The Council for Scientific and Industrial Research (CSIR) in collaboration with the SADC Water Sector, GTZ, the Stockholm International Water Institute (SIWI) and Phillips Robinson and Associates

TOOLS AND APPROACHES TO STRENGTHEN TRANSBOUNDARY RIVER BASIN ORGANISATIONS IN SADC

25 June 2009

Workshop Proceedings

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CSIR Workshop: Tools and Approaches to Strengthen Transboundary River Basin Organisations (RBOs) in SADC
25 June 2009, Pretoria, South Africa

EXECUTIVE SUMMARY

The Council for Scientific and Industrial Research (CSIR) in collaboration with the SADC Water Sector hosted a workshop on Thursday 25 June 2009. The workshop took the form of a multi-stakeholder engagement that sought to obtain expert input and insights on the significance/relevance of a basket of tools and approaches developed under a GTZ-funded project to aid river basin organisations (RBOs) in SADC in improving transboundary water resource management and development.

As part of this project, the Orange-Senqu River basin was selected as a case study to embed these tools and approaches within a real life example. The objectives of the pilot study are:

- To demonstrate the potential benefits of adopting selected tools to strengthen RBOs in SADC
- To act as an analytical test for further research on the implementation of these tools in other RBOs in southern Africa.

The aim of the workshop was therefore to test the applicability and relevance of the tools and approaches developed with stakeholders from the Orange-Senqu River basin. Representatives from various components of the water sector (with particular experience in the Orange-Senqu River basin) were therefore invited to attend. These included former and current policy-makers and government officials, academics/researchers and representatives from the energy, mining and non-governmental sectors.

The project team, led by Dr. Marius Claassen, has developed a unique basket of tools and approaches combining natural science modelling, economic business modelling, as well as social science incorporation of culture and values and the importance thereof in developing tools to enhance transboundary governance systems. Ms. Inga Jacobs, workshop organiser from the CSIR, explained prior to the workshop that “Conventional approaches in basin management have focused on biophysical research. It is now recognised that social and political sciences should also be deployed to ensure effective implementation of development strategies. Social and economic development in a transboundary context can thus best be achieved through multidisciplinary teams.”

The presentations made were products of collaboration between researchers and experts from the CSIR’s Natural Resource and the Environment, the Meraka Institute at the CSIR, and other international strategic partners such as the Stockholm International Water Institute (SIWI) and Phillips Robinson and Associates (PRA).

The workshop therefore formed part of an external review process to assess the applicability of the tools/approaches developed with stakeholders in the Orange-Senqu River basin.

INTRODUCTION

We can't solve problems by using the same kind of thinking we used when we created them.

Albert Einstein

Achieving harmony between national sovereignty and regional optimisation of water resource-based development is a key challenge to transboundary river basin management in the southern African region. In an ideal world, River Basin Organisations (RBOs) would have executive authority to implement basin-wide solutions, but the reality is that countries are sovereign and are protective of their sovereign status. This resistance is vested in a certainty of what each country has or controls, and an uncertainty of what they could have or could control under a scenario of "cooperative" management of a shared resource. Through their research in transboundary water governance, the CSIR and its collaborative partners are exploring ways to generate a nuanced understanding of the biophysical environment of the transboundary river basin, one that includes consideration of the socio-cultural context, the significance placed on approaches that ensure economic development through the identification of benefits within and beyond the basin, as well as ways to facilitate the strengthening of institutional processes.

Research delving into the dynamics of cross-cultural interactions in resource management and the complex cultural and power dimensions of water resources management has steadily grown. Yet, a truly comprehensive and interdisciplinary approach that would frame water issues in the larger socio-cultural context has been lacking in the mainstream water resource management discourse. These gaps have provided impetus for the development of tools and approaches that not only emphasise the importance of an awareness of the socio-political context, but which strive to conceptualise this intangible domain and integrate it with technical modelling and scenarios planning. The basket of tools and approaches developed in this project were presented at the workshop, which acted as an external review process based on engagement with stakeholders in the Orange-Senqu River Basin accessing the applicability of the tools/approaches developed.

The workshop was attended by 17 delegates from various parts of southern Africa and abroad.[1] Delegates were drawn from NGOs, government, the private sector, consultancies and research institutions.

Dr. Marius Claassen from the CSIR, Pretoria opened the workshop with an introduction to the project and facilitated a discussion on its objectives. Dr. Claassen emphasised the project's focus on Shared Watercourse Institutions (SWIs) and River Basin Organisations (RBOs) as a particular component of SWIs.[2] The workshop procedure was outlined: tools and approaches would be presented and thereafter a discussion would be facilitated on its relevance, applicability and potential impact. Three key focus areas were highlighted: alternative/adaptive models for RBOs; tools and processes to empower RBOs to deliver on their mandate; and gains through benefit-sharing approaches.

[1] Refer to Annexure for a list of workshop participants.

[2] Terminology clarification is important since RBOs and SWIs are often used interchangeably. In this project we separate the two: SWI is a broad category, while an RBO is a type of SWI.

OBJECTIVES OF WORKSHOP

The objectives of the workshop were:

- To test the applicability and relevance of the basket of tools/approaches developed to help strengthen RBOs in SADC in terms of impact, usefulness to organisational processes and learning from existing projects.
- To demonstrate the importance of a nuanced understanding of the biophysical environment of the transboundary river basin, one that includes a consideration of the socio-cultural context, the significance placed on approaches that ensure economic development through the identification of benefits within and beyond the basin, as well as ways to facilitate the strengthening of institutional processes.

Dr. David Phillips (PRA, Windhoek) discusses RBO maturity

From left: Ms. Mpetjane Kgole (Eskom), Dr. Anders Jägerskog (SIWI), Dr. David Phillips (PRA), Dr. Marius Claassen (CSIR)

EXPECTATIONS OF WORKSHOP

Several expectations were listed by participants:

- Professor Peter Ashton (CSIR) emphasised the need to develop tools that are **practical**, especially because the implementation of water-related legislation is of critical importance in the SADC region. He also highlighted the need to understand how the presentations will be useful in their applications. He explained that this was a "test" to develop an index of attractiveness so people will make it work. Mr. Pieter van Niekerk (Department of Water Affairs and Forestry, South Africa) (DWAF) expressed cautious optimism, but elaborated that while anything new in the field is of interest, the test however, is on its utility for RBOs.
- Dr. Claassen elaborated on the need to promote processes of uptake and implementation.
- Emphasis was also placed on implementation being a problem across the region. Prof. Ashton indicated that very often there are a small series of little things that hinder implementation. These small things (depending on where you stand) can seem insurmountable. Every stage needs to be clear to people evaluating these tools that are being produced so that they buy into them.
- Ms. Inga Jacobs (CSIR) emphasised the significance of multi-disciplinarity, both in terms of participants and the project team. Research conducted on this project spans socio-cultural, economic, political and institutional aspects. She clarified the need to test multi-disciplinary applicability and relevance to maximise potential impact.
- Dr. Claassen implored participants to realise the utility of the tools/approaches presented and to engage with the team on future collaborative work.

