

<hr/> <b>This News is brought to you by:</b> <hr/> <hr/> <b>THE SOUTHERN AFRICAN SOCIETY OF AQUATIC SCIENTISTS</b> <hr/>	
<b>JUNE 2004</b>	

**From the EXCO:**

**"Water Resources as Ecosystems: Scientists, Government and Society at the Crossroads " SASAqS CONFERENCE 2004 – Gauteng:** We are looking forward to the upcoming conference from 5 to 7 July. The programme promises to address cutting edge development in the field of water resources research and management.

**Annual General meeting 2004** – The AGM will be held on Monday 5 July 2004 from 17:30 at the Eskom Conference Centre. **Enclosed please** find the Minutes of the 2003 AGM held at UCT on 3 July 2003. Attached also find the preliminary agenda for the 2004 AGM. Please email any additions or apologies to Victor Wepener ([vw@na.rau.ac.za](mailto:vw@na.rau.ac.za)).

**ELECTRONIC MAILING FORMAT:** This newsletter is sent to all the registered SASAqS members. Due to a number of email servers refusing to accept mass mailings that contain address in the blind copy (BC:) field, we have been forced to add the addresses to the "TO" mailing field. Thus please excuse the long address list.

**LEADERSHIP NEWS LETTERS:** [Attached](#) also find a document containing the next instalments (Letters 4-10) in the excellent series of letters on CMA's by Mark Dent. Any queries regarding back issues or other comments can be sent to Mark Dent ([mark@netshare.co.za](mailto:mark@netshare.co.za)).

**RESEARCH –**

**SOUTH AFRICAN COUNCIL FOR NATURAL SCIENTIFIC PROFESSIONS  
PROPOSED NEW CHARGE-OUT RATES**

In order to amend the guideline professional fees, the new Natural Scientific Professions Act, 2003 (Act 27 of 2003) stipulates in article 35(1) & (2) that the Council must consult with all voluntary associations and registered persons. You are therefore invited to study the proposed schedule below and forward your comments to the Registrar ([samap@geoscience.org.za](mailto:samap@geoscience.org.za)) before 30 June 2004.

Definitions

In this Schedule the definitions are as follows:

**"Category A"**, in respect of a private consulting practice in natural sciences, shall mean a top practitioner whose expertise is nationally or internationally recognised and who provides advice at a level of specialisation where such advice is recognised as that of an expert;

**"Category B "**, in respect of a private consulting practice in natural sciences, shall mean a partner, a sole proprietor, a director, or a member who, jointly or severally with his other partners,

co-directors or co-members, bears the risk of the business, takes full responsibility for the liabilities of such practice, performs work of a conceptual nature in natural sciences and development, provides strategy guidance in planning and executing a project and/or carries responsibility for quality management pertaining to a project;

**"Category C"**, in respect of a private practice in natural sciences, shall mean all salaried professional and technical staff performing work of a natural scientific nature and who carry the direct technical responsibility for one or more specific activities related to a project. A person referred to in Category B may also fall in this category if such person performs work of a natural scientific nature at this level;

**"Category D"**, in respect of a private consulting practice in natural sciences, shall mean all other salaried technical staff with adequate expertise and relevant experience performing work of a natural scientific nature with direction and control provided by any person contemplated in Categories A or B or C.

#### RECOMMENDED RATES

CATEGORY OF STAFF	INDICATIVE RATE
A	R1 120,00 per hour
B	R 950,00 per hour
C	R 550,00 per hour
D	R435,00 per hour

#### **SCOPE – Call for participation**

The following letter was received from Osvaldo Sala, SCOPE Secretary-General indicating that a project on Biological measures of water quality: their relevance to present and future contaminants" (Bioindicators) has been initiated. Any interested people are requested to contact the SCOPE Secretariat directly.

*The SCOPE Executive Committee met in Montreal, Canada for its 48<sup>th</sup> meeting on May 1 and 2.*

*I am pleased to report that the project "Biological measures of water quality: their relevance to present and future contaminants" (Bioindicators) has been approved. It is developed in collaboration with SCOPE member IUGG/IAHS, and will follow SCOPE's RAP (Rapid Assessment Project) format.*

*I have the pleasure to invite you to contact the project leaders with your feedback on this project proposal. The planning meeting is scheduled to be held in February 2005; the workshop will be convened in November 2005. The resulting publication should be available in August of the following year.*

*The early planning and development phases of a project are vital and I am hereby requesting your help and input to ensure that it will meet with success. You are strongly encouraged to provide the names (and resumes) of national experts who could contribute to different phases of the project, either as members of the steering committee, or as designated authors of background papers, or as experts to be invited to*

*the workshop itself.*

*Suggestions should be emailed to  
Dr Osvaldo Sala c/o the SCOPE Secretariat ( [secretariat@icsu-scope.org](mailto:secretariat@icsu-scope.org))  
Dr Jake Peters ([nepeters@usgs.gov](mailto:nepeters@usgs.gov))*

*I thank you for your support and your input that will ensure that the Bioindicators project will continue the interdisciplinary and international focus of SCOPE on critical emerging environmental issues.*

*Yours sincerely,*

*Osvaldo Sala, SCOPE Secretary-General*

▶ **MEETINGS:**

1. SASAqS Annual Conference (5-8 July 2004) – Midrand, Gauteng (Lesley Stephenson, Wits University).
2. A one-day open conference on: **Environmental water requirements in non-perennial systems** - 4 August 2004. For more information and registration details refer to the attached document. If you are interested in participating in this conference, please complete the reply form and send it to [AvenantMF.sci@mail.uovs.ac.za](mailto:AvenantMF.sci@mail.uovs.ac.za) or fax it to 051-4012629. If you have any enquiries please contact Marinda Avenant at 051-4013939.

