

# Developing a Framework for Stakeholder Consultation in the Umbeluzi River Basin

Project report

March 2005

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**ESAPP E703 – Development of a Conceptual Framework for Integrated  
Transboundary River Basin Management Planning in the Umbeluzi River Basin,  
Swaziland and Mozambique**

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Cover photo: Water users in Boane (courtesy CDFF)

## List of abbreviations

ARA-Sul	Southern Mozambique Water Authority
CDE	Centre for Development and Environment, University of Bern, Switzerland
CDFE	Centro de Documentação e Formação Fotográfica, Maputo
DNA	National Water Directorate
ESAPP	Eastern and Southern Africa Partnership Programme
IWRM	Integrated Water Resources Management
JWC	Joint Water Commission, the main cooperative instrument between the Kingdom of Swaziland and the Republic of Mozambique on the URBI
JURBS	Joint Umbeluzi River Basin Study
PDM	Programme Development Manager
RAS	Republic of South Africa
SADC	Southern African Development Community
SDC	Swiss Agency for Development and Cooperation
TT	Task Team of the URBI, the executive body of the JWC
URBI	Umbeluzi River Basin Initiative
WDM	Water Demand Management
WRB	Water Resources Branch, Swaziland

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# Summary

## Background

In its Southern Africa Regional Programme, SDC focuses on four major domains. One is Natural Resources Management (NRM), with emphasis on sharing of water across boundaries. In this context, SDC has entered into a partnership agreement with the Southern African Development Community (SADC) to support common efforts towards economic development and political stabilisation in the region. Within the Umbeluzi River Basin Initiative (URBI), SDC support is intended to (1) strengthen the management capacities of the Joint Swaziland and Mozambique Water Commission (JWC) as the main co-operative instrument in the Umbeluzi Basin, and (2) support consultation of stakeholders in the Umbeluzi River Basin, in combination with the Joint Umbeluzi River Basin Study (JURBS) launched by the JWC.

As a centre of competence in sustainable land management and integrated regional development, CDE provides backstopping services for SDC. In response to a request by SADC as well as SDC, an ESAPP project '*Development of a Conceptual Framework on Integrated Transboundary River Basin Management Planning (Umbeluzi River Basin, Mozambique and Swaziland)*' was formulated (May 2004). Its general objective is to provide conceptual and methodological support in the design and implementation of a consultative process with the aim to assure the participation of all water users within the river basin.

The work of the interdisciplinary CDE/ESAPP project team – Frank Haupt, rural engineer, and Cordula Ott, social anthropologist – encompassed two phases:

- In 2004, the formulation of the ESAPP project and a conceptualisation of a consultation process together with requesting and implementing partners.
- In February 2005, a field mission to Swaziland and Mozambique, for further development and detailed design of the consultation process jointly with the local partners.

## A Framework for the Consultation Process

In 2004, the ESAPP team prepared a Draft Framework for the stakeholder consultation process in exchanges with ESAPP Coordinators and representatives of SADC, DNA and SDC. Conceptual and methodological elements formulated in these papers are still valid and ready to be taken up (see Annex 1).

In the field mission in February 2005, institutional prerequisites necessary for the development of a consultation process and a legitimate and collaborating partner for the ESAPP team are not found in place. In particular, as the MoU between SADC and Swaziland concerning implementation of the capacity building and stakeholder consultation component of the URBI has not been signed yet, the Task Team (TT) and the selected Project Development Manager (PDM) do not have a clear mandate to implement this SDC-funded component. Thus – while there was adequate time to meet with water users and stakeholders – the ESAPP team could not deliver the requested assistance as planned.

Consequently, the ESAPP team proposes a Revised Framework for the Consultation Process, that takes up the need for a strong operational unit interlinking the Decision-making Process ('internal procedure') and the Communication and Awareness Creation Process ('external procedure' through a Technical/analytical Process (see Graphic Chap. 3: Revised Framework). The revised Framework as well as suggestions for a stakeholder consultation process had to be formulated in absence of a collaborating counterpart.

### **Preparatory steps for the implementation of the Consultation Process**

With the aim to establish a strong institutional platform capable of conducting and integrating the consultation process into the URBI, the following elements must be addressed:

- Balanced ownership and declared common interest among the two countries must be assured. It is necessary for SDC and its partners to clarify basic ideas and expected benefit of the panning process, and especially the role Swaziland should play.
- The institutions involved need to be strengthened in terms of clear mandates for all functions, adequate terms of reference, recognised leadership and target-oriented process planning. It might make sense for SDC and its partners to revise the URBI implementation strategy.
- External facilitation to maintain momentum and bridge possible impasses in the process may be supportive too, as a PDM alone is probably overcharged with the envisaged stakeholder consultation process.
- Measures to improve communication and to build confidence among the main institutional actors are crucial. The consultation process can be supportive by discussing water issues with a broader public and by taking up a regional development approach with specific reference to poverty reduction and sustainability.

A pro-active role of SDC, SADC and the JWC in regard of the elements mentioned above may be necessary in order to make the consultation process a fruitful component of the Umbeluzi regional management planning.

# 1 Tentative analysis

## 1.1 The institutional setting for the URBI and the consultation process

### *ESAPP partnership for process input*

Requesting agency for the ESAPP project's contribution to the consultation process has been SADC whereas the implementing agency is the JWC. Within the URBI, the JWC TT is in charge of the implementation of the consultative process. It plays a key role as facilitators in a bottom-up process. Thus, the JWC TT has been identified as the main and direct partner of the ESAPP team.

As the main step in collaboration between the ESAPP team and its partners, a field mission was scheduled at a strategic point in time within the ongoing negotiation preparation process. Main objectives were to participate in presentation of the final report of the Joint Umbeluzi River Basin Study (JURBS) and further develop and operationalise the ESAPP Draft Framework for the stakeholder consultation process, together with the Task Team (TT) and with the Programme Development Manager in particular (for Field Mission TORs, the detailed mission program and the people met, see Annex 2).

The ESAPP team could not attend the JWC coordination meeting in November 2004 in Gaborone, due to an invitation on short notice. It was seen as imperative to honour the invitation from the Director of DNA – the Chairperson of the JWC – and to participate in the Joint Umbeluzi River Basin Study (JURBS) final presentation workshop on 21 February 2005. This was also an excellent opportunity to get a visual impression of the Umbeluzi basin and to meet key stakeholders, during the workshop as well as in the field.

### *Unclear institutional arrangements*

During the field assessment, the institutional setting for the consultation process and recipient for the ESAPP contribution to the consultation process was not found in place. In particular, the MoU between SADC and Swaziland concerning the implementation of the capacity building and stakeholder consultation component of the URBI (initially to be started in April 2004) has not been signed yet. Hence the selected PDM does not actually have a mandate to implement this SDC-funded component.

While there was appropriate time available to meet with water users and stakeholders during the field visits, contacts and exchange with major partners have been difficult to organise and joint team work with the TT was not possible. The reasons for this may be manifold, nevertheless with the absence of a legitimate and collaborating counterpart, the ESAPP team itself has had no role in the process and could not deliver the requested assistance to the joint elaboration and planning of a stakeholder consultation framework.



### *Changes in the institutional framework have a destabilising effect*

In general, the ESAPP team assessed the institutional setting of the URBI (and the intended consultation process within it), as well as the institutional context in each country, as weak, instable and not transparent. This does not favour setting up an enduring process involving mutual understanding on both sides of the riparian countries.

- Recent high-level major organisational changes include:
- Reorganisation of SADC, whereby the decentralised sectoral responsibility of countries is replaced by coordination and management through the new SADC Secretariat in Gaborone, Botswana.
- Changes in the government of Mozambique after the elections, with newly appointed Ministers bringing institutional insecurity. The DNA in Mozambique is weak and unstable, the governance of water is not administered properly, and power struggles are going on. In Swaziland, the new Water Policy creates new institutions with new staff and an unclear power structure.
- SDC started its Southern African Regional Programme at the beginning of 2005. The donor working group on DNA is still in place (core group: Holland, SDC, WB WSP, UNICEF, EU, AfDB); so far, there has been no cooperation with Swaziland.

### *Unbalanced ownership*

The main co-operative instrument between the riparian states is the JWC. The JWC has adopted a step-by-step approach to joint water management plan for the Umbeluzi Basin:

1. In 2002, the Joint Umbeluzi River Basin Study JURBS was launched with the objective of providing a base for sustainable development and for re-negotiation of the agreement between Mozambique and Swaziland.
2. The study was accompanied by a consultative process involving the main stakeholders in a participatory process.

SDC got involved after the start of the JURBS, as countries expressed the need for support in linking the technical study with the consultation process. SDC's engagement was intended to balance competence between the riparian states. Since the JURBS was implemented through Mozambique, it seemed appropriate to give responsibility for capacity building support to Swaziland. A Swazi resident was identified to take the position of the PDM; yet, he resigned and a Mozambican national, a staff member of DNA residing in Maputo, was selected as PDM.

Although the ESAPP team had only brief insight – and surely does not know enough about exchanges, discussions and activities among the URBI partners – it got the impression that up to now there has been no equally shared ownership of the consultation process. The ESAPP visit would have been a moment of opportunity for the Swazi representatives to take the initiative. However, he did not show interest in meeting with the ESAPP team. There seems to be a basic misunderstanding – and perhaps mistrust – in regard to implementation of the capacity building component as a whole.