Mr. Derek Hohls (CSIR, Durban) presents on ICT opportunities for RBOs

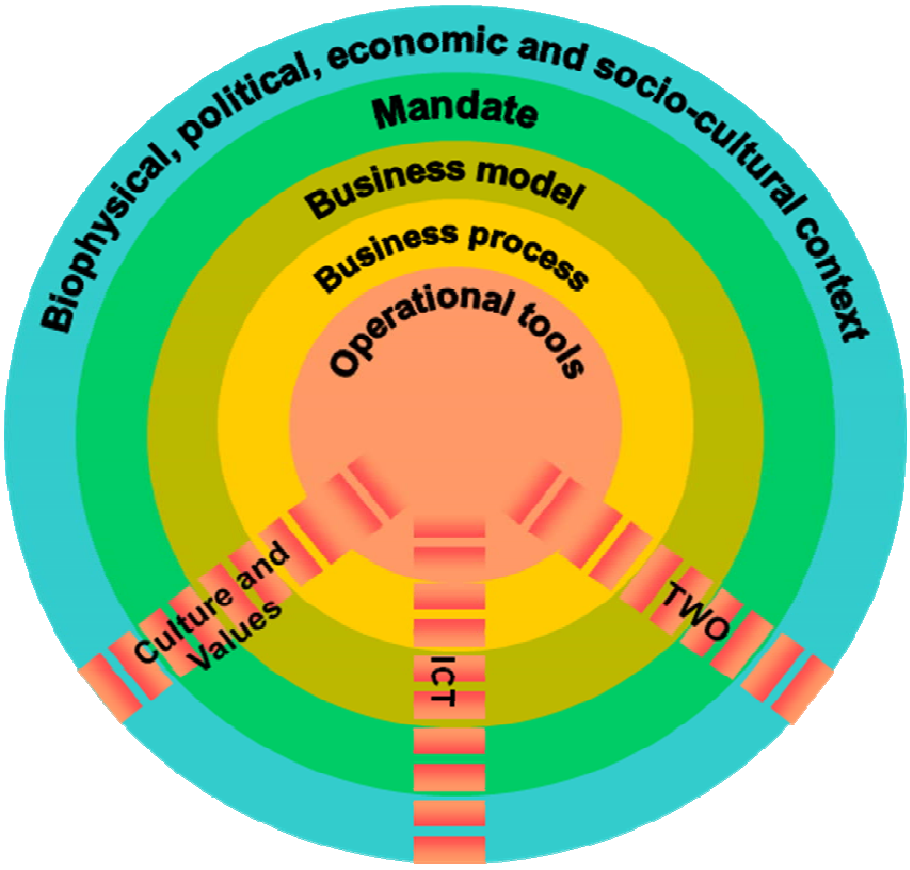
DAY 1:	**Thursday 25 June**
Purpose:	*To test several tools and approaches for RBOs with the Orange-Senqu River basin in terms of applicability, relevance and learning from existing projects*

KEY POINTS ON PRESENTATIONS

Presentation title: Presentation 1: Conceptualization of the tools/ approaches for RBOs	**Presenter: Dr. Marius Claassen (Natural Resources and the Environment, CSIR)**

1. REPORTING NOTES

Dr. Claassen provided an overview of the specific GTZ/SADC Water Sector project objectives and briefly introduced the different tools and approaches that were presented at the workshop.



First outer layer: the context in which RBOs exist is biophysical, political, economic, as well as socio-cultural. We therefore need to understand the context in which RBOs operate. Secondly, RBOs need a mandate to authorise action. Thirdly, once RBOs are equipped with a mandate, there is a need to find ways to organise to best deliver on this mandate. A key approach to achieving this would be to develop/review the business model. Fourthly, once RBOs have a business model, the next question then begs, what is the process that helps

you to go about your business? The generic business process is an iterative cycle that starts with a vision, which is supported by a strategy. The strategy is pursued through an operational plan, which directs decisions and actions. The efficacy of these actions in relation to the vision and strategy is then assessed through a monitoring and review process. Within the business process there could be a multitude of operational tools to help run the business. A few operational tools were identified with relevance for RBOs: a culture and values approach, the opportunities within ICT, and the Trans-boundary Waters Opportunity (TWO) Analysis.

These tools have 'weaving' value at all layers throughout the concentric circles, implying that they could assist with institutional processes to develop an understanding of all layers (the outer context, the mandate, the business model as well as various business processes).

2. DISCUSSION

A discussion on the interconnectedness of the socio-cultural and the political contexts was initiated by Mr. Pieter van Niekerk (DWAF, SA). He questioned whether governance should be defined as how society reacts and argued that there is overlap between concepts relating to the political and socio-cultural. This is especially the case when it comes to different countries and cultures. Ms. Karen Nortje (CSIR) explained that one should not try to separate the socio-cultural and political as they are interlinked. The socio-cultural context refers to how individuals interact with each other and understand things. Political issues pertain to power, governance, etc. Consensus was reached on the interconnectedness of these two contexts and that separating them is not necessary even though the political sphere is much more related to power issues.

Dr. Peter Qwist-Hoffman (GTZ) pointed out that there are also different political and institutional bubbles that exist, and suggested that the diagram better clarify this multiplicity of contexts. Dr. Marius Claassen reiterated that contexts are multi-dimensional and multi-layered, and we only talk about context in relation to something (focal issue).

Mr. Dudley Biggs (Namibia) stressed the fact that politics permeates international, regional and national levels of scale.

Prof. Peter Ashton (CSIR) questioned whether the conceptual framework includes legal stature. He emphasised the need to take into account the differences of legal systems in different countries in question. If a particular plan works in the Orange-Senqu River basin, it may not necessarily work in the Inkomati or Zambezi as a result of different legal contexts.

Dr. Marius Claassen stressed that the executive and judiciary both form part of the system of governance, but all form part of the continuous space that is part of society. Everything has to be discussed within the confines of a particular context though the legislative and policy environment operate at various levels. This also affects the applicability of models that are developed. Prof. Peter Ashton noted that this may be an accurate description from an academic perspective, but argued that people on the ground want direction as to what they can do and how to allocate water. Dr. Claassen agreed and clarified that a model/tool might be so generic as to be useless in most contexts or so specific as to be applicable only to one context and nowhere else. Neither is ideal and as such a balance needs to be struck.

Presentation title: Presentation 2: Culture and Values Approach	Presenter: Ms. Karen Nortje (Natural Resources and the Environment, CSIR)

1. REPORTING NOTES

Ms. Karen Nortje presented a culturally-embedded methodology to river basin management and the benefits thereof. She suggested that long-standing cultural belief systems regarding water and the way it is used may offer useful suggestions as to how transboundary river basin management can and should be conducted.

Outline:

- What does it mean to understand the world through culture and values?
  - Holistic approach – for the project, adopting a holistic approach implies employing different disciplines i.e. multi-disciplinarity
  - Things are interlinked – you cannot separate yourself from your personal or historical contexts
  - Thus do not ask what is 'real' or whether something can be proven scientifically. The example cited was that of the research of Evans Prichard and his encounter with magic. His conclusions were that it does not matter if you can prove "magic"; what matters is that people believe that this is possible and what the consequences are of such beliefs.

- Underlying assumptions:
  - Culture and values impact on how people think and feel; what they see as important; how people make decisions, behave and negotiate; and what people view as useful and acceptable solutions to a challenge.
  - Culture is also time, space and context specific.
  - Finally, culture is a unique dynamic from organisation to organisation. Despite the centrality of culture, not enough attention has been paid to local social and cultural configurations within RBOs.

