

Water Research Fund for Southern Africa (WARFSA)

Project evaluation

Hartmut Krugmann

**Department for Natural
Resources and the
Environment**

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Sida Evaluation 02/02

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Environment**

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Executive summary

The project

The idea of establishing a Water Research Fund for Southern Africa (WARFSA) emerged out of the WaterNet initiative, a regional network for education, training and research in the SADC region, established in 1997. Leading WaterNet representatives approached Sida for support. Sida responded positively because the idea was consistent with the aims of the Swedish Initiative for Support of Sustainable Management of Water Resources in Southern Africa, and for other reasons.

As a first step, Sida funded a project definition workshop held in March 1998 in Harare. Subsequently, the Harare-based regional Institute for Water and Sanitation Development (IWSD) prepared a project proposal which was approved by Sida. A funding agreement for SEK 9,000,000 (approximately \$1 million US) over three years was signed between Sida and IWSD on 26 February 1999. WARFSA commenced operation soon after, with its first Research Board meeting convened 8–9 March 1999.

The development objective of WARFSA, as stated in the WARFSA research proposal, is to contribute to the sustainable development and management of water resources in the SADC region in order to ensure the availability of water for social and economic development. The specific objectives of WARFSA are:

- i) to promote and facilitate the implementation of multidisciplinary research projects in integrated water resources management in the region;
- ii) to promote the utilisation of research results for decision-making aimed at ensuring sustainable development of water resources in the region; and
- iii) to encourage research that leads to better use of precipitation to increase land productivity or availability of water for domestic use.

The expected project outputs for the initial three-year period are to:

- i) fund at least 20 research projects from the SADC countries;
- ii) train at least 48 researchers in research proposal development;
- iii) to make research results available and accessible to use in decision-making; and
- iv) to publish and disseminate research results to relevant individuals and institutions.

The evaluation

The general objective of this evaluation is to assess the performance and design of WARFSA, in the light of accumulated experience among WARFSA partners and associates to date. The evaluation is envisaged to be ‘forward-looking’ in that the results of the evaluation are to serve as an input into the development of a proposal for a second project phase.

The specific objectives of the WARFSA evaluation are to:

- a) to evaluate the achievement of the objectives of WARFSA;
- b) to analyse the efficiency of the managerial set-up of the Fund; and

- c) to give recommendations on improvements with regards to the set-up and management of the Fund.

Findings and conclusions

Relevance – In three years, WARFSA has built a workable regional research funding mechanism from scratch and generated a great deal of interest in the region. A large number of proposals have been received, out of which 26 (about 20% of the total) were approved for funding and 23 (17.5% of the total) accepted the funding offer. All available capital funds (some \$900,000 US) were fully allocated over a period of two years, at five Research Board meetings held between October 1999 and October 2001. WARFSA has filled a gap as an accessible funding source for water research and provided a rapid-response funding mechanism for smaller research projects. WARFSA has also delivered proof of the viability of managing from within the region decision-making processes deciding project funding allocations.

Achievement of project objectives – The *first of WARFSA's specific objective* (as stated above) has been achieved to a significant degree, but there is room for improvement on the multi-disciplinary nature of the research. The *second specific objective* has seen some headway being made, but deserves a great deal of attention in future. Too many research proposals have been research(er)-driven and too few user- or demand-driven. The *third specific objective* has been partially met. While a reasonable proportion of incoming proposals have been on issues of precipitation use and rainwater harvesting, they have often not addressed the critical issues. *Expected outputs* (as stated above) have been fully achieved or even exceeded.

Effects on the target group – A total of roughly 100 researchers (within 23 research teams), including a number of younger researchers working towards their MSc or PhD degrees, have been engaged by WARFSA to focus their minds on IWRM issues. There is room for improvement, and some options, for WARFSA to attract more women to IWRM research – more than half of all WARFSA projects are carried out entirely by men. It is too early to assess WARFSA's impacts on its immediate clients (researchers), let alone intermediate users (policy- and decision-makers) and ultimate beneficiaries.

Cost-effectiveness – WARFSA's cost effectiveness, as reflected by the ratio of 'overhead costs' to (funds allocated to) 'desired output', is not unreasonable (ratios between 15% and 37%, depending on definitions). The governance system (Research Board) accounts for as much overhead cost as the management system, reflecting the Boards very hands-on style.

Utilisation and dissemination of research results – While researchers have vested interests in pursuing project funding, regardless of project utility, the region can ill afford not to channel its limited research capacity into addressing the most urgent water management issues, as identified by the region's stakeholders. Research utilisation can be enhanced by establishing research priorities through multi-stakeholder processes and by guiding researchers to focus their attention on these priorities. WARFSA's stated research areas are very broad and were not elaborated with much stakeholder input, and it may be time focus on fewer and better defined research areas informed by stakeholders needs. At the project level, research utilisation may be enhanced by including this aspect as an explicit indicator in the composite index that is used to score and rank projects for funding. Dissemination of research results – at symposia and seminars and through publications – is important in its own right, but is clearly not a substitute for 'front-end' approaches to research utilisation.

The Fund in the light of Sida's development objectives – WARFSA is fully consistent with Sida's mission, goals, and policy for the Management and Use of Water Resources.

The research projects in the light of critical water issues in the region – Most WARFSA projects appear to tackle research problems relating to critical water issues in the region, but they do so more ‘by default’ than by design, without much synergy among individual projects, and with varying degrees of consistency with IWRM principles. If WARFSA is to enhance the relevance, synergy and likely impact of its research projects, it would have to become more proactive in focusing its support on, and channelling the researchers’ creative energies into, areas of demonstrated need and priority. This would amount to a shift from an entirely responsive toward a more directive mode of operation stimulating demand-driven research projects.

Fund management – The Fund management system has been reasonably effective and IWSD has done a good job in running it, particularly in ensuring rapid response times. Nevertheless, there are areas where there may be room for improvement, such as communications with grantees beyond Zimbabwe (slow communications have also been due to some grantees’ lack of response) and written guidelines for making applications, reviewing proposals, and preparing progress reports. IWSD’s role of shepherding proposals all the way through the review process and selecting those proposals that enter the competition for funding at the six-monthly Board meetings gives it significant de facto influence over what gets funded and what does not. This circumstance as well as IWSD’s far-reaching authority over project approval under the Consultancy Fund for IWRM (also managed by IWSD) will have given IWSD considerable experience necessary to take on greater formal responsibilities in the WARFSA project approval process.

Referee system – The referee system has been vital to the proper functioning of WARFSA. While it seems to have worked reasonably well, it has certainly not been without problems. There is room for improvement, in particular, concerning non-responses from a number of referees. Most referees acknowledge the non-monetary benefits of reviewing WARFSA proposals, but opinions are divided on whether referees should be (modestly) remunerated for their reviews (not done so far). A two-pronged strategy of a) raising the perceived quality of, and professional recognition associated with, the WARFSA referee system, and b) giving referees a larger role within WARFSA, could lessen the importance of pecuniary aspects to referees and further raise the effectiveness and value of the referee system.

Supervisory/backstopping facility for the grantees – In addition to setting WARFSA policies, the Research Board has assumed responsibility for reviewing and approving, in six-monthly intervals, all proposals entering the funding competitions and all progress reports from active projects as well as for making all project funding allocation decisions under WARFSA. The very hands-on style of the Research Board may have served to ensure the highest possible quality and standards of research and to put WARFSA on the map as a credible, transparent, flexible and responsive funding mechanism in support of water-related research. But given increasing workloads and prospects for WARFSA to expand in future, the hands-on style does not seem sustainable – nor indispensable in future. Various options exist to reduce workload and delegate tasks and responsibilities to IWSD and the referee system, while maintaining the Board’s essential functions of exercising ultimate quality control over funded research and ensuring transparency in the resource allocation decision-making process. Efforts for WARFSA to become more proactive and directive in addressing regional research priorities informed by stakeholder needs will have implications for how WARFSA is governed. At least two options exist to ensure the needed stakeholder involvement in overall WARFSA governance – expanding the present Research Board; or establishing a regional steering committee.

Country-wise representation of grantees and Research Board members – About 60% of all approved projects have been from Zimbabwe. This country’s dominance is due to a variety of factors. IWSD’s efforts to get the message out to other countries may, in time, make a difference. But as long as WARFSA adopts a competitive approach to research grant making, Zimbabwe’s research capacity will continue to give this

country an edge over others in the region. If WARFSA is serious about working throughout the region, some diversification of funding modalities is called for, away from just running competitions toward proactive methods to build capacity in the disadvantaged parts of the region (see ‘capacity-building’ section below).

Representation of research areas – Most WARFSA projects fall under one of five eligible research areas: ‘water use, conservation and technologies’. WARFSA should re-cast its research areas to enhance consistency with IWRM principles and to make stakeholder entry points more visible.

Capacity-building – WARFSA has engaged in capacity-building efforts on several fronts, including offering training courses in proposal development, facilitating on-the-job training of graduate students (within WARFSA projects), providing peer review to applicants through the referee system, holding annual symposia (with WaterNet) bringing grantees together, and organising monitoring visits to ‘problem projects’. Various other capacity-building exercises might be contemplated, including short training courses on aspects of multi-disciplinary and gender research methodology, in-depth review of progress reports by referees, and a special support programme for MSc/MPhil thesis research. Competitive grant funding alone is unlikely to stimulate, any time soon, IWRM research in those countries with capacity problems. There is need for a non-competitive funding mechanism (and an associated dedicated Fund segment) to assist applicants from the disadvantaged parts of the region in the development of worthy but as yet relatively weak proposals, outside the research grant competitions, by means of capacity-building inputs and early funding guarantees. In order to prioritise and better target research various capacity-building measures in the region, country-level strategies for building IWRM research capacity are called for. Such strategies could be developed on the basis of situational analyses and needs assessments.

Regional collaboration – Most water management issues are directly shared or of common concern among a number of countries in the region. For this and other reasons, WARFSA has been encouraging regional research collaboration, but little such collaboration has actually taken place within WARFSA projects. Only three out of 23 active projects have involved co-ordinated or collaborative research. Since the time and transaction costs involved in developing new regional collaborative mechanisms are considerable, it is mainly in the context of existing collaborative mechanisms and ongoing collaborative processes that WARFSA’s small grant competitions can hope to support collaborative research. Nevertheless, several mechanisms are available to encourage more collaborative research proposals to come forward.

North-South collaboration – North-South collaboration has been an integral part of WARFSA’s history (common origins with WaterNet) and Research Board composition (three members from the North). However, very little North-South collaboration has happened within WARFSA projects. As with regional collaboration, WARFSA projects can only hope to capitalise on and strengthen North-South links where they already exist. North-South linkages could also be built into the referee system (by including some more Northern specialists in this system) and into the proposed MSc/MPhil thesis research programme (by placing the students at regional research centres where they are able to interact with Northern guest researchers).

Linkages with the Consultancy Fund, WaterNet and other institutions/initiatives – WARFSA and the Consultancy Fund have operated largely in isolation from one another, even though IWSD manages both funds, one reason being that the two Funds operate very differently. The Consultancy Fund could contribute to WARFSA by commissioning state-of-the-art reviews on key issues in the region, or situational analyses and needs assessments focused on IWRM research capacity building issues. The two funds could also join forces in short training courses, e.g. on gender issues or logframe techniques.

WARFSA and WaterNet have maintained a strong relationship. The two institutions should continue to hold the joint annual symposia – but in a way that allows the WARFSA Research Board to spend more time with their grantees and to use the event as a staging ground for other activities useful to WARFSA (e.g. holding consultative stakeholder workshops to define research priorities or holding meetings between IWSD and WARFSA grantees and referees to re-visit various WARFSA guidelines). The two institutions are well placed to actively collaborate on the proposed MSc/MPhil thesis research support programme.

Existing linkages with the Global Water Partnership Southern Africa (GWP SA) should be maintained and strengthened. Country and Regional Water Partnership groups might serve as multi-stakeholder mechanism, and their meetings as fora, for developing strategic national and regional research priorities.