## 1.2 Main actors in the URBI

SADC, the JWC, the TT, and the PDM are the main operational bodies in the implementation of URBI; SDC has a stake as a donor agency (see Annex 5). The Republic of South Africa (RAS) appears somewhat in the role of the big brother, offering to share its own experience in joint river basin management; it also has a small share in the Umbeluzi basin (5%). As perceived by the ESAPP team, the major institutional elements affecting the implementation process are the following:

### *Southern African Development Community SADC:*

Within its regional mandate, SADC could have a catalysing role with regard to development issues in Southern Africa. SADC is an SDC partner in the implementation of its Regional Strategic Action Plan (RSAP). At present, SADC has low institutional and operational capacity. It is basically a coordinating body that can play a role as a facilitator but cannot push the sovereign member countries. It is unfortunate that the SADC representative did not attend the JURBS presentation and the planned JWC meeting, and was also not available for a meeting with the ESAPP team. As a former DNA Director, he may not be neutral or might not be perceived as such, thus contributing to what we identified as a lack of ownership on the Swazi side.



Image 1 Swaziland Lowveld: Havane Dam

### *Joint Water Commission JWC:*

In 1999 Mozambique and Swaziland agreed on the establishment of a Joint Water Commission, in terms similar to the ones established between Mozambique and South Africa, and Swaziland and South Africa. The detailed Terms of Reference for the JWC are given in the Agreement on the Establishment and Functioning of the Joint Water Commission Concerning Water Resources of Common Interest Between the Government of the Kingdom



*Image 2 Swaziland Lowveld: Sugar field irrigation*

of Swaziland and the Republic of Mozambique, signed at Pigg's Peak, Swaziland, on 30 July, 1999. Each party is represented in the Commission by a delegation of two or three members. The JWC is responsible for policy decisions and liaises with SADC-WD and SDC on the management sub-component of the study, and with NDF on the main study sub-component. It meets at least once a year but extraordinary meetings may be convened.

The JWC has ownership of the process by means of certain formal procedures, which is fundamental for future projects. Yet the ESAPP team could not obtain information on the composition or the mode of operation of the JWC. Given the urgency of the matter pointed out during the workshop, the JWC will be obliged to play a more dynamic role and may require additional assistance in terms of strategic planning and communication.

*Task Team TT:*

Basically, the TT represents the technical arm of the JWC and is composed of two representatives from each country. The host country holds the chair in the TT meetings. It seems quite obvious that the effectiveness of the TT depends on the degree of mutual understanding and commitment to the common goals. However, mandates, roles and responsibilities and how they relate to the JWC do not seem to be very clear.

*Programme Development Manager PDM:*

The role of the PDM is outlined in the SDC credit proposal, yet there is room for interpretation. The responsibility of the PDM is seen by the Mozambican TT members as acting purely on behalf of the TT, without assuming a facilitating or coordinating role. In our view, a Development Manager should act pro-actively, take initiative and make the process a dynamic one. Anyway, as long as the MoU between Swaziland and SADC is not signed, there is no PDM in charge, the JURBS Coordinator is in her words being a 'selected but not appointed' PDM.

## 2 Preparatory steps for the consultation process

With the presentation of the JURBS, an important step has been taken. Swaziland's delegation requested that further clarifications and discussions on the JURBS's output and recommendations be produced. In addition, it decided to postpone the signing of an MoU with SADC, which governs the implementation of the SDC-funded capacity building component. The decision of the Swazi delegation brought the process to a grinding halt.

It is the main conclusion of the ESAPP team that before the envisaged consultation process can be tackled, the institutional base must be strengthened and consolidated – and misunderstandings must be cleared. The envisaged consultation process asks for mutual understanding within the URBI, a joint vision, and balanced ownership of the negotiation process; a clear idea on roles and responsibilities of the main actors involved combined with target-oriented plan and confidence building measures. A proper pre-consultative process will allow for the establishment of an operational body capable for guiding the consultation process by interlinking the negotiation and decision-making line and the awareness creation line in exchange with a broader public.

Within the revised Framework, these preparatory steps are part of the pre-consultative 'Consultation process planning' and the 'Stakeholder assessment' (see Graphic: Revised Framework, Chap. 3). Important preparatory steps include the following:

### 2.1 Assure balanced ownership based on a win-win-perspective

*Balanced ownership and declared common interest among the two countries must be assured. It is necessary that SDC and its partners clarify basic ideas and expected benefit of the consultation process, and especially the role Swaziland should play.*

Given the urgency of a new agreement between the riparian countries, reflection on the starting points for the negotiation process will be helpful. It is important that the negotiation process be based on mutual trust. As new people are in charge, there is a need – and also a chance – to create this common understanding of rationale, goals and responsibilities in the intended agreement. A meeting clarifying issues pertaining to the envisaged stakeholder consultation process could be beneficial in generating awareness of common interests on environmental and socio-political issues in the Umbeluzi basin.

### 2.2 Strengthening institutional performance

*Beforehand, the institutions involved need to be strengthened in terms of clear mandates for all functions, adequate terms of reference, recognised leadership and target-oriented process planning. It might make sense for SDC and its partners to revise the URBI implementation strategy with external help.*

*Recognised leadership and delegation of competence*

The PDM has an important role to play as a facilitator and “goal keeper” in the whole process. This requires a neutral, and very experienced and senior person, recognised and accepted by all parties. Preferably, such a person should not be connected in any way to one or the other party. As this position is meant to balance powers between the riparian countries, the importance of having a Swazi PDM located in Mbabane should not be underestimated.

More thinking is necessary on the functionality of JWM/TT/PDM organisational structure and control lines. The fact that individuals sometimes belong to several organisational and governmental units may create conflicts of interests or confusion of roles. Unclear power structures and hierarchies might promote hidden agendas, particular interests, and strategic behaviour of individuals with the danger to by-pass key persons. It is a prerequisite for the process that the TT members of the two countries function as a team. Wherever they basically represent interests and positions of their respective country, transparent information flow and constructive cooperation are unlikely to happen. The ESAPP team proposes to revise the JWC hierarchical structure and implementation programme, with the assistance of an external facilitator to improve its operational strength.

*Target-oriented planning*

With the SDC credit expiring early next year, the actors in charge can still establish a one year work plan within the funding framework provided by SDC. The plan should be clear on roles, targets to be achieved, and resources involved. The institutions involved can perform more efficiently with a clear mandate, recognised leadership, and target-oriented process planning.

## 2.3 External assistance in process facilitation

*External facilitation to maintain momentum and bridge possible impasses in the process may be supportive, as a PDM is probably not in a position to bear full responsibility of the envisaged stakeholder consultation process.*

One person alone (PDM) is probably overcharged with the full thematic and organisational responsibility for the envisaged stakeholder consultation process. A facilitating body or person could offer good advice. A neutral and competent person or organisation would be able to provoke internal discussions and promote mutual understanding on integrated management of the Umbeluzi Basin. He/she/they must be able to organise roundtable discussions on specific issues, with strong roots in the field. A sound recruitment process for such a position is required. There might also be agencies or NGOs active in stakeholder consultation processes and environmental planning that could contribute their experience.

Universities may not be suited to fill the position of the facilitator role, but partnership between universities can be helpful in establishing links between the negotiation/decision-making line and the public process. Universities are at a comfortable distance to the more sensitive diplomatic levels; they can organise events, where negotiators get more insight into topical issues, and side-events with local stakeholders and negotiators' meetings, and generate and disseminate information on ongoing discussions and issues. If the need arises, partnership activities with CDE/ESAPP can be envisaged.



## 2.4 Building confidence and improving communication

*Measures to improve communication and to build confidence among the main institutional actors are crucial. The consultation process can be supportive to a regional management plan by discussing water issues with a broader public and by taking up a regional development approach with specific reference to poverty reduction and sustainability.*

### Information dissemination

The dissemination of the results and recommendations of the JURBS, and the on-going discussion, should be published in the local media (publications, video, exhibition etc.). However, a coordinated approach is crucial. Further steps within the consultation process should concentrate on awareness creation; thus, they should be basically intended to create bridges between formal and informal use, from organised to non-organised stakeholders.

### Team building for JWC/TT members

In addition and support to the joint consultation process planning, other team building events for the TT (or the JWC) can be organised. Given the growing attention to joint water agreements, experience is available that can be tapped for awareness raising and training, either at the operational and decision-making level or for sharing experience with a broader public. Visits to other river basin management schemes would make it possible to share experiences, avoid repetition of the same errors and, eventually, to accelerate the whole process. There are different examples of participatory river basin management in South Africa, Zimbabwe/Zambia or Tanzania/Malawi worth to be visited.

For example, JPRBS started three years ago in the Pungwe basin and encompasses 3 phases:

1. Monographic phase (status);
2. Scenario phase with stakeholder participation (ongoing; to be presented in April/May 05) (with stakeholders elaborating scenarios with lowest /normal/highest levels of development and water use); and
3. Strategy development phase. An implementation phase is under consideration. In both countries, river Basin Committees have been established by the water users. The process is under the supervision of ARA-Centro in Beira and of a very dedicated resident team leader.

## 3 A Framework for Stakeholder Consultant

### 3.1 Revised Framework for the Consultation Process

As mentioned earlier, the fact that no collaborative process took place between the requesting and implementing agencies (JWC/TT/SADC) and the ESAPP team, puts limitations on the outcome of the ESAPP project. One major implication is that without a PDM in charge, the framework for the stakeholder consultation process could not be elaborated further and put into an operational mode.

