Preparing people for Integrated Catchment Management:
a proposed Learning Alliance for the implementation of a new legal framework for water management in South Africa
'Reflexive learning in context'

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Abstract

The Association for Water and Rural Development (AWARD) through one of its projects, "*Save the Sand Project* " (SSP), has over the past 3 years developed a framework to involve stakeholders and governance bodies in the development and implementation of the new legal framework for water resources management in South Africa. This framework is currently being tested in the Sand River Catchment (located in the north eastern part of South Africa).

The nature of water resources management as set out in the new legislation departs considerably from water management practices of the past. This has had a significant impact on the ability of different government departments and institutions (some of them new), to operationalise the new national orientation to Integrated Water Resources Management (IWRM) (Pollard, 2002). In order for the ideals of IWRM, as outlined by the National Water Policy (1997) and National Water Act (1988) to be achieved a considerable amount of learning and subsequent collaboration is demanded.
The point of departure for the *Save the Sand Project* has been to engage a variety of stakeholders in the operationalisation of the new water management policy at the level of a catchment. This means that a range of stakeholders, including government departments, private business, local government, civil society organisations all need to be come together to charter a way forward for a hydrological region, called a Water Management Area (WMA).

AWARD has designed a framework for engaging the various stakeholder groups in dialogue, awareness raising, collaborative action and negotiation that follows the principles and approaches inherent in a Learning Alliance.(www.irc.nl/la) The framework, with a collection of methodologies, is an open-ended, responsive 'programme' for learning and awareness raising that takes into account the need for dialogue, negotiation and consensus reaching at a local (catchment inhabitants, local government, NGO's private business), regional (provincial government departments, Catchment Management Agency, area planning fora) and national level (Department of institutional oversight within the Department of Water Affairs and Forestry).

The project has identified 40 local stakeholders, essentially communities of practice (Lave and Wenger, 1991), all simultaneously involved in the interpreting the new legal framework for water resources management. Together they form a natural Learning Alliance that needs to meet the challenge of transforming water resources management in South Africa.

The framework (to be presented), takes the form of a spiral learning process and pays special attention to social processes, conceptual capital development, continuity of learning, integration of policy and practice, and holistic understanding while being responsive to specific needs of project participants and contextual factors.

The central theme of the planned presentation is 'reflexive learning in context' and will entail an introduction to the framework as well as a discussion of some of the important findings associated with implementing it to date. Special consideration will be given to challenges associated with the adopted approach such as participation, consensus reaching and conceptual capital development.

Keywords:
Reflexivity, learning in context, transformation, South Africa, Water Resources Management, Learning Alliance, Spiral Framework, Save the Sand Project

Introduction

Growing concerns regarding the status of water resources on global and regional scales have brought about considerable changes in orientation to both policy and practice. South Africa is no exception in this regard. The increasing precariousness of water security in South Africa has heralded a new national water policy with associated legislation in the form of the National Water Act (1998) and Water Services Act (1997). A key theme evident in the policy and legislation is an integrated approach to water resource management (Pollard, 2001). The integrating framework takes the form of an ecosystems approach commonly known as Integrated Catchment Management (ICM) that seeks to recognise the interlinkages between land and water resources at the catchment scale.

ICM is a conceptual framework, not a recipe or formula for solving water problems. Fundamental to the success of implementing its principles is that responses must be context specific, locally-driven, and reflect the socio-political, and economic realities of a particular catchment. One such local initiative is the *Save the Sand Project (SSP),* a national pilot project that aims to test the implementation of ICM and Land Care principles in the Sand River Catchment (SRC) located in the north eastern part of South Africa.

Figure 1. Locality map of the Sand River Catchment in the north-eastern region of South Africa

Key activities associated with the project include resource protection measures, rehabilitation initiatives, developmental activities and awareness raising. The main focus of this paper will be on how to achieve adequate learning within the context of the Sand River Catchment in order that the law be operationalised and ICM become a reality.

New challenges for new policy and legislation

In its 1997 White Paper on a National Water policy the South African government pledged itself to ensure that there would be '*some (water) for all, for ever*'. This pledge is a tall order given the legacy of land and water management that the government has inherited. What emerges around water policy and practice is a 'triple challenge'. The first challenge relates to bringing the escalating demand for water under control, the second, to correcting the inequalities in access generated by apartheid. The third is to devise concrete interventions that ensure current water use patterns do not comprise the access of future generations to an adequate and healthy resource base (Schmidz, 2001). It is anticipated that adopting an integrative framework for catchment management will address all three challenges and so set South Africa on a path to sustainable water resource management.

One of the key themes evident in the National Water Policy of South Africa and echoed in the National Water Act (1998) and Water Services Act (1997) is participatory water management. The introduction of a participatory orientation heralds a significant departure from previous water management approaches. What is being witnessed is a slow shift away from technicist approaches to more social orientations to water management. Public participation is expected to become delimited by catchment, and there is a devolving of decision making and planning powers to all stakeholders at the level of the catchment. The intended level of public involvement is very high.

