BASIN MANAGEMENT APPROACH IN NAMIBIA: TOWARDS APPROPRIATE PARTICIPATION

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Abstract

The concern over the effects of increasing development on water and related resources emerged in the 1970s, sparking off a new paradigm seeking to link water with land and other resources, while considering the direct connection between this new holistic view with the development needs and activities of people. This resulted in the formulation of the concept of fully integrated water resource management (IWRM). The implementation of IWRM is based on fulfilment of the four Dublin Principles as well as central components of decentralisation and participation. Approaches to achieving IWRM and its principles are necessary for its success. Around the world, river basins are considered to be appropriate units for operational management of water and other renewable natural resources. Namibia introduced Basin Management as an approach to IWRM. Basin Management Committees were the proposed institutions to undertake a participatory form of water resources management at a decentralised level. The basin management approach focuses on interactive management of all resources and activities affecting the functioning of a river basin. Further, basin management can support developing countries towards sustainable development through providing a mechanism for appropriate decentralisation, natural resources governance, participation and integrative approaches to livelihoods. Consequently, roles of basin management committees continue to evolve, and their implications for sustainable development require further clarification. In Namibia there are currently three basin

management committees: the Kuiseb, Karst and Stampriet basin management committees. A fourth one is being established in the Cuvelai sub-basin of Iishana. This paper will ~~conduct a comparative analysis of the operation and organisation of the three existing and one incipient basin management committees~~examine/analyse challenges facing the operation and organisation of the Kuiseb Basin management committee and the incipient BMC of the Iishana sub-basin in fulfilling IWRM principles as well as participation and decentralisation goals of Namibia as a developing country.

Word count: 300(!!!)

Key words: Basin management, Integrated Water Resources Management, Dublin Principles, decentralisation, public participation, Namibia

1. INTRODUCTION

While water is an increasingly rare resource, the demand for it in all spheres of life is increasingly rapidly. One of the main thrusts behind natural resources management is to provide sustainable use of natural resources and promote economic growth (Hirji *et al.* 2002). There has been increased pressure on river basins and the resources within them around the world and particularly in sub-Saharan Africa where water and related resources are vulnerable (Davies and Day 1998, Pallett 1997). There is a growing consensus among governments, scientists, water planners and civil society organisations that the supply, use, and management of water resources will have to be integrated across sectors and among regions sharing the same resources (Hirji *et al.* 2002). This gives rise to the concept of Integrated Water Resources Management (IWRM) which was formulated in Dublin in 1992 at the International UN Conference on Water and Environment. These led to the formulation of the Dublin Principles (Solanes and Gonzalez-Villareal, 1999) which guide action at all levels of water management. The four principles were defined as:

1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
2. Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
3. Women play a central part in the provision, management and safeguarding of water.
4. Water has an economic value in all its competing uses and should be recognized as an economic good.

In Namibia, a basin management approach (BMA) was introduced as an approach to IWRM and was reflected in legislation with Part IV of the Water Resources Management Act, 2004 (Act No. 24 of 2004). Basin Management Committees were the proposed institutions to

undertake a participatory form of water resources management at a decentralised level. This paper conducts an analysis of the operation and organisation of the existing Kuiseb River and emerging Iishana sub-basin management committees in Namibia.

(Should we insert a map of ephemeral rivers and BMCs here??? i.e. Figure 1) – Get recent map from Bittner

2. BACKGROUND

Participation is one of the cornerstones of IWRM. The Rio Declaration of 1992 clearly signalled that there was a change in resource management thinking as people became an integral part of resource development and conservation (UNDPI, 1993). At the same time, many developing projects have changed their focus from a macro to a local level. Local communities are playing a more central role and are identified as active participants, not just receivers of aid (Chambers 1994 a, b, c, 1997). Both Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) as described/defined by Chambers have been widely used by developmental organisations in the field to counteract the general top-down approach of governments and international aid organisations.

Although PRA and RRA may not have been considered in application to basin-wide management there is no reason why they cannot be used for these larger groupings, with some modification. In particular categories 2 and 3 for RRA and 6 and 7 for PRA as set out by Pretty in 1995:

2. **Participation in information giving**. People have been asked questions and have answered them, e.g. through surveys. But the findings from the survey are analysed by outsiders and the respondents have no influence in the outcome.
3. **Participation by consultation**. People are being consulted and external professionals listen to their views, but the external professionals have already

defined the problems and will provide the solution. They might be modified according to people's responses, but there is no shared decision-making.