This means that

1. the draft framework presented earlier to the JWC remains valid in terms of its basic concept. Based on the field findings, the ESAPP team has added slight modification to the Framework presented earlier,
2. a concrete action plan could not be worked out. Instead, possible elements in support of a stakeholder consultation process are proposed here for consideration; entry points for the consultation process must be harmonised with the schedule of the JWC,

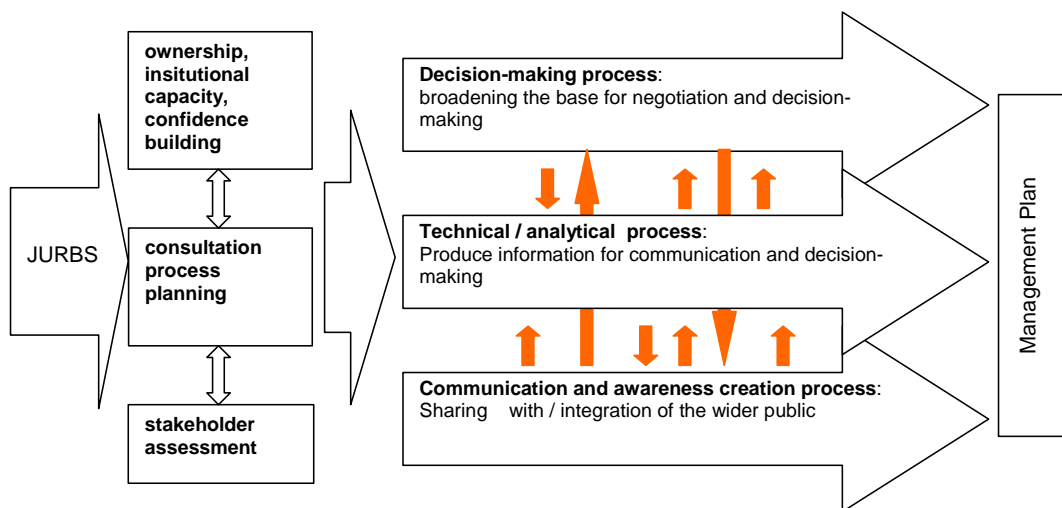


Figure 1 Revised Framework for the Consultation Process

The revised Framework as compared to the framework presented earlier includes:

- the consolidation of ‘ownership, institutional capacity and mutual understanding’ in a pre-consultative process as a necessity for the ‘Consultation process planning’,
- the ‘Technical/analytical process’ between the ‘Decision-making process’ and the wider ‘Communication and awareness creation process’. It addresses the need to adjust the institutional setting in the consultation process for efficient operations. The technical or analytical level has a major role to play in the exchange of relevant information between the other two activity lines regarding the Management Plan

### 3.2 Actors/stakeholders and their role in the consultation process

The need to fully integrate all stakeholders into the process is recognised by URBI actors, and the dissemination of the JURBS among a broad public is seen as an important element favouring a dynamic consultation process. Yet different concepts of stakeholder are used in the context of the URBI, and there are diverse perceptions of the consultation process. Where the SADC Protocol seems to favour a broader view, the stakeholder dialogue so far has essentially consisted of an exchange between government agencies.

Up to now, basically two concepts have existed side by side. These must be differentiated, as they have different implications. In a *'Stakeholder assessment'* (see Graphic) distinctions must be made between (1) stakeholders in the *negotiation/decision-making process* (in reality 'actors' with different decision-making power), and (2) stakeholders in a broad sense, i.e. all formal and informal water users in the basin. Along the same lines, differentiation must be made between (1) the *consultation process* among the negotiator/decision-makers, and (2) the *communication and awareness creation process* with a wider public. It must be made clear what should and can be negotiated on what level, and which stakeholders have to be involved and how. Subsidiarity is a principle that installs the responsibility and governance at the lowest possible level. Thus a clear understanding of the inter-linkages among the levels is necessary, especially the effects of decision-making on other levels. Sensitisation and transparency regarding mutual dependencies is important.

Thus, in addition to clarifying roles and connected with it, the first thing to do is agree on who the relevant stakeholders are, what role they play in the envisaged consultation process, and what the implications are with regard to the design, realisation and expected outcomes of the process.



Image 3 jhtzjhgjndhgjndghj



### 3.3 Components of a stakeholder consultation process

Possible components of a stakeholder consultation process are listed in the overall concept (see annex 1/6: Components of a Consultative Process); there fore only two main issues shall be raised and emphasised herein:

#### *Discussion of water issues with a holistic view*

The actors in charge of the consultative process must be aware of the necessity and the potential for encompassing questions of regional development, such as poverty reduction and socio-economic sustainability. No doubt, joint water governance is a challenge in a transboundary setting, separated by national borders, different political and legal systems, different cultures, languages etc.; however, where there is a political will, technical problems can be solved.

#### *Address WDM at regional level*

Swaziland has already made efforts in the sense of raising awareness and strengthening water demand management, although limited to national interest only. On the Mozambican side, where the greatest increase in demand is foreseen, we are not aware of such steps. It would certainly be beneficial to both countries in terms of water use – and it could be a valuable contribution to raising mutual understanding and confidence – to discuss and introduce WDM measures at the basin or regional level.

## 4 Closing Remark

The ESAPP team has developed a Framework on Integrated Transboundary River Basin Management Planning for the Umbeluzi river basin shared by Swaziland and Mozambique.

The Framework's basic conceptual and methodological ideas are outlined in earlier papers (see Annex 1) and modified as mentioned in the present project report. The Framework can be put into operation as soon as an assigned body takes it up and incorporates it into the negotiation process between the countries.

However, the major finding within the ESAPP project is, that a pre-consultative process is a prerequisite for setting the consultation process into motion. Clarification of basic ideas and benefits expected from the stakeholder consultation process is necessary as well as the establishment of a strong team capable of leading the process. Only a sound pre-consultative process will allow for taking up the Framework as developed by the ESAPP project. It will allow for clarifying roles and responsibilities of URBI actors, and for developing a planning schedule within the given time and budget frame.

It came out very clearly from the JURBS report that in the very near future, major efforts will be necessary to explore additional water sources and/or to improve the efficiency of water use. This calls for urgent measures at the institutional and process levels. A pro-active role of SDC, SADC and the JWC may be necessary in order to make the consultation process a fruitful component of the Umbeluzi regional management planning.

In case the idea of a full stakeholder consultation process within the URBI would be given up, activities on awareness creation on regional water issues and development are still recommended.

# Annex 1

CDE-ESAPP/SADC Water Division (Southern African Development Commission)

## CONCEPT NOTE

### STAKEHOLDER CONSULTATION in the UMBULEZI RIVER BASIN INITIATIVE

CDE, May 2004

#### Content

##### BACKGROUND

- SADC and the UMBELUZI River Basin Initiative

##### JOINT WATER MANAGEMENT IN THE UMBELUZI RIVER BASIN

- Water issues in the Umbeluzi River Basin
- Approaches to sustainable use of water resources

##### THE CONSULTATIVE PROCESS

- Main challenge: Adequate integration of all stakeholders in a pragmatic learning and negotiation process
- Setting the stage
- Components of a consultative process

##### PROPOSED CONTRIBUTION OF CDE

- Entry points for CDE
- First steps

#### Annex

CDE Concept on sustainable resource management and sustainable development in the context of the Umbeluzi River Basin Initiative

- Multi-level/multi-stakeholder processes and social learning for sustainable resource use and sustainable development
- Developing a theoretical framework for the Umbeluzi Multi-level/Multi-stakeholder approach

## Background

### SADC and the UMBELUZI River Basin Initiative

Cooperative water management is one of the crucial development challenges of the SADC Region, both in terms of human livelihood and sustainable management of natural resources. Water is becoming a scarce and disputed good in the future, necessitating institutional mechanisms for integrated water management<sup>1</sup> and pro-active conflict transformation within and across international borders. The same institutions will also be in charge of disaster prevention and management, mitigating the effects of floods and droughts. Access to safe drinking water must be kept high on the agenda of poverty alleviation. SDC is supporting this process through its Regional Programme Southern Africa.

Within this programme, one partial action consists of the implementation and support of the UMBELUZI River Basin Initiative, with approximately 3/5 of the watershed area in north central Swaziland and nearly 2/5 in southern Mozambique. Main objective is the development of a joint Management Plan of the river basin, especially in regard of its water resources. Enhanced regional water governance shall help avoiding the risk of water scarcity and conflicts over water. Quantity and quality of water used for drinking water as well as irrigation are to be negotiated and regulated jointly within and between the riparian countries.

The recent introduction of a new water law in Swaziland (2003), with a five year transition period, may pose an obstacle for such a process, but could also be an opportunity to introduce innovative approaches in the implementation. It is appreciated that both the Mozambican (1991) and the Swazi water law are explicit on important common aspects, such as the participation of water users in the resources' management at different levels, the recognition of water having a social and economic value, the governments' responsibility in water resources development and the need for international collaboration.

The Umbeluzi River Basin Initiative has a 'pilot character', (1) for SADC in regard of a multi-level/multi-stakeholder approach in river basin development, and (2) for SDC in regard of a similar initiatives.

