campaign management group meeting;
- River Valley Initiative (RVI) Chairs' meeting;
- RVI Coordinators' meetings;
- Irk Valley Project Steering Group meeting;
- and the Moston Vale Residents' Association meeting.

An introductory session was held for potentially interested participants, at which the aim, context and process were explained. The requirements in terms of commitment and

data gathering were explained, with opportunity to question the researcher, her principal supervisor and the IVP Project Officer.

Badger (2000) emphasises that participants should have the right to withdraw from any action research. In this process all participants were invited to attend workshops, were under no compulsion to do so and were free to withdraw at any time.

Due to the exploratory nature of the research project, it was not clear how the results would be used. The author made an effort to work with partners who were in a position to enact change, to enabling them to use results from the planning process as appropriate. All interested stakeholders were invited to the final presentation, which was attended by over 50 participants and regional stakeholders.

In interviews respondents were asked permission for interviews to be recorded, for them to be quoted and attributed. All quotes were sent to the relevant participants to offer an opportunity for review. Requests for removal of quotes or attribution were respected.

3.5.4 Step 4 - Applying DesignWays in practice

In this step of the research the DesignWays process was used to facilitate planning at both the landscape and site levels of scale (Figure 3-6). The objective of the planning process for the Irk Valley was:

- to develop a framework for the regeneration of the open spaces of North Manchester, encouraging creativity and consideration of sustainability principles.

The envisioning process for the Irk Valley Project area comprised a series of eight workshops of 3 ½ hour duration, and two site visits. These workshops were offered as an Open College Network (OCN) accredited course, which helped to systematise the assessment of skills learned[26], and acted as an incentive for participants to attend the workshops (there were no monetary incentives).

In parallel, members of the Moston Vale Residents' Association were invited to attend workshops using a shorter version of the process to develop a landscape plan for an area

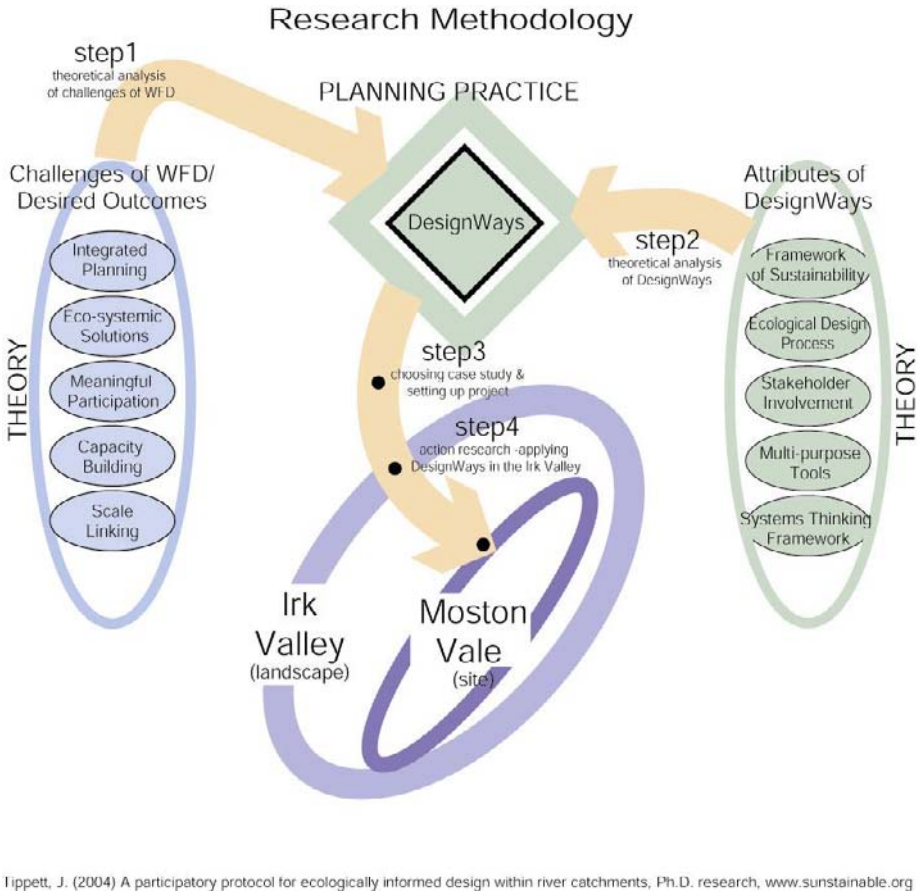
[26] OCN network accredited course for 1 unit (30 learning hours equivalent) at Level Three (highest level). The eight participants who took the workshops for credit completed a journal and several worksheets which were assessed to complement observation of practice of skills in the workshops. An External Moderator, who also attended three workshops as an observer, moderated this assessment.