6. **Interactive participation**. Joint analysis, leading to action plans and the formation of new local groups or strengthening of existing ones. Involves interdisciplinary methodologies, multiple perspectives and learning processes. Groups take control over local decisions, and the people have a stake in maintaining structures.
7. **Self-mobilisation**. Initiatives are taken independently of external institutions.

Within the past decade, community based natural resource management has been identified, developed and implemented in communal farming areas throughout Namibia for a number of resources including wildlife, forests and, more recently, water (Davis 2004, Zijlma 2004). In the water sector, this has resulted in the establishment of a multitude of committees managing water supply, from grassroots upwards, ranging from water point committees supervising one communal water tap or one groundwater borehole, to regional water committees (see Table 1) (Zijlma 2004) and, more recently, basin management committees (Amakali and Shixwameni 2003). All of the principles of IWRM have been applied in designing these various committees, although a low level of education, lack of experience in cooperative management and a variety of cultural constraints have influenced the success of this approach.

Table 1: Different levels of community management of water in Namibia (Zijlma, 2004; Amakali and Shixwameni, 2003).

Institution	**Representing**	**Roles**	**Reporting to**	**Supported by**
Water Point Users Association	Comprised of all households using a water	Use water efficiently for domestic and	Themselves	Rural Water Supply Extension

- repeat Headings

(WPA)	point	livestock needs		Officers (RWS-EO) & WPC
Water Point Committee (WPC)	Water Point Users Association	Take care of water point, collect fees & pay to LWC	WPA	WPA & RWS-EO
Local Water Committee (LWC)	Water Point Committees on branch line or groundwater area	Manage branchline, ensure payment to bulk water supplier	WPCs	RWS-EO & WPCs
Regional Water Committee (RWC)	Local Water Committees	Contribute to planning of water supply	LWCs and Rural Water Supply	RWS-EO & LWC & RWS-Regional Office
Basin Management Committee	Line ministries, NGOs, regional institutions; all stakeholders	Contribute to management & planning of water supply	All stakeholders	Department of Water Affairs, Division of Hydrology

2.1 Basin Management Committees

Establishment of a Basin Management Committee (BMC) involves three phases:

1. a 'start-up phase' in which basin area characteristics (e.g. hydrological, ecological, cadastral, sociocultural), stakeholders and issues are identified and preliminary meetings and information dissemination take place.
2. the 'forum phase' where a Forum of Stakeholders is established open to all interested parties, a shared information base is initiated, and stakeholder capacity and needs are identified and plans made to address these needs.
3. the 'basin management committee phase' during which the idea of a basin management committee is introduced and discussed, and a committee is established composed of representatives from various stakeholder groups that begins activities, elaborates a constitution and vision, and obtains the Minister's confirmation.

After establishment, the BMC and the Forum identify and facilitate or implement activities that support integrated land and water management in the basin.

Three basin management committees are functioning in Namibia: the Karst and Stampriet, both focused solely on groundwater aquifers, and the Kuiseb, based on one of twelve western ephemeral river basins. One BMC is currently being established: the Iishana sub-basin of the Cuvelai-Etosha basin. Characteristics and issues in the Kuiseb (first river basin committee established) and Cuvelai (second river basin committee currently being established) basins are very different. Nevertheless, lessons learned from the Kuiseb Basin Management Committee have been analysed and serve as a basis for recommendations to the Iishana sub-Basin Management Committee.

3. RIVER BASIN MANAGEMENT COMMITTEES IN NAMIBIA

3.1 The Kuiseb River Basin management committee

The Kuiseb comprises a well-defined ephemeral river 420km long, originating above 2 000m and ending in the Atlantic Ocean (Jacobson *et al.* 1995) (see Table 2). The Kuiseb traverses three land-tenure systems, with more than 90% of its population located in the harbour town of Walvis Bay. Groundwater, from hard-rock aquifers in the upper reaches and the Kuiseb alluvial aquifer in the lower reaches, supplies the relatively small basin population of less than 60,000. The basin of approximately 15,500 km^2 lies entirely within Namibia and straddles two political regions. Water from the lower Kuiseb alluvial aquifer is transferred out of the Kuiseb basin to supply nearby coastal towns and a uranium mine. Water in this aquifer is considered to be of especially high quality and until very recently was in demand by a local beer brewery located in an adjacent basin.