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<sup>1</sup> Integrated Water Resource Management IWRM is a process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

## Joint water management in the Umbeluzi river basin

### Water issues in the UMBELUZI River Basin

A first insight into the water uses of the Umbeluzi presents all the ingredients that indicate a high pressure on water resources, and emphasise the need for cooperative action in the management of the water resources for a sustainable regional development:

- In-balanced up-stream/down-stream situation, with highest water abstraction for agricultural use in Swaziland
- Relatively small basin (5500skm), but important for agricultural production, with high irrigation water demand for agro-industrial production (sugar, citrus)
- Drinking water supply of the capitals Mbabane and Maputo
- Smallholder's irrigation schemes
- Inadequate water supply for rural areas
- Access to water is depending on land rights, and those are unequally distributed
- Storage regulation by three big dams, more hydraulic infrastructure development in the Swazi development plans
- Rising number of flood and drought incidences with increasingly devastating consequences
- Disregard of sensitive ecosystems' water requirements, e.g. for estuarine waters

The Umbeluzi River Basin thus represents a typical case of an in-balanced and threatened ecological and socio-economic development context. Whereas single features alone may be problematic enough, their inter-linkages add new dimensions to the problem. A clear understanding of resource base, its use and the socio-economic driving forces (potential for conflicts over water) is crucial in order to tackle basin development issues.

### Approaches to sustainable use of water resources

Responding to the need for pro-active conflict prevention and sound basin resources management, the institutional setting favours a joint approach. In addition, it is recognised that the present legal framework must be reviewed and negotiations on water issues at different stakeholder levels are necessary.

An 'Agreement on the Establishment and Functioning of the Joint Water Commission Concerning Water Resources of Common Interest between the Government of the Republic of Mozambique and the Government of the Kingdom of Swaziland' was already signed in 1976, and has been reconfirmed in 1986. The revised SADC Protocol on Shared Watercourses is taken as an important guiding policy for river basin co-operation in the region. Presently, key support for the management of the water resources and the development of the UMBELUZI River Basin, consists of the two components (1) capacity building of actors involved, and (2) development of an institutional framework that allows for an adequate learning process between stakeholders of all levels.

The main co-operative instrument between the riparian states is the Joint Water Commission (JWC). The JWC has adopted a step-by-step approach towards a joint water management plan for the Umbeluzi Basin:

1. In 2002, the Joint Umbeluzi River Basin Study JUBS was launched with the objective to provide a base for sustainable development and for re-negotiation of the agreement between Mozambique and Swaziland.
2. The study is accompanied by a consultative process involving the main stakeholders in a participatory process.

A step-by step approach favours an adequate integration of all stakeholders in a pragmatic learning process. Thus, all kind of support will have to be built into existing structure, information and processes.

## The consultative process

Main challenge: Adequate integration of all stakeholders in an on-going pragmatic learning and negotiation process

Link existing structure, information and especially processes to a true learning process becomes a challenging task. Strong political commitment from the top, as well as from local government, must be aimed at for the successful preparation and implementation of a Management Plan. At the same time, experience shows that an active and full participation of weak stakeholders (smallholders, communities) in the processes concerning their own present and future is required. Effective communication among stakeholders – not merely information disseminated from the top – is essential to stakeholders' participation in the preparation of a Management Plan and subsequent commitment in its implementation. Communication activities should engage key stakeholders, draw a realistic picture of water resource use and management, and ensure that stakeholders are up-to-date on Plan preparation and the ways they can contribute to it.

So far, major questions for a consultative process remain on integration of participants and issues, on procedure and relation to decision-making. Transparency on the institutional setting (stakeholders, relationship between stakeholders, rules and regulations and their effectiveness, as well as development trends and conflicts) is essential for structuring the consultative process. In addition, a final draft of the JUBS will soon be at hand, yet basically will include data on water balance and information on legal aspects. With regard to a coherent management plan, in-depth information on local level water use is necessary. JUBS workshops to make inputs into the consultative process are planned. They can be modified to yield full potential for adequate communication in a learning process between stakeholders of all levels.

## Setting the Stage

In order to make the consultative process a fruitful dialogue and learning process for all, a two-tier procedure is proposed (see Graphic):

- a Support of the decision-making process – ‘internal procedure’: A sequence of knowledge-sharing, mediation and negotiation workshops will be conducted with broad stakeholders’ participation.
- b Establishment of a communication and awareness creation process – ‘external procedure’: A parallel “participatory platform” using a wide range of events – such as cinema, theatre, workshops, informal consultation, public exhibitions, roundtables, field visits with prominent opinion leaders and media events – will accompany the projects’ internal procedures.

Careful management of inter-linkages between the decision-making process and the public communication and awareness creation process is the essence of the envisioned consultation process. Its effectiveness depends on the quality of the relationship and exchange between these two processes. It is assumed that information exchange and awareness creation, joint events involving different stakeholder groups, and insight into stakeholders’ perceptions and strategies will support the development of common visions and processes and a management plan with broader political legitimacy and acceptance. Confidence building and transparent decision-making will further support socio-political development. Immediate recommendations and priority actions identified as an outcome of the baseline study can also be included in the stakeholder dialogue and implemented as confidence-building opportunities.

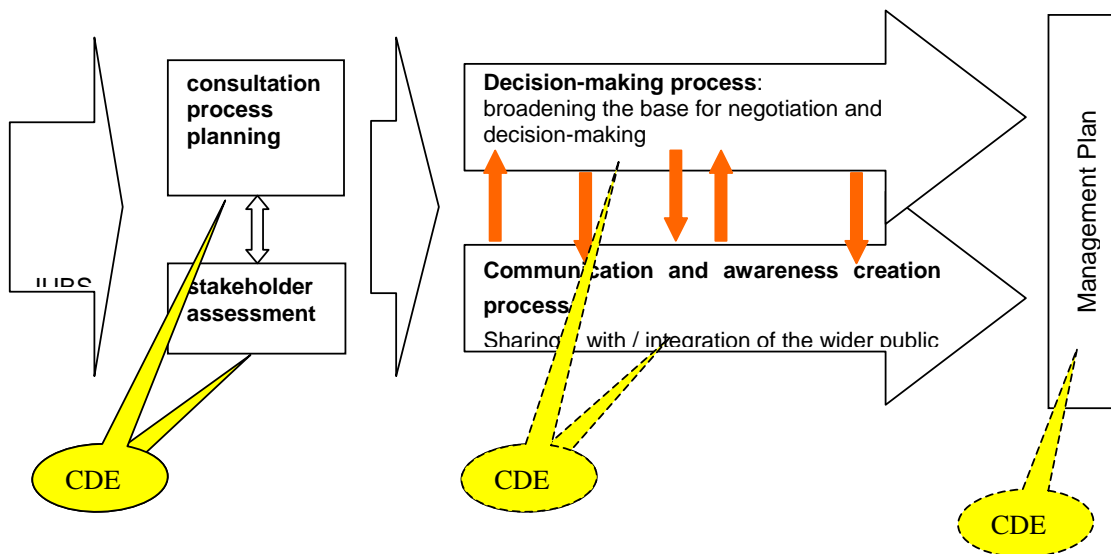


Figure 2 Consultative process as the inter-linkage between decision-making process and communication process with the wider public

CDE can offer its support in the preparation and initiation of the consultation process, but also for specific inputs during the process and plan formulation.



## Components of a Consultative Process

The preparation of the watershed Management Plan will thus integrate the following components:

3. Baseline data collection and stakeholder assessment
4. Communication and confidence building
5. Institution building and stakeholder empowerment
6. Negotiation and mediation workshops and Management Plan formulation
7. Endorsement of the Plan by all parties involved

### *Baseline data collection and stakeholder assessment*

- Concerning the hydrological, technical, socio-economic and legal aspects, data collection is coming to an end with the termination of the baseline study. However, this study does not sufficiently take into account the socio-political aspects: ownership of the Planning process, stakeholder involvement and commitment, political acceptance and legal compliance have to be fostered and built in from the beginning of the watershed management planning exercise.
- A detailed stakeholder assessment is necessary in order to give guidance to the consultative process. Who are the stakeholders? What are their interests? their values? their issues of concern, their resources? Information on power relations, social organisation and networks puts the programme in position to decide on the composition of the stakeholder groups participating in the planning and negotiation process, and to address different actors and stakeholder groups in a communication strategy.
- In case the baseline data collection leads to urgent measures, further consultation prior to implementation may not be possible. However, as soon as a stakeholder assessment is carried out and representative groups are identified, they should be adequately involved in the planning and support of these activities.

### *Communication and Confidence building*

- Confidence building must be an overriding theme in all the activities undertaken by the programme. Transparency in all the activities and mutual respect and understanding are keys elements which must be continuously and consciously fostered. Equally, small-scale, immediate impact actions, addressing one or more of the raised issues, can be door-openers and contribute to confidence building. They can at the same time, monitor intervention mechanisms and foster partnerships and alliances across the borders.  
This crucial element of a consensus and ownership building process does not appear to be adequately addressed in terms of time and budget allocation by the SDC programme and should be considered for review.
- Scarcity of shared resources raises conflicts. These cannot be avoided, but managed and transformed into non-violent interactions. Any intervention in a conflict situation should be accompanied by confidence building measures. These are necessary during the whole process and until a stable institutional

setting guarantees full transparency and participation of the concerned over the management of the resources. Measures aiming at building confidence will be required internally (among the working groups) as well as externally (towards the public). The latter need to be embedded in a comprehensive communication strategy, addressing all the concerned, and allowing for top-down and bottom-up information and feedback. This strategy can include the organisation of a sequence of events with broad media coverage and the involvement of key persons and political leaders. These will finally be the ones to negotiate the convention between the two neighbouring states, and must be therefore fully aware of the concerns of their constituency.

- We presume that, although the final aim is the re-negotiation of the bilateral agreement, negotiations and adjustments will take place in a first phase among groups within country boundaries. However, it will be for the ease of further negotiations to organise common events across the state boundaries right from the start, with the ultimate aim to create a watershed community with a strong identity. Only under the holistic approach and with the interest of the whole watershed system in mind will the various interest groups conclude their negotiations with meaningful decisions and a realistic and practicable Plan.