Important concepts for a culturally-embedded approach:
Cultural relativism – emphasises the need to understand the context from which someone comes; and discourages viewing them through your own cultural glasses. Your personal context influences how you think, how you respond to others and what you think is best for them.

Representing the other – people identify themselves in terms of who they are not. These 'others' are constructed and generalised. Who then has the right to speak on behalf of someone else?

Poly-vocality – implies the multiplicity of voices and ideas. There is also a need to be aware of power relationships and dynamics. Poly-vocality is important because it creates space for everyone voicing their opinions and also for alternative ways of sharing knowledge.

Embedded wisdom – where does wisdom reside in Southern Africa i.e. elders in a community, different knowledge systems?

For RBOs, this approach works at two levels: Communities living in the basin (buy-in and belonging, and multiple contexts to deal with) and at the RBO level (operating practices and contextually embedded individuals).

A culturally-embedded approach can be applied in:

- Decision-making

- Cultural diversity mainstreaming - Assists in decision making, social and intercultural learning, knowledge dissemination and daily operations of RBOs.
- Public participation
- Social and inter-cultural learning
- Knowledge dissemination – different products for different stakeholders
- Daily operational activities of an RBO

How can this approach help RBOs?

- Generates understanding of the construction and resultant consequences of the collective imagination at work in and around river basins
- Creates space for multiple voices
- Facilitates buy-in from local communities and stakeholders
- Offers the opportunity to incorporate different kinds of knowledge in problem solving processes (not just Western, scientific way of doing things)
- Helps mainstream issues of cultural diversity

2. DISCUSSION

Mr. Peter Pyke (DWAF, SA) noted that this is a tall order in the Orange-Senqu River basin. Ms. Nortje responded by questioning whether things are working perfectly in the basin and stressed the need to find out how things are working and what is not working in that particular context.

Mr. Rapule Pule (ORASECOM Secretariat) highlighted the issue of public participation and how to effectively achieve inclusion of communities in decision-making as part of the tools we use.

Ms. Nortje also emphasised the need to create spaces for communities to engage through the use of technology such as cellular phones, and/or by working with community development officers. She stressed that most people are unaware that a basin exists or to which one(s) they belong, and some do not care. This is important to consider as buy-in/ownership facilitates participation.

Dr. Peter Qwist-Hoffman (GTZ) stressed the importance of attitudes and the need to go out into the field and capture responses. He also emphasised that we have 20 years experience in the development of different tools on which we can draw. Ms. Nortje questioned the applicability of these tools: why are we still talking about it if so much experience and so many tools exist? She explained that in most cases people and local communities are an “add-on” in initiatives to manage water resources.

Prof. Peter Ashton (CSIR) described a USAID funded project in the Okavango that sought to communicate with people in the catchment via the internet in English. This study overlooked the fact that there are 18 languages spoken in the catchment. He emphasised the need to speak with people, listen and learn from them, as well as teach by taking people from different regions and linguistic backgrounds to other regions so they could learn from each other.

Mr. Peter Pyke (DWAF) pointed out that it is very difficult to ratchet this up to basin level due to its magnitude. He asked whether it would not be better to start at the national level. Ms. Nortje acknowledged this point and noted that input is needed to make an approach about individuals applicable to bigger groups and other levels of scale. Mr. Lenka Thamae (ORASECOM, Secretariat) suggested that what is being proposed could be approached on an issue basis e.g. pollution, droughts, floods.

Finally, Mr. Lenka Thamae (TRC) stressed that strong input and public participation occurred throughout the LHWP due to the central role these communities played in this project. Community opinion was vital when policy recommendations were being made and developed i.e. when compensation packages where being prepared, e.g. disturbance allowance.

Workshop Participants Engaged in Plenary Session

Ms. Karen Nortje presents on the Culturally-embedded Approach

Presentation title: Presentation 3: The RBO Mandate	Presenter: Ms. Shanna Nienaber (Natural Resources and the Environment, CSIR)

1. REPORTING NOTES

Ms. Shanna Nienaber initiated a discussion around the issue of mandates in shared watercourse institutions (SWIs). Questions included: How does one define a mandate? Who issues SWI mandates? How much impact can we expect mandates to have? What is the significance of having a strong and clearly defined mandate?

In terms of what SWIs can realistically achieve there is an assumption that a strong, clear and independent mandate is the ideal type.

Mandates can be viewed as having two parts: legal and political.

Legal:
A dictionary definition/standard definition for a legal mandate implies a command or authoritative order. This form of mandate is then a product of joint consultation or consensus, and is the reason for organisation to exist. It therefore sets the parameters for institutional action. Processes that produce mandates are hierarchical, rational and have a legal personality.

Political:
The political element exists as an ongoing activity that demands constant consideration of issues of power, bargaining, petitioning for support for particular views, consideration of one's own and external interests. Questions raised in this regard include: how does politics apply to SWIs, and what needs to happen for a mandate to be generated? Some processes at play to produce a mandate include heated debate, compromise. In essence, complex, political processes are at play. The importance of the state was also prioritised as state interest in institutions is essential for them to be effective.

All countries have to mandate SADC to exist, and riparian states have to mandate the existence of SWIs. This is not necessarily a linear, hierarchical process, but a complex one. Legal and political arms therefore co-exist within the same camp.

2. CONCLUDING REMARKS

Several questions were posed to participants to initiate discussion:

- Does effectiveness of SWI truly depend on its mandate?
- Political *versus* legal conceptualisation with respect to mandates?
- Implications for SADC water sector and SWIs within SADC?

3. DISCUSSION

Dr. Anders Jägerskog (SIWI) concurred that there is an important link between SWIs and mandates and emphasised the need to understand power and dynamics within a basin as both the legal and the political spheres are impacted by this process.

Mr. Dudley Biggs (Namibia) and Dr. Dave Phillips (PRA) indicated that SWIs prioritise water as the main driving force but Integrated Water Resources Management (IWRM) should perhaps include many resources because they are all linked. They questioned what right people have to demarcate water-based areas? Politicians in Namibia for example do not really care about water basins and associated boundaries. Dr. Dave Phillips also elaborated on the links between land tenure and water, as well as the links between energy and trade

(through virtual water). If a region becomes more water stressed over time, virtual water would become increasingly important. He suggested that perhaps this is the limitation of RBOs, since they only look at water.

Dr. Dave Phillips also commented on the assumption that if an RBO is established, it means water is managed well in that basin. He cited the example of the Jordan River basin, which is not likely to have an RBO set up anytime soon. The reality is that power relationships define the game and the rules of the game. A mandate that everyone understands is therefore critical, and this relates to a common vision. Similarly, Prof. Peter Ashton cited the example of the Okavango River Basin Commission (OKACOM) formed in 1994. OKACOM failed to achieve its objectives for the first few years because people did not understand the mandate at the time. Mandates are therefore crucial to commissioners but also, everyone else needs to understand what they mean.

Mr. Pieter van Niekerk (DWAF, SA) suggested that it would be interesting to look at the history of why RBOs were established in the first place and their development trajectory in SADC. He indicated that some southern African RBOs preceded SADC. In certain cases, because SADC and the Revised Water Protocol made it fashionable to have RBOs, some countries went that route, but others had shared linkages already and thus went that route. RBOs can work best if they utilise already existing interlinkages at other fronts that can be brought into the equation, that are not confined to water i.e. land. He stressed that is why, in the UN, there is no talk about river basins but rather about sovereignty with a focus on land belonging to states. Van Niekerk suggested that RBOs can now influence what is happening without intruding on land and the possession thereof. He concluded by arguing that the effectiveness of SWIs does not depend solely on its mandate but also on the structure of a SWI and work they are doing, which depends on a common understanding of factors important in common basin. He emphasised the need for technical cooperation in order to influence decisions at a higher (political) level.