Despite the enthusiastic reception that the new polices and legislation have received, the policy reform is remarkably silent as to how public involvement is to be achieved. The SSP in its work at catchment level has encountered some serious obstacles in the way of smooth implementation. These can be summarised as:
- Inadequate conceptual capital
  People's access to information is overestimated. Information on which to base decisions and management practices is not accessible. People cannot engage in discussion without adequate access to terms, concepts and policy.
- Complexity of concepts
  Integrated resource management is frequently complex and requires that people develop a holistic understanding. If people are not able to see connections and relationships between various components and elements within a catchment they are unlikely to be able to implement ICM.
- Unfamiliarity with democratic processes

It is assumed that people are empowered to operate in a democratic way and that they understand their rights and responsibilities. In a newly democratic country this assumption is flawed as people have not had the opportunity to exercise these rights.

- Acceptance of new roles and responsibilities is demanding
  The roles and responsibilities for implementing integrated water resources management depart markedly from these required by the past system. This requires a considerable amount of transformation within the water sector, notably within provincial government and local government structures. New public entities such as Catchment Management Agencies (CMS's) are required by the NWA (1998). These institutions all need to develop practices that are in line with the new legislation. Many of these are new and ill defined as so require a protracted focus on learning and skill development.

- Institutional support structures not in place
  ICM as reflected in the South African Water Policy assumes that a range of local and regional institutional structures are in place and able to perform certain functions. An asynchronous evolution of these institutions results in implementation gaps and/or confusion. The delay in the development of Catchment Management Agencies, for example, has reduced people's confidence in their needs being addressed by the new system of water management.

- Inconsistency around views of learning and knowledge
  Awareness raising endeavours are frequently built on views of learning that are outmoded or inappropriate. Top-down transferral of facts and information is not an adequate response to public awareness needs.

- Inadequate opportunities for action-based learning
  There is a need to link learning to specific activities so that there is a 'learning-by-doing' component. Awareness raising confined to theoretical issues alone is not likely to support practical application. There is a need for actual examples ('learning-by-example') of water management practice so that people can experience these first hand and learn from experience within the context of the catchment.

- Competence and skills deficit
  Linking skills to awareness raising is crucial if the learning is to be of value. An information focus alone does not enable people to change their situation. Past efforts have not enabled competence and skills development with respect to water management in the catchment.

- Problem solving and negotiation require practice
  The responsibility for problem solving has been devolved to a community responsibility. People need conceptual capital, skills, and confidence to participate in the solving of complex technical and social problems. Most communities have a lack of experience in this regard.

- Unrealistic expectations challenge implementation
  Interaction and learning need to revolve around what is possible and realistic within the context of the catchment. While expectations may be high, public awareness campaigns and learning programmes need to ensure that they do not encourage unrealistic or false expectations

- <u>Inadequate opportunity to reflect on own practice</u>
  Learning programmes in the SRC have seldom focussed on reflection on actions and own practices in order to improve.

Although these obstacles cover a broad spectrum of issues they all have one thing in common: the need for learning within the context of the catchment. Unfortunately, the legacy of apartheid has generated such vast inequalities that this ideal is severely obstructed. Attempts to initiate action and involvement from stakeholders and government agencies are not likely to be realised without consideration for empowerment through awareness raising, knowledge and skills-based support.

It is with issues of learning that this paper is concerned. The first section of the paper will introduce an approach that was developed and used by the SSP to support conceptual development, awareness raising and skills improvement within the context of the Sand River Catchment. The second section will reflect critically on the experiences of the project and examine some of the challenges faced during attempts at involvement of a broad spectrum of stakeholders in a Learning Alliance that works to enable the implementation of the new national policy.

No implementation without learning

In 1998 the Department of Water Affairs and Forestry with the Department of Agriculture and Land Affairs commissioned a feasibility study (Pollard, et al, 1998) that was essentially a proposal for a catchment management plan for the Sand River Catchment. The study described the *status quo* of the catchment with regard to biophysical characteristics, history, demography, politics, economics, infrastructure and land/water use practices. The study made a suite of recommendations for the implementation of an integrated approach to catchment management. One of the key recommendations was that a public awareness campaign should be launched in order to support adequate and appropriate learning for and about ICM. Not only was the campaign to raise awareness of the principles of ICM, but also to enable increased participation in water management processes within the catchment as a whole. Essentially its task was to facilitate the operationalisation of the National Water Act (1998).

In response to these recommendations, Phase 1 of the Public Awareness Campaign (PACAM) was launched in 2000. The first major issue confronting the campaign was the high illiteracy rate in the catchment (average literacy: 66%; Pollard et al. 1998). This, coupled with the high diversity of people, contributed to the decision to use the methodology of community theatre to raise awareness around ICM and Land Care. A theatre presentation was given in some 40 villages distributed throughout the catchment. Rural people – young and old, men and women –formed the audiences for these performances. Each theatre presentation was followed by an interactive workshop where community members highlighted water-related concerns. These data provided the basis for the development of a conceptual framework for Phase 2 of the PACAM.