of former landfilled brook within the Irk Valley itself. This took place over three workshops of 1½ hours' duration, and a site visit. The objective of the planning process for the Moston Vale site was:

- to develop a plan with residents and stakeholders that would enhance the value of the site for local people and wildlife.

Participants from each process were encouraged to attend workshops at both levels of scale. The workshops are described in Chapter 6, with a brief summary of outcomes. Results of the plans were presented to a workshop of over 50 regional stakeholders and experts. Participants from the DesignWays workshops facilitated small group discussions about the plans and the process in this meeting, and these discussions provided supplementary data for analysing the outcomes of the process.

Figure 3-6 Research Methodology - Step 4



3.5.4.1 Role of the researcher in the action research

The process was facilitated for the Irk Valley Project by the author, based in the Centre for Urban and Regional Ecology (CURE) at the University of Manchester, in

partnership with the Mersey Basin Campaign. The Irk Valley Project Officer assisted in setting up the project and attended the envisioning process. Zinnia Clark, an intern based in CURE, assisted through facilitating community mapping. The role of the author in the process included:

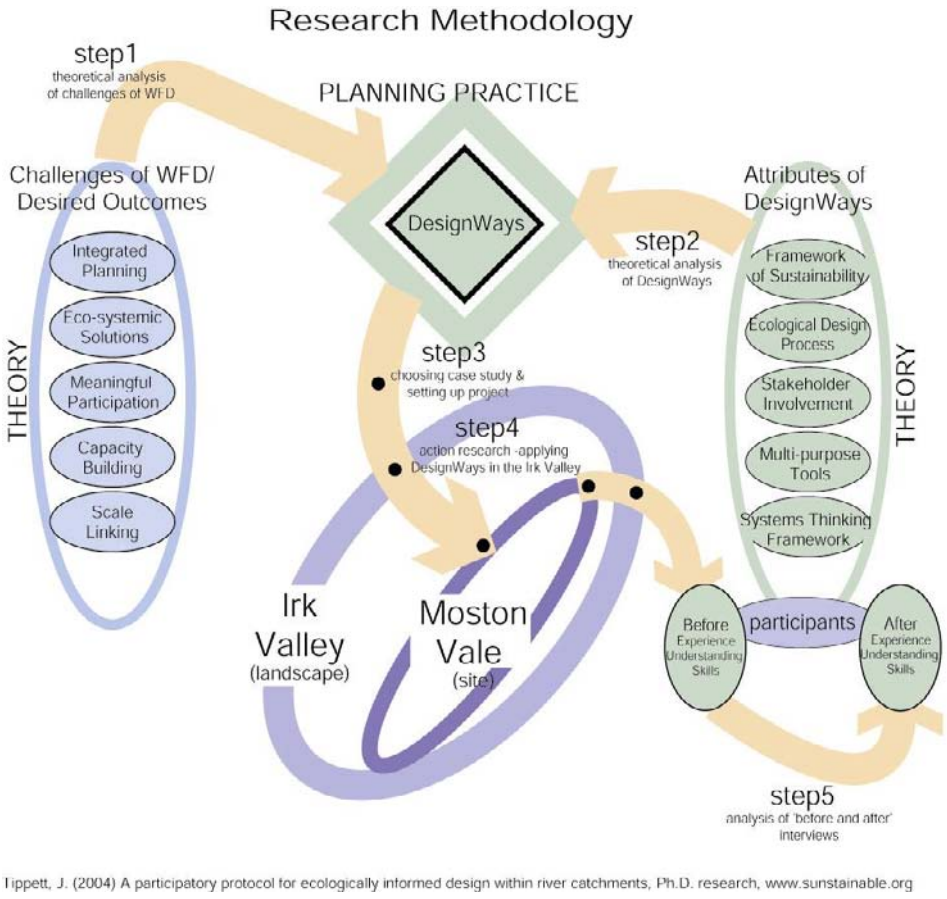
- worked with the IVP Project Officer to identify and contact stakeholders;
- planned and facilitated a total of 18 workshops and site visits with Irk Valley Project and Moston Vale Residents' Association;
- fundraised (over £5000, plus considerable in-kind donations);
- managed budget;
- developed plans and graphics and managed production team;
- undertook outreach to regional and local organisations and business networks about the process;
- held workshop for over 50 regional stakeholders to discuss results;
- presented results to Irk Valley Project Steering Group, Moston Vale Residents' Association, River Valley Initiatives Coordinator's Training and Mersey Basin Campaign Management Group;
- produced non-technical reports of process for interested parties[27];
- worked with journalist to develop article on process for MBC publication (Willis 2003);
- produced web page for project: http://www.holocene.net/irk.net.