▶ **PUBLICATIONS:**

▶ **JOB OPPORTUNITIES/ COURSES / BURSARIES AND FELLOWSHIPS:**

**Please visit the Society website on [www.dwaf.gov.za/iwqs/sasaqs/](http://www.dwaf.gov.za/iwqs/sasaqs/) for updates on SASAqS matters.**

## MINUTES OF THE SOUTHERN AFRICAN SOCIETY OF AQUATIC SCIENTISTS

### 40<sup>TH</sup> ANNUAL GENERAL MEETING

HELD ON 3<sup>D</sup> JULY 2003, UNIVERSITY OF CAPE TOWN, WESTERN CAPE, SOUTH AFRICA

Attending: Stan Rodgers, Pat Reavell, Donovan Kotze, Darragh Woodford (non-member), Brian Marshall, Bill Rowston, Jackie King, , Denise Schael, Carel Oosthuizen, Arrie Klopper, Heather Malan, Carin van Ginkel, Fred Ellery, Rene Glen, Shirley Bethune, Alan Whitfield, Rob Hart, Nancy Rayner, Mike Coke, Victor Wepener, Digby Cyrus, Dirk Roux, Mike Silberbauer, Wynand Vlok.

**Apologies: Kevin Rogers, Jay O’Keeffe, Johan Grobbelaar, Diks Madikizela, Janine Adams, Barbara Curtis, Mark Chutter, Mick Angliss, Tsepo Lepono, Phumelele Gama, Paulette Bloomer, Christa Thirion, Klaudia Schachtschneider, Stef de Wet, Leon Vivier, Jim Cambray, Harold Champion, Brian Davies, Jenny Day, Chris Dickens, Mark Graham, Niel Malan, Nikite Muller, Rob Palmer, Tally Palmer, Braam Pieterse, Kevin Roberts.**

#### ACTION

#### **1 WELCOME**

- 1.1 Those attending were welcomed by Digby Cyrus in his capacity as Vice-president since Kevin Rogers was not able to attend the conference. All other apologies were noted.

#### **2 ADDITIONS TO THE AGENDA**

- 2.1 Co-hosting of the SIL conference in 2010

#### **3 MINUTES OF THE PREVIOUS AGENDA**

Names spelled incorrectly were changed. Minutes accepted.

#### **4 MATTERS ARISING FROM THE MINUTES OF THE 39<sup>TH</sup> MEETING HELD IN BLOEMFONTEIN, FREE STATE**

None

#### **5 PRESIDENTS REPORT**

The changing of the guard from a Kwa-Zulu Natal based Council to one in Gauteng was not really completed until early in 2003 and, as the Treasurer reports, financial statements are still being reconciled.

The new Council continues to focus on promoting SASAqS as a learned society with three main activities/components (its members, the Journal and conferences) through which to meet its purpose. A rationale and plans for our term of office were presented to the 2002 meeting. Discussion supported both our analysis and plans. All have been implemented but it is too early to assess results.

#### **Members**

Our first thrust was to consolidate membership and provide a platform for growth by building a sense of belonging to the Society. The Journal and conferences were to be used to promote this but so too was the newsletter initiated by the Secretary. We look forward to hearing members' responses to the newsletter.

The Society medals honour its top performers and promote a sense of identity for the membership. Nominations were received early this year and, after a full process of review, three medals will be awarded to SASAQS members who have made significant contributions to aquatic management and science.

### **The Journal**

Putting the African Journal of Aquatic Science on the map was a major achievement of the previous council but the Journal's position is far from consolidated, let alone secure. Our Editor has once again performed a herculean task and has an impressive line up of manuscripts waiting for review and publication.

The financial aspects of the Journal are of most concern. It consumes all membership subscriptions and a bit more, leaving conferences as our only source of income. The executive examined the relationship between our non-profit Society and the commercial publisher (NISC). The Society's contribution to sustaining the Journal is disproportionate. NISC has undertaken to improve the profitability of the Journal but repeated requests from the President for a clear business plan to achieve this, have yielded little. The initial contract with NISC expires in 2004. We will carefully examine progress at this stage before deliberating hard on the terms of any future contract and its implications for the Society.

### **Conferences**

We wish to confirm that conferences need to achieve at least three aims for the Society:

- Provide a stimulating intellectual experience, which advances our science.
- Raise the profile of the Society in the broader social system.
- Raise funds with which we can promote the Society and serve its members.

These aims were discussed with the organisers of the 2003 conference who agreed to consider them carefully.