In early 2001 Phase 2 was launched. Based on the findings and recommendations of an external evaluation process, the campaign made a marked change in direction. Financial constraints meant that the theatre presentations, with their associated workshops, could not be expanded to cover all villages in the catchment. Also, the evaluation team suggested that the methodology of theatre was not adequate to support the kind of learning that was required. They suggested that efforts be more focused and appropriate for, firstly, meeting the needs of the different groups in the catchment and, secondly, for addressing the complexities associated with ICM.

The response from the project was a proposed three year framework (Du Toit, 2001) for awareness raising and mediated learning in the Sand River Catchment, along with guiding principles and a methodological framework for how these activities could proceed. One of the biggest challenges was to introduce an approach where learning was practice-based and situated within the realities of the catchment that would at the same time address the need for new information and skills development required for the implementation of the new water policy.

Finding an appropriate approach to learning within context

Public awareness campaigns are traditionally designed around ways of disseminating information (Janse van Rensburg and Lotz Sisitka, 2000). The approach usually involves a period of research followed by a design and development phase where messages are derived from research findings, a campaign is developed and intensive dissemination is embarked upon. The final stage amounts to some form of appraisal of the campaign. This has come to be known as the RDDA model (Research, Develop, Disseminate, Appraise).

Despite the wide use of the RDDA model, it is not without flaws. Generally there is little attention to the context within which the information is to be disseminated and social processes are in effect ignored, resulting in a technicist approach to knowledge and learning. Some other pitfalls of this generalised approach include:

- The emphasis on terminology and structures with little attention to complex understanding and integration of knowledge. All that such campaigns might achieve is a superficial familiarity with (rather than understanding of) terminology.
- Complex concepts are oversimplified and there is a tendency to oppositionalise the 'old way' of doing things with the 'new'.
- Advocacy material usually takes the form of pamphlets, newsletters and posters. Despite these being well-intentioned gestures they carry no guarantee of meaningful learning.
- Advocacy materials usually contain strong messages that do not welcome alternative views or even allow space to be challenged.
- Messages are often slogan-driven with little attention to complexity or depth of issues and risks.
- Materials are sometimes paternalistic and do little to create a sense that individuals in communities are able to make their own decisions or take responsibility for their own lives. In some cases materials might be insensitive to culture and consequently alienate the groups for which they were intended.

- Messages are often 'aimed' at 'target' groups with little opportunity for such groups to contribute or question the content or orientation of the campaign. The situation is aggravated if the materials are poorly researched, designed and developed.
- The RDDA model leaves very little opportunity for reflexivity or for modification of the 'messages' once they have been developed.
- Campaigns based on single or simplistic messages are often of too short a duration with a resultant superficial glossing over of important details. Often the campaigns are successful in raising issues but not of a long enough duration to contribute to tackling and solving real problems.
- Environmental problems are characterised by complexity and simplistic campaigns do little to address them in any meaningful way.
- Cascading information down into communities represents a 'quick fix' and can be read as a way of abnegating responsibility for supporting people and assisting them in tackling real problems.

While some of these pitfalls are more easily navigated around than others, most have been taken into consideration with the designing of the three year framework for PACAM. What AWARD is proposing in the next section of this document is an orientation to public awareness raising in the Sand River sub-catchment that minimizes the negative design features commonly encountered in application of the RDDA model and is more in line with IRC-proposed principles for learning alliances (www.irc.nl/la).

The SSP staff has engaged with a number of focus groups in an exploratory phase that has been used to inform the design of an expanded three year programme These will be elaborated upon in the next section.