3.5.5 Step 5 - Analysis of participants' experience structured around the attributes of DesignWays

The emphasis of the research questions was on the process of design and participation. This required a particular focus on participants' perceptions and reactions to the design process, which was achieved through several different processes in this step of the research (Figure 3-7).

[27] Assisted by Nuala Murphy, based in CURE. These can be downloaded from www.holocene.net/irk.net.

Figure 3-7 Research Methodology - Step 5



In-depth interviews were conducted with participants on the trial of DesignWays in the Irk Valley, both before and after the process. The ‘before’ interviews provided a base line assessment of participants’ understanding of sustainable development and prior experience of participatory planning. This assessment enabled a better picture of what participants gained from the process to be developed than if they were only asked what they had learned after the process.

The ‘after’ interviews provided an opportunity for participants to reflect on what they had learned during the process, and on whether or not it had achieved some measure of success. The findings from these interviews were compared with participants’ perceptions and understanding before experiencing the process. The ‘before’ interviews were coded, and the results synthesised, before coding of the ‘after’ interviews was begun. A similar approach was taken in another example of action research, in which the future-orientated planning workshops were facilitated with middle managers in a large company, and data from interviews before and after the process were analysed (Sales 2002).

The community members that participated in the planning workshops for the site at Moston Vale were interviewed after the workshops to provide information about their experience of the process (the IVP Project Officer considered 'before' interviews to have the potential to be off-putting for community participants).

The facilitator of process (the author) conducted the interviews. Whilst this could lead to less likelihood of participants making critical remarks, due to participants not wanting to say things that may upset the interviewer, it was felt that the level of trust developed between the facilitator and the participants could enable a deeper probing of issues than without that relationship. Indeed, the interviews resulted in frank discussions of problems with the process, and limiting factors to delivering this type of programme. These problems are discussed in more depth in Chapters 8 and 9.

Interviews were semi-structured and lasted between one hour and two. The 'before' and 'after' interview guides can be found in Appendices Three and Four. They were recorded and later transcribed by a professional transcriber. The author reread each interview during in the process of coding, and was able to correct mistakes made by the transcriber.