Most of the Executive are members of the organizing committee for the 2004 conference and are dedicated to meeting these aims. The Executive is concerned about the profile of the Society in the broader social system and wishes to focus on this aspect in particular.

Members of our Society have been instrumental in achieving the most innovative Water Resource management legislation in the world and they have also developed the environmental flow technology to support it. In doing this we developed a well deserved reputation as a group of scientists who engaged both their science and its application in a ground breaking manner. However, now that the country, and DWAF in particular, are in the process of implementing this new legislation some chinks seem to be developing in the armour. More and more frequently we hear comments about how scientists aren't delivering and how managers are only paying lip service to the environmental aspects of the legislation and so on. We, as a Society, need to take the responsibility for ensuring this goes no further and we re-establish healthy relations with the implementers of the Water Act.

The Executive and 2004 conference organisers are of the opinion that a central issue is that implementation is fundamentally a social process. While we have provided excellent tools for the technical aspects, there is an urgent need to develop understanding and tools in the more social processes of implementation. The 2004 conference will therefore

have as a main theme “Understanding and integrating social and ecological systems in implementation of the Reserve”. The conference will be a working conference to bring parties together. Discussions are underway to encourage attendance by a range of important parties and to ensure a number of international leaders in the field address the conference. More details will unfold during the year.

Kevin Rogers  
President  
3 July 2003

The President’s report was accepted with thanks.

## **6      TREASURERS REPORT ASSETS OF THE SOCIETY**

Although the treasurer’s report usually focuses on the state of society finances, the real assets of a learned society is of a social nature. The Executive Council has identified our members, conferences and journal as the key issues that determine whether we are a successful society. I would like to reflect briefly on these non-financial assets:

### ***SASaQs members***

At present, the society has 254 members on its database. Of these members, 51% (129) have paid their subscription fees for 2002 to date. Of those that have not paid yet, a significant number are more than one year in arrears. During this term of office, an effort will be made to clear the database from names that should, for whatever reason, not be there. An early estimate is that the number of members that the society can count on is in the vicinity of 180.

SASaQs has three life members, namely Prof BR Allanson, Prof AD Harrison and Mr RI Dick.

### **SASaQs journal**

The launch of our new-look journal (*African Journal of Aquatic Science*) and outsourcing of its production and distribution to a professional publisher (NISC) has introduced some new bookkeeping rules. For all practical purposes, only ordinary members have remained on the society’s membership list, with institutional/corporate subscribers to the journal being serviced by NISC directly. These changes have resulted in a fair amount of misunderstanding and confusion during the past year. However, most of the problems have been effectively resolved. In this regard, thanks are due to NISC for their professionalism and for contributing to a good working relationship between them and the Honorary Treasurer.

This is the second and final year of the experimental phase of the new journal. At the end of this year we should be in a position to, jointly with NISC, assess the long-term feasibility of the journal and to make recommendations regarding associated costing structures. An issue of concern is that sales of the journal to SASaQs members fell from

235 in 2000 to 163 in 2001 and now we only have 129 paid up society members for 2002. This drop in subscriptions is likely to have a negative effect on the production cost per unit of the journal.

#### SASaQs conferences

At present, the society's financial liabilities marginally exceed its income. A future scenario is that the society may rely on profits from conferences to keep the books balanced. The primary objective of our conferences is to have good scientific and social programmes, and the importance of these events to instil a sense of belonging amongst members and the broader aquatic sciences community should always be recognised. However, the income generation potential of a conference far exceeds that of an annual increase of membership fees. As an example, a R 20.00 increase in subscription fees would realize R 3 600.00 of addition income (assuming 180 paying members). Even if only every third conference generates a reasonable profit, and the conferences in-between at least break even, we should be able to keep the auditor happy. A possible strategy to cater for the above scenario is to plan conferences in such a way as to have the occasional bigger event, perhaps around a specific theme(s) and with stronger international participation.

#### SUBSCRIPTION FEES

Ordinary members	Number of members (June 2003)	Fees for 2002 & 2003	Cost of journal in 2002 per member
South Africa	215	R 175.00	R 150.00
Rest of Africa	27	R 175.00	R 250.00*
Botswana	4		
Kenia	1		
Mozambique	1		
Namibia	7		
Uganda	1		
West Africa	1		
Zambia	4		
Zimbabwe	8		
Overseas	12	US\$ 40.00	US\$ 60.00
Austria	4		
Belgium	2		
Iceland	1		
Sri Lanka	1		
UK	2		
USA	2		

\* Including R100 for mailing (TNT)

# Subject to any increases introduced by NISC

#### APPOINTMENT OF AUDITOR

**T.G. Allison & Company** has accepted their engagement as auditors of SASaQs for the current term of office. They have completed the audit for the year ending at 31 December 2002 and their audit opinion regarding our financial statements is: *"In our opinion, the financial statements fairly present, in all material respects, the financial*

position of the society at 31 December 2002 and the results of its operations for the year that ended in the manner required by the Fund Raising Act.”