Reflexive learning in context

In order to avoid approaches that lacked continuity or were devoid of contextually relevant learning, the SSP designed an approach that would respond to the learning needs outlined in an initial ICM study (Pollard et al, 1998). The organizing structure for the activities takes the form of a spiral and encompasses an integrated approach to learning and awareness raising. The project accepted the following as important principles for learning (du Toit, 2001):
- Awareness and learning take time and are a continuous process;
- Awareness and learning are best informed by actual practice;
- Different interest groups have different needs and preparedness to learn is informed by these needs;
- All interest groups have prior knowledge and perceptions that influence learning;
- Different groups may have well developed and defined practices that determine actions, and;
- Learning is more than just about technical information. Skills development and an understanding of social and political processes are integral to meaningful learning.
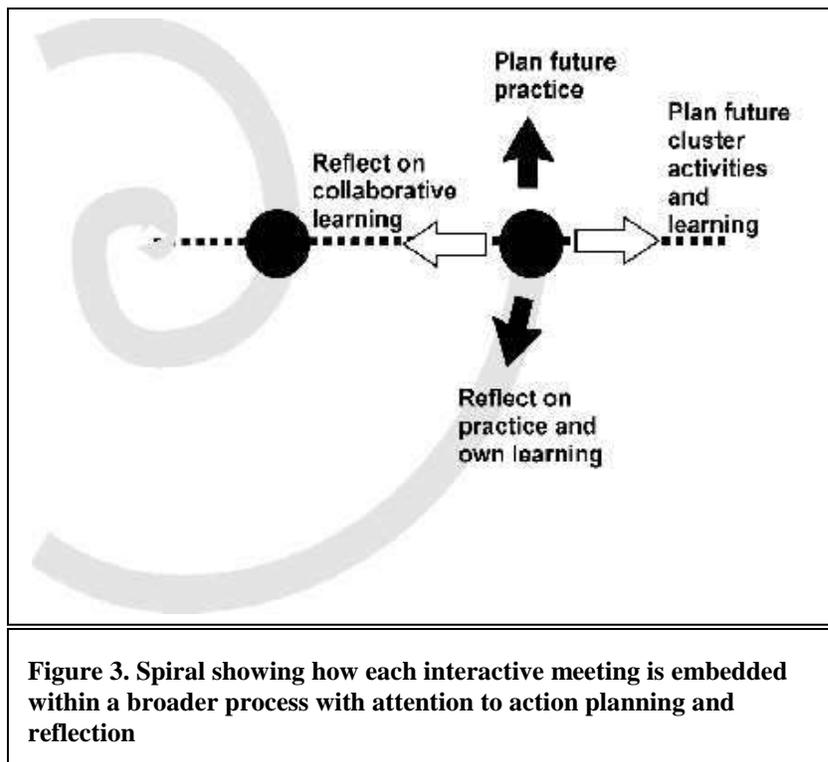
The approach designed by the SSP takes these principles into account and presents them in the form of a spiral which is an open-ended framework rather than a rigid recipe for

implementation. This is depicted in figure 2. A similar approach has been tested with teachers in Mpumalanga and Gauteng (Sguazzin &Du Toit, 2000).

Figure 2. Spiral framework showing how learning processes are supported over time
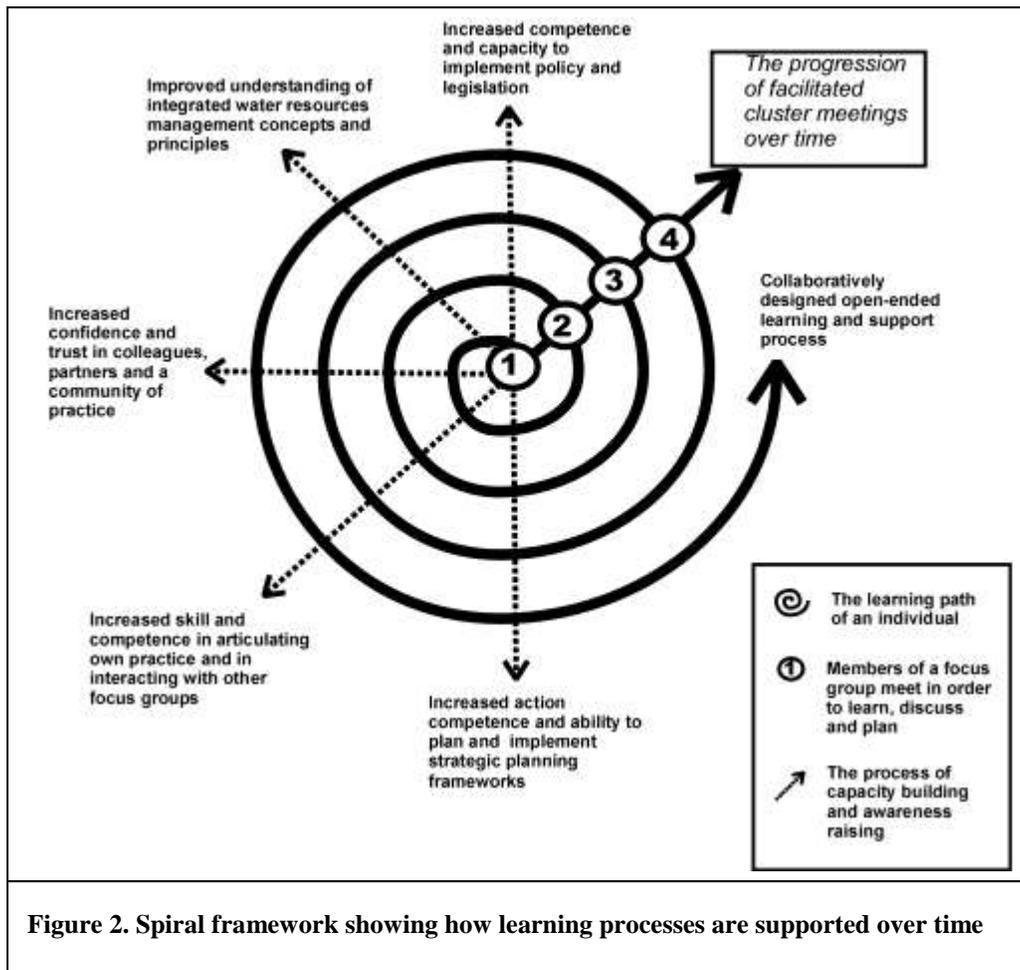
The spiral model has a number of design features that make it appropriate for a changing policy environment where particular outcomes are uncertain or unclear. The approach is, simultaneously, an opportunity to implement new policy, and an opportunity to learn from the implementation process through reflexive practice. The reflexive orientation encourages groups of individuals to identify problems, deliberate, propose solutions and respond to contextual changes in an ongoing series of action and reflection cycles. The learning and understanding that grow within a particular context are a direct response to local realities.