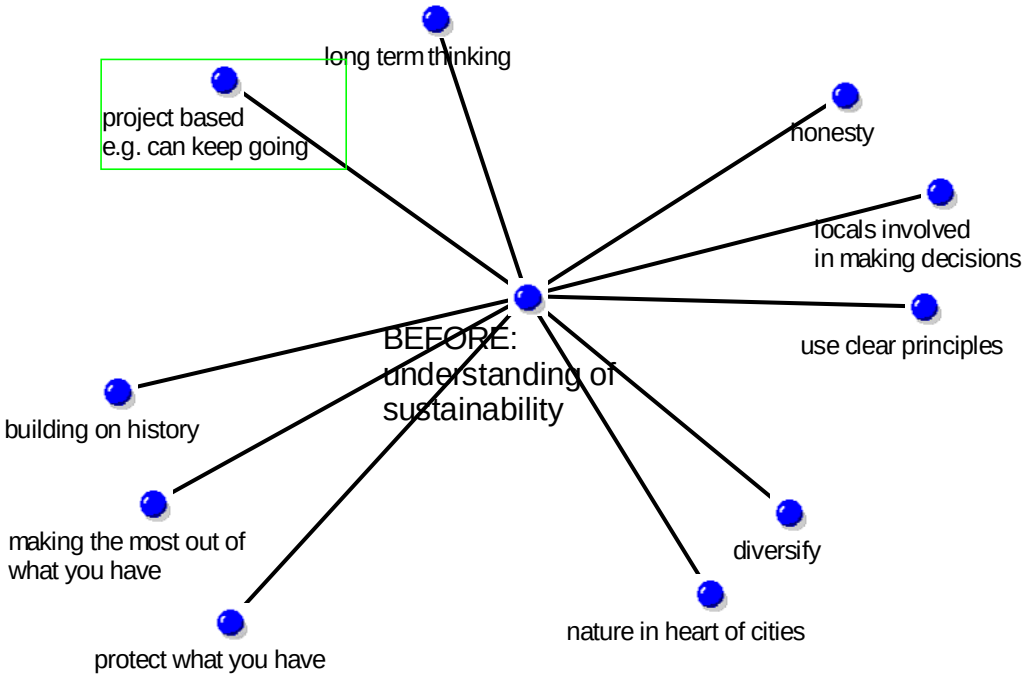
In addition, all of the core participants were asked to fill in an anonymous survey concerning their experience of the process. These were returned to the Mersey Basin Campaign Research Coordinator and collated by an intern in CURE to allow for a greater sense of anonymity, and, hopefully, freedom on behalf of the participants to include negative comments than might have been difficult to mention in face-to-face interviews.

Line-by-line in-depth coding of interviews (as suggested in Grounded Theory Methodology, e.g. Strauss and Corbin 1990) was used to provide space for the respondent's perceptions to emerge in analysis. A vast amount of detailed information and codes is generated through such in-depth analysis. The use of qualitative software can help organise this data and make it easier to search for themes and patterns. In this research NVivo (a development of the NUD*IST suite of software QSR International Pty Ltd. 2000) was used to manage the data generated and to help enhance rigour in the coding process. Richards (2000) warns against equating a particular software programme with a methodology, and strongly recommends a thorough grounding in research methodology before choosing analytical software.

In this instance the author had read extensively about different methodologies before testing several different software packages. A two-day training in the use of the software complemented the learning through tutorials. The author used the software to manage the data from twenty-seven in-depth interviews (one hour to six) in her Masters research. Web-based list-serves of several user groups in qualitative software and qualitative research complemented these trials (e.g. Computer Assisted Qualitative Data Analysis Software list-serve and QSR forum).

Figure 3-8 shows a model developed by the author from the 'before' interview data in this research, created in NVivo software.

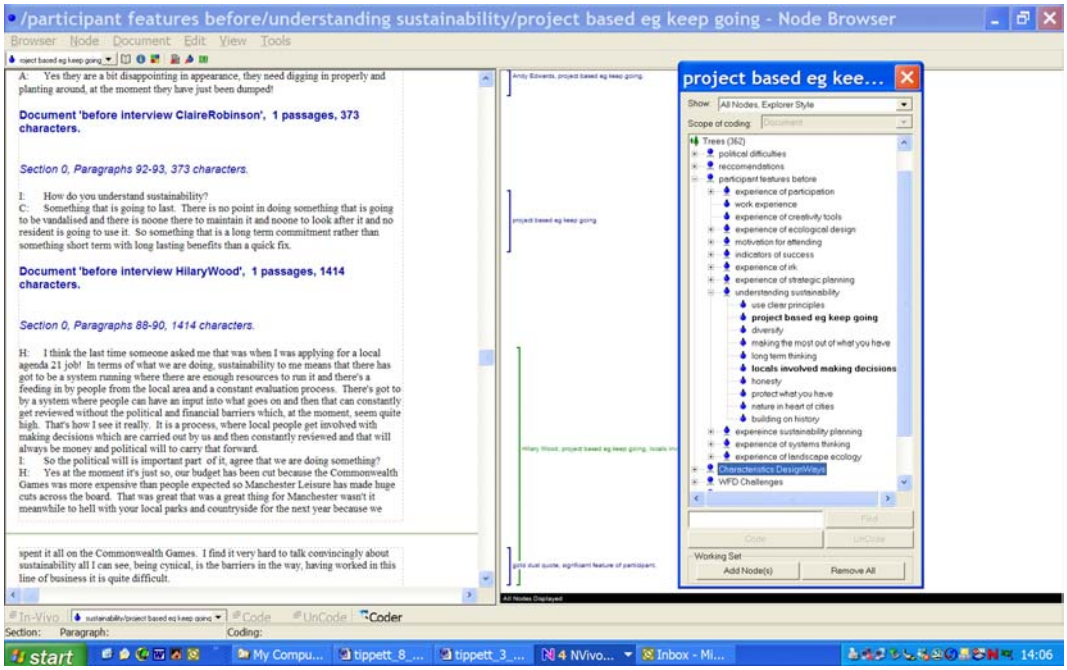
Figure 3-8 Model of participants' responses to question 'how do you understand sustainability'