Advertisement of the Fund in the region – WARFSA has been advertised in a variety of ways, but it has taken longer to reach beyond Zimbabwe. The quality of the promotional material, while generally adequate, leaves some room for improvement. The experience with the Rainwater Harvesting Fund for Southern Africa (RHARFSA) which initially was advertised separately, suggests that the Fund (more precisely, the Fund segment dedicated to small grants competitions) should remain an integral whole.

Recommendations

A number of recommendations are presented – designed to address major issues and challenges identified in the findings and conclusions. Recommendations are prioritised and organised in two categories:

- *necessary* steps to be taken *immediately*; and
- *desirable* actions proposed for *later* implementation.

In the first category (‘necessary & immediate’ steps), 14 specific recommendations, each explained in some detail, are presented under the following headings:

- Adjusting the competitive small grant funding mechanism to make it more effective and relevant;
- Building IWRM research capacity and enabling WARFSA to work throughout the region, including currently disadvantaged countries;
- Promoting and publicising WARFSA in the region;
- Reducing workload while enabling continued quality control and policy guidance at the level of the Research Board, through delegation of limited tasks and responsibilities to IWSD and the referee system;
- Strengthening the referee system; and
- Maintaining the viability and effectiveness of the Fund management system.

In the second category (‘desirable & later’ actions), three recommendations that are potentially more far-reaching and complex, are presented and explained:

- Build stakeholder representation into WARFSA’s governance structure;
- Establish special regional research programmes under WARFSA; and
- Set up a special support programme dedicated to raising the level of MSc/MPhil thesis research in the region.

1 Programme context

1.1 The development context of the project

Without any doubt, water is a critical development issue in Southern Africa. Water is an essential ingredient for economic development, the maintenance of natural life support systems, and basic human existence. Most countries in the SADC region are (semi-) arid and hence already relatively water-scarce. In addition, and perhaps most challenging, rainfall is extremely variable within and across countries, and droughts (and floods) occur regularly within the region.

In a context of highly variable, often uncertain and generally decreasing water availability, fast rising water demand from agriculture, industry and households is bound to put increasing pressure on water supply systems and existing water resources. Different water uses (agriculture, industry, domestic needs, etc) will tend to compete with each other, thus giving rise to possible inter-sectoral conflicts. Similarly, where there are stark differences in water access and availability across countries or particular areas in Southern Africa, these contrasts hold the potential of fuelling competition for access to water and related political and economic conflict in the region. Thereby, countries or localities experiencing particularly fast increasing water consumption and/or suffering from particularly limited access to water supplies/resources will tend to feel the pressure on water resources earliest or most acutely and stake claims for access to water resources elsewhere in the region.

In view of these water-related development challenges, threats and risks, it is generally agreed that there is an urgent need to manage water resources better and more sustainably. Past approaches to water scarcity which have tended to focus on expanding water supplies through infrastructure development and engineering works like dams, are increasingly seen as being too narrow, economically too costly, and too wasteful in the use of a precious natural resource (water).

At the same time, the Southern African region is witnessing a shift in emphasis toward broader more integrated approaches to water management. These approaches, often referred to collectively as Integrated Water Resources Management (IWRM), explicitly recognise the inter-connected, complex and multi-faceted nature of most water management issues and the resulting critical need to address such issues in a comprehensive, systemic and integrated fashion, if the most effective and efficient avenues and options are to be identified, developed and used.

Particular insights associated with the new emphasis on IWRM are that:

- Water demand management options and interventions should be actively considered and pursued, in tandem with water supply management;
- Water quality is as important an aspect as water quantity, and the two issues and management dimensions cannot be divorced from one another; and
- Water resources shared by two or more countries must be managed in a joint or at least in a co-ordinated fashion.¹

Recognition of the need for translating this last insight – joint or co-ordinated management of shared water resources – into meaningful regional policy and action is manifested by the conclusion of a Regional Protocol on Shared Watercourse Systems in 1995 (revised in 2000), the establishment of a

¹ All of the 15 main river basins in the SADC region are shared among two or more of the continental SADC countries.

SADC Water Sector Co-ordination Unit in 1996, and the development of a Regional Strategic Action Plan for Integrated Water Resources Development and Management.

The new IWRM framework is not only starting to change the mindsets of water policy makers and practitioners in the region, it also urgently calls for a concerted effort of applied multi-disciplinary research to inform improved water policy and management in the region.

1.2 The project history

The origins of the Water Research Fund for Southern Africa (WARFSA) date back to 1997 when WaterNet (see sub-section 2.15) was established following the SADC/EU Conference on Management of Shared River Basins (Maseru, 1997). WaterNet was conceived as a regional network for education, training and research on IWRM in the SADC region. Soon after the Maseru conference, leading WaterNet organisers, including IHE, Delft and IWSD approached Sida with the idea of establishing a Water Research Fund. The Fund was to respond to improved knowledge and greater research capacity on IWRM in the region.

Sida responded positively, since the idea was consistent with the aims of the Swedish Initiative for Support of Sustainable Management of Water Resources in Southern Africa. Sida also saw the proposed Fund as a possible mechanism to deal with the stream of small funding requests for which funding was hard to find. Finally, Sida was keen to develop ways and means to contribute to the empowerment of developing countries and regions by shifting decision-making processes for smaller project funding allocations as much as possible into the affected countries and regions.

These considerations motivated Sida to fund a preparatory project definition workshop in March 1998 in Harare. This workshop was attended by a range of researchers and research managers from the region and from the North, including some who had previous experience with research funds. The Harare workshop developed a number of recommendations about how a water research fund might be organised and structured. Following the workshop, and on the basis of its recommendations, IWSD prepared a research proposal which was approved for funding by Sida. A funding agreement for SEK 9,000,000 (approximately \$1 million US) over three years was signed between Sida and IWSD on 26 February 1999. WARFSA commenced operation soon after, with its first Research Board meeting convened 8–9 March 1999.

The development objective of WARFSA, as stated in the WARFSA research proposal, is to contribute to the sustainable development and management of water resources in the SADC region in order to ensure the availability of water for social and economic development. The specific objectives of WARFSA are:

- iv) to promote and facilitate the implementation of multidisciplinary research projects in integrated water resources management in the region;
- v) to promote the utilisation of research results for decision-making aimed at ensuring sustainable development of water resources in the region; and
- vi) to encourage research that leads to better use of precipitation to increase land productivity or availability of water for domestic use.

The last specific objective was added at a later stage and mainly refers to rainwater harvesting practices.

The expected project outputs for the initial three-year period are to:

- v) fund at least 20 research projects from the SADC countries;

- vi) train at least 48 researchers in research proposal development;
- vii) to make research results available and accessible to use in decision-making; and
- viii) to publish and disseminate research results to relevant individuals and institutions.

2 The evaluation – scope and methods used

2.1 Purpose and scope of the evaluation

Sida support to the Water Research Fund for Southern Africa (WARFSA)² is ending in February 2002. It is common practice for Sida to commission an evaluation for any given project or programme it funds, prior to its completion. These project/programme evaluations are generally conducted with a view to assessing whether objectives have been achieved, what has worked and what has not, and why, and what lessons have been learned. The intention is to feed evaluation findings, conclusions and lessons learned back into the design of future project phases, if any, and/or into other projects and programmes.

In what follows, the purpose and scope of the WARFSA project-end evaluation is summarised, on the basis of its stated Terms of Reference (ToR). The general objective of this evaluation is to assess the performance and design of WARFSA, in the light of accumulated experience among WARFSA partners and associates to date. The evaluation is envisaged to be ‘forward-looking’ in that the results of the evaluation are to serve as an input into the development of a proposal for a second project phase. There is an implicit expectation on the part of the donor agency (Sida) that unless the evaluation unearths major problems, WARFSA should continue to be granted financial support at least at the same level funding as so far, and possibly at a higher level.

The ToR spell out the following specific objectives for the WARFSA evaluation:

- d) to evaluate the achievement of the objectives of WARFSA;
- e) to analyse the efficiency of the managerial set-up of the Fund; and
- f) to give recommendations on improvements with regards to the set-up and management of the Fund.

The performance of WARFSA is to be assessed in terms of the following aspects:

- relevance;
- achievement of project objectives;
- effects on target group (gender specific);
- cost-effectiveness;
- utilisation and dissemination of research results;
- the Fund in the light of Sida’s development objectives; and
- the research projects in the light critical water issues in the region.

In addition, the following special issues are to be addressed, in terms of efficiency, outcome and/or strengths/weaknesses:

- fund management system including disbursements of funds;
- referee system;
- supervisory/backstopping facility for the grantees;
- country-wise representation of grantees and research board members;
- representation of research areas;

²Henceforth also called ‘the Fund’. The two terms – ‘WARFSA’ and ‘the Fund’ – are used interchangeably in the report.

- capacity building (e.g. through training courses);
- collaboration between researchers within the region and North-South;
- linkages to the Consultancy Fund, WaterNet and other relevant institutions/initiatives; and
- advertisement of the Fund in the region.

The assessment of the performance of WARFSA and the analysis of the special issues, taken together, are to be used as a basis for developing conclusions and recommendations for possible improvements in the set-up and management of Fund. The recommendations should also address the need and relevance for a possible expansion of the Fund as well as the capacity and resources that would be required.

Sida's original detailed ToR for the WARFSA evaluation are reproduced in Appendix A.

2.2 Approaches and methods used

2.2.1 Work schedule – travel and interactions with WARFSA partners and associates

The consultant, Dr Hartmut Krugmann (henceforth referred to as 'the Consultant'), undertook two trips of approximately one week duration each, to collect relevant data and information relating to WARFSA and its activities and interact with WARFSA partners and associates as well as others.

One week of travel (07–13 October 2001) was spent in Harare reviewing some of the available WARFSA-related documentation and interacting with a range of Harare-based WARFSA partners and associates, including:

- the WARFSA managing institution IWSD;
- WARFSA-supported principal investigators and researchers;
- WARFSA referees;
- a WARFSA Board member; and
- representatives from WaterNet and the Global Water Partnership Southern Africa.

The other week of travel (27 October–01 November 2001) was spent in Cape Town attending the 6th WARFSA Board meeting as an observer (28–29 October 2001), participating in the annual WaterNet/WARFSA Symposium (30–31 October 2001), and meeting the full WARFSA Board for a special session to present and get feedback on preliminary evaluation findings and conclusions (01 November 2001). This week afforded the Consultant with a unique opportunity to get a sense of ongoing WARFSA-supported research in progress as well as of new research proposals submitted for funding by listening to Board members commenting on progress reports as well as the proposals, by reviewing, to the extent possible, research proposals and research in progress himself, and by attending presentations by WARFSA researchers during the Symposium.

The week also enabled the Consultant to interact with a range of additional WARFSA partners and associates (not met in Harare). These include:

- all (other) members of the WARFSA Board;
- a number of (other) WARFSA grantees/researchers who were presenting papers; several (other) WARFSA referees (most of them WARFSA grantees);
- a variety of WaterNet associates; and
- representatives from relevant regional/international institutions, such as the SADC Water Sector Coordination Unit (SADCWSCU) and the newly established Africa Office of the International Water Management Institute (IWMI).

A complete list of individuals interacted with, is found in Appendix C.

2.2.2 Information gathering methods

The entire information gathering and review exercise was carried out by the Consultant alone.

A combination of five information gathering (and feedback) methods was used:

- review of existing documentation;
- interviews with WARFSA partners/associates and other resource persons;
- attendance of the WARFSA Board meeting as an observer;
- questionnaire-based survey of some of the WARFSA researchers and referees; and
- feedback sessions with IWSD/Sida (in Harare) as well as with the full WARFSA Board (in Cape Town).

2.2.2.1 Review of documentation

A wide range of available documentation relating to WARFSA, WaterNet, the Consultancy Fund, IWSD, and relevant Sida policies and programmes, were reviewed, including:

- the WARFSA project proposal;
- WARFSA progress reports;
- minutes of WARFSA Board meetings;
- WARFSA research proposals and progress reports;
- WARFSA manuals, information brochures and flyers;
- information materials about WaterNet;
- information booklets and brochures about the Consultancy Services Fund for IWRM in the SADC Region Southern Africa on IWRM;
- information materials about IWSD; and
- Sida programme and policy documents/statements.