#### *Institution building and stakeholder empowerment*

- Probably not all stakeholders – particularly not the less powerful – are organised in a way that allows them to design a legitimate representative. Some stakeholder groups or associations will need to be formed and institutionalised before they can raise their voice and take actively part in the negotiation process. There will be a need to train and empower these groups so that they can be able to participate as equal partners, being aware of their rights and duties, as well as on the socio-economic and ecological consequences of political or physical interventions in the watershed.

#### *Negotiation and mediation workshops and Management Plan formulation*

- In parallel to the public awareness raising events, the core consultative process will take place during stakeholder workshops. Groups can be organised according to interests, natural or administrative boundaries or influence (e.g. at national, regional or local level). Adequate feed-back and suck-back to and from their constituencies must be ensured.
- These workshops should integrate information, knowledge sharing and learning processes. The following will be the milestones on the consultation path:
  - a Discussion of the stakeholder assessment and endorsement of the representative stakeholder groups in the consultation exercise.
  - b Presentation of the baseline study to different stakeholders, in a way that they can understand and relate issues of concern to their respective livelihoods. Analysis of issues, problems and potentials as seen by the groups. Prioritisation of issues.

- c Development of a vision on Umbeluzi basin development which is shared among all the stakeholder groups; based on this vision, develop appropriate IWRM strategies.
- d Prioritise and negotiate measures to be taken and resources' mobilisation for the transformation of the strategies into a politically accepted, technically and economically feasible and environmentally sound management Plan.

The topics and discussions in the workshops shall continuously be shared with the wider public for debate in the 'communication and awareness creation process'.

*Endorsement of the Management Plan by all parties involved*

At the end of the consultation process there must be a consensus on and an approval of essential elements of the watershed Management Plan of all stakeholders involved.

## Proposed Contribution of CDE

### Entry points for CDE

To sum up, the collaboration between the JWC and CDE can be described as follows:

- The Joint Water Commission JWC between the Governments of Mozambique and Swaziland (1999) intends to develop a sustainable basin wide consultative system for the Umbeluzi water resources management.
- CDE will provide a methodological support with its experience in integrated and participatory approaches to water management to help design and carry out the consultative process.

CDE is specifically suited to assist the consultative process, as it is not a stakeholder with its own interests but steward and informant for environmental issues and sustainability orientation. CDE advocates a watershed based integrated resource management approach IWRM. It is experienced in participatory research, natural resource management and regional development, also in conflict situations and trans-boundary contexts. It will thus provide tools fostering the negotiation process, especially tools that allow for a better integration of smallholders; identify and use entry points for knowledge sharing, and eventually assist in the moderation of the negotiation process. (Further information on the conceptual background of CDE is given in the Annex)

### Preliminary activities

Within the Umbeluzi river basin initiative the Joint Water Commission Task Team TT is in charge of the implementation of the consultative process. They play a key role as facilitators in a bottom-up process. They are the main and direct partners of CDE.

With regard to the negotiation process, CDE is mainly in charge of providing additional information for the negotiation at key occasions. In order to carefully combine the JUBS process with a process of stakeholder consultation, CDE proposes a field visit of CDE staff (Frank Haupt, Cordula Ott) at the occasion of the presentation of the study results (foreseen in June 04). It will allow to built support into existing structure, information and processes, and start the iterative and open exchange. In regard of the further procedures, a preliminary schedule consisting of a ½ years planning phase and another year of consultative processes should be foreseen.

The purpose of the proposed field visit is to initiate a planning phase through:

#### **Familiarisation with main partners of URBI**

- Background and basic ideas are shared in order to find a common language. For an open and iterative process mutual understanding and intense contacts with the Project Development Manager (PDM), the TT and representatives of institutions involved – especially the JUBS team – are essential.
- A tentative list of stakeholders and relevant water issues shall be discussed, thus opening a discourse within JUBS workshops with project staff, and eventually with water users.

**Structuring the consultative process with entry points of CDE**

- Partners, procedure and milestones of the consultative process will be defined
- CDE contribution will be identified according to schedule, procedure and institutional setting of URBI
- A joint work plan will be established.

**Outline of the public communication and awareness creation campaign**

- As project approach and activities are of a broad public interest, possibilities of combining project activities with a public process of awareness creation and discussion will be outlined.
- First contacts with partners for this public discourse will be made.

**Identification of local partners**

- For support in knowledge generation and process moderation, additional local partners might be necessary. Local facilitators with experience and competence in the decentralisation campaign in Mozambique would be interesting partners.
- In case additional investigations become necessary, staff input and procedure are defined with the TT.

## Annex: CDE Concept on Sustainable Resource Management and Sustainable Development in the context of the UMBELUZI River Basin Initiative

### Multi-level/multi-stakeholder processes and social learning for sustainable resource use and sustainable development

The ultimate aim of development activities designed to foster sustainability is to improve conditions at the local level. Local governance of resources and social development is thus to be aspired, yet higher level frameworks must support lower levels self-regulatory potentials. Comprehensive measures are to be accountable down to the community and household level, and root in local resource users' contexts and perceptions. This allows national and regional programs and institutions to play the crucial role of linking all levels of activity, and to serve as "advocates" for the interests of local resource users at higher levels (Figure 3).

Consistency of policies and strategies between socio-organisational levels: Need to foster negotiation power in a bottom-up process			
Level of action	Responsibility		
	International institutions and programs	National and provincial institutions and programs	District level institutions and projects
International	↑		
Nation/state	X	↑	
District/Province		↑	X
Village/community		↑	X
Household/farm			↑

Figure 3

Main challenge thus is coherence of policies and strategies for sustainable resource management and sustainable development. This is increasingly faced by so-called multi-level and/or multi-stakeholder approaches aiming at joining stakeholders of all levels in a common learning process. Such multi-stakeholder processes MSP enhance transparency on levels and stakeholders, identify linkages, and facilitate stakeholders in a learning process oriented towards sustainable resource management. Stakeholders' motivation for participation is located in the appreciation of a common dependency on an intact natural resource base.

Multi-level/multi-stakeholder approaches differ widely from approaches, where decision-making is done by central institutions. They take into account that in complex systems – as a development region surely represents – inter-linkages between levels and stakeholders as well as the impact of activities are hardly to assess. They focus on dependencies between levels and stakeholders and assume that uncertainties are minimised by contribution of many. They thus try to counter-balance a top-down approach by an approach in which decision-making on higher level is defined within a bottom-up process. Ideally, bottom-up processes and top-down frameworks are linked together, leading to appropriate institutional relationship, structures and strategies. It is important to agree on the roles and responsibilities of the different actors at an early stage.

## Annex: Developing a conceptual framework for the UMBELUZI Multi-level/multi-stakeholder approach

For its support of the consultative process, CDE proposes to design, and continuously refine a 'model' or 'conceptual framework' that allows a step-by-step system analysis. A general idea on such a model is given below (Figure 4).

Discussion and reflection of such a model has proved to support a social learning process. Basically, the model is intended to create transparency and awareness on structure and inter-linkages of levels and stakeholders relevant for water issues. It unrolls a picture on status, trends, visions and options for development. It further allows for the joint identification of key institutions and activities as well as key access to negotiation and implementation. It must be emphasised that social learning is essential but not sufficient for co-management if not accompanied with an appropriate framework for action.

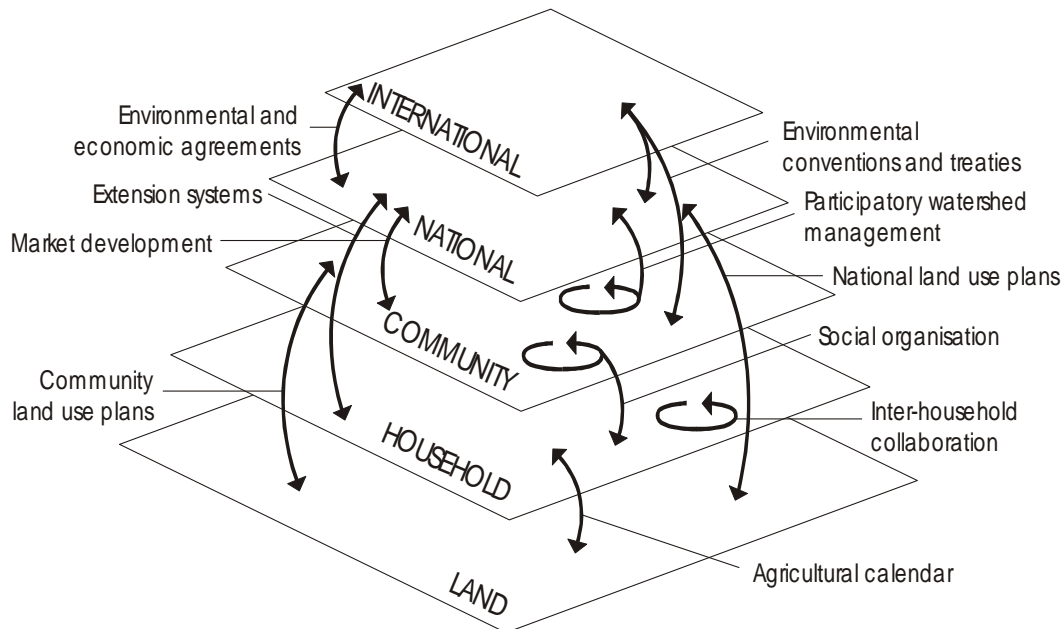


Figure 4 Intervention Levels and Activities in a Multi-level/multi-stakeholder Approach to Sustainable Land Management (Hurni 2003)

For the development of such a model, in a first step a preliminary stakeholder assessment has to be done, identifying relevant stakeholders and socio-economic levels in a vertical and horizontal manner. In addition, thematic issues have to be addressed and investigated in order to formulate guiding questions and hypotheses to focus on.