Figure 2. The Kuiseb River Basin, showing the different land-tenure systems

The population of Walvis Bay is culturally diverse and growing and includes members of all thirteen ethnic groups in Namibia (see Table 3). While most are permanently resident in this coastal town, there is a sizable migrant population who service the fishing and fish processing industry. Water is consumed for domestic, commercial and industrial purposes in increasing amounts.

Delete ? Shorten

Bordering on the town of Walvis Bay and resident along the Kuiseb River in the Namib-Naukluft Park are the Topnaar communal farmers. Approximately 300 people are resident along the river with the remainder of the 3000 strong population residing in Walvis Bay. Until 1980, they were dependent on shallow hand-dug wells accessing the alluvial aquifer. During the 1980s the government provided them with diesel powered pumps (recently converted to solar power) and reservoirs replacing the hand-dug wells. This resulted in the rural Topnaar

population settling in approximately thirteen permanent villages ending their semi-nomadic herding lifestyle. They raise a variety of livestock which number less than 4 000 in total, most being goats (Mendelsohn et al 2002). The new wells have had no apparent negative impact on the water table.

In the upper catchment, a diverse assortment of mainly white commercial farmers and indigenous farm workers use wind and diesel powered pumps to access water from hard-rock aquifers. Associated earth dams are said to enhance groundwater recharge in these aquifers and also provide open water for livestock and wildlife on the approximately 100 freehold land tenure farms averaging 5 000ha in area. Livestock, especially cattle, are by far the largest single category of water consumer in the upper catchment. In 2002 there were about 22 680 cattle and 14 130 sheep or goats in this part of the Kuiseb Basin (Mendelsohn et al. 2002). Currently there is a shift in this area from livestock farming to more diversified land use including tourism, game farming and trophy hunting. These latter activities have lower water consumption needs than raising livestock, although open water that attracts birds and other wildlife is considered an important attraction for tourists. Misperceptions concerning equitable access to water and overuse of riparian vegetation for grazing as well as health and unemployment were identified as primary issues in the basin and as challenges for the basin management committee. Because this region is not a stronghold of SWAPO (the political party in power) support and has a very small population, the central government has given only limited attention to this region's development.

Although relatively newly functioning, the Kuiseb BMC has undertaken a number of activities so far. First, the Kuiseb BMC (KMBC) has been successfully involved in convincing a new Australian uranium mining company in the lower Kuiseb region to seek

alternatives to using purified alluvial aquifer water to suppress dust on its main road. The KBMC has also been trying to put to rest the controversy of dams in the upper Kuiseb. With the exception of some of the Topnaars living in the Namib Desert, stakeholders in the lower Kuiseb now believe that farm dams in the upper Kuiseb are neither increasing in number nor are they having any appreciable impact on the lower Kuiseb aquifer. The Topnaar representatives involved in the KBMC have apparently either not yet informed their rural members of the lack of dam impact or the rural Topnaars have refused to believe what their representatives have told them. Further discussions are ongoing on this topic. Interestingly, the rural Topnaars seem to blame the upper Kuiseb farmers for any decrease in their water table, yet they have not turned their attention to the large amount of water being withdrawn from the lower aquifer by Walvis Bay and the lower aquifer water transfers to other nearby towns, industries and mines. Overall, however, the mines in the area, the Department of Water Affairs, the Gobabeb Training and Research Centre operated by the Ministry of Environment and Tourism in conjunction with the Desert Research Foundation of Namibia, and other key stakeholders have begun to use the KMBC as a useful platform for addressing a variety of issues of concern to them.