The intention is to focus strongly on an action/reflection approach that encourages 'learning by doing' and reflection on action in order to improve action and practice (figure 3). Given the complexity and the nature of what needs to be learnt in relation to participatory water management it is likely to be slow and incremental over time with a significant number of problems associated with implementation. This is where a recursive orientation can have significant value in furthering progress.

Figure 3. Spiral showing how each interactive meeting is embedded within a broader process with attention to action planning and reflection

Continuity of the learning process remains an underlying principle. This contrasts with traditional approaches that are often fragmented and place little emphasis on integrating the learning process with day to day routines of participants – the assumption being that they will automatically carry learning from 'interventions' over into their practice.

The principles governing the approach are summarised as follows (du Toit, 2001):

- A long-term view of support and learning
  Interaction and learning with various focus groups take the form of open-ended, long-term support programmes where issues can be introduced, clarified, explored, revisited, refined and questioned over an extended period of time. The steering idea here is that "not everything can be learnt in a day". The spiral approach puts emphasis on learning as a process that takes time. And there is recognition that learning often requires the revisiting of concepts within a supportive learning environment over time.

- Attention to dialogue and collaboration
  The intention of establishing focus groups is to provide an opportunity for a core of people to explore various relevant issues in-depth and with some purpose in mind. The depth and purpose are established through collaborative participation and with relevant contributions from a facilitator who mediates and provides

some structure to the learning. Through discussion, issues are brought to light, and, through collaborative action, ways forward are decided upon.

- Practice-based learning
  The SSP focuses on two categories of working. The first is 'working together' sessions, which are regular meetings where members are introduced to new concepts, policies, information, etc. Members of the focus group come together and discuss, deliberate and decide on a plan for action.

  The second category is constituted by the periods where focus group members are apart and function in their individual contexts. These are the 'work away' sessions and provide a way of extending the learning from the work-together sessions into personal reality. This approach encourages refection in and on action.

- Activities approach to learning and awareness rising
  There is a strong focus on learning activities, much in line with the Participatory Learning Activities (PLA) approach (Hope et al 1984). The processes of learning are taken to be collaborative explorations of context where facilitators are guides or mediators of learning rather than experts who feed participants with information. Activities are designed to highlight problems and then to assist with ways of tackling issues in ways that are relevant and appropriate.

  Awareness raising is linked to processes of active learning rather than just awareness raising and/or 'messages'. Focus groups engage with concepts, new ideas, legislation and ways of doing things so as to enhance their competence in relation to water resource management in the Sand River Catchment.

- A dialogical approach
  Members of the group take responsibility for their own learning processes and are in a position to negotiate aspects of the learning process and programme. The spiral orientation provides an opportunity where the participants are not only consulted in advance of preparing the campaign, but are actively involved in developing it over time. This means that focus groups become active stakeholders in planning the direction of there own learning.

  Although this approach requires that: a) facilitators are responsive to context, b) that specific needs of various focus groups are addressed, and c) that planning be diverse, it represents an opportunity to make learning more relevant and user specific.

- A framework for mediated learning
  An important point of departure is to focus on the issue of learning and how that could best be supported in the diverse contexts of the Sand River Catchment. Here a large body of research, either specifically conducted for the Save the Sand Project (Pollard et al., 1998) or gathered from various research organisations and

government institutions, is used to inform the development of the framework for learning.

- Working within a context of change
  The nature of the social, economic and legislative transformation embarked upon in South Africa is both complex and unique. Changes taking place are not always accompanied by certainty or clarity. This means that people might experience uncertainly or even be reluctant to participate in change processes. Under such conditions it is important to provide a supportive environment where participants do not feel threatened by change, and to ensure that insecurities and conflict are dealt with in a constructive manner.