**FINANCIAL STATEMENTS**

<b>BALANCE SHEET AT 31 DECEMBER 2002</b>					
			<b>Notes</b>	<b>2002</b>	<b>2001</b>
				<b>R</b>	<b>R</b>
<b>ASSETS</b>					
<b>Non-current assets</b>					
Investments			1.	101 798	219 774
<b>Current assets</b>					
Cash and cash equivalents				69 417	18 083
Sundry loans			2.	44 417	3 083
				25 000	15 000
<b>Total assets</b>				<b>171 215</b>	<b>237 857</b>
<b>Capital and reserves</b>					
Accumulated funds				166 565	199 263
<b>Current liabilities</b>					
Creditors				4 650	38 594
Accounts payable				3 250	37 340
				1 400	1 254
<b>Total equity and liabilities</b>				<b>171 215</b>	<b>237 857</b>

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Profit on disposal of asset	3.	800	-
<b>DEDUCT: EXPENSES</b>		63 726	60 202
Accounting fees		6 584	3 588
Advertising and promotions	4.	4 500	-
Audit fees		1 030	1 140
Bank charges		654	437
Computer expenses		100	57
Honorarium	5.	3 000	3 000
Journal publication costs		44 014	51 140
Printing and stationery		809	-
Postage, telephone and courier		2 735	840
Subscriptions		300	-
		(32 698)	

**Notes:**

1. Nedbank Money Market Investment Account
2. R 15 000 to the Environmental Flows Conference and R 10 000 to the SASAqS Joint 2002 Conference
3. Epson printer that belonged to Society
4. Cost of booth at 2002 Environmental Flows Conference
5. Editor

**Dirk Roux**

Honorary Treasurer

**3 July 2003**

The Treasurers report was accepted with thanks.

**7 EDITORS REPORT**

The Editor's office has become increasingly busy over the past year. Two issues of the African Journal of Aquatic Science were published – volumes 27(1) and 27(2) came out in July and December 2002 respectively, comprising 30 pages more than those published in 2001. It is currently hoped that the first issue for this year [Vol 28(1)] will be ready in time for the Cape Town conference, and already there are two manuscripts ready for layout for the next issue, plus a further seven undergoing their final check before layout. That makes almost a full issue already. Besides these, there are a further 37 papers currently under review, and so the journal looks well-placed to meet the demands of the year ahead.

We lost three papers during the year, from Russia, Nigeria and Namibia, as a direct consequence of the imposition of page charges. However, in view of the number that have not been so affected, the journal is not significantly affected by this situation. A

number of our potential authors are, however, not supported by University or Agency funding and are thus probably not submitting their manuscripts to us.

Be that as it may, it looks as if the journal is almost ready to publish three issues per year, instead of two. But, for the time being, we will simply make each issue a little fatter.

My list of refereeing contacts now includes approximately 440 names from all around the globe, so we have an international circle of supporters, besides our South African membership. In addition, I latch onto every overseas contact I come across who has any connection with research in African waters, hoping to expand our range of potential authors.

The journal is attracting an increasing number of contributions from beyond southern Africa. Volume 26 had one from Malawi, Volume 27 had one each from Uganda and Egypt, and Volume 27(1) will have one each from Cameroon and Kenya. Amongst the manuscripts 'waiting in the wings' are papers from Malawi, Ivory Coast, Nigeria, Uganda, Mozambique, Benin, Kenya and Tanzania. Whilst it must be said that some of these require a good deal of language-editing as well as some scientific method improvement, I feel that it is incumbent upon our society to foster the expansion of our journal into central and north Africa by providing all the encouragement that we are able to these authors.

Our first Editorial Board reached the end of their two-year term of office during the past year. A number of them offered to stay on for a second term, but three decided to call it a day. Consequently two new members [Dr Bryan Davies from South Africa and Dr Frank Kansiime from Uganda] were approached and have agreed to join the Board. We value the widespread international representation we have on our Editorial Board.

NISC, our publishers, have co-opted the services of an artist who re-draws a number of the diagrams submitted for publication, thus ensuring a uniformly smart appearance to the journal. I am at present trying to introduce the use of a standardised "Africa" map so as to place each paper's 'study area' in its continental context for readers. NISC are also looking to get our contents and abstracts 'on-line', which will go a long way to publicising our journal amongst international readers.

In my impression, the future of the journal looks good.

**Mike Coke**

Editor, African Journal of Aquatic Science.

3 July 2003

The Editors Report was accepted with thanks.

The membership was informed of the meeting held earlier the afternoon with Mrs. Margaret Crampton of NISC. The journal has gone electronic with access via Ingenta. NISC also indicated that there would be no increase in the journal costs, and therefore increased journal fees for the foreseeable future.

**SASAqS News – electronic newsletter**

**ACTION**

Victor Wepener mentioned that the electronic newsletter will continued to be sent out on a quarterly basis. He requested society members to specifically submit items related to recent publications, job opportunities and bursaries for dissemination to Society members.

**8 COUNTRY REPRESENTATIVES' REPORTS**

Verbal reports were given by two representatives:

Both Brian Marshall (Zimbabwe) and Shirley Bethune (Namibia) stated that the SASAqS membership in their respective countries was small. Zimbabwe had particular problems in maintaining active members.