On the background of the model, discussions with the TT and the baseline study team will start in order to precise stakeholders and issues and develop a procedure for further work. In addition to the work process of broadening the data base, projects ideas and procedure are constantly shared with the public in an iteratively discourse and awareness creation process.

## Annex 2

### Field Mission Activities

#### Project E 703

#### Proposal for the Development of a Conceptual Framework on Integrated Transboundary River Basin Management Planning (Umbeluzi River Basin Initiative, Mozambique and Swaziland)

TORs of CDE consultants for the Field Visit Umbeluzi Basin

**Duration:** February 15 – 25, 2005

**Duty station:** Manzini (Swaziland) and Maputo (Mozambique)

#### Objective

As a centre of competence in sustainable land management and integrated regional development, CDE is providing backstopping services for SDC. It is within this scope that a project for the Umbeluzi River Basin Initiative was formulated under the umbrella of the ESAPP.

Its general objective is:

- Provide conceptual and methodological support to SADC as the requesting agency and its partners in the development and implementation of a consultative process with water users within the Umbeluzi river basin.

A Draft Concept Note, a Project Proposal, an Abridged Concept Note on ‘Stakeholder Consultation in the Umbeluzi River Basin Initiative’, and first exchanges with responsible staff of SADC and SDC have been prepared in advance. A field visit of an interdisciplinary –

In coordination with the requesting agency and its partners, and especially with Suzanne Saranga as Project Development Manager PDM mandated by the JWC, the consultants will:

- Establish a framework for a consultation process to be held prior to the adoption of the Umbeluzi basin management plan.

In order to achieve this goal, the Consultants especially will:

- Participate in the Final presentation workshop of the Umbeluzi Baseline Study on 21 February 2005 in Maputo
- In the workshop, present the mission of CDE and ESAPP, and outline the backstopping mandate for SADC and the goals of the field visit
- Clarify the political and institutional setting, the roles and expectations of partners involved (DNA, SADC, JWC, PDM, SDC, Ministries, CDE etc.)



- Clarify the issue at stake
  - by assessing status, trends and conflicts in water supply and demand, against the background of stakeholders on different levels
  - by visiting the project site
  - by exchange with partners, experts and informants
- Identify entry points for stakeholder consultation on different levels
- Identify possible local partners as mediators in the consultation process, and media and public partners to be involved
- Propose appropriate procedure, necessary modifications in the institutional setting, and responsibilities of partners involved
- Reach a common understanding among partners on the issues at stake, the concept of stakeholder integration and the way forward

Based on the field activities, the consultants will prepare a Draft Conceptual Framework as a planning instrument, with a detailed action plan, a budget and a proposal for a follow-up.

<b>Umbeluzi Mission Programme February 15 – 24, 2005 and people met</b>	
Date	Activities
Tu 15 Feb	Travel Zurich – Joh'burg – Manzini (departure 20:25 p.m.)
We 16 Feb	Travel: Arrival Manzini 11:00 a.m. (delayed) Field visit to the Pine valley (uppermost part of the Umbeluzi valley) Meeting in Mbabane: Mr. Petros on deputising for Mr. Raphael Sangweni (Gov. of Swaziland Water Resources Branch/Swazi task team member of URBI) Field visit to Hawane Nature Reserve and Hawane Dam, drinking water for Mbabane. Travel Mbabame–Siteki (accommodation Mabuda Farm)
Th 17 Feb	Field visit to Umbeluzi valley Lowveld and sugar cane production area Meeting in Simunye Sugar Estates: Dr Leonard Ndlovu (Water Resources Manager/Royal Swaziland Sugar Corporation) Meeting in Mbuluzi Game Reserve: Jim Boyd (Agronomist Thabakula Sugar Estate/Manager Mbuluzi Game Reserve) Travel Mhlume–Manzini Airport Taxi to Goba Boarder; Chapa <sup>2</sup> to Maputo (accommodation Hotel Terminus)

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<sup>2</sup> Semi-public mini-van

Fr 18 Feb	<p><b>Meeting</b> at SDC: Nicolas Randin (Director Residente Adjuncto)</p> <p><b>Meeting</b> at Helvetas: Luis Dinis</p> <p><b>Meeting</b> Ricardo and Beatriz Rangel, Centro de Documentação e Formação Fotográfica</p> <p><b>Event</b> at the French–Mozambican cultural centre: informal talks with Adrian Hadorn, Swiss Ambassador</p>
Sa 19 Feb	<p><b>Field visit</b> to Boane area (Massaca) downstream Pequenos Libombos Dam</p> <p><b>Informal talks</b> with: Guard of pump station of MOZAL (aluminium smelter) Mr. Braga (Manager at Ceramica de Umpala) Fishermen Agricultural employees (livestock watering)</p> <p><b>Meeting</b> with Rikard Lidén, SWECO</p> <p><b>Preparation</b> of Monday presentation</p>
Su 20 Feb	<p><b>Field visit</b> to Boane, Pequenos Libombos Dam, Goba</p> <p><b>Informal talks</b> with: Massaca small scale farmer Maputo resident, farm owner near Boane</p>
Mo 21 Feb	<p><b>JURBS presentation workshop:</b> Participation and presentation of CDE, ESAPP and stakeholder consultation project Collection of material from consultant and informal talks with key stakeholders</p>
Tu 22 Feb	<p><b>Visit</b> DINAGECA: Collection of physical and electronic maps</p> <p><b>Meeting</b> with DNA/GRI: Suzana Saranga, TT member and selected PDM, Pedro Cambula, alternate TT member: JURB Management Plan stakeholder consultation planning</p> <p><b>Meeting</b> with CEDESA: Rui Gonzales</p> <p><b>Meeting</b> with SIDA Regional Water Resources: Gunilla Ölund Wingqvist</p>
We 23 Feb	<p><b>Visit</b> to the CDFD Centro de Documentação e Formação Fotográfica, Maputo</p> <p><b>Meeting</b> with MASSALA, development consulting &amp; research: Charlotte Allen, Vibe Johnsen (stakeholder consultation in Mozambique)</p> <p><b>Debriefing</b> SDC: Nicolas Randin</p> <p><b>Informal meeting</b> SDC: Derrick Owen Ikin</p>
Th 24 Feb	<p><b>Debriefing</b> Hotel Rovuma: Pedro Cambula (JWC TT)</p> <p>Afternoon: departure Maputo – Joh'burg – Zurich</p>

### Collection of physical and electronic maps

DINAGECA / Mozambique:  
Cartas 1:250'000; No 93, 94, 98, 99 and 102

# Annex 3

## Field Notes

### ESAPP E703

#### Development of a Conceptual Framework for Integrated Transboundary River Basin Management Planning in the Umbeluzi River Basin, Swaziland and Mozambique

#### The Field Visit – Notes on Swaziland and Mozambique

##### Swaziland

The ESAPP study team was received in Mbabane and introduced to water management in Swaziland by Mr. Petros, deputising for Mr. Raphael Sangweni, Head of the Water Resource Branch (WRB).

The National Development Strategy (1999) <sup>3</sup>aims to expand smallholder irrigation within a national irrigation development plan whilst encouraging farmers to utilise all available water catchments; to plan and construct small to medium-size dams to provide a reliable source of water for small-scale irrigation, livestock, fisheries and domestic use; and to optimise available land, human and financial resources to promote irrigated agriculture. It also aims to promote and foster efficient and sustainable land and water resources.

Land can be state-owned, held in trust by the King for the Swazi people, with subsistence plots allocated to the applicant residents by the Chiefs. Title Deed Land properties for private farming can also be bought; this land is typically used for ranching, forestry or estate production of crops such as sugar cane and citrus. There is an approximate fifty-fifty proportion of both types.

In the upper catchment of the Umbeluzi river (Highveld), subsistence production on small farms with 2-3 ha prevails. Productivity of this rain fed agriculture is limited by the general climatic conditions, not by water shortage. In the Lowveld, groundwater is the main source for household consumption. As in the Highveld, small, and generally poor farmers produce on a subsistence level and for small surplus petty trade in local markets. There is a potential for higher productivity and increased livelihoods if diverse production and access to markets is advanced by regional planning.

- Salient features of the Umbeluzi basin
- Widespread poverty and high prevalence of HIV/AIDS is common in both countries.
- Great differences in agricultural and human/industrial water needs between the two countries.
- Today the MAR is used; any increase in water consumption has to be compensated elsewhere (water efficiency, water imports)

<sup>3</sup> in: IUCN Study: Water Demand Management Programme for southern Africa, Phase II, April 2002

In the Lowveld, sugar cane production began in 1940; today, three big sugar estates with international shareholders constitute the backbone of the country's economy. Sugar cane is (still) by far the largest water consumer in the catchment area. Sugar cane production is not competitive in the (subsidised) international market and the estates are trying to cut production costs by increasing productivity (and retrenching employees).

Taking advantage of the estates' irrigation schemes, small farmers have increasingly changed from rainfed mixed farming to irrigated sugar cane recently, under direct contract with the sugar mills. Sugar plants can produce for up to 22 years, meaning a long-term investment. This system allows the farmers to obtain bank credits, making them in turn more vulnerable and prone to international market prices. In times of water shortage (as in the last five years), the Water Resources Department institutes restriction on water use; water allocation is controlled, and irrigation becomes expensive. There seems to be room for improved water efficiency, and investments in decentralised small water dams for small farmers could contribute greatly to poverty reduction, if duly accompanied by extension services.