A discussion was also initiated around the difference between bilateral and multilateral regimes. Mr. Lenka Thamae (ORASECOM Secretariat) pointed out that the RBO is the next evolutionary step up after bilateral arrangements. Dr. Dave Phillips (PRA) pointed out that bilateral agreements often have more clarity.

Presentation title: Presentation 4: The RBO Business Model	Presenter: Ms. Inga Jacobs (Natural Resources and the Environment, CSIR) (for Rebecca Lofgren/Jakob Granit of Stockholm International Water Institute)

1. REPORTING NOTES

This presentation was conducted on behalf of the Stockholm International Water Institute's (SIWI) contribution to this collaborative project. Ms. Rebecca Lofgren and Mr. Jakob Granit, collaborative partners from SIWI have conducted research on the incorporation of business models into transboundary river basin management. They argue that an appropriate business model can assist Shared Watercourse Institutions (SWIs) to more effectively carry out their mandates. Business models are defined as frameworks for creating economic, social, and environmental value in a shared watercourse context.

The objective of this presentation was therefore to outline possible business models for SWIs to carry out their mandate both more effectively and in accordance with the SADC Revised Water Protocol (2000), the SADC Treaty, and the stated objectives of the watercourse states. Business models are based on an analysis of functions a SWI could have to reach its stated objectives moving from simple to more complex situations.

The mandate and objectives of the SWI are decided upon by the watercourse states independently, however, they should be in alignment with the overall objective and the key principles defined in the SADC Revised Water Protocol of 2000. SIWI have therefore analysed further the key principles in the Revised Water Protocol (2000) to better understand the anticipated mandate of an SWI.

The overall objective of the Revised Water Protocol is "to foster closer cooperation for judicious, sustainable and co-ordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation". It is possible to separate core value principles from management principles as follows:

Value principles

1. recognise the unity of each shared watercourse,
2. the utilisation of shared watercourses shall be open to each watercourse state, and include agricultural, domestic, industrial, navigational and environmental uses,
3. respect the existing rules of customary or general international law,
4. respect the balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment,
5. utilise a shared watercourse in an equitable and reasonable manner,

Management principles

1. undertake to harmonise the water uses to ensure and observe the objectives of regional integration and harmonisation of all state parties,
2. establish close co-operation with regard to the study and execution of all projects likely to have an effect on the regime of the shared watercourse,
3. exchange available information and data regarding the hydrological, hydro-geological, water quality, meteorological and environmental conditions,
4. take into account all relevant factors related to uses of water,
5. take all appropriate measures to prevent the causing of significant harm to other Watercourse States.

The five management principles focus on joint cooperation on pre-investment studies and investment projects, the harmonisation of water uses and the assurance that no significant

harm is caused to watercourse states. The higher-level objectives of the SWI are to manage, protect and utilise water resources in order to contribute to regional integration and poverty alleviation.

Watercourse states therefore have considerable flexibility to explore business principles and models for their SWI that fit their specific objectives and the unique natural, political and economic situation in which the shared watercourse sits.

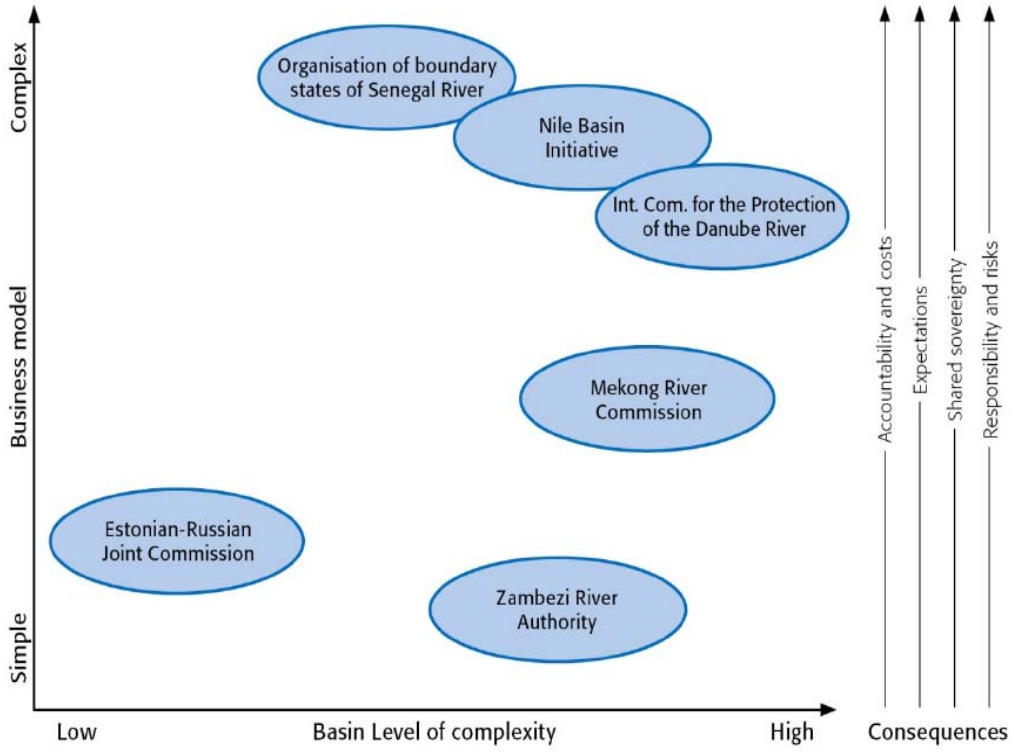
Bruce Hooper emphasises the evolution of an RBO at the national level and stresses "learning by doing". He sees three stages in the evolution of an RBO – the "initial RBO", the "emerging auto–adaptive RBO" and the "mature and auto-adaptive RBO". Five functions are then linked to these stages as the RBO matures and develops and take on more responsibilities. Water allocation is a central function of an RBO, yet this function usually is not performed until the second stage in the evolution of an RBO when it has evolved into an "emerging auto-adaptive RBO" (Hooper 2006). Policy and monitoring functions require a "mature RBO".

Functions	Initial RBO	Emerging auto-adaptive RBO	Mature and auto-adaptive RBO
Water (and natural) resource data collection and processing, modelling, planning, stakeholder consultation and issue clarification	X	X	X
Project feasibility, design, implementation, operation and maintenance , raising funds, community consultation, and awareness raising	X	X	X
Allocating and monitoring water shares, cost sharing principles		X	X
Policy and strategy development for economic, social and environmental issues			X
Monitoring water use and shares, monitoring pollution and environmental conditions, oversight and review role for projects promoted by RBO partners.			X

Six transboundary institutions worldwide were analysed in terms of the degree to which they fulfil all these functions. They do this to varying degrees.