Working with a diversity of groups and practices

The spiral approach requires the identification of a number of focus groups based on particular water and land use practices (figure 4). However, the defining criteria are not rigid. A focus group might be defined according to political criteria, for example local government or civics groups, or they may be defined according to water use criteria, for example, emerging farmers or industry. What is important is that each focus group has its own particular focus or unifying set of interests. Worth noting is that focus groups might overlap: for example, a water committee member might also be a farmer.
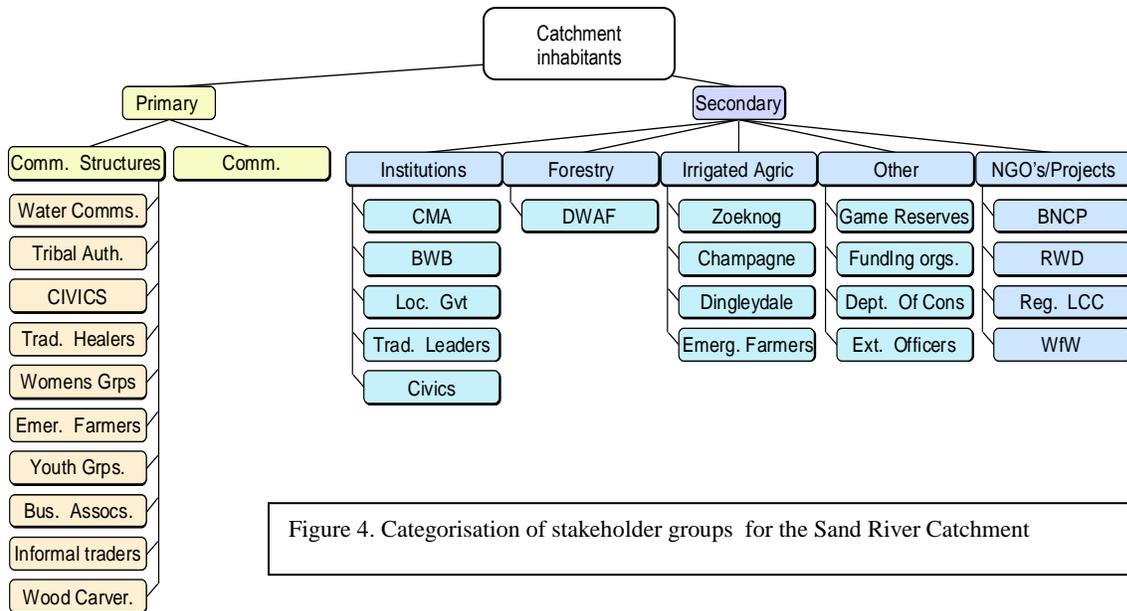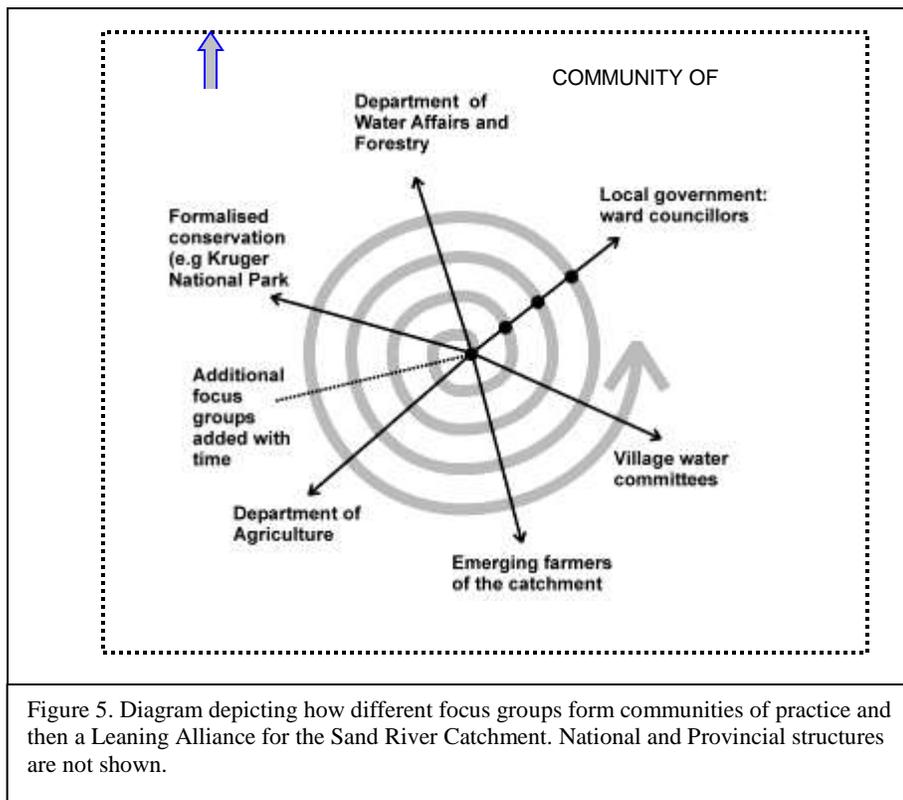
Figure 4. Categorisation of stakeholder groups for the Sand River Catchment

Creating a framework for collaborative learning in context

The SSP's orientation takes the local context as the starting point for awareness raising. A range of local contextual factors including the social, economic, cultural, political, and

biophysical, frames all learning opportunities and activities. An understanding of the context provides a backdrop against which problems are identified and solutions sought. All focus groups that participate in awareness raising start out by exploring their context. This is followed by an articulation of practices that occur within a particular group: essentially each focus group form a community of practitioners with a similar vision, objectives, guiding polices, and practices. These distinct collections of people can be called communities of practice (Lave and Wenger, 1991), and the full complement of communities of practice at the local, regional and national levels that all have an interest in and a bearing on the management of water in the Sand River Catchment can be termed a learning alliance (**www.irc.nl/la**, 2005). The arrangement of communities of practice into a learning alliance are graphically depicted in figures 5 and 6.