North of the Umbeluzi River, the irrigated fields (a large part of the total sugar cane area) get water from the Sand River dam, diverted from the Incomati River basin, whereas south of Umbeluzi the Mnjoli Dam guarantees irrigation. According to the estates' representatives, they not only monitor water intake and outlet, but also water quality, in compliance with a local health risk and environmental certificate. Still, data do not appear to be readily available. In any event, the presence of benthic algae and floating aquatic alien weeds indicates an excess of nitrates and phosphates. Nitrates and persistent organic substances would be of primary interest, given that the river supplies millions of people with drinking water. Herbicides and pesticides are difficult to measure, and the ecological impact has not been studied in this area. In accordance with local targets for land and water conservation, sub-surface drip irrigation has been introduced on rather huge surfaces. This has reduced water consumption considerably and has made it possible to promote the aforementioned small-scale irrigation.

In general, erosion is a big problem in the Umbeluzi valley, causing loss of fertile soils and siltation of the irrigation infrastructure.

## **Mozambique**

As in Swaziland, a large number of studies and reports exist concerned with land and water availability, use and conservation, and the activities of the population in Mozambique.

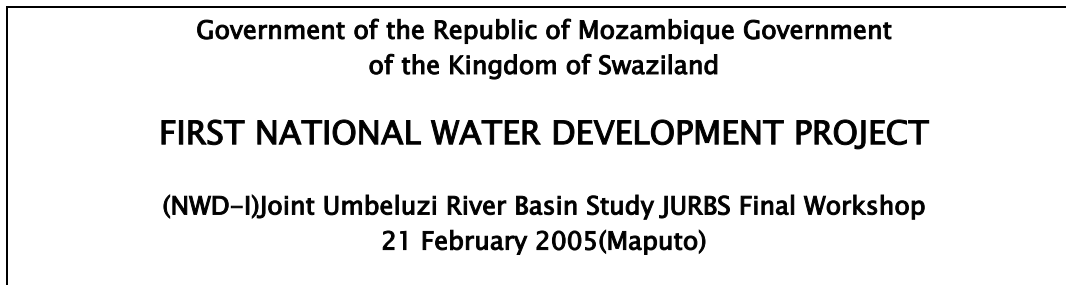
Extending at great length through the Libombo Mountains, the Umbeluzi valley is thinly populated and the river exhibits almost natural, regenerating conditions. It appears that the main pollutants at the Maputo water intake have their origin in the small Mozambican towns, not in the cane-producing areas of Swaziland. Yet the quality of surface water in the Umbeluzi river is presently appropriate for domestic, agricultural or industrial purposes.

As in Swaziland, smallholder subsistence farming prevails, with a high level of food insecurity. Inadequate access to water in rural areas is a crucial challenge. The groundwater capacity in the Mbuluzi River Basin is limited and only suitable for household consumption. Aguas de Moçambique is the major water supplier in the region; however, with presently 60 to 70 % water losses, there is an urgent need to rehabilitate the system, and intensive efforts are being made according to the company director.

Although they are connected to the pipe network, many poor people in rural areas still use river water for domestic water supply, together with fishermen, cattle breeders, and private farmers. The river is also used for bathing and washing (humans as well as laundry and cars). In addition, there is a considerable potential for agricultural land suitable for irrigation, which cannot be developed for lack of water.

## Annex 4

### Jurbs Workshop



### ESAPP team Notes for the file

#### Objectives of the study

“... present to the Governments and the water management institutions of Mozambique and Swaziland a sound analysis of water resource potential and demands in the Mbuluzi River basin and associated institutional and legal conditions. This analysis should serve as a basis for negotiations on an agreement on joint water use and management of the water resources of the basin.”

#### Participation

About 45 so-called “key stakeholders” responded to an invitation from the DNA in the presentation of the final report of the study. The presence and active participation of important water users such as MOZAL (aluminium smelter) and Aguas de Moçambique (Maputo water supply company), as well as owners of private irrigation schemes, was positively noted. It is interesting that (with the MoU between Swaziland and SADC not yet being signed) the workshop was financed by funding from the JURBS – not through the SDC capacity building and stakeholder consultation component, as would seem to be logical. This may explain why only 6 participants came from Swaziland (3 from RSA and 6 others). It could also signal a lack of ownership on the Swazi side.

#### Study Presentation

The objective of the workshop was to present the results of the study and receive comments from clients and stakeholders. A summary was distributed, the full report totalling ca. 400 pages. With other issues (such as legal implications, socio-economic issues, etc.) already having been discussed during the inception workshop in May 2004, the consultants concentrated on

- Potential new storage dams
- Water balance analysis, present water demand, and demand in 2025
- Joint basin agreement

In simple terms, the conclusion of the study is that under average rainfall conditions, with the regulating infrastructure in place, present demand can be satisfied in both countries without major shortcomings. However, the expected growth in future water demand (by all users) exceeds future water availability. The development of new dams alone will improve the future water supply situation, but not to desired levels.

Water demand		Mm3 per year	in % of MAR
At present:	Swaziland	253	47
	Mozambique	107	20
	total	360	67
in 2025:	Swaziland	334	62
	Mozambique	261	49
	total	596	111
Water available (natural mean annual runoff; MAR)		535	100

Notes:

- a) the figures include minimum in-stream and estuarine flow requirements
- b) the figures for 2025 in Mozambique assume a 35 %reduction of losses in the urban water supply

### The report concludes that

- Serious restrictions have to be imposed on the expansion of water demand; the consultants suggest limiting irrigation (in Swaziland). Restricting increases in industrial and agricultural uses will improve the level of supply, but will not solve the problem.
- The water supply situation will have to be addressed soon for Mbabane and Maputo
- A new source of supply for Maputo, other than from the Umbeluzi catchment, is necessary to improve the water supply situation (water transfer from another river basin, e.g. Inkomati) in the near future.
- Effective monitoring of water resources use and development is required

Thus no reduction of actual use is visible, yet the potential for industrial and irrigation growth is within the limits of more efficient use of water. A lead time of 4 to 6 years will be required before new water infrastructure can be put in place. There is an urgent need to undertake investigations to supplement the existing water resources to Mbabane and Ngwenya (from a dam at Mbuluzi Falls) and to the City of Maputo (from other sources than from the Umbeluzi river).

Concerning bilateral agreement, the recommendation is that total water use in the Umbeluzi River basin be limited to 404 M m<sup>3</sup>/y (76% of MAR) with an allocation of 2/3 for Swaziland and 1/3 for Mozambique, which as a matter of fact, is little different from the present situation.

## Discussion

Among other things, the following issues have been taken up by the workshop participants and will necessarily be part of future discussions.

### *More efficient use of water*

The JURBS study showed that present water demand can be satisfied with present infrastructure, with good reliability. Thus present water demand is a point of departure as well as a priority given to domestic water supply in both countries. This makes restrictions necessary for other competing users. On the other hand, efficiency of water use must be increased to meet future demand, and allocation carefully balanced, based on negotiated criteria for sustainable regional development among the different users and between the two countries. Incentives for appropriate technologies and for more efficient use of water (e.g. cleaner production) have become urgent. Water losses in Maputo are between 60 and 70% of the water supplied. As mentioned in the workshop, a 35% reduction of losses would already be quite ambitious. Moreover, the construction of new dams is usually more attractive to investors and donors than the rehabilitation of existing water supply systems. Hence there is no motivation to increase efficiency.

### *On models and scenarios*

Participants expressed scepticism about figures, models and scenarios, as these can be used as political elements in negotiations. For Swaziland the JURBS scenarios looked ‘biased’, as they emphasise future water demand in Maputo. Even the need for controlled flooding of the Mozambican estuarine (necessary every 2 to 3 years, according to JURBS) contradicts the demands of local farmers –pitting environmental issues against the interests of people in the short term. Hence water scarcity and increasing conflicts will have economic consequences. And a sensitive and balanced approach in regard to stakeholders’ needs is appropriate. What should water primarily be used for? What is really possible and politically feasible in terms of a regional approach? The economic value of water will be the major argument in future negotiations; it should not be neglected.

### *On basin development and poverty:*

Both countries strive for poverty reduction through more equitable water use and increased irrigation– each in their own country! Equitable use of limited resources requires a regional approach, and must be solved with a perspective that goes beyond administrative boundaries. Searching for alternatives to irrigated and rainfed rural production can only be done in the wider framework of the southern African context. In addition, discussions and plans for industrial development (such as the plans of the iron and steel industries) must be placed within an even wider socio-economic framework and linked to the global context.

### *Joint basin management of Umbeluzi, Maputo, Incomati*

Participants briefly discussed the need for joint management of the adjacent transboundary rivers in the Maputo region (Umbeluzi, Maputo, Incomati). More thinking must go into combined analyses and distinct management of commonly used river catchments. Logically, for regional planning, the three transboundary rivers must be addressed together, based on a joint agreement under the guidance of one and the same JWC.