1. The International Commission for the Protection of the Danube River (ICPDR). Contracting parties: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Slovakia, Slovenia, Serbia, Ukraine and the European Union. The ICPDR was created in 1998 and is the implementing body of the Danube River Protection Convention. More than half of the countries are members of the EU and therefore obliged to follow the directives of the Union. The non-EU member countries have through the ICPDR committed to implement the EU's directives in the Danube Basin (ICDPR, 2007).
2. The Nile Basin Initiative (NBI). Contracting parties: Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. Countries also part of the basin: Eritrea (observer). The countries in the initiative have not yet agreed on a permanent Cooperative Framework Agreement (CFA) but cooperate within the framework of a transitional agreement allowing them to explore options of cooperative development. Some good achievements can be noted including the undertaking of Strategic/Sectoral, Social and Environmental Assessment and several feasibility studies on hydropower generation and power trade and interconnection.

3. The Mekong River Commission (MRC). Contracting parties: Laos, Thailand, Cambodia and Vietnam. Countries also part of the basin: China, Myanmar.
4. Organisation pour la mise en valeur du fleuve Sénégal (OMVS). Contracting parties: Mali, Senegal and Mauritania. Countries also part of the basin: Guinea. The institution itself, with its support functions, has been set up in innovative ways with great flexibility. The OMVS shares the costs for regional jointly owned infrastructure, as well as the benefits gained. This fact, that a country jointly owns infrastructure placed within another state's territory, is remarkable when looking at SWIs. Because of the support given by the countries to the OMVS, it has been successful in attracting donor funding which have increased their ability perform their functions and develop.
5. The Joint Estonian-Russian Commission on the protection and rational use of transboundary waters (ERJC). Contracting parties: Estonia and Russia. The Joint Estonian-Russian Commission mostly works with monitoring and sharing of data on Lake Peipsi/Chudskoe and the Narva River and reservoir. The commission previously dealt mostly with water quality and fisheries, but is now working towards a common water management plan. The commission does not have a common secretariat; instead, each country has set up secretarial functions to assist their participation.
6. The Zambezi River Authority (ZRA). Contracting parties: Zambia and Zimbabwe. Countries also part of the basin: Angola, Botswana, Malawi, Mozambique, Namibia and Tanzania. In the case of ZRA, only two of eight countries are members. The institution, from its inception, has focussed on common hydroelectric infrastructure and monitoring. This confined mandate has been relatively successfully carried out by the authority.



These SWIs demonstrate that the business model chosen for a shared watercourse institution does not necessarily need to be complex to be functional. A SWI can have a strategic character backed up by a small organisation, or it can have a more operational character backed up by a larger management organisation. It is possible to choose from a simple to a more complex business model. The business model will change depending on the level of functions chosen and the level of basin complexity. The SWI can move from

being an advisory body to one that operates and manages joint infrastructure. It can include managing complex issues such as the impacts of droughts and floods and adapting to climate change.

The more complex a basin is and the more complex the chosen business model is, the larger the consequences and risks will be. As the complexity grows, so do expectations. The sovereignty that is given up also increases as does accountability, responsibilities, risks and costs of the SWI.

There is therefore no correlation between a successful SWI and a complex institution. An SWI using a simpler business model may find it easier to secure resources to carry out its mandate, and expectations from stakeholders would be lower and easier to meet. This may be a more desirable situation than creating high expectations from the SWI before the basin countries or the institution is ready or has the resources to deliver.

2. CONCLUDING REMARKS

1. The more complex a basin is and the more complex the chosen business model is, the larger the consequences will be in terms of expectations, costs, accountability, and risks.
2. Complexity in terms of a shared watercourse is defined as the number of countries, management and development issues, the in-country organisational capacity, in-country institutional organisation and cooperative financing capacity.
3. The framework identifies two clusters of functions – management and development – and lists 15 operational functions within these clusters. The number and type of functions an SWI is tasked to perform determine the complexity of the business model.

3. DISCUSSION

Prof. Peter Ashton (CSIR) cautioned that there are shortcomings to the business model graph, which he hoped were clarified in text. The SWIs analysed are not the same therefore, you are not comparing equal things.

Ms. Inga Jacobs (CSIR) clarified that that is precisely the idea: that they are all very different organisations, which confirms the degree of complexity within organisations. She asked whether SWIs have a choice in terms of how complex their organisation is.

Dr. Peter Qwist-Hoffman stressed the need to see more case study analyses of organisations in SADC.

Mr. Peter Pyke (DWAF, SA) cautioned that the framework deals with different organisations in different stages of development. Since ORASECOM's mandate is very limited it has a very long way to go towards development and achieving the multitude of operational functions listed in the presentation.

Dr. Phillips pointed out that there is no correlation between RBO maturity and the duration of its existence. He claimed that it is not true to say the longer an RBO exists, the more mature it becomes.

Presentation title: Presentation 5: RBOs and the Business Process	Presenter: Dr. Marius Claassen (Natural Resources and the Environment, CSIR)

1. REPORTING NOTES

Dr. Claassen's presentation focused on the business process that will enable an RBO to achieve its objectives. The generic business process is defined as an iterative cycle that starts with a vision, which is supported by a strategy. The strategy is pursued through an operational plan, which directs decisions and actions. The efficacy of these actions in relation to the vision and strategy is then assessed through a monitoring and review process.

Claassen emphasised that the thinking presented on business processes is not new but rather can be considered common practice in businesses and organizations.

Vision – The vision is the expression of a desired future state i.e. establishing an understanding of the current situation and where we're heading. Scenario planning was emphasised because it characterises key drivers and uncertainties, and helps us to plan for the future (vision and strategy).

- Types of Visions
  1. Religious
  2. Political
  3. Humanistic
  4. Business or organisational
  5. Community
  6. Policy visions
  7. Personal visions

Strategy – How are we going to get there? This starts with the vision, which broadly defines a destination. The process may be characterised by environmental conditions (through scenario development) and a future desired state. The current position is assessed in relation to the desired state, to plot a path "from here to there". The strategy would therefore

have a long term (strategic) perspective.

Plan – Operational plans identify actions that should be taken to achieve intermediate objectives, and specify who is responsible for the actions. The plans also specify monitoring and evaluation measures.
The plan would generally define objectives in the areas of:

- human resources (recruit, retain and develop staff);
- core business functions (decisions and actions);
- resourcing the plan (financial plan); and
- measures to ensure impact in line with the vision (meet stakeholder expectations).

Decisions – Criteria need to be linked to the vision, strategy and plan. They are also guided by values and principles and represent the best option in the context of the stated priorities and objectives. One needs to understand uncertainty as well as the implications of no decision.

The use of different tools for decision support is also noteworthy:

- Multi-criteria
- Models
- Expert
- Experience

Actions – These depend on empowered individuals or agents (mandate, resources, realistic). This involves who does what, by when, and to which end.

Monitor –This involves the monitoring of business process, and of operational goals within the RBO to determine if it is effective and achieving its purpose. Monitoring measures include input, process and outputs.

Review – This review process entails in large part a review of the organisation's vision (and subsequent steps) based on monitoring results.

2. DISCUSSION

Prof. Ashton (CSIR) questioned whether actions are being performed and whether they have desired effects. In monitoring, we need to ensure that decisions are translated into actual actions and have desired effects. If not, what do we do about it? There is therefore a need to check that wrong effects are, in fact, due to the causes that were considered.

Claassen (CSIR) emphasised that we are always operating under conditions of uncertainty.

Ashton pointed that that monitoring is the most expensive process of all, and is often under-funded. This undermines our capacity to learn from the assessment of work and activities that have occurred before.