A detailed list of all documentation materials reviewed is found in Appendix B.

2.2.2.2 Interviews with WARFSA partners/associates and other resource persons

Interviews were held, in Harare or Cape Town, with the following individuals/groups:

- Approximately half of all Zimbabwean WARFSA grantees, or roughly one third of the total number of WARFSA grantees;
- A total of 11 Zimbabwean (or Zimbabwe-based) WARFSA referees of whom seven were also WARFSA PIs/researchers;
- All WARFSA Board members individually;
- One former WARFSA Board member;
- Institute of Water & Sanitation Development (IWSD) staff;
- Sida staff;
- Leading members of WaterNet;
- The Global Water Partnership (GWP) Southern Africa (SA) chairperson; and
- Other individuals/institutions active in the water sector in Southern Africa.

As well, informal corridor discussions took place during the WaterNet/WARFSA Symposium in Cape Town with a variety of participants, including key representatives from the SADC Water Sector Co-ordination Unity (WSCU) and the Africa Office of the International Water Management Institute (IWMI).

All interviews and informal discussions with the above-noted individuals/groups, conducted in Harare and/or Cape Town, were of a semi-structured open-ended nature. In each case, the Consultant used a list of major questions (somewhat different from individual/group to individual/group) to structure and guide the interview, while keeping the exchange as informal as possible and leaving sufficient flexibility for pursuing relevant issues and aspects arising during the interview. The main purpose for creating an informal and flexible atmosphere during interviews and informal discussions was to put interviewees or informants at ease and encourage them to volunteer, ad hoc, potentially important views and information not necessarily anticipated at the outset, and thus to enhance the likelihood of getting a more comprehensive, rounded and balanced picture of different views and perspectives on any given issue.

A detailed list of interviewees is provided in Appendix C.

2.2.2.3 Attendance of the WARFSA Board meeting as an observer

The Consultant was invited to fully attend the entire WARFSA Board meeting as an observer, allowing him to witness first-hand all Board-level discussions, deliberations and decision-making processes. This occasion provided the Consultant with a unique opportunity to become thoroughly familiar with Board-level operating procedures and to gain valuable insights into Board-level dynamics, style and culture. Since the Research Board sees itself as WARFSA's supreme policy-making as well as decision-making body, an in-depth understanding of its inner workings would appear to be indispensable to a proper evaluation. This purpose was aptly achieved by having the Consultant attend the Board meeting as an observer.

2.2.2.4 Questionnaire-based survey among WARFSA researchers and referees

During the WaterNet/WARFSA Symposium 30–31 October 2001, nearly all of the ongoing WARFSA research projects were represented by respective PIs and/or research team members to give presentations about aspects of their research in progress. This afforded a unique opportunity to reach a yet larger number of grantees to collect information on their projects and gather their views and perspectives on WARFSA in general and on their particular projects in particular.

It was anticipated that during the Symposium, the demands on available time from talking to a variety of participants and attending as many as presentations by WARFSA grantees (and others) as possible, would be rather heavy – quite possibly too heavy to be able to fit in the kind of relatively time-consuming semi-structured open-ended interviews that were used as the principal information gathering tool in Harare and Cape Town. For this reason, two questionnaires – one for WARFSA researchers and another different one for WARFSA referees – were prepared prior to the Symposium, on the basis of the previous interviews and discussions with Zimbabwe-based WARFSA researchers and referees, for distribution to WARFSA researchers and referees and later collection during the Symposium. As many as possible of those WARFSA researchers and referees present at the Symposium that had not yet been interviewed in Harare, were asked to provide written responses to the questions in the questionnaire to the best of their ability and return the filled form to the Consultant before the end of the Symposium.

This method of information gathering, while clearly not as effective as personal semi-structured open-ended interviewing, at least ensured responses from a wider group of WARFSA grantees and referees than would otherwise have been possible. This way, feedback from WARFSA grantees could be secured

for an additional seven WARFSA projects – responses were received from five project PIs and two project research associates. As well, it was possible to get responses from three additional referees, all three leading or associated with ongoing WARFSA projects.

Thus, interviewing and questionnaire-based surveying, taken together, covered 14 out of an overall total of 18 currently active WARFSA-funded projects, and reached 14 different WARFSA referees of which 10 are members of WARFSA project research teams.

A complete list and time table of individuals interviewed, surveyed or otherwise interacted with is presented in Appendix C. The questionnaires used for the survey during the Symposium of WARFSA researchers and referees, respectively, are reproduced in Appendix D.

2.2.2.5 Feedback sessions with IWSD/Sida and the WARFSA Board

Two feedback sessions – one with Dr Ndamba and Mr Mudege (IWSD) as well as Ms Perrolf (Sida) toward the end of the Harare visit (12 October 2001), and the other one with the full WARFSA Research Board at the end of the Cape Town travel, subsequent to the WARFSA Board meeting and the WaterNet/WARFSA Symposium (01 November 2001) – were held to brief the respective audiences on some of the Consultant's preliminary impressions, findings and conclusions emerging from the review of existing documentation and from the interviews.

The purpose of these feedback sessions was not only to brief the audiences on preliminary evaluation results but also to allow the audiences to actively comment, indicate agreement or signal disagreement with certain preliminary impressions and conclusions. This feedback and consultation process served at least two objectives:

- a) for the Consultant to be able to modify, adjust and refine preliminary impressions and conclusions, as necessary and desirable, in the light of the audiences' comments and suggestions; and
- b) for the audiences to be able, early in the evaluation process, to buy into and establish ownership of emerging findings and conclusions, particularly concerning any significant suggested departures from mechanisms, modalities and procedures used to date.

Both sessions turned out to be rather productive and appeared to meet these objectives to a considerable extent.

2.3 Limitations of the study

There are several constraints that pose certain limits to the objectivity, validity and/or power of the findings, conclusions, recommendations, and lessons learned. Constraining factors include:

- Relatively small sample of countries in the SADC region visited by the Consultant;
- Drawbacks inherent in questionnaire-based surveying;
- Limited sample size of interviewees/respondents reached in certain target categories;
- Limited time spent with some of the interviewees;
- Only successful applicants (grantees) were interviewed, but none of the many unsuccessful applicants; and
- An inevitable degree of subjectivity and bias associated with any evaluation and its conclusions and recommendations.

Each one of these factors is briefly addressed and put in perspective below.

Small sample of countries in the SADC region visited by Consultant –

The Consultant travelled only to Harare, Zimbabwe and Cape Town, South Africa. In all likelihood, more could have been learned about WARFSA, its achievements and performance, by visiting some of the other countries in the region and talking to WARFSA grantees, referees, applicants and other WARFSA partners and associates there. The negative impact of this constraint on the results of the evaluation is significantly mitigated by two main factors:

- Of any country in the region, by far the most WARFSA partners (grantees, referees, etc) and associates (WaterNet, GWP SA, etc) are found in Zimbabwe; and
- The Research Board meeting and the WARFSA/WaterNet Symposium in Cape Town provided a unique opportunity for meeting and interacting with a wide variety of WARFSA partners and associated from other countries in the region.

The Consultant is quite confident that these factors strongly reduce the risks associated with the small sample of countries visited and that the results of the evaluation will do justice to the views and perspectives from more ‘peripheral’ countries, i.e. countries having weaker research capacity and/or are less strongly represented within the WARFSA system. The cost of visiting additional countries is deemed to outweigh the benefits accruing from further travel.

The drawbacks inherent in questionnaire-based surveying –

As pointed out earlier, the demands on the Consultant’s time were particularly heavy during the WARFSA/WaterNet Symposium, for which reason he resorted to questionnaire-based survey techniques for part of the information gathering. This technique is judged to yield less information and insight for the purposes of the evaluation compared to flexible semi-structured open-ended interviews. Since it is only a rather small proportion of the overall information gathering effort that was based on questionnaires, this constraint is considered to be relatively unimportant.

Limited sample size of interviewees/respondents reached in certain target categories –

Not all WARFSA grantees and referees could be interviewed or otherwise reached. This constraint is less significant for grantees (14 out of 18 research projects reached) than for referees (14 out of an estimated total of perhaps 100 or more reached). But the somewhat repetitive pattern of responses among those referees that could be interviewed or reached otherwise suggests that this group is likely to have provided a fairly representative spectrum of views and opinions.

Limited time spent with each interviewee –

This factor weighs less for interviews conducted in Harare than in relation to interactions with Board members and WARFSA and WaterNet members and associates during the relatively hectic time of the two-day Board meeting and even more so, the two-day Symposium in Cape Town. But as far as the Board members are concerned, the feedback session provided an added opportunity for interaction, thus diminishing this constraint, for this important target group. Overall, there is a sense that it was possible to canvass quite a comprehensive and complete spectrum of views, even though discussions with individual resource persons were sometimes not as long and exhaustive as one might have wished.

Only successful applicants (grantees) were interviewed, but none of the unsuccessful applicants

Roughly 20% of the WARFSA applications have so far been approved for funding. About twice as many applications were rejected. Analysing the reasons behind their lack of success by talking to some of the unsuccessful applicants might have added insights about how WARFSA has performed so far and what are some of WARFSA’s strengths and weaknesses. Time was too limited for such an under-

taking, however, and it probably would have been harder to find and motivate unsuccessful applicants to contribute to the evaluation. It is also possible that interviewing researchers whose proposals were rejected would have revealed more about the researchers than about WARFSA, in the sense that failed attempts to secure WARFSA funding might often be ascribed to researchers testing the waters and their research proposals just not being up to scratch.

An inevitable degree of subjectivity and bias associated with any evaluation and its conclusions and recommendations –

No human being is entirely free from prejudice and bias. Evaluators are no exception to this rule. Furthermore, evaluations are not only concerned with facts. They also pay attention to views and opinions, particularly those held by key players, and factor these views and opinions into the conclusions and recommendations that are eventually reached. This is important because in any given context, project or programme outcomes and impacts are often influenced as much (or more) by what key actors believe are the relevant issues and how they should be addressed as by the ‘objective’ nature of the situation. It follows that all evaluations, to a greater or lesser degree, are influenced by the inevitably subjective nature of the evaluation process.

However, there are ways for evaluators to try and minimise the risks associated with subjectivity, prejudice, bias and hidden agendas, such as the following. Evaluators should:

- stay away from ‘putting responses into interviewees’ mouths’ during interviews;
- be wary of responses designed to answer what interviewers might be seen to want to hear;
- do the necessary cross-checking to try and uncover interviewees’ attempts to provide ‘pleasing answers’;
- try and be constantly aware of possible prejudice and bias on their own part, when it comes to interpreting responses during interviews or assessing particular situations or contexts; and
- be careful always to try and put views expressed by respondents in context and perspective, by taking into account where the interviewee might ‘come from’ and what her/his inherent assumptions may be, as well as by comparing the respondent’s views with those of other players, depending on the situation at hand.

In the present evaluation, every effort has been made to be constantly aware of the subjective nature of information gathering and evaluation processes and to adopt methods such as the above-mentioned ones to try and minimise the risks from subjectivity and bias.

3 Findings

This section summarises the findings of the evaluation. Each of the performance aspects and each of special issues that are flagged in the ToR (see Appendix A) and reproduced in sub-section 1.1 above, is addressed within a separate sub-section. Where conclusions are reached and stated, the greatest possible effort is made to support them by hard evidence and sound analysis. Nevertheless, in view of the limitations of the study (see sub-section 1.3 above), not all conclusions are arrived at with the same degree of confidence. Where applicable and possible, the degree of confidence with which conclusions are drawn is indicated.