Efforts will be made to identify potential country representatives in other African countries.

**EXCO**

**9 CONFERENCES**

2004 – Gauteng will host the conference as the outgoing current EXCO.

**GAUTENG  
EXCO**

2005 – The Eastern Cape members in Grahamstown will be requested to consider hosting the conference in conjunction with the ZSSA. It will coincide with the 100 year anniversary of the Zoology Department at Rhodes University

**GAUTENG  
EXCO**

**10**

**AWARDS**

Digby Cyrus announced that the Awards Committee that was constituted in 2002 is proud to announce that one gold and two silver medals would be awarded this year during the banquet. The gold medal recipient is Prof Brian Davies, and the silver medal recipients are Bill Rowston and Steve Mitchell.

**11 HONORARIA**

No changes to the current structure

**11 GENERAL**

*11.1 Co-hosting of the 2010 SIL conference*

Johan Grobbelaar requested the SASAqS membership to officially approve and sanction the 2010 SIL-bid for South Africa. He would go ahead and indicate South Africa's willingness to host the 2010 SIL conference. The members were unanimous in their support of the proposal. It was requested that the SIL conference point remain a standing item on the AGM agenda

**12 NEXT MEETING**

AGM to be held during the Gauteng Conference in 2004

Signed \_\_\_\_\_

Secretary (V. Wepener)

\_\_\_\_\_

Date

Accepted \_\_\_\_\_

President (K. Rogers)

\_\_\_\_\_

Date

# **Southern African Society of Aquatic Scientists**

## **41<sup>st</sup> Annual General Meeting**

**ESKOM Conference Centre, Gauteng, South Africa  
7<sup>th</sup> July 2004**

### **Agenda**

1. Welcome
2. Apologies
3. Additions to the agenda
  - 3.1 SASAqS EXCO 2005-2007
4. Minutes of the 40<sup>th</sup> meeting held at UCT, Bloemfontein on 4 July 2003.
5. Matters arising from the minutes
  - 5.1 SIL Conference 2010
6. Presidents Report
7. Treasurers Report
8. Editors Report
9. Country representatives reports
10. Congresses
  - 2004 – Gauteng
  - 2005 – Eastern Cape?
  - 2006 - ???
  - 2007 - ????
11. Awards
12. Honoraria
13. Bye-laws
14. General

Mark Dent [mark@netshare.co.za](mailto:mark@netshare.co.za)

### Leadership Letter 3

#### Key strategic questions for CMA leaders

The organisational behaviour of the stakeholders who make up the Catchment Management Agencies will be key to the healthy functioning of these institutions. Organisational health in the CMAs and their supporting structures is vital for vigorous, equitable social processes leading to real delivery on the triple bottom line, which is promised in the 1998 NWA. Good leadership is imperative to develop such health in the organisations which will give effect to the 1998 NWA.

One of the central functions of these CMA stakeholder leaders will be to offer hope and direction to the process by developing wise questions. Below are 10 key strategic questions that CMA leaders will inevitably develop. All these questions will be addressed in one or more Leadership Letters.

1. What will be the likely role of the SA Local Government Association (SALGA) given their muscle, their Integrated Development Plans (IDP) imperatives and their need to deliver to the rural and peri-urban poor ?
2. What will be the effect of the Equity imperative as a driver of change in organisational behaviour within CMAs as they struggle with the social process of allocation ?
3. Will DWAF succumb to the temptation to intervene on behalf of selected interest groups or will DWAF let the water allocation process within the CMAs take its course, subject to the 3 basic tenets of the 1998 NWA namely, equitable allocation; environmental sustainability; economic efficiency ?
4. Will the CMA stakeholders focus on their rights or on their interests, with respect to water allocation? How will their choice affect their behaviour and the outcomes of the allocation process?
5. Can CMA stakeholders make wise management decisions if they do not have integrated scientific systems to estimate what the consequences of actions might be ?
6. Where will the integration of information and modelling systems happen ; in the CMAs , in DWAF or elsewhere ?
7. What will be the effect on funding of consultant work when CMA revenue streams are short, visible and constrained because stakeholders are paying themselves for scientific input and analysis ?
8. Given the paucity of scientific skills, where will CMA stakeholders obtain their scientific expertise to advise on the complexities and uncertainties involved in integrated water resources management and allocation ?
9. How will stakeholders respond to the possibility of other stakeholders gaining knowledge power by utilising national cross cutting affiliations and allegiances within their own interest groups eg. mining; forestry; sugar; SALGA ?

Will CMA stakeholders be innovative enough to see beyond delivering "water streams" to instead delivering "benefit streams" to the poor?

## **Leadership Letter 4**

### **Leadership of CMAs recognise a radical redistribution of knowledge power.**

Leaders appreciate the power of knowledge. Leaders also recognise the central role that knowledge power plays in relationships. A key leadership function is therefore to detect and interpret the significance of shifts in knowledge power. Scientific knowledge of water systems will be a powerful factor in the social process of allocation. There have been radical shifts in water knowledge power in the past 25 years in South Africa. These shifts provide new challenges for leaders and can make or break the successful implementation of the 1998 NWA.