Mr. Lenka Thamae (ORASECOM Secretariat) asked where work related to trying to obtain a shared understanding of a system fits into the business process cycle. Claassen responded by explaining that this is relevant to the vision, then flows into the strategy and runs along the business process cycle in that respect.

Presentation title: Presentation 6: IT Opportunities for RBOs	Presenter: Mr. Derek Hohls (Meraka Institute, CSIR)

1. REPORTING NOTES

Mr. Derek Hohls outlined several ideas and approaches that have been conceptualised during the project with regard to ICT. Because RBOs deal with issues that involve individuals, groups, communities and businesses at local, national and international levels, ICT is a critical component for them. The project team has taken the approach that a platform which can meet the need to share information transparently and effectively is the world-wide web. Mr. Hohls therefore looks at appropriate and affordable web-based tools that can be readily adopted and extended to support the range of activities and information needs for an RBO.

Hohls conceded that IT will not solve a RBO's problems, but if it is aware of its needs, it may offer opportunities through which to achieve particular goals, e.g. using technology as an enabler of communication.

He pointed out the limitations of access. In theory, individuals have devices that can allow us to get information from wherever we want to, however, not everyone has access to such tools (yet).

There is also a need to find ways of funnelling the mass of information down in a way that is more accessible and digestible to a particular audience such as SADC and RBOs. Identifying the type of information that might be relevant in terms of benefit-sharing was prioritised, i.e. categories of information that should be stored and shared - what is news that is relevant for my basin, storing information about what's been done (policies, agreements, consultant reports etc.), information about activities e.g. projects, development work going on in basins. There is also a need to access people living in the basin and give them a voice through communication tools. This could be achieved using technology to help people express themselves in terms of what they think and who they are e.g. blogs.

How can this be achieved?

Plone is one such software tool which is a content management system. Examples of sites that use Plone include the European Environmental Agency, as well as other river basin agencies. Many organisations do not have the time, money or expertise to set up and manage a local information system; the "cloud" offers an opportunity to have both software and information hosted on the web (e.g. via Amazon's "elastic cloud computing").

However, this can only be successful if there is commitment from people - ICT does not run itself.

2. DISCUSSION

Dr. Marius Claassen (CSIR) qualified that the objective of this project was not to build an ICT system for RBOs. He highlighted the project team's objective to make tools and approaches available through an ICT portal. This is to be complemented with exploring ways in which ICT can be useful and what opportunities it offers, and how we can make use of these technologies.

Prof. Ashton (CSIR) described the massive increase of available information and the challenge of finding ways to discriminate between different kinds of information in terms of quality.

Mr. Hohls (CSIR) explained that it is good to be sceptical, and referred to Jakob Granit's example of "crowd-sourcing," that is, "employing the wisdom of crowds" to both provide and filter information. We need to think about how much of this to incorporate. However, an RBO portal should be interactive for people to comment, and should allow the exchange of knowledge and learning amongst themselves.

Mr. Rapule Pule (ORASECOM Secretariat) suggested that it would be useful to look at areas where people do not have internet access. He also highlighted the need to look at relevance and acceptability on the basis of culture. Mr. Hohls responded by explaining that ICT is only one way of communicating, but in the end, people trust people. Technology is a supporting mechanism and should not be the prime communication channel.

Mr. Dudley Biggs alluded to the high usage of cellular phones in some parts of Africa (e.g. Kenya) and as such, is a very powerful tool.

Mr. Derek Hohls emphasised the need to bring in younger people to design ways of storing information since they have grown up in the age and culture of ICT.

Dr. Peter Qwist-Hoffman pointed to the accessibility or lack thereof to the internet and printers. This poses a major challenge, and also relates to issues of the equality of voices represented. Who has access to these portals, and whose voice is represented?

REPORTBACK ON BREAKAWAY DISCUSSIONS

Participants were divided into four breakaway groups, in the afternoon, to discuss the applicability of the tools/approaches presented to a given context, or to elaborate on the applicability of a particular tool/approach. The groups were: the ORASECOM group, the Orange-Senqu Sectoral group, a group discussing the business process in detail, and the fourth group discussing the importance of culture, values and ICT:

- **ORASECOM:**
  Past and present ORASECOM members (technical task team, Secretariat) discussed the applicability of the tools/approaches to ORASECOM in terms of operational needs, institutional processes, the importance of mandates, business models, and ICT.
  Group Members: **Lenka Thamae** (ORASECOM Executive Secretary), **Peter Pyke** (Chief Engineer: Options Analysis (Central) DWAF, SA), **Dudley Biggs** (Former ORASECOM Technical Task team member and Deputy Director of Water resources Planning, MAWF, Windhoek, Namibia), **Rapule Pule** (Water Resources Specialist, ORASECOM Secretariat),
  Facilitator: **Inga Jacobs** (CSIR)
  Rapporteur: **Claudious Chikozho** (CSIR)

  DISCUSSION:
  The ORASECOM mandate is advisory, and the evolution of a shared vision is most important. The conclusion drawn from this group was that ORASECOM needs to develop and evolve at a pace that it is comfortable with. Any forced adjustments and changes to operational functions could have negative repercussions for growth and development. A need was expressed to institutionalise representation at the RBO level, and institutional consistency is most important. Should the advisory activities be compartmentalised and unpacked? On participation, project-related participation

is emphasized at present. Should a regional stakeholder forum be created, or can the delegates be relied upon to reflect their national stakeholders' interests? Lenka Thamae (ORASECOM) emphasised the need for a stakeholder forum. Peter Pyke questioned representation and whether to have a regional stakeholder forum or a basin-level or country-level forum? Karen Nortje objected to the terminology used: top down or bottom up terminology. She stressed the need for dialogue from both sides, the need for interaction and intersection between different ideas and thoughts.

- **ORANGE-SENQU SECTORS:**
  Several sector representatives discussed the applicability of tools/approaches from the perspective of the private sector.
  Group Members: **Anders Jägerskog** (SIWI partner, Stockholm, Transboundary Political Scientist), **Peter Ashton** (Principal Researcher, CSIR), **Pieter van Niekerk** (Water Resources Expert, DWAF, SA)
  Facilitator: **Dave Phillips** (PRA, Collaborative Partner)
  Rapporteur: **Nikki Funke** (CSIR)

  DISCUSSION:
  - Conflict resolution: ORASECOM can prevent conflict, but not resolve State-to-State conflict. The conflict resolution systems in the revised SADC Protocol should govern, which relates to State-to-State discussion followed by a tribunal. No disputes have gone to the SADC Tribunal previously (although a dispute over borders was resolved). The border issue between Namibia and South Africa in the lower Orange is notable, and the two constitutions contradict each other. This problem extends into the offshore area, affecting fishing rights; diamonds; and the Kudu gas field. Agreement exists, however, as to the Ramsar site at the estuary.
  - Conflict resolution in the JRB, as an example. The RSA/Swaziland example, also, on the Incomati. A joint study was undertaken on the latter, with a focus on benefit sharing. Neutral peer-review was used by the US Army Corps of Engineers, paid for by the RSA. Noted that individual continuity is important where trust is to be built.
  - Noted that the Parties may in any event play *quid pro quo* games involving issues outside water, if the remit of an RBO is too wide. Many parties believe that RBOs are in place to manage the water resources, but this is often not the case.
  - How, then should the remit of an RBO be designed, especially in view of the key link to agriculture, energy, trade, land tenure etc.? Maybe the States should consider the broader issues when developing materials for the RBOs to consider. Perhaps key stakeholders should also be present at meetings of the RBOs, as observers. The consensus was that RBOs should generally address water (which is hard enough), whilst linked to other matters.
  - A critical need was noted to get political buy-in to the importance of water and the linkage to other issues. Fora such as the WWF are useful in this respect, but are not sufficient.
  - The Orange-Senqu is 60% of the RSA population and 30% of the entire continental economy. The recent TDA on the Orange-Senqu looks beyond the water itself.
  - Some discussion eventuated on conflict resolution, with the point made again that ORASECOM should prevent conflict, rather than resolve conflict.