3.1 Relevance

Sub-section 1.1 sketched out the regional development context of the project. Within this context, WARFSA, dedicated to promoting and supporting applied multi-disciplinary research on IWRM, is highly relevant, at least in principle. The extent to which WARFSA has demonstrated its relevance in practice and lived up to its combined objectives – of promoting research on IWRM, helping to generate relevant research results on IWRM, and seeing to it that these research results are in fact utilised for decision-making – will be assessed in sub-section 3.2 (“achievement of project objectives”) as well as in sub-section 3.5 (“utilisation of research results”).

Aside from WARFSA being dedicated to promoting and supporting applied multi-disciplinary research on IWRM, there are other dimensions to WARFSA's relevance. They relate to the extent to which WARFSA has been able to respond to areas of need which were highlighted in the original WARFSA project proposal, as follows.

- Not only is there little research capacity in the region but too little of this limited research capacity is directed toward water-related research in general and proper IWRM research in particular.

Research capacity building is certainly an important aim of WARFSA, even though it is not one of the stated objectives of WARFSA (see sub-section 3.2). To what extent and in what ways WARFSA has in fact strengthened research capacity in the region, will be assessed in sub-section 3.13.

It is probably fair to say that WARFSA has succeeded in drawing a larger proportion of the limited existing regional research capacity into water-related research than would have happened in its absence. Over the relatively short time span of less than three years, WARFSA has been able to mobilise a great deal of interest among a sizeable number of researchers in the region, particularly in Zimbabwe but also increasingly in other countries in the region, and to financially support a significant proportion of the proposals submitted for funding, thereby fully allocating all funds available for projects (approximately \$900,000 US).

As an indication of interest, 450 enquiries were received by the Institute of Water & Sanitation Development in response to the first announcement of the Fund in April 1999 and another 213 enquiries were received by IWSD by the end of 1999. Further, in the first 30 months of WARFSA's existence (up to the most recent Board meeting 28–29 October 2001) a total of 131 proposals, nearly half of them from Zimbabwe, were submitted for funding. Out of these 131 proposals, 26 proposed projects (or about 20% of the total) have been officially approved by the Research Board, including the five projects approved at its most recent sitting in October 2001, and 23 projects (or 17.5% of the total) have accepted the funding offer (assuming that the five most recent funding offers have been (or will be) accepted by the respective applicants).

It is no small testimony to WARFSA's relevance to have both generated this much general interest and at the same time succeeded in getting up to the funding stage enough project proposals considered worthwhile to be able to commit all available financial resources in the Fund.

- There is a dearth of accessible funding sources for water research, and a lack of flexible rapid-response funding to respond to existing demand for smaller projects in particular, in the region.

It is arguably true that in the past, donor programmes paid too little attention to water research, but this seems to be changing fast. It can also be argued that donor programmes have tended to focus on larger projects in order to keep overhead costs within limits, while smaller less expensive projects can make a bigger difference in terms of impact.

This rationale provides a justification for small-grant (research) funds like WARFSA. Whether, however, projects with \$50,000 US budgets (the project funding ceiling under WARFSA) can still be called 'small' is questionable. Throughout the region, local currencies have greatly weakened against hard Northern currencies in recent years, such that amounts close to \$50,000 US can, and in a number of WARFSA projects do, support relatively high levels of research activity carried out by fairly sizeable project teams over 2–3 years. There is also the related issue that WARFSA applicants have tended to beef up the budgets of their proposals, often coming close to the ceiling, perhaps with a view to accessing the largest amount of funds possible, irrespective of the real financial needs of the proposed research. It is not surprising, therefore, that some IWSD staff and Research Board members feel that the current WARFSA project budget ceiling is probably too high. The advantage of a lower project budget ceiling is also that more projects could be funded and a greater number of grantees could be supported.

There does not seem to be much agreement, however, as to the margin by which the budget ceiling should be reduced. The Consultancy Fund for IWRM (see sub-section 3.15) has operated with an individual project budget ceiling of \$25,000 US. Perhaps a similar upper limit could be instituted for WARFSA. The fact that most WARFSA projects have been running for three years perhaps suggests a \$30,000 US project budget ceiling which would provide a maximum of \$10,000 US per year (on average) for such projects. For collaborative regional projects involving more than one team being supported by WARFSA, the \$ 50,000 US budget ceiling might be left unchanged, since the research costs tend to be greater, and also as an incentive for applicants to come forward with such regional projects.

\$30,000 US is still quite a bit of money, particularly when considering that the exchange rates of most local currencies in the region have been falling substantially in recent years. On the other hand, appropriate IWRM research entails, or should entail, more integrated and hence multi-disciplinary methodological approaches and research teams and thus may, if properly conceptualised and operationalised, require, on average, relatively large project budgets.

By most if not all accounts, WARFSA has succeeded in responding quickly and flexibly to requests coming in from applicants. This aspect is further elaborated in sub-sections 3.8, 3.9 and 3.10.

- There is an urgent need for a regional approach to and regional collaboration in water research (as well as water policy- and decision-making), as too many researchers in the region still work in isolation from each other and fail to collectively, as opposed to individually, tackle shared water problems, including issues relating to the management of shared water resources.

WARFSA was conceived, structured and organised as a regional mechanism which has given it added relevance. However, it remains to be seen whether or to what extent the Fund has actually succeeded in its stated regional approach to setting and tackling research priorities, and whether or to what extent the Fund has managed to promote regional collaboration among researchers through funded research

projects and/or otherwise. These and other aspects relating to the regional nature and representation of the Fund are revisited in sub-sections 2.11, 2.14 and 2.16.

- Decisions about the allocation of funds, even of relatively small amounts of financial support, for water research (and for development research more generally) in the region are still largely made in the donor countries. It is high time that decision-making processes governing the allocation of funds to (water) research take place, to a much greater extent, within the respective countries and regions.

Here, WARFSA can be given high marks. Apart from the overall funding decision for WARFSA being made by the donor (Sida), all other decisions are being made in the region, even though three of the twelve Research Board members (excluding IWSD and Sida representation on the Board) are from the North. Undoubtedly, this has significantly contributed to democratisation of decision-making processes (from a North-South viewpoint) as well as to the enhancement of institutional capacity in the region.

3.2 Achievement of project objectives and outputs

To recapitulate, WARFSA's stated objectives are to:

- a) promote and facilitate the implementation of multi-disciplinary research projects in integrated water resources management in the region;
- b) promote the utilisation of research results for decision-making aimed at ensuring sustainable development of water resources in the region; and
- c) encourage research that leads to better use of precipitation to increase land productivity or availability of water for domestic use.

The stated expected outputs during the three-year period are to:

- i) fund at least 20 research projects from the SADC countries;
- ii) train at least 48 researchers in research proposal development;
- iii) make research results available and accessible to use in decision-making; and
- iv) publish and disseminate research results to relevant individuals and institutions.

Objective a) –

This objective has been achieved to a significant extent, but there is room for improvement, as far as multi-disciplinary nature of the research is concerned. The research projects approved so far can be seen as a beginning on which to build in future. There is little or no tradition and (with the possible exception of South Africa and to a lesser extent Zimbabwe) still very limited capacity in the Southern Africa region concerning the use of systemic integrated approaches to problem definition and research project design. Likewise, in many cases it continues to be a great challenge for local researchers to break through the walls of traditional disciplinary thinking and venture into multi-disciplinary methodological approaches that are required at conceptual as well as operational levels.

Indeed, if one takes a closer look at WARFSA research projects approved or active to date, the following pattern emerges. About 40% (9 out of 23) of the projects cannot be classified as multi-disciplinary; they are carried out by researchers sharing the same disciplinary background and entail research using essentially uni-disciplinary approaches and methods. Another 40% (9 out of 23) of the projects are 'weakly' multi-disciplinary, in the sense that researchers from fairly closely related disciplines (e.g. different kinds of engineers or different kinds of life scientists) work together and combine their respective disciplinary tools and methods in tackling a given research problem in a more integrated fashion. Approximately 20% (5 out of 23) of the active projects are 'strongly' multi-disciplinary, in that they

bring natural/life scientists (often still collectively referred to as ‘hard’ scientists) and/or engineers together with economists and/or social scientists (often still called ‘soft’ scientists), around research problems that are conceptualised on the basis of much more integrated frameworks as well as addressed in a rather holistic fashion.

This situation suggests a need for further encouraging multi-disciplinary research in the region and in future perhaps a stronger emphasis on building the necessary capacity to promote and conduct such research, using suitable training modalities and other capacity-enhancing measures.

Objective b) –

Some headway has probably been made on this objective, but the aspect of research utilisation deserves a great deal of attention in future. While some WARFSA research projects have started off with valuable linkages to policy- and decision-makers, community organisations and/or other users and have sought to maintain these linkages, too often research ideas have emerged and are developed by researchers in relative isolation from users and beneficiaries. As a result, too many research proposals have been research- or researcher-driven and too few have been user- or demand-driven.

How do WARFSA-funded projects score on the criterion ‘linkages to users’? This has been assessed by defining three project categories in terms of ‘linkages to user’ – no linkages, ‘weak’ linkages (some ongoing contact with potential users, if only to have access to important data), and ‘strong’ linkages (relatively strong involvement of users in the project) – and by rating each project according to these categories. The result is as follows:

- number of projects without any appreciable linkages to users: 5;
- number of projects with ‘weak’ linkages to users: 12; and
- number of projects with ‘strong’ linkages to users: 5.

This indicates that in many cases there are linkages to users, but they could often be stronger. The aim of involving users in the research from the very beginning, as stated in the original WARFSA research proposal, has been achieved only in relatively few cases.

Researchers have a vested interest in going after project funding, since this allows them to carry out research, publish results, strengthen their publication record, further their careers, and often make some extra money as well – regardless of whether the research is of use to specific groups or to society as a whole. But when it comes to attracting researchers to investigating water-related problems, the region simply cannot afford not to direct its limited research capacity toward addressing the region’s most urgent water management problems, as defined by stakeholders, communities and society. Greater efforts need to be made, therefore, to channel researchers’ research ideas, ingenuity and problem solving capacity into priority research areas, deriving from the stakeholders’ information and problem solving needs.

Possibilities of enhancing research utilisation can be pursued at both project and programme levels. This aspect is further explored in sub-sections 3.5 and 3.7.

Objective c) –

This objective has been partially met. So far, a total of 12 proposals, about 9% of the overall total of 131 proposals, have been received on the theme of use of precipitation use, about half of them on issues of domestic rainwater harvesting/use and the other half on issues of agricultural rainwater use (rainwater use efficiency, soil & water conservation techniques, land productivity, etc). Most of the proposals have been submitted quite recently (in 2001), in part because this theme was added at a later stage (about one year after WARFSA commenced operation), with separate support from the SAREC unit within Sida.

Of the 12 proposals submitted, two proposals have been approved (at the most recent Research Board meeting) and one project was withdrawn after the applicant did not take up an offer of funding of preparatory research phase. Thus, even though it took a while for proposals on precipitation use to materialise, they now make up a sizeable proportion of the total, and the ratio of precipitation-related proposals that have received funding (2 out of 12 proposals, or about 16.5%) approximately corresponds to the overall ratio (23 out of 131 proposals, or 17.5%, funded).

There has been a tendency, however, for some of the proposals, particularly on domestic rainwater harvesting to ‘re-invent the wheel’ by proposing demonstration projects focusing mainly on technical feasibility. There is a sense, as in some other WARFSA research areas, that too often researchers are still riding their own ‘hobby horses’ or are unaware of work elsewhere in the region that has already settled some of the issues they intend to tackle. There does not seem to be enough awareness, for instance, that in domestic rainwater harvesting and use, it is issues of affordability and socio-cultural acceptance that are critical and deserve further site-specific examination, while it is quite well known that these systems can be built.

This is perhaps one of the research areas where a more pro-active approach to research priority setting (within the given issue area) and mobilisation of proposals may be called for, so as to steer interested researchers onto the crucial issues and in the right direction. This could be done, for instance, by having a group of knowledgeable stakeholders and researchers jointly determine the most pressing issues to be tackled in the field (possibly preceded by a state-of-the-art review), by preparing a list of priority issues and agreed terms-of-reference (ToR) for the research that is needed. This could be followed up in at least two ways: a) highlighting the topic, along with the ToR, as a priority area for support in a new call for competitively funded WARFSA proposals; or b) inviting expressions-of-interest (EoI) to be focused on the priority issues identified and on the basis of the EoIs received – and possible further discussions at a regional workshop bringing together the EoI proponents as well as leading users, practitioners, policy makers, and researchers – formulating the framework and contents of a regional multi-institutional programme.