Twenty-five years ago most of the water resources science and management knowledge resided in state departments. Such a knowledge power setting was adequate to cope with the "get more water" and the "use water more efficiently" eras.

Leaders are conscious that today a significant intellect resides with stakeholder groupings who are in contention for water resources. Witness for example the emergence of water resources expertise in the SA Local Government Association (SALGA) and in the forestry, sugar, mining and organised irrigation sectors. This shift in the balance of knowledge power away from the state holds important strategic implications. Water stakeholder groupings can also gain knowledge power by employing consulting firms to advise them.

The 1998 National Water Act (NWA) makes provision for the state to share the responsibility for managing water resources with Catchment Management Agencies (CMAs). The exact nature of representation on CMAs as well as their structure, functions and responsibilities are currently being finalised. The 1998 NWA stipulates fair representation for all sectors and so representation per se is no longer strategically significant for the exercising of water resources bargaining power by stakeholders.

Equity in representation is a given and one that is easy to audit. Knowledge power is not constrained by law and it is the key factor that will affect the way that CMAs function. A simple analogy is that each football team has 11 players (this is the representation). The way that they play the game (knowledge & skills) determines who wins and who loses. Knowledge power will have the same effect in the water game. Leaders know this and in all the major stakeholder groupings, leaders are moving to resource themselves with top scientific and other advisors. The evidence of this is plain for all to see.

Leaders understand that what is highly significant for the leadership of the industry is the manner in which these CMAs will be informed on the science and systems of the water which they will be managing in co-operation with the state. Leaders understand that knowledge power will be crucial in the social process of allocation. The forces on and responses by the knowledge groupings who advise the stakeholder leadership are going to be vital in determining the strategic direction of water resources knowledge development in southern Africa.

It is important to pause for a moment to consider these forces and likely responses by the top level scientific consultant groups who will inevitably emerge to advise the leadership of various stakeholder groupings. It is here that the water, computer, business and social science worlds will be integrated by leaders to form the new paradigms, opportunities and knowledge crucibles that will challenge the interaction skills of water leaders.

It is inevitable that industries such as the forestry, sugar, irrigation, mining and conservation to name a few will channel their efforts through top class cadres of water science consultants who will specialise in the interests of their members. It is interesting to note that a number of Irrigation Water User Associations have e-mail addresses which indicate that multi-national accounting firms are advising them. The previously advantaged have already legitimately and wisely strengthened themselves with knowledge power.

Where does this leave the previously disadvantaged?

The emergence of SALGA and their knowledge management initiatives is a key example of new and powerful players in the game. SALGA will inevitably provide scientific knowledge power for the previously disadvantaged.

The aforementioned developments which sector water leaders have already set in motion will create knowledge power ties which cut across WMA boundaries. Many of these industries span large geographic areas. SALGA for example covers the entire RSA. These boundary crossing ties will create enormous de facto forces for inter-operability standards within and between industries and CMA on water data, information and knowledge management systems.

Leadership's wise adoption of such inter-operability standards (eg. ArcHydro data structures) will free up time to enable the added complexity of the water issues to be dealt with adequately. Driven by the twin forces of time and complexity a key leadership function will be to search for areas of duplication and unnecessary non-conformity to inter-operability standards in water information generation systems.

A key positive arising from the developments outlined above will be greatly elevated levels of intellectual input into water allocation decisions as only the best in each disciplinary area will suffice.

As a result of the abovementioned shift in knowledge power, a key leadership action will inevitably be to find such information generation and management systems on the international market, where they do exist, in powerful and affordable form.

## Leadership Letter 5

### Leaders know that teams become great when they stick together long enough to learn together.

Leaders and followers know that Integrated Water Resources Management (IWRM) is complex. There is simply no getting away from this. It is complex in scientific terms, in economic terms and in social terms. Groups of people who are in competition over a limited resource such as water can behave wisely in such complex situations BUT it takes time.

One hears the constant refrain that :-

- a) these things takes time;
- b) we can't rush the process;
- c) Rome wasn't built in a day;
- d) we have to be patient;
- e) we need to be careful and do things right.

Wise leaders know that all the above statements are true BUT they also know that:-

- a) if the groups are constantly broken up;
- b) if the institutional memory that is generated is periodically erased;
- c) if the groups are not allowed to wrestle with issues for long enough to develop joint and systemic understanding;
- d) if the pressure is always demanding a quick fix;
- e) if the groups are constantly being reconstituted and having to start from scratch;
- f) if groups do not engage for long enough to discover the joy of healthy intellectual conflict;
- g) if groups are never allowed the time to discover the delicate balance between fostering creativity and asserting control;
- h) if the groups are never allowed to stay together for long enough to learn from their mistakes ;
- i) if a full cycle of seasons, floods and droughts is not allowed to pass before the groups are broken up;
- j) if the integration process is constantly set back to square one;

THEN learning and improvement will never take place and the complex IWRM challenge will be lost. Unwise and inequitable allocation will result. Sustainability will only be a vain dream and economic efficiency will elude all, certainly in the long run. The 1998 NWA will NOT be implemented as envisaged and delivery on the triple bottom line will not happen.