- **BUSINESS PROCESS:**
  This group discussed in detail presentations made on the business process.

Group Members: **Mpetjane Kgole** (Generation: Primary Energy – Water, Manager: Water Strategy, Eskom) **Bertrand Meinier** (Water Policy Advisor, Transboundary Water Management in SADC, GTZ)
Facilitator: **Marius Claassen** (CSIR)
Rapporteur: **Shanna Nienaber** (CSIR)

DISCUSSION:
The terminology within the business process needs to be clarified ('vision'; 'strategy'; 'plan', etc.). The critical nature of the vision was emphasised, again. The complexity of the business process was noted, e.g. an individual representing a State in an RBO, trying to reflect business needs, community views, etc. The context of the business model for an RBO needs to be closely defined, prior to determining the business process. The paucity of national (consensual) strategies in African countries was noted, thus creating difficulties for individuals to represent their national positions.

- **CULTURE-VALUES AND ICT:**
  This group discussed in detail the presentations made on a culture/values approach to river basin management by Karen Nortje and the ICT opportunities presentation made by Derek Hohls.
  Group Members: **JM Lenka Thamae** (Transformation Resource Centre, Water for Justice Programme, NGO rep - Maseru, Lesotho), **Peter Qwist-Hoffman** (GTZ), **Peter Nthathakane** (ORASECOM Technical task Team member - Water Commission, Maseru, Lesotho)
  Facilitators: **Karen Nortje** (CSIR), **Derek Hohls** (CSIR)
  Rapporteurs: **Karen Nortje** and **Derek Hohls**

  DISCUSSION:
  RBO decisions do impact on cultures and communities. How to bring individual views into scientific debates and decision-making? Technical people need to become good listeners, not just good speakers. The Baltic Sea coalition of NGOs was noted. On ICT, the spread of cell phones was noted, as a possibility for use connected to communication on water-related decisions. Radio as a medium is also notable. The top-down/bottom-up approaches in the Nile River basin were noted as worthy of further consideration.

IDENTIFICATION OF OPPORTUNITIES TO ENGAGE WITH PROJECTS IN THE BASIN/REGION

- Gavin Quibell's team (under EU funding) is attempting to unpack the mandate of ORASECOM, and to clarify the principles of international water law, as these relate to ORASECOM. GTZ support is ongoing for a number of 'gap-filling studies', e.g. climate change. Strategic partnerships have been established, including one with the Danube. A 'River Awareness Kit' is being put together. Ongoing work with the UNDP and GEF is focused on the production of a TDA, attempting to define Strategic Action Programmes. The French GEF funding is now coming to an end, this having studied groundwater availability; recycling water; and so on. A 27-item 'wish list' from the French GEF work remains useful, and could well be of interest to other RBOs. A basin-wide IWRM scheme is hoped for by 2012.

- A donor coordination programme has been completed by Gavin Quibell's team, who have information on who has done what, financed by whom. The ORASECOM secretariat offered to provide all background detail to the project team.

- Pete Ashton is embarking on a project to investigate how improved stakeholder involvement can be created in formulating international agreements.

- Phera Ramoeli should be asked for information on additional projects. An EU-funded project on Local Government involvement was noted, with details to come.

- Dudley Biggs noted that OKACOM has had the 'every river has its people' project, which is relevant to community involvement and NGO involvement.

- Peter Qwist-Hoffman noted that Danida is funding a multi-stakeholder dialogue with SADC.

CONCLUSION

Several key points that were highlighted throughout the workshop are worthy of repetition:

- Consensus was reached on the interconnectedness of the socio-cultural and political contexts and that separating them is not necessary, even though the political sphere is much more related to power issues. A need was expressed to include the legal/judiciary context in discussions related to the biophysical, socio-cultural and political contexts.
- The need to institutionalise representation was prioritised. A key challenge to address would be to explore ways of how to effectively achieve inclusion of communities in decision-making, as part of the tools we use. A recommendation was made to create spaces for communities to engage through the use of technology such as cellular phones, and/or by working with community development officers. However, buy-in/ownership of processes is key to achieving effective public participation. There is therefore a need to look at relevance and acceptability on the basis of culture.
- SWIs prioritise water as the main driving force but IWRM includes many resources, because they are all linked.
- A mandate that everyone understands is critical, and this relates to a common vision.
- **The critical nature of establishing a shared vision was a recurring topic.**
- RBOs need to be allowed to evolve and develop at a pace they are comfortable with.
- This point is particularly relevant for the conceptual framework on business models, which deals with different organisations in different stages of development. Since ORASECOM's mandate is very limited, it has a very long way to go towards development.

ANNEXURES

1. The Workshop Programme is attached to this report. This includes the list of presentations with brief descriptions, as well as abridged speaker biographies.
2. List of Workshop Participants and Affiliations

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PROGRAMME

Council for Scientific and Industrial Research (CSIR)
Transboundary Tools for RBOs in SADC

CSIR Convention Centre, Crystal Room

25 June 2009

Thursday 25 June
Purpose: *To test several tools and approaches for RBOs with the Orange-Senqu River basin in terms of applicability, relevance and learning from existing projects*

8:30 – 9:00	**Coffee**
9:00 – 9:05	**Welcome**
9:05 – 9:30	**Introduction and Agreement on Purpose of Workshop** Speaker: Dr. Marius Claassen (Natural Resources and the Environment, CSIR)
9:30 – 10:00	**Presentation 1: Conceptualization of the tools/approaches for RBOs** Q&A Speaker: Dr. Marius Claassen
10:00 – 10:30	**Presentation 2: Culture and Values Approach** Q&A Speaker: Ms. Karen Nortje (Natural Resources and the Environment, CSIR)
10:30 – 11:00	**Tea**

11:00 – 11:30	**Presentation 3: The RBO Mandate** Q&A Speaker: Ms. Shanna Nienaber (Natural Resources and the Environment, CSIR)
11:30 – 12:00	**Presentation 4: The RBO Business Model** Q&A Speaker: Ms. Inga Jacobs (Natural Resources and the Environment, CSIR) (for Rebecca Lofgren/Jakob Granit of Stockholm International Water Institute)
12:00 – 12:30	**Presentation 5: RBOs and the Business Process** Q&A Speaker: Dr. Marius Claassen
12:30 – 13:00	**Presentation 6: IT Opportunities for RBOs** Q&A Speaker: Mr. Derek Hohls (Meraka Institute, CSIR)
13:00 – 14:00	**LUNCH**
14:00 – 15:00	**Group Reflections and Applicability/ Relevance to ORASECOM /Orange-Senqu River Basin**
15:00 – 15:30	**Report back 1**
15:30 – 16:00	**Tea**
16:00 – 16:30	**Report back 2**
16:30 – 17:00	**Identification of Opportunities to Engage with Projects in the Basin/Region**
17:00	**Closing**
18:30	**Dinner at Die Werf restaurant** [66 Olympus Avenue Faerie Glen, Pretoria]

DAY 1 Speaker Biographies and Presentation Descriptions

Presentation 1: Conceptualization of the tools/approaches for RBOs
Speaker: Dr. Marius Claassen (Natural Resources and the Environment, CSIR)

Dr Marius Claassen has more than 15 years experience in Water Resources Management at the CSIR. His research interests range from ecosystem studies to decision support systems and transboundary issues. His track record includes a secondment to the World Bank (working on the Nile Basin), leadership positions in the CSIR, and an extensive project management record.