More on research priority setting, guiding researchers to address better defined priorities, and the possibility of setting up special programmes is found in sub-sections 3.5 and 3.7.

Expected output i) –

This expected output has been more than fully accomplished. Not only 20 projects have been funded in the region, but as many as 23. The regional distribution of these projects poses an issue that is discussed in sub-section 3.11.

Expected output ii) –

A series of training workshops on proposal development on IWRM issues for WARFSA were held in Zimbabwe, Mozambique, Zambia, Malawi, Tanzania and Botswana, with the help of WARFSA Board members from these countries. An 121-page Research Proposal Development Manual was developed by IWSD for the purpose of these training workshops. Initially, these training exercises lasted two (2) weeks. This was perceived as too long – and the long duration was one of the issues why in some countries like Namibia, the training course, even though proposed, never got off the ground. The latest training workshops in Malawi, Tanzania (Dar es Salaam and Morogoro), and Botswana turned into much shorter 1-day seminars.

More than 100 participants attended these training courses or seminars. Thus, the expected output of 48 individuals to be trained in research proposal development has arguably been exceeded. The issue of training, and more broadly capacity-building, is taken up again under in sub-section 3.13.

Expected output iii) –

See discussion under objective b).

Expected output iv) –

None of the WARFSA-funded research projects have been completed yet. Therefore, final research results are not yet available for dissemination. However, research in progress has been disseminated at the annual WaterNet/WARFSA Symposia – October 2000 in Maputo and October 2001 in Cape Town – in the form of papers published as part of a comprehensive pre-symposium volume of written symposium contributions as well as through oral presentations of these papers by grantee PIs and researchers. In addition, some research teams have prepared papers summarising partial or preliminary research results, for publication and/or presentation elsewhere.³ For further discussion on the issue of dissemination of research results, see sub-section 3.5.

3.3 Effects on target group

There are a number of target groups that WARFSA aims to reach in ways that would be to their benefit. They range from the more immediate ‘clients’, in particular the researchers supported by WARFSA, to intermediate researcher users, such as policy- and decision-makers, to the ultimate beneficiaries, local communities and people in the region, particularly the poorer among them.

WARFSA grantees

What are the effects on the main client group – the WARFSA grantees? Most immediately, WARFSA has enabled a range of researchers in the region to carry out applied research on water-related problems within an overall IWRM framework. A total of 23 research teams, comprising some 100 researchers in the region, have been engaged by WARFSA to focus their minds on tackling these problems and apply their talents to making a difference in the search for solutions. In the absence of WARFSA, these researchers would be doing something else with the time and effort now spent on WARFSA-funded research.

Post-graduate students

Furthermore, many of the WARFSA-supported research teams include students, mostly at post-graduate level, who are provided with an opportunity to carry out research work towards their MSc or PhD degrees. These students learn by doing and through guidance from more experienced colleagues, enhance their research capacities in the process, and are attracted, early on in their careers, to a field of inquiry (water, and more specifically IWRM) that can only grow in importance in Southern Africa’s development context (see sub-section 1.1). More on training and capacity-building issues and aspects in sub-section 3.13.

Gender considerations

Historically, in many parts of the world, women have had far fewer opportunities to study and do research than men. Southern Africa is certainly no exception to this pattern. It is now being widely recognised that the more educated women are and the more society draws on their experience, expertise and insights in pursuing options for development, the more likely it is that the desired sustainable development goals are reached. In the field of water use and management, traditionally a household-level domain for women, the imperative of actively involving women comes into even sharper focus.

³ For example, a project entitled “Sustaining agriculture and livelihoods in the Odzi sub-catchment” and co-ordinated by Dr Emmanuel Manzungu (Dept of Soil Sciences & Agricultural Engineering, University of Zimbabwe) has already prepared seven (7) papers in the first six (6) months of operation!

What role have women played in WARFSA-supported projects? Two out of 23 approved WARFSA projects are co-ordinated by women, and one of these two projects has a wholly female research team (PI plus woman assistant). Six other projects have women on their research teams, often but not always in relatively junior roles. The remaining 15 WARFSA projects are carried out entirely by men. It is not clear how this gender balance among researchers compares with those in other research fields. However, given that water research has been traditionally dominated by engineers (most of whom have been men), the gender balance among researchers working on water issues is not likely to be on the progressive side – which explains the relatively large number of WARFSA projects carried out solely by men. There is certainly room for improvement for WARFSA to attract more women to IWRM research. To the extent that IWRM research truly becomes holistic and multi-disciplinary and as IWRM training opportunities arise⁴, the gender balance among researchers can be expected to improve, as more women from other disciplines enter the IWRM arena.

In addition, there may be ways for WARFSA to become more active in encouraging greater representation and participation of female researchers in its projects. For instance, the project assessment system could go beyond considering ‘gender’ merely as a qualitative aspect under the category ‘other factors’ and instead rate projects quantitatively according to the indicator (‘extent to which women researchers are involved in the project’), explicitly including the indicator within the composite scoring index and the indicator ratings within the overall project scores. Such explicit ‘gender’ ratings may well make a difference to project scoring results and competitive funding outcomes.⁵ WARFSA promotional material and calls for proposals could also add an explicit reference to the effect that female researchers are particularly encouraged to apply for funding and participate in WARFSA projects and that greater representation of women in proposed research will have a positive influence on the overall project score.

Other target groups

It is difficult to say anything definitive about the impacts that the WARFSA-related research experience has had on participating researchers – in terms of such aspects as changing research interests, experience and capacity, academic standing, career outlook, etc. Even harder is it to pinpoint any effects WARFSA might have had beyond the immediate client group, i.e. on intermediate users and ultimate beneficiaries. It is simply too early to assess these effects.⁶ None of the WARFSA projects has been completed yet. Most of the wider effects and impacts are of a longer-term nature and hence can only be assessed some time into the future.

3.4 Cost-effectiveness

The following WARFSA income and cost figures, *as of the end of June 2001*, can be gleaned from IWSD’s Report No.6 for the October 2001 Board meeting and its Half-Year Report, January–June 2001:

⁴ Notably, WaterNet is currently organising a regional IWRM MSc programme, which is to be a collaborative effort among various leading universities in different countries in the region (see sub-sections 3.13 and 3.15).

⁵ For example, a relatively good proposal submitted by a nearly all-female five-member research team just missed the cut at the most recent WARFSA Board meeting in October 2001. As number 6 from the top, it scored 76, while the next higher two proposals both scored 77 and got funded. Inclusion of a ‘gender’ indicator in the scoring process may well have reversed the ranking order.

⁶ This argument was also advanced in point 2 of a set of comments made by the Research Board and IWSD on the Evaluation ToR. These comments are presented in a letter by IWSD to Katarina Perrolf of Sida, Harare, dated 18 September 2001 and reproduced under the rubric “Evaluation of the WARFSA” at the end of IWSD’s report to the Board Meeting No.6, 28–29 October 2001.

Figures in US\$

Total income ⁷	1,321,390.33
Total budget allocations to 21 approved projects ⁸	812,164.70
Total budget allocations to 18 active projects ⁹	718,164.70
Total disbursements to 18 active projects	499,790.18
Total costs due to training workshops ¹⁰	31,092.84
Cost of Maputo Symposium	19,633.55
Cost of Research Board meetings (5x)	104,747.24
Initial allocation of funds for start-up admin costs	40,000.00
Administration fees ¹¹	73,378.93

Cost effectiveness generally refers to the overhead costs necessary to deliver desired outputs, within a given time period, and may be expressed as the ratio of overhead costs to desired output (in terms of funds allocated). The desired output may be defined in at least two ways:

- i) as all research output, measured in financial terms as the total amount of funds allocated to active WARFSA-funded projects; or
- ii) more broadly as all research and training output, measured in financial terms as the sum of the total amount of funds allocated to active WARFSA-funded projects plus the costs of training activities.¹²

Overhead costs may be defined in at least three different ways:

- a) narrowly as the administration costs only, i.e. the costs associated with Fund management activities carried out by IWSD;
- b) more broadly as the costs arising from sustaining the overall Fund research support delivery system, i.e. costs associated with respective Fund management and governance activities by IWSD and the Research Board, combined; or
- c) even more broadly as the sum of the costs associated with all activities (administration, governance and training) that underpin the delivery of research output.

⁷ This includes Capital Fund allocations from Sida (both Department of Natural Resources and the Environment and SAREC), interest income on the Capital Fund allocation, as well as an allocation of \$40,000 US to cover start-up admin costs.

⁸ Another \$180,000 US was allocated to five projects at the latest Board meeting in October 2001, for an overall allocation of \$992,164.70 US to 26 projects to date.

⁹ Support for three approved projects (amounting to a total budget allocation of \$94,000 US) was withdrawn, because the awardees did not take up the offer of funding within 6 months, as stipulated. Assuming that WARFSA funding offers for all five projects approved at the latest Board meeting will be accepted by the applicants, a total of \$898,164.70 has been allocated to 23 active projects to date.

¹⁰ This includes two 10-day training courses in Zimbabwe and Zambia as well as a number of one-day training workshops/seminars in Zimbabwe, Zambia, Malawi, Tanzania and Botswana.

¹¹ When the initial \$40,000 US allocated for start-up administration costs were used up some time in 2000, administration fees were set at 12% of funds allocated to approved projects. This turned out to be insufficient to cover admin costs, for which reason early in 2001, the admin fee level was raised to 15% of funds allocated to approved projects.

¹² Training activities are assumed to include training courses and workshops as well as the symposia which are a training mechanism for researchers to learn how to present and defend research in progress. This overestimates the extent and cost of training, since symposia also have an important dissemination function. But the degree of overestimation is relatively small in financial terms, since the cost of the annual symposium (appr. \$20,000 US) is only about 5% of the budgetary allocation to new projects approved annually (close to \$400,000 US).

Depending on how ‘overhead’ and ‘desired output’ are defined, the cost effectiveness ratio ranges between:

- 15% – corresponding to management costs divided by the total amount of funds allocated to research projects plus training activities; and
- 37% – corresponding to management plus governance plus training costs divided by the total amount of funds allocated to research projects only.

These figures are not unreasonable. In research funding systems, overheads below 15% are normally only achievable in situations where local research capacity is relatively high and delivery of research support is done in a hands-off fashion.

On the other hand, if (still) greater emphasis than hitherto is put on efforts to build research capacity in the region, particularly in the disadvantaged countries of the region, then relative overheads, particularly relative management and training costs could go up, pushing the upper end of the cost effectiveness ratio beyond 37%.

It is noteworthy that the governance system of the Fund has cost about as much as the management system – either system accounts for an overhead of about 15%. This overhead cost balance appears to reflect the very hands-on style with which the Research Board has operated. The cost of bringing Board members together has been considerable, on average about \$20,000 US per meeting. Board members come from a number of different countries in Southern Africa and Europe, hence air travel costs are high. But photocopying and early distribution to all Board members of all progress reports and of all proposals submitted for Board approval has also become quite expensive – about \$2,000 US per Board meeting.¹³

3.5 Utilisation and dissemination of research results

The issue of *utilisation of research results* has already been examined in connection with an analysis of whether the project objective of promoting research utilisation has been achieved (sub-section 3.2). That analysis recognised the valuable linkages to research users that some WARFSA research projects had developed and cultivated, but concluded that:

- too often research ideas have emerged and are developed by researchers in relative isolation from users and beneficiaries;
- too many WARFSA research proposals have been research- or researcher-driven and too few have been user- or demand-driven;
- only 5 out of 23 projects have strong linkages to users, the remainder have weak or no linkages to users;
- while researchers have a vested interest in pursuing project funding, regardless of project utility, for reasons of furthering their careers and earning some extra money, the region can hardly afford not to channel its research capacity into addressing the region’s most urgent water management issues, as identified by stakeholders;

There appear to be three major avenues for enhancing research utility and utilisation:

¹³ For instance, (13) proposals of an average of about 60 pages each (including CVs, referees’ comments, etc) and 18 progress reports of an average of about 20 pages each (including financial statements, etc) – a total of more than 1000 pages – were submitted to the latest Board meeting in October 2001 and according to common practice, were photocopied and DHLed to each of the Board members for review prior to the meeting.