Much attention in these leadership letters has focussed on the political, legal, economic, social and technological forces that are forming the crucible in which these groups will have to stay engaged. In future :-

- a) the client (CMA stakeholders) will be the same ;
- b) the issues (IWRM) will be generically the same;
- c) the scientific, economic, social and legal advisors to stakeholders will be the same.

The crucible will not let the players escape. Revenue streams from the stakeholders' pockets to the advisors will be short, limited and transparent. Good leaders will break the past habit of periodically resetting the integration process back to square one. IWRM will be achievable.

## **Leadership Letter 6**

### **Real leaders face the realities of interdependence in CMAs**

Managers strive to develop "terms of reference" which enable them to work within a "closed" system. In contrast, 21st century leaders understand the significance and imperative of the triple bottom line and work innovatively within open, interdependent systems to achieve it.

In the past the "name of the game" in consulting, was to look at the water resources problem and to try and define it into a "terms of reference" document which suited ones own skills. Anything that fell outside of the "terms of reference" was then carefully ignored in the name of "focus" and getting the job done "on time and within budget". All this was considered good business practice under the old paradigms. In part this IS still good business.

HOWEVER, leaders now understand that if taken too far this is a guaranteed recipe for fragmentation, lack of integration, confrontation and high transaction costs as groups fight to either use or pollute their allocation of the water resource. In this business environment, the competitive bidding processes for water resources studies wasted enormous resources (both people & finance). The results are clear for all to see when one looks at the state of our rivers and our lack of progress on delivering an equitable and environmentally sustainable situation. The excellent 1998 NWA was designed to change this situation BUT it is 6 years old and the first CMA has not begun to function. World War II was won in less time.

Driven, inter alia, by a growing consciousness of and intolerance for externalities, the 1998 NWA demands that water be managed in an integrated fashion. The "game" has changed fundamentally. The issues which previously lay "beyond the terms of reference" are now squarely on the table. In the future the call will be to "connect it". Leadership needs to grasp this imperative and drive its consequences through every part of the people and technology systems involved.

One of the most important implications of the 1998 NWA is that interdependent problems can no longer be simplified to a uni-disciplinary dimension by "bounding" them in the terms of reference for the job. This is evident from a study of the following extracts from the Policy White Paper (DWA&F, 1997).

- \* The objective in relation to our neighbors is the same as it is within our borders , to ensure that we adjust to the pressures and demands of the future through co-operation, not conflict, in harmony with the needs of our common development goals and the protection of the environment. Pg 5
- \* The Constitution moves us away from the old approach that pitted environmental goals against economic and development ones and requires, instead, that they be integrated. Pg 7
- \* The Constitution provides that all spheres of Government and all organs of State must co-operate with each other in mutual trust and good faith by co-ordinating their actions and legislation with each other. Co-operative governance and integration are not only policy matters - they are constitutionally mandated. Pg 7
- \* Water resources cannot be managed in isolation from other natural resources. Pg 9
- \* The complexity of all these interactions calls for a complex and integrated approach to water management. Pg 9

Previously we were primarily concerned about what happened inside compartments into which we had divided the problem, for our own convenience. We truncated concern at the artificial boundaries set by the terms of reference. Leaders now recognize the shortcomings of this approach. They take cognizance of what happens at the interface as the results of each process are passed on to the interdependent components of the overall system. Understanding and engaging the dynamics of the interdependencies is at the core of integration. Wise leaders will rise to this challenge and find modeling systems which assist them. Managers will shrink from it and delude themselves with the illusion of control !!

## Letter 8

### Leaders not lawyers step forward for interest based bargaining in CMAs

Leaders know that water management in the Southern African Development Community (SADC) region is clearly in the era of demand management. Allocation amongst competing needs (rain fed or river fed, quality or quantity, human or environmental) is a core issue. Getting more water (from rivers & dams) and using it more efficiently is also important but the key issue is wise and equitable allocation (of the whole water cycle). Allocation is a social process which can take on the attributes of either rights-based bargaining process OR an interest-based bargaining process. Leaders know the wisdom of focussing on interests, lawyers make a rich living wrestling with the mechanics of rights.

It is important to pause for a moment to describe these two processes, which are well documented in the industrial stakeholder relations literature and increasingly in the natural resources management literature. The behaviour of the parties in each is markedly different. This has implications for the human, financial, legal and technological resources which are utilised by the process. All of these resources are integrated and controlled by the behaviour of the parties.

Astute leaders will strive to ensure that the interest-based process is dominant. The first impulsive choice of many will be the rights-based bargaining paradigm. A glance at the contrasted characteristics of these two processes will reveal the wisdom of developing leaders rather than paying lawyers.