3.4 The incipient management committee of the Iishana Sub-basin (plus map Fig 3)

The Cuvelai-Etosha basin, the second basin under study, comprises an ephemeral wetland of low relief averaging 1 100m above sea level with numerous watercourses (Marsh & Seely 1992, Mendelsohn *et al.* 2000). The upstream part of the basin originates in Angola where it supports perennial flow. Further down the basin in Namibia, flow is ephemeral. This ephemeral wetland is 130km broad as it crosses the Namibian border and terminates approximately 150-200km downstream in the Etosha Pan. The wetland area is approximately 10 000km^2, excluding the Etosha Pan. It is underlain by a saline aquifer. From the time the

area was first permanently settled approximately 400 years ago until the early part of the 20th century, the population depended on almost annual flow of the oshanas, as the water courses in the ephemeral wetlands are locally known. This flow recharged perched aquifers accessed through hand-dug wells. Today, the domestic and industrial water supply originates at the Calueque Dam, Angola, within the neighbouring Kunene River basin and is distributed by canal and pipeline throughout most of the Cuvelai basin. An international treaty guarantees a fixed amount of water without payment to Angola while all infrastructure including pumps, canals, purification plants and distribution pipelines are constructed and maintained by Namibia. Purified water has recently been provided to a few towns close to the border in southern Angola from the Namibian system. Users within Namibia (and the few in Angola) pay for the costs of supplying the treated water although the water itself is free. This international basin system, the Cuvelai, dependent on inter-basin transfer that supplies all purified water to the basin and some non-purified irrigation water, contrasts with the inter-basin transfer scheme developed to export water from the Kuiseb basin. The underlying salinity of the aquifer in the Iishana sub-basin prevents the use of this aquifer for domestic, industrial and agricultural purposes.

The Cuvelai basin lies across four political regions in Namibia. Non-freehold land tenure prevails, except in the rapidly developing urban centres, with the basin supporting approximately 500,000 people and numerous livestock. In 2004 there were approximately 180,000 livestock (84,000 cattle) in the Iishana sub-basin alone with 1,652,000 livestock (885,000 cattle) being raised in the Cuvelai-Etosha basin as a whole. Rapid population growth, low land productivity, limited and over-used natural resources, food insecurity, poor health, high unemployment and urbanisation were identified as important issues in the basin and challenges for the basin management committee. The Cuvelai basin area is primarily

occupied by one indigenous ethnic group, differentiated in the rural areas by tribal affiliation (Marsh & Seely 1992, Mendelsohn *et al.* 2000). They speak a common language comprised of nine mutually intelligible dialects. Traditional authorities regulate land, and hence associated water, although land boards have been recently introduced within the Ministry of Lands and Resettlement to ensure greater equity of access. This region has strong support from the central government due to the fact that SWAPO has its political base in this region.

In the Cuvelai Iishana sub-basin the formation of a BMC and a visit the members made to the bulk water supplier for the region have convinced them of the necessity of payment for the water that is provided to residents in the sub-basin. Prior to this visit most of the local representatives had been adamantly demanding free water. The BMC members also visited a local Water Point Committee and heard all of the WPC's complaints, thus increasing understanding between local people and those representing central government agencies and higher level stakeholders. This BMC has yet to be officially recognised but has already begun to take the first steps toward effective operation.

4. KEY ISSUES IDENTIFIED DURING THE FORMATION OF BMCS

(This is just a suggestion to be re-written with the other BMC info added)

Overall, basin management has been recognised in Namibia as a useful approach, however a number of challenges and limitations have been experienced. Key issues have been identified and are elaborated below that need to be addressed in carrying out the basin management approach.

4.1 Allocate sufficient time to implement process

Implementation of basin management is a relatively time-consuming process. It takes time for stakeholders to know and trust one another. It took three years for the Kuiseb Basin

Management Committee to be formed and recognised by the responsible Minister. The establishment of the Iishana sub-Basin Management Committee of the Cuvelai Basin has taken more than two years but recognition is expected during the third year.

4.2 Requires a strong, dedicated initial implementation

Implementation of basin management must be initiated and driven in its early stages by a funded, dedicated body with direct interest in the process. In the Kuiseb, European Union funding to the local NGO (Desert Research Foundation of Namibia) facilitated the process in its early stages. In the Iishana sub-basin, the Department of Water Affairs took the lead supported by the Kuiseb basin example. Funding from the German government (GTZ) has supported the process.

4.3 Identify clear conflicts and problem areas

The process of establishment can be supported when clearly defined conflicts or issues are readily apparent. In the Kuiseb Basin, downstream users perceived the upstream commercial farmers to be holding back most of the occasional flow. It was only during the second year of implementation that a field research project to the area (Hicks, Johnson & Torilli, 2003) helped to clarify and eliminate long-held misperceptions. In the Iishana sub-basin, overall water supply, and particularly its cost, is perceived to be a major challenge. Clearly defined conflicts amongst stakeholders in the Cuvelai basin, as observed in the Kuiseb basin, are not evident. Paying for water, which had previously been provided free of charge, is an issue that has affected all people and unites rather than divides the population. Similarly, introduction of community based water management has changed relationships within communities but has affected all rural communities similarly. Here, the conflict is between users and suppliers and can be moderated by the Basin Management Committee.