- at the broad programme level – by carefully defining research priority areas using multi-stakeholder processes and by clearly spelling out and advertising (some of) these priorities in the region in order to guide interested researchers in the selection of research topics for the development and submission of research proposals;
- at the specific project level – by providing incentives (such as higher scoring at the project approval stage) for researchers to invest time and energy into ensuring strong stakeholder participation and user linkages, from the very beginning, in problem identification, research design, as well as project formulation and implementation; and
- at the programme and project level – *dissemination of research results* through workshops, conferences, publications, and other means.

Concerning the need for stakeholder participation in the identification of IWRM research priority areas, in order to enhance *research utility and utilisation at the broad programme level*, to what extent were the WARFSA research issue areas that have been advertised in the region, identified with close multi-stakeholder involvement and thus reflect user priorities? In order to try and answer this question, it is useful to look at WARFSA's history (sub-section 1.2). The initial project development workshop in March 1998 did make an attempt to specify broad IWRM-related research areas as an input into the design of WARFSA, which were, indeed, used in crafting the WARFSA proposal.

Two observations about these research areas may shed light on the issue of research priority setting. First, the participants of that workshop were mostly researchers, research managers, and donor representatives, not really a group that could claim to be representative of the major stakeholders in the region (or any country thereof). Second, the identified broad set of research areas was put together with an apparent emphasis on inclusivity – casting the net as widely as possible – presumably to give interested researchers maximum scope and flexibility for picking research topics of their own choice, so as to be able to attract the maximum possible interest and number of researchers as possible.

This approach to determining eligible research areas was not particularly conducive to the promotion of research utilisation, in that it allowed interested researchers maximum freedom of choice in terms of pursuing their own research topics. On the other hand, this approach may, at the outset, have been effective in mobilising greater interest in WARFSA among researchers in the region (who perhaps saw fewer strings attached to winning project funding) and thus may have contributed to ensuring WARFSA's viability in terms of generating enough 'market' demand for what WARFSA was advertised as offering – small-scale but flexible and responsive funding for research projects in the areas of IWRM.

But with WARFSA now established and visible in the region, it may be time to re-think and adjust the initial approach by focusing IWRM research support on fewer research priority areas, corresponding to regional IWRM needs and priorities, as established by appropriate multi-stakeholder processes. Directing demand for IWRM-related research support into fewer and more focused research areas, some of them perhaps eventually formulated as relatively autonomous programmes, in line with the main stakeholder needs, promises not only to facilitate greater research utility and utilisation, but also to promote linkages and synergy among research projects, such that the collective outcome and impact of a set of WARFSA projects is more likely to be greater than the sum of the individual outcomes and impacts. More on the inter-related aspects of research utility and synergy, and on the possible formulation of programme priority areas to facilitate both, in sub-sections 3.7 and 3.12.

On the issue of *project-level research utilisation*, there are incentives that could be used – or used perhaps more effectively – to promote research utilisation. For instance, 'research utilisation' could be included as another indicator in the quantitative composite index used by Research Board members to score and

rank research projects submitted for approval in order to determine the top few projects for which funding may be available.¹⁴ Such an adjustment of the Board-level scoring system could then be flagged when it comes to re-advertising the Fund in the region and calling for new proposals.

Finally, *dissemination of research results* is important in its own right and may also contribute to research utilisation. But ‘tail-end’ dissemination of research results is clearly not a substitute for ‘front-end’ approaches to programme- and project-level research utilisation mechanisms (stakeholder involvement in establishing research priorities and in defining research problems, greater programme focus, etc).

Some dissemination of preliminary results from research-in-progress has been going on. The principal mechanism has been the annual symposium which is sponsored in collaboration with WaterNet. Two symposia have so far been held – one in Maputo, Mozambique (October 2000) and another one in Cape Town (October 2001). These symposia provide WARFSA grantees with a valuable opportunity to disseminate their findings (as well as to get feedback from a wide range of other researchers on their research-in-progress and to learn presentational skills in the process) in a regional setting.

Such dissemination could also be organised at the national or local level. It is not clear how much, if any, of such national/local-level dissemination, through national workshops/seminars or local community meetings, has in fact occurred. There would seem to be great scope for leading multi-disciplinary research institutions, like IWSD in Zimbabwe or the Institute for Resource Assessment (IRA) in Tanzania to organise seminar series on IWRM where WARFSA researchers in their respective countries could present their research findings, or to use existing seminar series (not necessarily only those dedicated to water issues) for WARFSA researchers to make presentations.

Perhaps running a seminar series could be part and parcel of what designated national WARFSA focal institutions could do to promote WARFSA in their respective countries and at the same time to put recipients (grantees) in touch with each other. Unlike the WaterNet/WARFSA annual symposia, national workshops and local -level seminars are low-cost dissemination mechanism. They should be encouraged by WARFSA.

Access to information, even locally, about research in progress is notoriously poor in Southern Africa. Lists and brief summaries of ongoing and newly approved WARFSA projects could be publicised in local and regional newsletters (to start with, the IWSD Newsletter), websites (notably the IWSD website), local media, and other vehicles. Such information dissemination about ongoing WARFSA researcher would also generally make for greater publicity about the Fund.

Publishing WARFSA final research results is also important. WARFSA is still too young for any WARFSA project to have yet been completed. In future, once projects are completed, WARFSA could establish a WARFSA Research Report Series and encourage grantees to prepare concise (possibly summary) reports summarising all major project findings and conclusions for publication under this Series. Publication elsewhere could also be encouraged.

There are WARFSA projects that already have prepared papers, some for presentation at workshops of conferences. An example is the project entitled “Sustaining agriculture and livelihoods in the Odzi sub-catchment” (see footnote 4, sub-section 3.2. This kind of result dissemination is highly commendable and should be encouraged by WARFSA.

¹⁴ In the present system, only five criteria/ indicators are used by the Board members to score and rank projects for funding decisions: ‘relevance (gender, inter-disciplinarity)’; ‘scientific merit’; ‘research team’; ‘collaboration’; and ‘budget’, with respective weights of 4 for the first two indicators and 2 for the last three indicators, for the purpose of calculating the composite project scoring index.

3.6 The Fund in the light of Sida's development objectives

WARFSA is fully consistent with Sida's mission statement and goals as well as with Sida's Policy for the Management and Use of Water Resources.

Sida's mission statement

Sida's mission emphasises up-front the importance of and commitment to addressing poverty, environmental degradation and conflicts – three major challenges of our era. WARFSA is directly concerned with all three challenges. Improved knowledge and information on IWRM generated through WARFSA-funded applied research is intended to help beneficiaries to use the environment and natural resource base more sustainably and to pre-empt or better manage water-related conflict. All WARFSA research is envisaged to ultimately address poverty in that at the local level it is the poorest that are often most affected by environmental degradation and unsustainable water use – and hence potentially if not actually stand to gain the most where negative trends can be halted or reversed, by WARFSA research.

Sida's mission statement also highlights the importance for partner countries to be responsible for their own development and the related need for helping to build the necessary capacity among the partner's. The fact that WARFSA's project-funding related decision-making as well as management processes fully take place within the Southern African region is highly relevant here. So is WARFSA's emphasis on local research capacity building in the region.

Sida's goals

The overall goal of Swedish development co-operation is to raise the standard of living of poorer groups of people in the world. Among the six specific objectives to achieve this overall goal is 'The long-term sustainable use of natural resources and protection of the environment'. Consistent with the overall goal, WARFSA is explicitly focused on the above specific objective, particularly as far the water resource is concerned. From a point of view of managing water resources efficiently and equitably as well as sustainably and ensuring access to them for all, WARFSA's aims are also linked, albeit more indirectly, to other specific objectives, such as economic growth, economic and social equality, and equality between men and women.

Sida's Policy for the Management and Use of Water Resources

IWRM, in all its different dimensions and facets, is central to Sida's Policy. The Policy fully endorses the Dublin Principles on IWRM, partly through its active support to the Global Water Partnership (GWP). In this context, the Policy highlights the following higher-Priority Interventions:

- Promote increased participation and improved IWRM planning and management through institutional strengthening and appropriate awareness-creation and capacity-building interventions and research.
- Promote national and international IWRM policy and legislation.
- Co-operation on shared water resources to prevent conflicts and promote security internationally, regionally and locally between different water use sectors.
- Application of demand management principles including economic and legal aspects to promote efficient allocation, use, saving and recycling of water.
- Measures to prevent and control pollution of water resources.
- Rural and urban water supply integrated with health perspectives and environmental sanitation to meet basic human needs.
- Ecological sanitation in rural and peri-urban areas based on zero pollution, water conservation and recycling, e.g. compost latrines.

- Measures to conserve water in agriculture.
- Conservation and sustainable use of wetlands and coastal environments threatened by high population growth, development pressure and accumulations of pollutants from inland activities.

WARFSA is fully consistent with this Policy in that its focus is on IWRM and that each one of the above-listed higher-priority areas falls within the WARFSA list of research areas (see Appendix E), i.e. within the purview of issues that can be addressed by WARFSA through support for research designed and carried out by local researchers. WARFSA is also concerned with stakeholder participation, capacity-building, demand management, and other above-mentioned priority aspects, specifically by promoting relevant applied research on these issues and aspects. Furthermore, WARFSA collaborates with the GWP, specifically the Southern African Chapter of GWP co-ordinated from Harare.

In practice, not all WARFSA projects are fully or even sufficiently strongly conceptualised with a IWRM framework yet. However, it is WARFSA's longer-term goal to strengthen the IWRM-related relevance and quality of funded research, through further capacity-building efforts. This is certainly in line with Sida's Policy.

3.7 The research projects in the light of critical water issues in the region

This sub-section attempts to characterise the collective thematic and topical nature/objectives of the set of 26 WARFSA projects so far approved, in the light of the (real or perceived) critical water issues in the region. By contrast, sub-section 3.12 assesses whether/how approved WARFSA projects collectively represent the WARFSA eligible research areas (reproduced in Appendix E), or conversely whether/how the thematic distribution of the set of projects reflects the thematic spectrum spanned by the WARFSA research areas.

In order to have a better understanding of how the particular group of WARFSA-funded projects has resulted, it seems necessary to shed some light on the process by which WARFSA proposals have been invited, selected and approved.

To begin with, WARFSA's calls for proposals have invited research proposals on topics falling within the very broad list of eligible research areas (see Appendix E). Any proposal that falls within one or more of these research areas, addresses a relevant problem, is methodologically sound, comes up with a sufficiently qualified team, and presents a reasonable budget can be funded in principle. Judgement calls on these aspects are made by IWSD, the referees and finally the Board (for those proposals that make it through to the Board).

Whether a proposal that is submitted to the Board by IWSD is actually funded, entirely depends on how it is scored by the Board members on the above-mentioned aspects, relative to other proposals. Proposals are evaluated largely on their own individual merit, much more than in relation to other proposals, although inter-comparisons among proposals can influence evaluation outcomes in relatively clear cases of suspected duplication (negative) or complementarity (positive).

With this project selection and approval process in mind, what can be said about the collective nature and objectives of the WARFSA projects, in the light of critical water issues in the region?

In order to get a better sense of where the WARFSA projects stand, an attempt has been made to group them (all 26 approved projects) according to major common thematic or topical characteristics. The result is shown below.