Rights Based Bargaining (lawyers)

Interest Based Bargaining (leaders)

- appropriate when only two parties and uncertainty is low
- appropriate when more parties and uncertainty is high
- adversarial process
- co-operative process
- stronger seeks to dominate the weaker
- stronger seeks to empower the weaker
- no sharing of information
- open sharing of information
- large scale duplication of effort
- productivity enhanced through sharing effort
- difficult to reach decisions in uncertain environments
- easier to reach decisions in uncertain environments
- expensive in terms of intellectual resources
- far better use of intellectual resources
- state will have much difficulty ensuring fair deal for the disadvantaged
- state can leverage (enlist) voluntary help of stakeholders to empower disadvantaged
- poaching of skills encouraged
- reduced incentive to poach skills

The DWA&F National Policy Document (DWA&F, 1997), the new Water Law Principles , the National Water Act (DWA&F, 1998) and the DWA&F Strategic Plan March 2000 (DWA&F, 2000) all imply strongly that the interest-based paradigm will be encouraged to dominate the process of bargaining for water allocation.

To place this in more concrete terms, I quote below from a recent talk on CMAs to WISA by a high ranking official of the DWAF . The speaker was referring to key water resource management strategies needed to confront the challenges when the following were listed :-

- a.. CMA must not become an additional level of bureaucracy and must demonstrate its added value
- b.. CMA must actively engage with marginalised communities (pro-poor!)
- a.. Planning consensus as to water demands ( My note: CMA stakeholders reach consensus and then central government DWAF confirms the allocation whilst always having the right of veto )

b.. Co-operative governance approach.

Interest based bargaining is imperative for all the above as is emphasised in the authoritative publication "IWRM Toolkit" by the Global Water Partnership (GWP) Other Government Departments present the same message as the DWA&F with regard to integration and co-operative governance. In its discussion document which explores "Environmental Management Co-operation Agreements" the Department of Environment Affairs and Tourism (DEA&T, 2000) stresses the importance of co-operative governance. All these documents make it clear that the governance of water is going to move away from command and control by the DWA&F alone to co-operative governance between all sectors, public and private. This in no way detracts from the power of central Government (inter-alia through DWA&F) to have the final say. It does however, empower the central Government to focus on those key areas which really matter in terms of identified national need and therein lies the challenge.

Leadership development is crucial for the co-operative governance which is one of the key Presidential imperatives.

## Leadership Letter 10

### Information, options, decisions and conflict resolution in CMAs :- the work of real leaders.

Astute leaders in all forms of business and public life recognise the value of systems models. Wise leaders in the water industry also develop relational links with knowledgeable persons who guide them in their philosophical and scientific approach to water systems models. The learning which emerges for such leaders has a profound impact on how they approach water modelling systems. For example one key insight which such leaders gain is described in the paragraphs below.

It is commonly stated that models are useful for generating information about the water resources systems so that options can be considered and decisions taken to manage the resource and resolve conflict.

This description of the issues was adequate for the eras of "getting more water supplies" and of "using water more efficiently" Turton (1999). However, we are now in the era of "equitable allocation".

Allocation is a social process and therefore fundamental paradigm changes take place in the process and the modelling technology and modus operandi is affected directly. Good leaders know that the words information, options, decisions and resolution now require qualification as listed below :-

- credible information; trusted information; shared understanding of information
- sensible options; innovative options
- shared understanding of consequences of decisions; acceptable decisions; wise decisions
- equitable resolution; - peaceful resolution; lasting resolution; timely resolution

A key questions that astute leaders ask, is, "How are credibility, trust, shared understanding, sensibility, acceptability, wisdom, equity and peace achieved?"

Wise leaders understand that the processes which yield these types of information, options, decisions and resolutions are clearly not ones based on creating information through uni-disciplinary, uni-organisational models and unilaterally disseminating the information with little prospect of receiving and responding to feedback.

Astute leaders understand the value of process. They know that successful processes will be :-

- a) processes which offers regular, affordable and meaningful communication amongst all stakeholder representatives and their top level scientific consultants;
- b) processes which are flexible and iterative;
- c) processes which increasingly reveal more information on the system dynamics;
- d) processes which are open and transparent;
- e) processes which enable implicit assumptions and mental models to be made explicit;
- f) processes which foster generative leadership (Senge, 1990) and adaptive management;
- g) processes which will incorporate and reflect the inputs of all stakeholders;
- h) processes which contribute to and retain institutional memory;
- i) processes which will involve a form of integrated systems simulation modelling which can function in a data poor environment;
- j) processes which overcome the barriers to communication between stakeholders which arise from geographic, disciplinary and organisational separation.

Implicit in all these processes is a requirement to develop leadership skills and technology to enable the phenomena of :-

- a) inference,
- b) connectivity,
- c) credibility,
- d) trust,

- e) assumptions,
- f) perceptions,
- g) relationships and
- h) co-ordination

to flourish.

All these phenomena and especially that of co-ordination between groups require extensive practice to manage effectively. Well-designed information systems, especially those which contain information generation software (models), require practice and feedback in their development and wise application. Good leaders know this.

A key leadership challenge is therefore to develop the "process practice fields" on which stakeholders can interact robustly in pursuit of better water knowledge generation and management in southern Africa ? The South African Local Governments Association (SALGA) is one organisation which is showing truly innovative leadership in this respect with its knowledge management; organisational learning and cities network initiatives which inevitably will assist their integrated development plans (IDPs) and their role in the CMAs.