Figure 5. Diagram depicting how different focus groups form communities of practice and then a Leaning Alliance for the Sand River Catchment. National and Provincial structures are not shown.

Attention to social processes

Interactive processes are important in that it is through them that conflict and tension are brought to light and it is through collaborative action that ways forward are decided upon. It has emerged that many of the problems associated with ICM within the context of the SRC are of a social nature and that for these problems to be resolved there need to be opportunities for dialogue and collaboration. The collaborative learning aspects of learning alliances are emphasised in the IRC position paper (**www.irc.nl/la,** 2005)**.** Some of the social process that the SSP has focussed on include: participation in planning and decision making; partnerships; processes of collaborative learning; articulation of

practice; consensus and negotiation of shared vision; and management strategies and options. We have found that focus groups require substantial support when it comes to interacting with confidence, sustaining partnerships and collaborating in order to solve problems.

The integration of policy and practice

The development of the ability to integrate theoretical ideas or policy statements with actual practice is usually taken to be beyond the domain of learning processes and awareness raising. There is an assumption that once a person is aware of a particular theory or policy they will automatically be able to implement relevant aspects. Experience in the Sand River Catchment shows this assumption not to be true. A special endeavour needs to be made in order to ensure that policies can be integrated into daily professional and domestic life. Awareness raising should not leave people in an 'implementation vacuum'.

The spiral approach allows continuity to be maintained where theoretical ideas can be linked with experiences of daily life. Engaging stakeholders in such a way encourages individuals and groups to engage with actual practice and explore ideas encountered during interactive sessions.

One of the most important findings of the PACAM is that focus groups find it difficult to see the relevance of policy for long term planning or implementation at a catchment level. This is especially the case where concepts are abstract (e.g. the 'Ecological Reserve') or relate to holistic management processes (Pejan et al., 2005).

Drawing things together: a leaning alliance

An integrated approach to water resources management as outlined in the NWA (1998) demands participation and interaction from a diverse collection of groups. National, provincial and local level role players need to be engaged in dialogue as to how policies can and should play out at a local level. Since policy is often not clear as to the final outcome of implementation (Hill, 2003) it is pertinent that groups are in constant contact with each other through dialogue and negotiation. This approach allows local level players to, through dialogical process, arrive at management principles and practices that are appropriate for the local context. These processes allow the groups to be reflexive and responsive to context.

Figure 5 shows how these different levels of stakeholders can be integrated through dialogue and action during the implementation of polices and legislation. The vertical alignment of the horizontal (i.e. local, provincial and national) communities of practice is facilitated by the common goal of policy implementation.
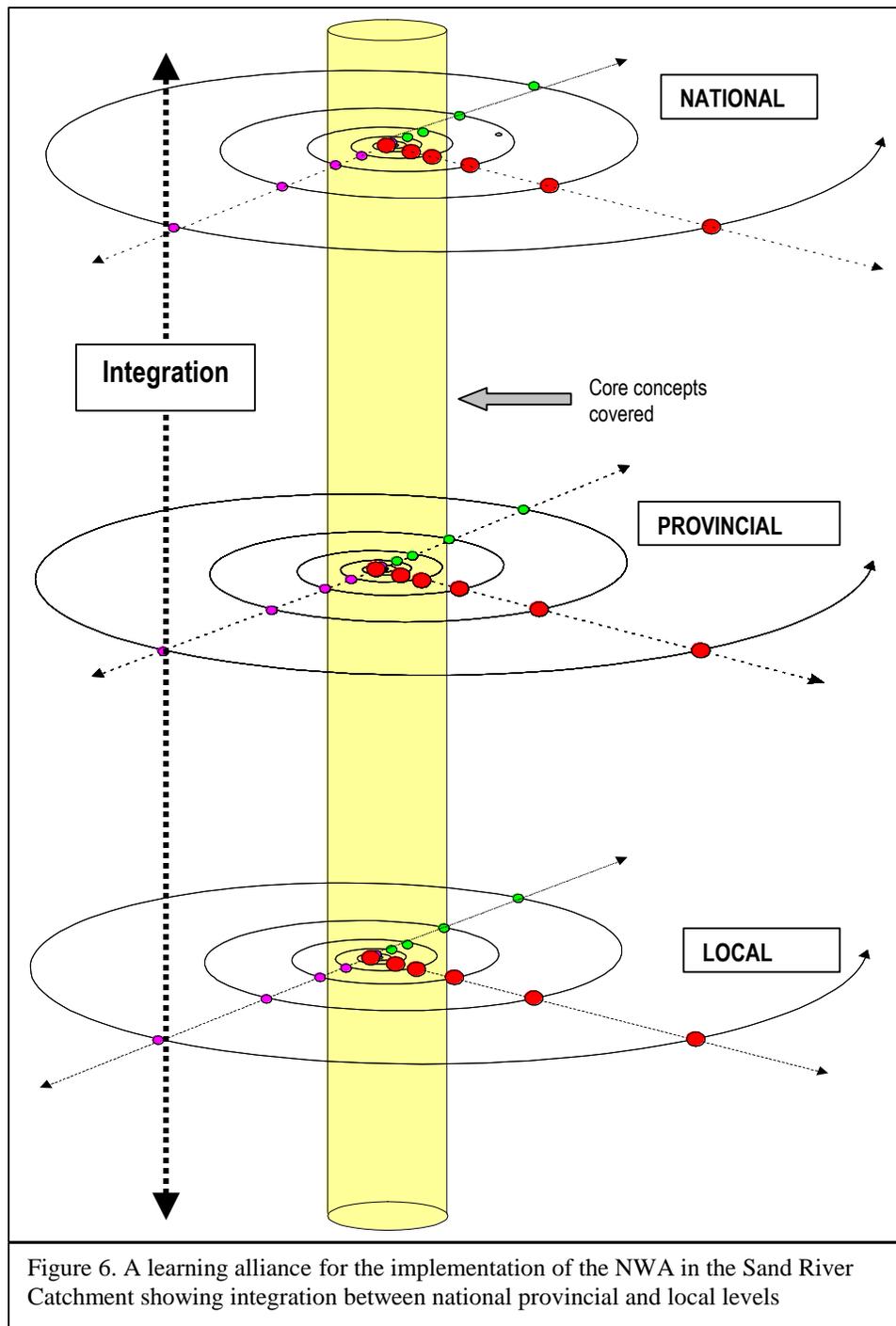
Figure 6. A learning alliance for the implementation of the NWA in the Sand River Catchment showing integration between national provincial and local levels