Water quality related issues – mainly technical aspects

- Pollution implications of wastewater discharge on pasture land (Zimbabwe)

- Microbial enzymes for pollution control in paper & pulp industry (Zimbabwe, South Africa)
- Establishing reference sites for bio-monitoring water quality assessment (Zimbabwe)
- Control of aquatic weeds in the Lower Kafue River (Zambia)
- Assessing effectiveness of biological control of water hyacinth in the Kafue River (Zambia) [funding offer not taken up]
- Pathogen decay during storage and composting of human excreta – a pre-requisite for promoting eco-sanitation (Zimbabwe)
- Defluoridation of drinking water (Tanzania)
- Identification and removal of chlorinated organic compounds in municipal drinking water (Zimbabwe)

Basin-wide/area-based water (quantity and quality) modelling/monitoring/management and linkages to land use, institutional reform issues

- Integrated water and pollution management in the Chivero Basin (Zimbabwe)
- Land-use, groundwater – surface water interactions in the Mupfure Basin (Zimbabwe)
- Sustaining agriculture and livelihoods in the Odzi sub-catchment (Zimbabwe)
- Groundwater yield in crystalline rocks: mapping relationship between yield, fracture pattern, erosion surface and stress field in the Zimbabwe craton (Zimbabwe)
- Development of decision-making tools for diffuse pollution control in rural areas (Muda catchment) (Zimbabwe)
- Integrated water resources management in the Lake Manyara sub-region (Tanzania)

Hydrological modelling

- Analysis of hydrological droughts (Zimbabwe)
- Regionalising CCD-Rainfall estimation (Zimbabwe)
- Application of satellite data for estimating flow characteristics of ungauged catchments (Zimbabwe)
- Evaluation of the impact of climate change on hydrology and water resources (Swaziland)

Rainwater Harvesting (for institutional and domestic use, and in agriculture)

- Rainwater harvesting technology development for rural institutions and households (Zimbabwe) [funding offer not taken up]
- Potential of rainwater harvesting in urban areas (Zambia)
- Quantifying precipitation use efficiency for maize-bean intercrop (South Africa)

Water demand management (WDM)

- WDM, natural resource reconstruction, and adaptive capacity (South Africa, Zambia, Botswana)
- WDM study in Namibian Tourism Facilities (Namibia)

Institutional and policy issues

- Broadening access and integrating water management institutions: water sector reform experiences (Zimbabwe, Malawi)
- Addressing gender issues in the water supply and sanitation sector (Zimbabwe)

Irrigation systems

- Multivariate, criteria and objective analysis of irrigation using systems analysis and modelling (Namibia) [funding offer not taken up]

The largest cluster comprises eight projects concerned with different, mainly technical, aspects of water quality. Aside from sharing the common characteristic of dealing with water quality-related research, the projects are rather unrelated to each other, topically and institutionally. They are a bit like little dots ‘all over the water quality map’, even though most projects are from Zimbabwe. Their collective outcome and impact is unlikely to be much, if any, greater than the sum of their individual outcomes and impacts. As well, it is not clear to what extent these projects are consistent with the IWRM approach that all WARFSA-supported research projects are supposed to adopt. At least the research problem definition should take place within an IWRM framework, even if the research itself is not of an integrated, holistic and multi-disciplinary nature.

There is little doubt that water quality is a critical dimension of the water challenge in the region – and hence this cluster of WARFSA projects is of general relevance – but it is not clear whether within the broad area of water quality the most pressing problems are being tackled.

Similar observations can be made about the second largest cluster of projects having in common a basin- or area-based approach to investigating different water (quantity and/or quality) management related aspects, including monitoring needs and methods; relationships between hydrological regimes, land use systems and human livelihoods; institutional issues of decentralised water management; water regime modelling; groundwater-surface water inter-relationships; water use optimisation in situations of competing water uses, etc.

Catchment- or area-based water management is certainly an important issue area in the region, particularly in the context of devolution of authority over water management to local authority structures like catchment councils. But again, individual projects seem unconnected and not mutually reinforcing, even though virtually all of them are carried out in Zimbabwe, and it is difficult to say whether they address the most pressing problems within this broad issue area.

The other smaller project clusters similarly relate broadly to important water issues in the region – some (WDM, institutional and policy issues) perhaps more specifically and directly than others (hydrological modelling efforts). Questions about the relative importance and synergy of individual projects within these clusters and about the degree of consistency with IWRM principles arise here as well.

In conclusion, most if not all WARFSA projects appear to tackle research problems that relate, at least broadly, to critical (dimensions of) water issues in the region. But they do it more ‘by default’ than by design, without much synergy among individual projects, and some of the projects seem more consistent with IWRM frameworks and principles than others.

This picture suggests that if WARFSA is to enhance the relevance, synergy and likely impact of its research projects and the degree to which they (cor)respond to critical water issues, as viewed by stakeholders in the region, then the latter would have to be involved more closely in shaping WARFSA’s research priorities and WARFSA would have to become more pro-active in focusing its support on and channelling the researchers’ creative energies into fewer and better defined areas of demonstrated need and priority. This would amount to a shift from an entirely responsive mode of operation that encourages research(er)-driven research projects, toward a more directive mode of operation stimulating demand-driven research projects more tightly focused on identified priority areas (taking more of a programme approach to project development and funding).

Proactive setting of research priorities and the necessary stakeholder involvement in this process could be achieved by having relevant IWRM stakeholder gatherings, notably the annual national and regional water partnership meetings, devote part of their time to identifying what are perceived to be the most pressing national/regional IWRM issues at the time and for each issue, developing research

priorities (in collaboration with knowledgeable researchers). The key issues and related research priorities could then be pursued further as priority topics for research competitions or as themes for special WARFSA programmes. Beyond that, stakeholders inputs could be facilitated on an ongoing basis by including stakeholders in WARFSA's governance structure (see sub-section 3.10 on this option).

3.8 Fund management including disbursements of funds

This sub-section assesses the Fund management system, at the level of IWSD. The intermediate referee system is examined in sub-section 3.9, and the Fund governance system, at the level of the Research Board, is reviewed in sub-section 3.10.

The Fund managing system is fully based at IWSD and consists of a part-time (4–5 days per month) fund manager (Dr Jerry Ndamba, Research Manager, IWSD), a full-time assistant fund Manager (Ms S. Moyo), and a full-time secretary (Ms Margeret Munyavi).¹⁵

The Fund management system has been responsible for the following range of tasks:

- a) Advertising the Fund throughout the region (through newsletters, websites, workshops, and other vehicles), distributing promotional materials, publicising calls for proposals including provision of proposal guidelines;
- b) Responding to enquiries about the Fund;
- c) Acting as the principal point of contact for all applicants and grantees;
- d) Developing, maintaining and expanding a regional roster of referees for the review of research proposals;
- e) For each proposal received:
 - acting as the first point of review (in terms of whether the proposal meets specified conditions relating to eligible research areas, institutional backing, budget limits, etc);
 - returning the proposal to the applicant for clarification/modification or forwarding it to two or more referees for review;
 - turning the proposal down on the basis of the referees' comments (and informing the applicant in writing of this decision) or forwarding the referees' comments to the applicant for her/him to revise the proposal;
 - referring revised proposals received from applicants back to the reviewers to invite their comments on whether the proposal has taken on board their comments and is sufficiently improved such that it can be submitted to the Research Board for possible approval;
- f) Submitting to the Board on a half-yearly basis a suitable and manageable set of proposals (normally between 10 and 15 proposals) from among those okayed and recommended for submission to the Board by the referees (after going through the necessary proposal review stages described above);
- g) Informing applicants in writing of Board decisions – approval for funding or rejection;
- h) Sending formal letters of agreement to those applicants whose proposals have been approved by the Board, for their signature;
- i) Providing new grantees with written guidelines for the submission of the required half-yearly narrative progress reports and financial statements;

¹⁵ The secretary, on average, spends about 70% of her time on WARFSA-related business, but demands on her time from WARFSA vary widely, with peak times being just before the Research Board meetings.

- j) Making an initial payment to new grantees and disbursing further tranches of funds to grantees, normally in half-yearly intervals, subject to review and approval of their progress reports and financial statement by the Board at their semi-annual meetings;
- k) Allocating/approving small amounts of funds (up to \$5,000 US) that might be added to project budgets for travel, to attend the symposium, etc;
- l) Handling all other day-to-day administrative and financial matters arising in connection with the implementation of WARFSA-funded research projects;
- m) Acting as the Secretariat to the Board, handling tasks such as:
 - Preparing progress reports for the Board;
 - Organising Board meetings and handling all related logistical aspects;
 - Preparing the minutes for each Board meeting;
- n) Organising training workshops and seminars on proposal development; and
- o) Liaising with donor agencies and preparing proposals for purposes of securing co-funding for WARFSA.

By most accounts, IWSD, overall, has done a good job in running the Fund management system. Most WARFSA researchers interviewed seemed to be satisfied with the way IWSD has been handling WARFSA proposals and projects. In particular, IWSD, by and large, appears to have been able to maintain rapid response times which is one of the most cherished features of WARFSA, critical to the Fund's viability and credibility.

Communications between IWSD and grantees seem to have been good for close-by grantees in Zimbabwe, but not always so smooth and effective vis-à-vis grantees in other countries, perhaps given the difficulties and time lags involved in communication across countries in the region. There seems to be some room for improvement here.

At the same time, lack of communication has been a problem among some of the WARFSA applicants in the region. A case in point is the approval of a proposal on biological control of water hyacinth from Zambia for which the funding offer was eventually retracted due to lack of response.

There is no indication that the Research Board is not satisfied with the performance of IWSD as the Fund manager. To the contrary, IWSD was commended by some Board members on their effective handling of their management responsibilities.

In sum, while Fund management overall appears to have been effective and ably handled by IWSD, interviews with grantees pointed to *room for possible improvement in the following areas*:

- Communications with grantees in countries other than Zimbabwe – could perhaps be smoother and more regular; but communication difficulties due to poor infrastructure and unresponsive applicants and grantees are difficult to avoid;
- 'Transit' time, from Board project approval to informing applicant of funding decision – could sometimes be faster;
- Release of payments – could be speedier; there have been delays (experienced by grantees in countries other than Zimbabwe);
IWSD argues that the problem is mostly due to inefficiencies within the banking systems in the region (e.g. failure to locate funds that have been transferred), inquiries by IWSD vis-à-vis grantees

for them to explain certain expenditure items in their financial reports to allow IWSD to defend these expenses during Board meetings, and/or the requirement that funds can only be released following Board meetings upon approval of narrative and financial progress reports by the Board;

- Payments – in some cases considered too small, too tight control on finances hinders research progress;
here, IWSD points out that it is up to the grantees to request realistic amounts of funds based on the work plan submitted – problems can arise where grantees request smaller amounts than effectively needed (e.g. to avoid losses due to depreciating local currencies) or more than what is in the budget, or where grantees run into the limit of 10% of the budget that is retained and released only once a satisfactory final report has been submitted;
- Access of project funds for participation in Symposia should be well defined (it could be built into the project budget);
- IWSD to consider retaining USD funds to pay for larger pieces of equipment on behalf of grantees, to avoid large foreign exchange losses (e.g. in Zimbabwe at present);
according to IWSD, this option has already been used for large pieces of equipment, but some grantees tend to abuse the system by requesting smaller US\$ payments to various suppliers; IWSD suggest that grantees try and operate US\$ accounts, and this possibility, where feasible, may be encouraged more systematically;
- *Guidelines on how and when to prepare financial statements* – could be clearer, specific issues being:
 - financial and payment system not described in great enough detail;
 - what are the rules on how to factor in exchange rate changes;
- *Proposal guidelines* – could be improved, they are perhaps too science-oriented, other specific issues being:
 - make sure the guidelines are consistent with current practice;
 - the log frame format is not always sufficiently understood or taken seriously enough – perhaps expand on guidelines for how to do log frames by attaching a more solid 3–5 page paper on the log frame approach describing purpose and method in an accessible fashion and greater detail¹⁶ (this could be part of a training workshop as well);
 - IWRM is not always properly understood by applicants – expand on description of IWRM approach in proposal guidelines and Fund promotional materials (this has already been part of training workshops so far);
- *Guidelines for narrative progress reports* – could be strengthened, to improve the quality of the progress reports – they are still too variable in length, coverage, details, etc.