The fact that these models are created in the qualitative analysis software means that the data can be explored in many different ways, allowing the researcher to build a richer picture of the data, whilst managing a great complexity of information. For instance, the green box highlighted in the model above shows a 'node'. These nodes can be seen as tags used to label the transcribed interview data. The transcript data can be read and interrogated by 'right-clicking' on the node. The screen shot below (Figure 3-9) shows a sample of the underlying data that can be accessed from the node 'project based'.

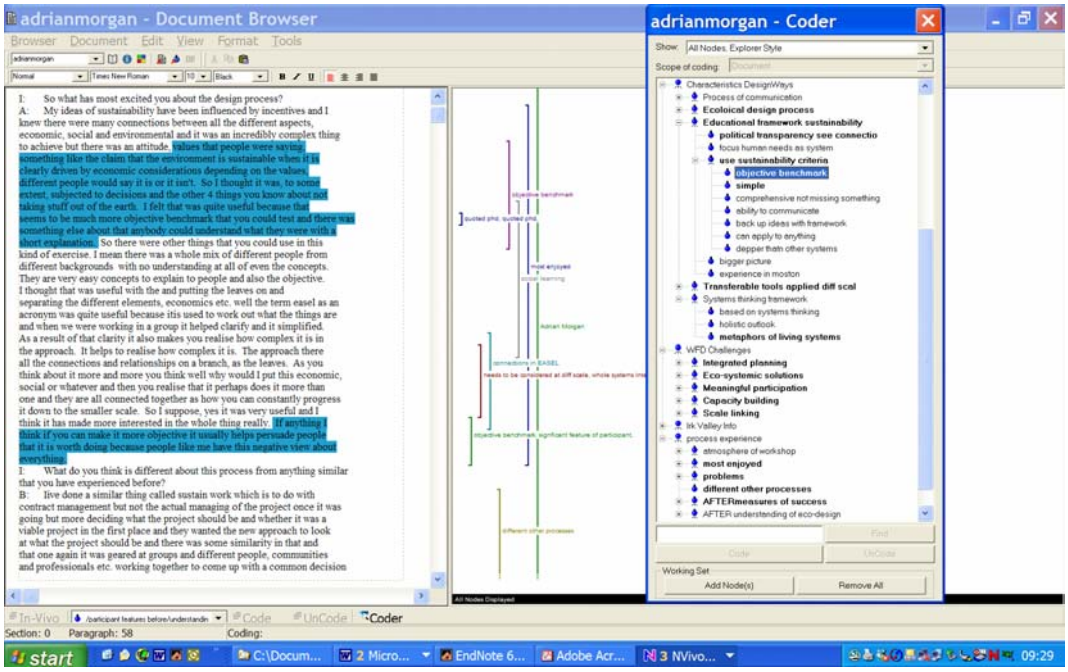
The ability to move backwards and forwards from models and the participants' words enabled the researcher to develop nuances in the analysis, returning to the empirical data and exploring it in depth. It also allows for further coding as the analysis is developed.

Figure 3-9 Screen shot of NVivo showing the interview data for the node 'Project based'



The theoretical analysis of the attributes of DesignWays (Step 2 above) provided the framework for this analysis, which aimed to explore how participants experienced the DesignWays process. The five key attributes of the DesignWays process were used to structure the analysis of participants' experience (shown in use in Figure 3-10).