Presentation:
Marius will provide an overview of the specific GTZ/SADC Water Sector project objectives and briefly introduce the different tools and approaches that will be presented at the workshop.

Presentation 2: Culture and Values Approach
Speaker: Ms. Karen Nortje (Natural Resources and the Environment, CSIR)

Ms Karen Nortje is a researcher with the Water Resource Governance Systems Group at the CSIR. Karen is a Social Anthropologist and her main contribution has been in researching and understanding socio/cultural issues which often means that her research is directed at the local and individual level of society. Karen's expertise therefore lies in understanding community and social organisation, the meaning of culture and values in society, and determining and analysing social and cultural impacts.

Presentation:
Ms Nortje's presentation will focus on a Culture and Values Approach for RBOs. This approach works on the premise that all human interaction is embedded within a socio-cultural (and historical) context and as such argues for a more nuanced understanding of the biophysical environment. This presentation will look at what this kind of approach means for RBOs both in terms of their day-to-day operation as well as their community buy-in; and how it may help them to better fulfil their mandates.

Presentation 3: The RBO Mandate
Speaker: Ms. Shanna Nienaber (Natural Resources and the Environment, CSIR)

Ms Shanna Nienaber is working with the Water Resource Governance Systems Group at the CSIR. She is a Political Scientist and is currently registered for a Masters Degree in International Relations at the University of Pretoria. Her research interests pertain to transboundary water governance and in particular the impact that regional institutions can have on the effective governance of shared watercourses.

Presentation:
Shanna will be initiating a discussion around the issue of mandates in shared watercourse institutions (SWIs). Questions will include: How does one define a mandate? Who issues SWI mandates? How much impact can we expect mandates to have? What is all the fuss about having a strong and clearly defined mandate?

Presentation 4: The RBO Business Model
Speaker: Ms. Inga Jacobs (Natural Resources and the Environment, CSIR)

Ms Inga Jacobs is a researcher in the Water Resource Governance Systems Group at the CSIR. She is a Political Scientist and her research interests include African transboundary politics and institutional development, the development of global environmental norms, sustainable knowledge transfer and conceptualising trust-building. She is currently completing her PhD at the School of International Relations, University of St. Andrews, Scotland on Transboundary Cooperative Management and Water Politics in Africa.

Presentation:
This presentation will be conducted on behalf of the Stockholm International Water Institute's (SIWI) contribution to this collaborative project. Rebecca Lofgren and Jakob Granit, collaborative partners from SIWI have conducted research on the incorporation of business models into transboundary river basin management. They argue that an appropriate business model can assist Shared Watercourse Institutions (SWIs) to more effectively carry out their mandates. Business models are defined as frameworks for creating economic, social, and environmental value in a shared watercourse context. The business models are based on an analysis of functions a SWI could have to reach its stated objectives effectively, moving from simple to more complex situations.

Presentation 5: RBOs and the Business Process
Speaker: Dr. Marius Claassen

Presentation:
The presentation will focus on a business process that will enable an RBO to achieve its objectives. The generic business process is an iterative cycle that starts with a vision, which is supported by a strategy. The strategy is pursued through an operational plan, which directs decisions and actions. The efficacy of these actions in relation to the vision and strategy is then assessed through a monitoring and review process. The presentation will include a particular focus on the use of scenarios in visioning.

Presentation 6: IT Opportunities for RBOs
Speaker: Mr. Derek Hohls (Meraka Institute, CSIR)

Derek Hohls is an Engineer who has worked at the CSIR since 1991. He has been involved in ICT-related aspects of environmental resource management, starting with river modelling. He has developed a number of environmental databases and information management systems for both internal use and external clients. He is currently involved in the development of a web-based system for managing Tree Breeding; and is also engaged in research into the deployment of Sensor Observation Services.

Presentation:
The aim of the presentation is to outline some of the ideas and approaches that have been conceptualized during the GTZ-funded project on Tools & Approaches for Transboundary River Basin Management. Because RBOs deal with issues that involve individuals, groups, communities and businesses at local, national and international levels, ICT is a critical component for them. The project team has taken the approach that the only platform which can meet the need to share information transparently and effectively is the world-wide web. We are looking at appropriate and affordable web-based tools that can be readily adopted and extended to support the range of activities and information needs for an RBO.

LIST OF WORKSHOP PARTICIPANTS

NAME	COUNTRY	AFFILIATION
Prof. Peter Ashton	South Africa	Principal Researcher, CSIR
Mr. Dudley Biggs	Namibia	Retired Former ORASECOM Technical Task team member and Deputy Director of Water resources Planning, MAWF, Windhoek, Namibia
Dr. Claudious Chikozho	South Africa	Senior Researcher, CSIR
Ms. Nikki Funke	South Africa	Senior Researcher, CSIR
Mr. Martin Ginster	South Africa	Environmental Advisor: Water and Cleaner Production, SASOL
Dr. Anders Jägerskog	Sweden	Transboundary Political Scientist and collaborative partner, Stockholm International Water Institute
Ms. Mpetjane Kgole	South Africa	Generation: Primary Energy – Water, Manager: Water Strategy, Eskom
Dr. Bertrand Meinier	Botswana	Water Policy Advisor, Transboundary Water Management in SADC, GTZ, Botswana
Mr. Peter Nthathakane	Lesotho	ORASECOM Technical task Team member - Water Commission, Maseru, Lesotho
Mr. Rapule Pule	South Africa	Water Resources Specialist, ORASECOM Secretariat
Mr. Peter Pyke	South Africa	Chief Engineer: Options Analysis (Central) Department of Water and Environmental Affairs and ORASECOM's Technical Task Team Chair
Dr. Peter Qwist-Hoffman	Botswana	GTZ
Dr. Maryam Said	South Africa	Senior Researcher, CSIR
Mr. Jaco Schoeman	South Africa	Managing Director, Western Utilities Corporation
Mr. Lenka Thamae	South Africa	Executive Secretary, ORASECOM
Mr. JM Lenka Thamae	Lesotho	Transformation Resource Centre, Water for Justice Programme, Maseru, Lesotho
Mr. Pieter van Niekerk	South Africa	Water Resource Engineering Expert, Department of Water and Environmental Affairs

PROJECT MEMBER PARTICIPANTS

NAME	COUNTRY	AFFILIATION
Dr. Marius Claassen	South Africa	GTZ Project Leader, CSIR
Mr. Derek Hohls	South Africa	Meraka Institute, CSIR
Ms. Inga Jacobs	South Africa	Researcher, CSIR
Ms. Shanna Nienaber	South Africa	Intern, CSIR
Ms. Karen Nortje	South Africa	Senior Researcher, South Africa
Dr. David Phillips	Namibia	PRA, Collaborative Partner