## Agenda

### Joint Umbeluzi River Basin Study JURBS

#### Final Workshop 21 February 2005 (Maputo)

TIME	SUBJECT	ACTION
8:30	Opening	DNA, MNRE
8:45	Introduction of participants	All
9:00	Objectives of the workshop	R. Lidén SWECO
9:15	Brief summary of -Socio-economy -Land use -Water resources -Water environmental status -Ecological flows	R. Lidén SWECO
9:45	Brief summary of -Water demand -Legal & institutional Aspects	A. Carmo Vaz SWECO
10:15	Coffee/Tea break	
10:45	Analysis of new storage dams	J. Rossouw SWECO
11:15	Water balance analysis	A. Carmo Vaz / J. Rossouw SWECO
11:45	Basis for joint river basin agreement	A. Carmo Vaz SWECO
12:15	Stakeholder Participation	F. Haupt / C.Ott CDE/ESAPP
12:25	Discussion and recommendations	All
13:00	Lunch	

## Participants

Olinda Sousa (Chair)	DNA	Moz
Micaela Alexandre	DNA/GRI	Moz
Francisco Álvaro	DNA/GRI	Moz
Luis Loforte	DNA/PNDA	Moz
A. Ismael S...	DNA/DRH	Moz
Juliaõ Alferes	DNA/PNDA	Moz
Suzana Saranga	DNA/GRI	Moz
Custodio Vicente	DNA	Moz
Sérgio Bento Siteo	DNA	Moz
D. Sengo	DNA	Moz
Nelson Beete	DNA	Moz
Pedro Cambula	DNA/GRI	Moz
Rui Gonzales	GIC-CEDESA	Moz
Belarmino Chivambo	Ara-Sul	Moz
I ... (?)	Ara-Sul	Moz
Issufo Chutumia	Ara-Sul	Moz
Manuel Castiano	Ministério das Pescas	Moz
R. Nuringa Luis	Misau	Moz
Hafido Abacassamo	MICOA-DNAIA	Moz
Felicidade Munguambe	MICOA	Moz
Raphael Sangweni	MNRE-WRB	SL
Emelda Dlamini	MNRE-WRB	SL
Trevor Shongwe	MNRE-WRB	SL
D. Mnzebele	MNRE-WRB	SL
Eugene Simelane	SWADE	SL
Leonard Sive Ndlovu	Royal Swazi Sugar Corporation	SL
B. Amélia Macamo	Associação Regantes do M.	Moz
Magalhaes Miguel	CRA	Moz
José Carlos	Semoc	Moz
Aidate Mussagy	UEM	Moz
Samuel Chissico	Frutas Libombos ltd.	Moz
Dean van Rooyen	Frutas Libombos ltd.	Moz
Paulo G. Negrão	Citrinos do Umbeluzi	Moz
José L.	Massaca I, II	Moz
Enrique João	MOZAL	Moz
Dinis Soares	AGUAS DE MOCAMBIQUE	Moz
Peter van Niekerk	DWAF-RSA	RSA
Niel Van Wyk	DWAF-RSA	RSA
Jenny Pashkin	DWAF-RSA	RSA
JD Rossouw	BKS, Pretoria	RSA
A. Carmo Vaz	Consultec	Moz
Rikard Lidén	Sweco International	SW
Lennart Lundberg	Sweco International	SW
Nicolas Randin	SDC	CH
Frank Haupt	CDE/ESAPP	CH
Cordula Ott	CDE/ESAPP	CH

# Annex 5

## Organisation Diagram Implementation of JURBS

Source: SDC: PROJECT DOCUMENT ON CAPACITY BUILDING FOR THE NEW SADC WATER DIVISION AND SUPPORT TO THE IMPLEMENTATION OF THE REGIONAL STRATEGIC ACTION PLAN ON INTEGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT / ANNEX 1 / COMPONENT "B" – THE UMBELUZI RIVER BASIN INITIATIVE

### 1. MANAGEMENT ARRANGEMENT of JURBS

The schematic representation of the management arrangement is given in the Figure 5. The abbreviations carry the following meaning:

**JWC** Joint Water Commission between the Governments of Swaziland and Mozambique

**SADC-WD** SADC Water Division

**SDC** Swiss Agency for Development and Cooperation

**NDF** Nordic Development Fund

**JUBS** Joint Umbeluzi Basin Study

M&CP and CB The Management & Consultation Process and Capacity Building

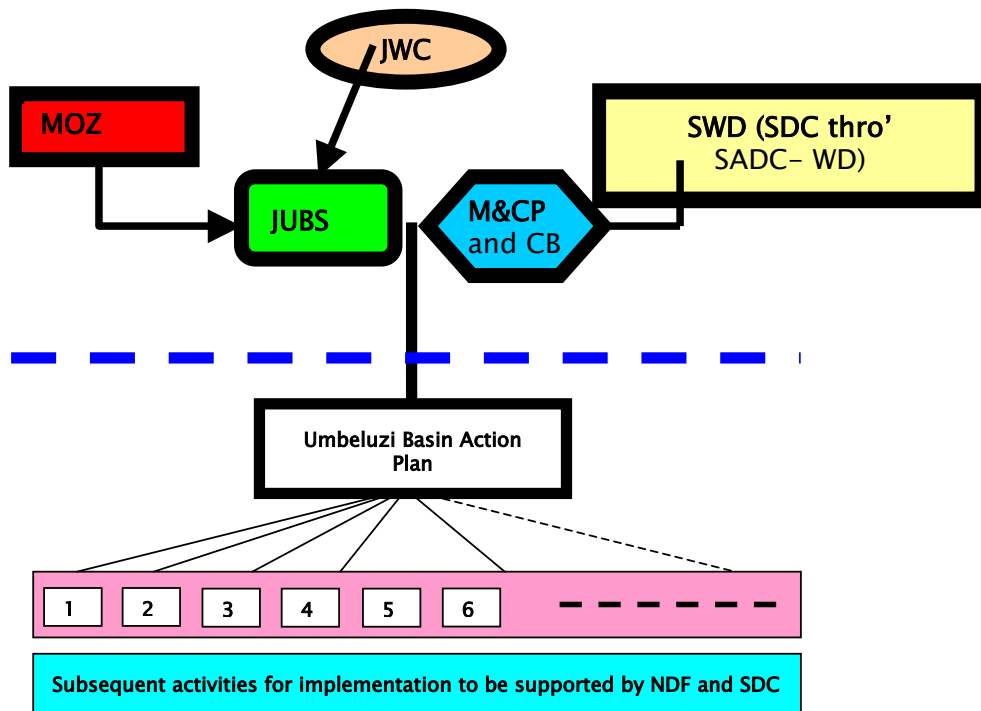


Figure 5 Project management arrangement (Component "B" of main Project Document)

## 2 IMPLEMENTATION STRATEGY of JURBS

The implementation strategy for the project is shown schematically in Figure 6:  
The Abbreviations carry the following meaning:

JWC	Joint Water Commission between the Government of Swaziland and Mozambique
SADC-WSCU SADC	Water Division
SDC	Swiss Agency for Development and Cooperation
NDF	Nordic Development Fund
TT	JWC Task Team for the Umbeluzi Basin Study
PDM	Programme Development Manager

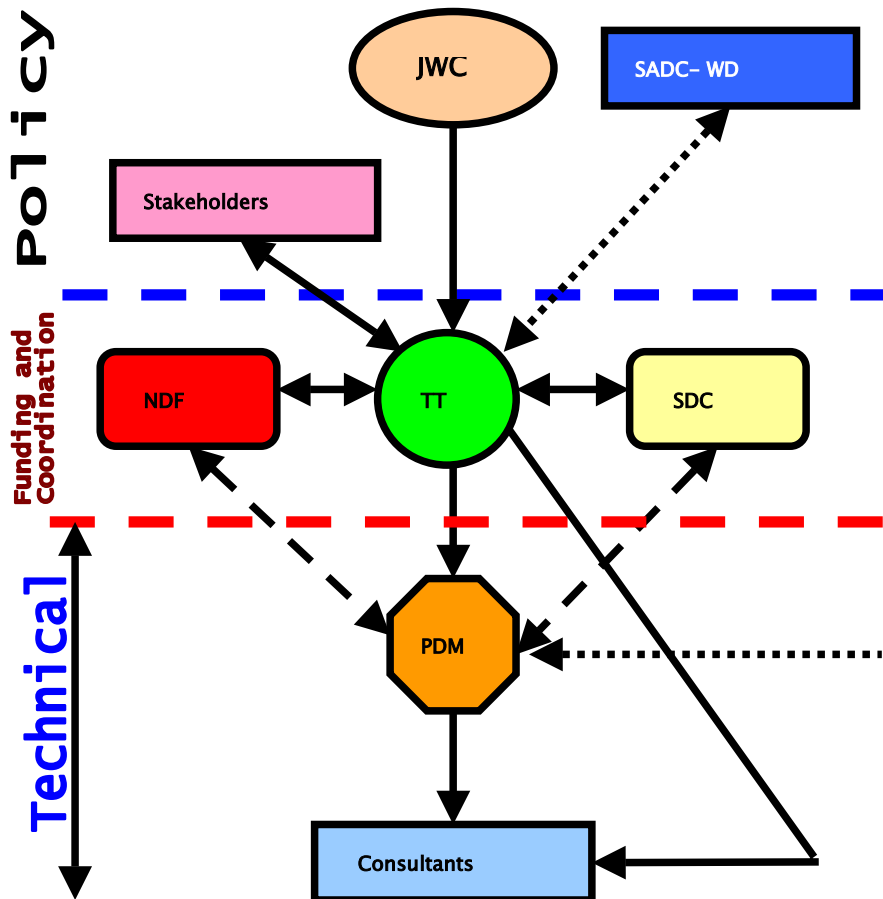


Figure 6 Project Implementation Strategy (Component "B" of main Project Document)