Potential problem areas, difficulties and challenges

A number of problem areas have been identified. These include:

- Conflicts between various cluster groups and, to a lesser extent, competition between cluster groups. The example of tension between civics groups and traditional leaders was cited as a potential obstacle to integrated work in the catchment.

- Lack of consistent attendance can seriously hamper the process of learning and competence development in a cluster. Random attendance or the replacement of cluster members with representatives does not support the process approach to learning endorsed by the spiral framework.
- Diversity of cluster members in terms of age and culture might pose particular challenges. Young might find it difficult to voice their opinions in the presence of elders and women might not be able to participate equally in the presence of men.
- Practical issues need to be addressed early on. Transport, timing, and general logistical issues are a problem in the Sand River Catchment where most participants are poor and/ or do not have access to resources such as vehicles, etc.

Conclusion

Although much of what is reported in this paper is work in its embryonic stages and can therefore be regarded as a work in progress, it is hoped that the approach that was developed and used by the SSP makes a contribution to helping local level practitioners implement Integrated Catchment Management in the Sand River Catchment.

On learning: New policies and practices, as outlined by the National Water Policy, are vastly different from polices of the past. Without considerable attention to learning it is unlikely that many of these new ideas will or can be implemented. The complexity and great number of new concepts associated with the new polices makes the task highly challenging especially in contexts where people have low levels of literacy.

Not implementation but enablement: When introducing ICM principles we have found that catchment residents regard much of the information as 'new'. In a number of cases the concepts are so unfamiliar that people require support or mediation before they are able to make any meaning of them. Two particularly troublesome areas are ICM related concepts (e.g. 'sustainability', 'the reserve', 'integrated resource management') and legislation (e.g. the National Water Act and the Water Services Act). The SSP has shown that technicist approaches and 'once-off' events are inadequate for raising awareness or assisting people with understanding the complexities of ICM and participatory water resource management.

Reflecting on old and new practice: Part of the orientation to ICM adopted by the SSP has been to initiate greater reflection on practice. This has been a process of getting practitioners to adopt a comparative stance between old and new practices. The intention is not to polarise the 'old' and the 'new' but rather to use comparison as a way of reflecting on the emergent practices that are required by legislative transformation. In this process we have seen that different individuals approach transformation differently and that learning to cope in a new policy environment is a highly personal thing complicated by cultural diversity and the differences foregrounded by separatist policy of the apartheid regime.

Achieving transformation through adequate learning: One of the major challenges facing the enablement of practitioners both within government departments and civil society structures relates to achieving adequate learning so that intentions captured in the

new policy and legislation can become a reality. Experience from the Save the Sand Project points towards a situation where there is inadequate attention to learning as a socially and institutionally embedded practice, and where simplistic views of knowledge and learning have severely obstructed transformation in the South African water sector.

The SSP has through the adoption of an action reflection approach developed what we propose to be a valuable contribution to learning and enablement in the water sector in South Africa.

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