4.4 Obtain high level political support

Support from high political levels is essential for committee formation and functioning. In the Kuiseb basin and the Iishana sub-basin, the relevant Minister took personal interest as basin management committees were an important part of new legislation he was backing. To date, some other key ministries, e.g. Ministry of Lands and Resettlement and Ministry of Regional and Local Government and Housing are not yet involved to the degree expected and hoped for.. Additional incentives may need to be identified to secure greater involvement by these other ministries, e.g. by having the BMC directly address issues that are of concern to them, as well as allocate funding for relevant project or program activities.

Enhance understanding on all levels

A focus on enhanced understanding among all stakeholders is essential for the process to become fully established and for the basin management committee to take ownership of the process. In the Kuiseb basin, sufficient numbers of stakeholders have taken over implementation, and it now functions independently of external support. Apparent lack of understanding prevents some stakeholders from taking an active part. This particularly applies to poorer communities, such as the Topnaars, who expected immediate improvement of their water supply at no cost or effort. Similarly, although regional councillors and governors attended meetings during committee formation, now that project (financial) support has been withdrawn, they no longer see benefits in attendance. Long-term sustainability of the Iishana sub-basin committee will be addressed as the committee becomes strengthened. Additional incentives for continued active involvement in the BMC by all relevant parties may need to be identified.

4.5 Need for ongoing awareness raising

Ongoing awareness raising amongst all stakeholders is essential for the basin management approach to succeed a it is is tied to capacity building and enhanced understanding by all stakeholders. Basin management committees are formed of people who have never had to work together before and who represent diverse socio-economic, ethnic, linguistic and educational backgrounds. Finding common ground, ways to work together successfully and a way to resolve conflicts peacefully have to be developed. Basin management committees are an imposed grouping, not one that existed previously or that exists naturally, so time and awareness raising and rapport building are essential. For example, although Namibia promotes decentralisation as a key development issue, the connection between the basin management approach and decentralisation has not been recognised by many key stakeholders. Nevertheless, basin management has been integrated into Namibia's Vision 2030 and National Development Plans and adopted by key stakeholders. WPAs, WPCs, LWCs and RWCs, where they already exist, should be better incorporated into the communication network of the BMC and even into the BMCs formation and functioning, even though these committees may be supported by different parts of the government's bureaucracy. Where such local level organisations do not exist, efforts should be made to promote their formation.

4.6 Strengthen role of representatives

The concept of representation is not well understood by many stakeholders in both basins. Being a designated representative means that the stakeholders not only represent themselves but also gather information about the viewpoints of their sector and report back to their sector on outcomes of decisions undertaken. It is clear during forum and committee meetings that some stakeholders are acting and taking decisions as individuals, not as representatives of a constituency. In the Iishana sub-basin existing local water management committees might be

able to be used to facilitate better communication among all parties so that representation is more effectively achieved. In many cases some form of training around the role of a representative may be needed. This training will strengthen both the BMC and, more broadly, democracy in the nation as a whole. The transition from a government which has traditionally used top-down planning and implementation methods to one that encourages more direct participation by local citizens in both planning and implementation will take time. Changing behaviours and attitudes does not come quickly or easily, and only with a strong commitment from the government will citizens begin to make this transformation to a participatory, democratic approach.

A related concern is to insure that the representatives from already powerful stakeholder groups do not dominate BMC decision-making processes. Some system of checks and balances to prevent the usurpation of power by a small number of people within the BMC and to insure that the voices of the weaker sectors are always heard needs to be part of the organisation's constitution,

4.7 Promote cross-sectoral integration

Integration of sectoral approaches, e.g. agriculture, water and forestry, in the same ministry but with different extension services, has been enhanced by the basin management approach. This has been integrated into a strongly cross-sectoral approach known as the Forum for Integrated Resource Management or as Community Based Natural Resource Management or Community Forestry and serves to address many development goals of Namibia. In addition, different line agencies must be encouraged to work together. For example, the Rural Water Supply (RWS) and Division of Hydrology (DOH) of the Department of Water Affairs (DWS) must learn to co-operate in supporting the BMC's functioning since WPAs, LWCs, WPCs and RWCs are supported by the RWS, while BMCs are supported by the DOH. In general,

line ministries and departments are typically designed to have good vertical flows of communication and command, but horizontal flows for co-operation and coordination are new and are not natural or easy to establish, both in Namibia and elsewhere.