Figure 3-10 Screen shot of NVivo, showing use of attributes of DesignWays to structure analysis

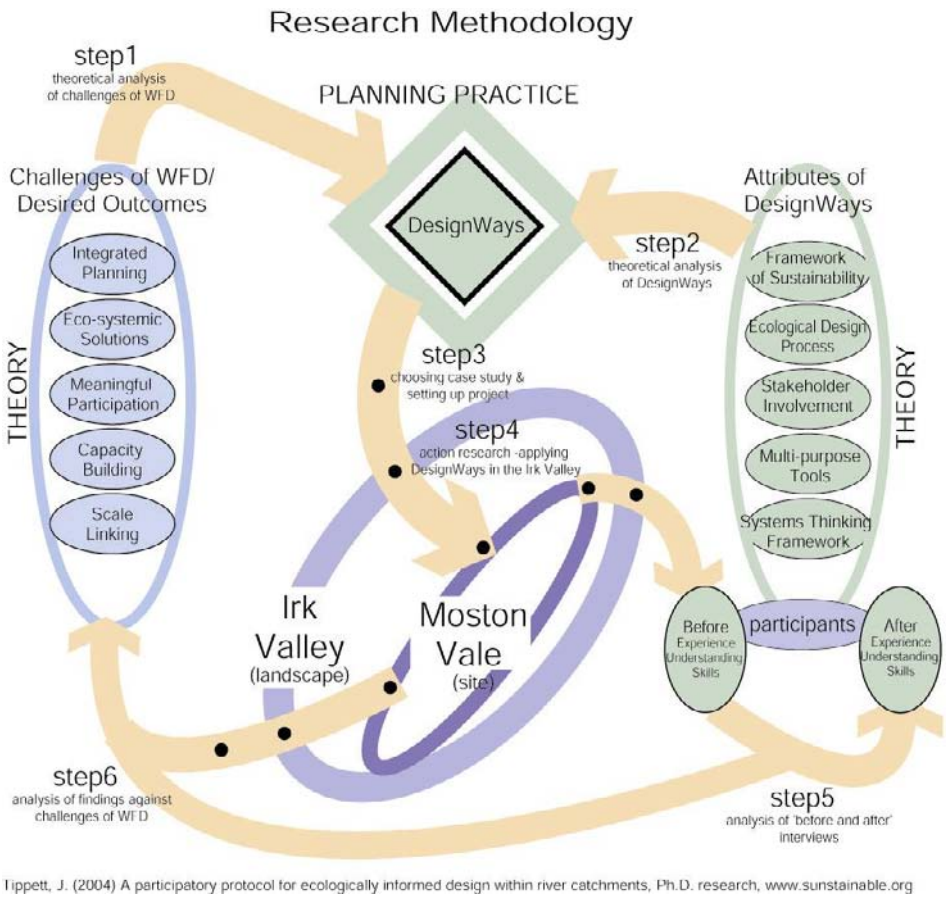


3.5.6 Step 6 - Analysis against challenges of the WFD

In this step the criteria developed in Chapter 4, for the five challenges of the WFD, were used to assess the DesignWays process (Figure 3-11). Findings from analysis of participants' experience, which emerged in the previous step, and the results of the planning process were analysed against these criteria.

Participants were asked what they felt would be indicators of success for the project before it started. These ideas were compared in analysis to measures of success that participants felt the process had shown, compiled from the 'after' interviews. In this step the interview data was revisited. It had been coded using the categories of each of the challenges of the WFD, and the primary data behind these codes was re-read for further insights. Following both stages of analysis of participants' experiences (in Steps 5 and 6) a preliminary summary of the analysis was sent to participants, along with extracts of the passages in which they were quoted, to allow participants to review this interpretation and representation of their views. Their comments were taken into account and incorporated into analysis.

Figure 3-11 Research Methodology – Step 6



In addition to this analysis of participants' perceptions and experience of the process, the DesignWays process was tested against the five challenges of the WFD through:

- discussion of results of the planning process;
- and a comparison with previous open space strategies for the Irk.

3.5.7 Step 7 - Developing recommendations

This step of the research (Figure 3-12) was developed through five complementary processes.