4.8 Monitor, evaluate and adjust processes and impacts

A programme of monitoring, evaluation and adjustment was established within the Kuiseb basin management committee. Initially facilitated during the establishment period, M,E&A is not fully functional. Monitoring of committee activities themselves is ongoing, but monitoring of the state of the basin's environment and resource use has not yet become fully functional. Members of the forum outlined a very ambitious list of indicators to be monitored, e.g. soil, vegetation cover, etc., but without suggesting how monitoring would be done and who would do it. Training on how best to do this data collection may be needed among some stakeholder groups, along with some form of compensation for the time and effort spent on these tasks. Most appropriate would be for the BMC to take advantage of ongoing monitoring activities among individuals and stakeholder groups. (I don't understand your note Mary) A modest but fully developed monitoring programme is required. A similar situation currently exists in the Iishana sub-basin committee. Currently, a monitoring system with input from water point committee members is being initiated and could eventually provide information to the basin management committee. In this case the potential for getting the necessary data for the Iishana sub-basin is more promising than in the Kuiseb area due to the existing WPCs in the former. Yet training and incentives to complete these tasks may still be needed.

4.9 Promote sustainability of basin management approach

Sustainability of the approach and maintaining long-term interest appears to be another issue as experienced in the Kuiseb basin. During the three year, project-supported start-up period,

attendance at forum meetings increased with each quarterly meeting. Since the establishment of the basin management committee as an independent entity, participation by those involved directly in water management and research has been regular, but participation by those less directly involved has been minimal. Time and increased understanding by all members needs to be considered and promoted. Incentives for participation must be developed, perhaps in part by insuring that issues relevant to all stakeholders continue to be on the BMC's agenda. Going beyond addressing issues related narrowly to water management and using the BMC as a platform for addressing other development issues should help to keep all stakeholders actively engaged. Financial commitments from the government to support BMC projects or programs, when appropriate, may also strengthen the BMC's viability.

5. BASIN MANAGEMENT AND THE BACKBONES OF IWRM: PARTICIPATION AND DECENTRALISATION

Basin management, as designed and intended, fully supports decentralisation, a major thrust in many developing countries including Namibia (GRN 1997). It is recognised, however, that decentralisation requires capacity and broad understanding, not the least of all concerning the four principles of IWRM as integrated with all natural resources. In terms of Namibia's Water Resources Management Act 2004, awareness raising, capacity building and development of understanding are key foci for the basin management committee members themselves, the broader basin forum and the community at large. Collecting, managing and sharing information and data are also responsibilities of the committee that contribute directly to decentralisation.

The basin management committee itself represents a step toward decentralisation of responsibilities to key stakeholders on different levels within the demarcated basin area. The committee includes regional and local representatives in its membership and liaises closely

with other regional and local authorities during the course of its programmes and activities. It may be possible to strengthen this approach by tapping into the organisational structures that already exist at the village and local levels for managing water and/or other resources, e.g., as presented in Table 1. This would build participation from the grassroots level up, rather than imposing a structure from the top down.

Basin management, as it is designed and intended, is firmly based on principles of participation. Any and all interested and affected parties are welcome to be members of the basin forum and to share information with the management committee and its members. On the other hand, it is the responsibility of the basin management committee to promote broad community interaction through awareness raising, information sharing and involvement with activities.

During the development, establishment and functioning of basin management committees the entire range of the seven categories of participation (Pretty 1995, Pretty et al. 1995) may take place at different times and places and with different groupings. In basin management in Namibia efforts are made to achieve interactive participation, but consultative participation has perhaps been most common. The very basic approach of basin management, being iterative and inclusive, contributes a platform for enhancing participation on an ongoing basis. Moreover, a specific effort must be made to involve the powerless, poor and usually 'quiet' members of the basin's population. The development of an active democratic nation and civil society is supported by all of these activities.

Challenges defined (synopsis)

Conclusion ???