In the first stage initial findings from the research were summarised, and recommendations for improving participatory planning practice were drafted. These were discussed with the Mersey Basin Campaign's Policy Advisor and Research and Information Manager. A possible mechanism for delivering such integrated planning was developed. This was refined in a workshop with the management team of the Mersey Basin Campaign.

The second stage involved stakeholder mapping to identify key decision makers with a 'stake' in the delivery of the WFD in the North West (Table 3-9). The Chief Executive, Research and Information Manager and WFD Policy Advisor of the MBC, and Professor John Handley, Joe Ravetz and Joe Howe of CURE in the University of Manchester reviewed this list of decision makers.

Thirdly a series of in-depth interviews was conducted with these nineteen decision makers. The aims of these interviews were:

- to subject the findings of the research to a further stage of testing, helping to validate the findings through discussion and comparison of the approach with the interviewees' prior experience;
- to discover experts' views of the potential value of the findings for their work;
- to develop the analysis of limiting factors to gain a better understanding of the implications of implementing such an approach;
- and to gain feedback on the recommendations in order to refine and improve them.

Table 3-9 Expert interviews to discuss findings and recommendations

Expert Interviews – Delivering the WFD			
	Organisation	Interviewee	
		Name	Role
Public Sector	Government Office of the North West	Peter Wilson	Environmental Team Leader
	Government Office of the North West	Stuart Donaldson	Regional Sustainable Development and Waste Officer
	Government Office of the North West	Gillian Roberts	Area Manager LSPs
	North West Regional Assembly	Tim Hill	Director of Planning, Transport and Sustainability
	North West Development Agency	Mark Atherton	Head of Environment and Sustainable Development
	North West Development Agency	Phil Barton	Chief Executive of Renew (North West Centre for Regeneration Excellence)
	Environment Agency	Clive Gaskell	Strategic Environmental Planning Officer, WFD Lead for North West Region
	Environment Agency	Dr. Peter Fox	Ribble Pilot Manager
	Environment Agency	Paula Orr	Social Policy Advisor (National)
	English Nature	Will Williams	Regional Biodiversity & Socio-Economic Benefits, Chair, North West Biodiversity Forum
	English Nature	Liam Fisher	Conservation Officer Mersey
	Countryside Agency	Martin Moss	Senior Countryside Officer
	Forestry Commission	Chris Waterfield	Forestry Commission Newlands Regional Project Officer
	Manchester City Council	Dave Barlow	Environmental Strategy Team Leader
Private Sector	United Utilities	Dave Crawshaw	Regional Catchment Estates Manager
	United Utilities	Caroline Riley	Water Framework Directive Policy Advisor (seconded to Mersey Basin Campaign)
	Wrc	Yvonne Rees	Principal Scientist - Policy and Legislation, on the Water Framework Directive National Strategy Team
NGO	Lancashire Wildlife Trust	Anne Selby	Chief Executive and Member of Project Board Ribble Pilot
	Mersey Basin Campaign	Mary Lee	Etherow Goyt River Valley Initiative Coordinator

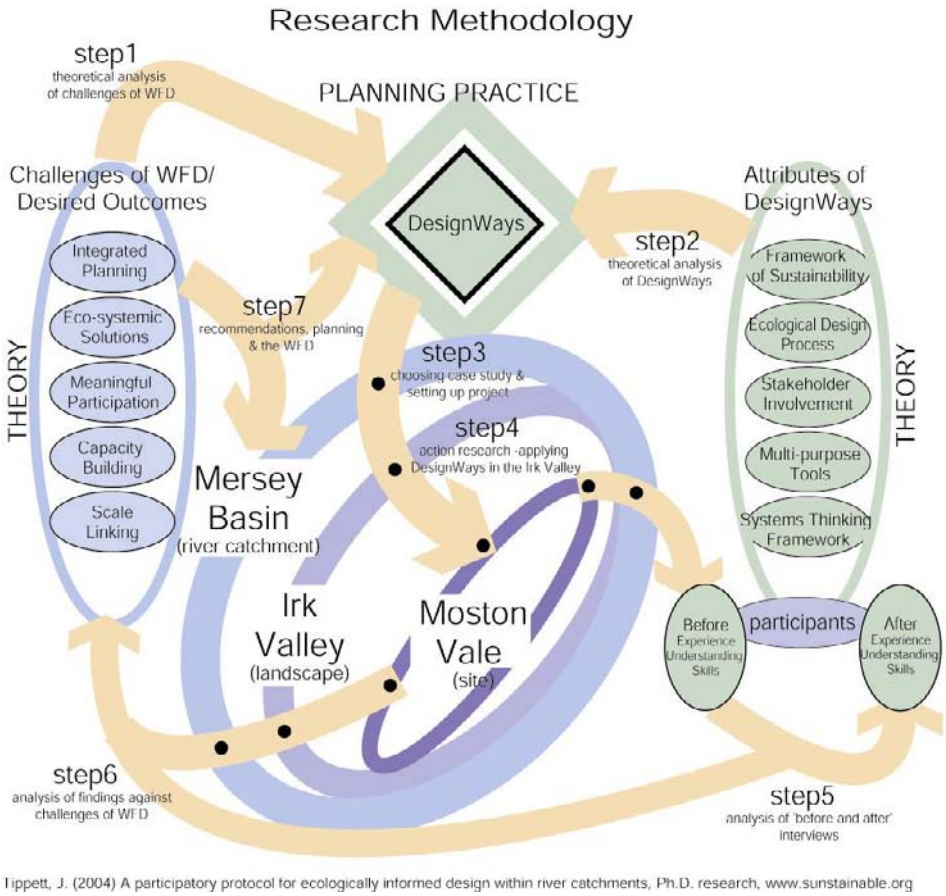
A ten-page summary, of the key findings from the initial analysis and the draft recommendations, was sent to the experts for review. In the interviews a brief

presentation about the research and the key findings was used to elicit feedback and discussion from the experts.

Fourthly the data from the interviews was analysed in order to provide a reflection on the findings of the research, the potential value of the DesignWays approach and limiting factors to developing such an approach within the current project planning process.

In the fifth stage the analysis of interviews was used to develop the discussion of limiting factors, and the key aspects of a more holistic approach to the project planning process. The recommendations were improved in the light of this analysis. This analysis was enhanced by incorporation of insights from the author's previous research, investigating the process of 'planning for sustainability' in the Mersey Basin Campaign. Analysis of key aspects of partnership working and linking strategic and local level planning was developed from a series of in-depth interviews with twenty-seven key stakeholders in the Campaign (see Tippett, J. 2001). The Masters dissertation provided the context for this Ph.D. research.

Figure 3-12 Research Methodology - Step 7



3.6 Assessing the Research

> *"Was it new for anything in this world to be unequal, inconsistent, incongruous – or for chance and circumstances (as second causes) to direct the human fate?" (Emma originally published 1816, Austen 1983, pg. 960)*

In social science it is becoming increasingly common to look for patterns of relationships and interpretive models, rather than for linear cause and effect descriptions (Denzin and Lincoln 2000a, pg. 16). Issues of validity and reliability become more blurred in a search for interrelated effects and causes. Searching for a middle ground between positivist and naturalist sociology, Douglas (1971) defined *"objective knowledge as useful knowledge, and useful knowledge as shareable knowledge"* (quoted in Blaikie 1993, pg. 185). Discussing interdisciplinary research, Mansilla and Gardner (2003) suggest that the *"lack of conceptual clarity about the nature of interdisciplinary work and its assessment"* requires *'systematic reflection'.* Research cannot simply be assessed on the basis of the standards of quality of the different disciplines, but rather on the effectiveness of the piece of work in advancing understanding of the subject under inquiry.

In the final chapter of this dissertation the research is assessed against its objectives. A critical discussion of the methodology is followed by a review of issues of validity, reliability and generalisability in relationship to this research.

3.7 Conclusion

In this chapter the philosophical basis of this research was developed. The methodological influences on the research were described, and related to the research design. The strategy behind the choice of case study was explained. The in-depth analysis process was described. The stages of the research process were elucidated, showing the logic of the relationship between the challenges of the WFD and the exploration of the theoretical basis of DesignWays in practice. In the following chapter criteria for assessing the challenges of the WFD are developed.