One of the ways to strengthen the guidelines for proposals, narrative progress reports, and financial reports (and also guidelines for referees – see 3.9) in an inclusive participatory fashion, may be to bring together a group of selected WARFSA researchers (and referees) in order to identify improvements and revise the guidelines. Alternatively, this could be done by organising a special session at the annual symposium, utilising the presence of many WARFSA researchers.

¹⁶ One possibility would be to commission Prof. Alaphia Wright, the current WaterNet Chairperson and a resource person on logframes, to prepare such a brief 3–5 page paper for WARFSA. Prof. Wright presented a paper on "Re-engineering of interlocking log frames – an irrigation project design case" to the Oct.2001 WaterNet/WARFSA Symposium in Cape Town.

Relating to areas of IWSD responsibility e) and f) above, it is clear that even though it is the jurisdiction of Research Board to approve projects, IWSD has considerable influence on which projects end up getting funded, namely by virtue of making, for each proposal, a series of decisions during the review process on whether to allow the project to go forward to the next stage of review (or whether to reject the proposal) and eventually on whether or not to include the proposal among those that are selected by IWSD for submission to the Board. This responsibility of shepherding proposals all the way through the review process gives IWSD significant influence on what gets funded and what does not and an important implicit de-facto role in the project approval decision-making process. Indeed, the Board only looks at the sub-set of proposals that is forwarded by IWSD, without reviewing the larger set of proposals that were okayed by the referees and that could have been submitted to the Board.

IWSD's existing de-facto authority over proposal selection for Board approval and its accumulated experience in shepherding proposals through the proposal review process suggest that IWSD is likely to be reasonably prepared to take on greater formal responsibility for project approval (within certain budget limits).

Finally, how would the Fund management system be affected *if WARFSA expanded* and how could IWSD staff cope with the increasing numbers of proposals and projects and the associated rising demand on their time, in terms of communications with larger numbers of WARFSA partners and associates and otherwise? It seems that at the moment the Assistant Manager's time and the Secretary's time may not be entirely utilised on Fund business, even though during peak times (prior to Board meetings) there is already a need for their working overtime. Therefore, IWSD could absorb some (modest) expansion of Fund activity with existing human resources. But should the size of the capital fund increase significantly (say, double or triple), then additional resources would certainly soon be required. Additional pressure on IWSD's resources could also result from a reduction in the project budget ceiling (see 3.1) leading to more projects being funded, even without an expansion of the capital fund.

3.9 Referee system

The WARFSA referee system is widely acknowledged among WARFSA grantees, Board members, the Manager, as well as by the referees themselves, as vital to the success of the Fund. The referees provide critically needed peer review, contribute to the quality of proposed research, help to build capacity among the applicants, and reap benefits themselves.

First of all, how big is the group of WARFSA referees? The WARFSA overview brochure lists a total of 77 referees, but that list appears to be somewhat outdated. There may well be an overall number of more than a 100 referees now.

Second, what is the procedure of project review? Each proposal received by the Fund Manager (IWSD) is sent to 2–3 reviewers to begin with, and possibly several more, if there are no (timely) responses from the initially selected referees and/or if the referees' comments diverge significantly, making it necessary to seek additional opinions. The referees are asked to provide early feedback – within two weeks time – in order to keep time delays to a minimum. However, due to lack of response and divergence of opinion among referees, some proposals have had to be sent out to (up to) 9 referees for comment, with correspondingly slower review processes. Referees do not receive any fee for reviewing projects.

The referee system seems to have worked reasonably well, and there is little doubt that it has contributed to the quality and relevance of the proposals that have been funded. For instance, most if not all of the 13 proposals submitted to the Board at the Oct. 2001 meeting showed clear evidence of improvement through referees' comments which often were quite detailed, balanced and helpful. On the other

hand, this is but a small sub-set of the total number of proposals being processed at any given time, and the referee system certainly has not been without its problems, real or perceived. The following issues and challenges were mentioned during the interviews:

- As pointed up above, a sizeable proportion of referees do not respond, or respond late, thus delaying the review process;
- Not all referees may be (seen by colleagues to be) sufficiently qualified – both relatively experienced senior professors and relatively inexperienced students may be on the list of referees;¹⁷
- There are some reported cases where referees not able to do a requested proposal review passed the proposal on to a colleague for review, without necessarily involving IWSD in the process – this makes it more difficult to maintain quality standards;
- Referees receive no further feedback on any of the proposals they review – they would appreciate being kept informed about what happens to ‘their’ proposals, particularly those that end up being funded, and they could be involved in the review of progress reports for (and possible monitoring of) projects they reviewed at the proposal stage; and
- The referee guidelines perhaps should be reviewed to provide better guidance on the level of detail of the desired comments. Overall, however, the majority of respondents found the guidelines adequate or even excellent.

How seriously have ‘responsive’ referees taken their role as proposal reviewers? To judge from the interviews with referees, a fair number of them appear to give it relatively high priority and put in considerable effort, spending up to 2 days on any proposal review¹⁸ and turning in their comments without much delay. Most of them acknowledge that as researchers it is their job and lifeline to review proposals. They recognise the value to them of doing proposal reviews, in terms of finding out what is going in the field, learning from others’ ideas, thinking deeper on different issues, being in touch with a network of researchers, and gaining in professional recognition.

On the other hand, referees are somewhat split on whether they should be given some remuneration for their reviews. Some, probably a majority, suggest or even insist that a small nominal fee (perhaps on the order of \$100 US) could make a significant difference in providing additional motivation for referees to do a better and more timely job. It could thus cut down on the number of non-responses from referees as well as reduce time delays associated with reviews. Others say that the pecuniary aspect does not really matter that much.

Whatever the balance among these views and whatever the financial feasibility of paying a honorarium¹⁹, a strategy of enhancing the non-monetary value to referees of doing reviews could go some way in lessening the importance of any remuneration to referees. Such a strategy might be two-pronged –

- i) to raise the quality of the referee system by putting the greatest possible effort into identifying and selecting the best qualified referees reviews – continuing to search for qualified candidates as widely as possible²⁰, developing a data base on the referees and their performances, eliminating from the

¹⁷ In one case, a university lecturer was surprised to find out that one of his students had been asked to review a WARFSA proposal.

¹⁸ The reported (net) time spent by referees on reviewing any one WARFSA proposal ranges between 2 hours and 2 days.

¹⁹ WARFSA received 131 proposals by October 2001. Assuming an average of 3 reviews per proposal, a honorarium of \$100 US per proposal would translate into an overall cost of about \$40,000 US, a very sizeable and possibly not sustainable amount.

²⁰ IWSD has been using various methods to identify qualified referees, including: going through some of the most prestigious regional and international journals, reviewing relevant conference and workshop proceedings for possible individuals, drawing on the knowledge of relevant contacts, and personally interacting with water sector professionals in the region and beyond.

roster those referees habitually not responding or handing in sub-standard reviews, on the other hand providing positive feedback to those referees submitting rigorous detailed reviews on time, periodically publicising lists of such above-average performers (e.g. such lists could be published in the IWSD newsletter), and possibly engaging some more qualified researchers from the North who are familiar with the region²¹ – and in this way to gradually enhance the perceived professional recognition and honour associated with being a WARFSA referee; and

- ii) to more closely integrate referees in WARFSA and give them a larger role and profile by providing them with more feedback on projects that get funded, involving them in the review of progress reports and final reports (where it would be more appropriate and feasible to pay a modest honorarium), drawing on them in in-situ project monitoring, inviting frequently used above-average performing referees to attend national seminars and annual regional WaterNet/WARFSA symposia (where top performers could be honoured), and generally promoting greater interaction within the referee community.

3.10 Supervisory/backstopping facility for the grantees

This sub-section reviews WARFSA's governance system, i.e. the role, responsibilities and functioning of the Research Board, assessing strengths, weaknesses, and possible constraints, particularly in the context of what is likely to be an expanding Fund.

The Board consists of 12 governors plus the IWSD-based Fund manager and the IWSD Executive Director as ex-officio members. A Harare-based regional Sida officer has been attending Board meetings as an observer. Eleven Board members (including the IWSD representation) are from countries in the Southern African region, while three members are from the North (Sweden and the Netherlands).

As its name suggests, WARFSA's Research Board is composed foremost of researchers and research managers. From the beginning, the Board adopted a very hands-on style, claiming jurisdiction over and assuming full responsibility for all project approval, funding and disbursement decisions. Meeting semi-annually in April and October, the Board's main tasks have been:

- To set or amend WARFSA policies and procedures;
- To review all projects submitted for Board consideration and make decisions on which ones to fund; and
- To review progress reports and financial reports for all active (ongoing) projects, and to make decisions to further disbursements of funds, subject to acceptability of narrative and financial reports.

Initially, the Board's main concern understandably was with developing and putting in place a workable system of policies and procedures so that WARFSA could get underway smoothly and effectively. Over time, as policies and procedures evolved and consolidated, and the accumulated number of active projects increased, the Board's attention and allocation of time during Board meetings increasingly shifted to reviewing proposals and progress reports and making project-level funding and disbursement decisions.

The rationale for the Board's hands-on style appears to have been to ensure the greatest possible quality and highest possible standards of research and to take and maintain as much control over funding and disbursement decisions as possible. In other words, the concern was to put WARFSA on

²¹ This was suggested by one of the WARFSA project PIs who has also acted as a WARFSA referee. According to IWSD, there are already some Northern referees being used, but the list could be expanded.

the map as a credible and transparent as well as flexible and responsive mechanism for water-related research support in the region. The concern with credibility and transparency was likely heightened by the fact that the Fund wanted to demonstrate the feasibility and effectiveness of governing and managing the Fund from within the region, including all resource allocation decisions (project approval, funding, disbursements, etc).

The combined numbers of active projects and new proposals to be processed at Board level has now increased to a point where questions are starting to be asked about the feasibility and sustainability of the system. If the Fund's financial resources expand significantly in future, as is possible or even likely, then the accumulated numbers of projects and proposals and volumes of documents to be reviewed and processed will increase further and the pressure on the current organisational system at Board level is bound to rise further. While the hands-on style of the Board was motivated by considerations of ensuring quality control, the Board's very ability to exercise its quality control function may be increasingly compromised, unless some adjustments and changes are made. Various options to alleviate pressure and reduce workloads exist and could be combined:

- *Re-organising work procedures among Board members* – e.g. proposal and project review work could be divided up among smaller sub-groups of Board members and not every Board member might be expected to be actively involved in every Board-level project decision; it is doubtful that such procedural changes at Board level would be enough to cope with rising workloads, particularly if the Fund expands significantly in future; as well, work re-organisation, if carried too far, might become counterproductive and undermine oversight and quality control capacity at Board level, as individual Board members may come to review ever smaller proportions of expanding sets of proposals and progress reports and increasingly rely on some of their colleagues' judgements, and as project funding decisions are effectively made on the basis of more narrow inputs and reduced review efforts at the Board level.
- *Delegating limited authority for project approval to IWSD* – this could be instituted for projects up to a certain upper budget limit, perhaps starting with half or a third of the project budget ceiling; there is some confidence, on at least on three counts, that this could work:
 - IWSD already is making a series of decisions during the proposal review process that influence the project approval and resource allocation outcomes;
 - IWSD has been running the DANIDA-supported Consultancy Fund which has left all funding decisions entirely in the hands of IWSD, with its hands-off Board dealing solely with broad policy decisions (see sub-section 3.15); and
 - IWSD would be assisted by the referees' reviews, and could take full advantage of the referees' efforts and expertise in reaching funding decisions; there is a feeling that in Board-level approval decision-making processes, not all Board members have perhaps been giving enough weight to the referees' comments, even though referees tend to be selected for a review on the basis of their special expertise relating to the topic at hand and typically put in much more review time than Board members are able to – in fact, for any particular proposal, referees may collectively invest some 10 times as much time, on average, as Board members can put in collectively.²²
- *Delegating a detailed review of progress reports to referees* who have the time and (if given a modest remuneration) an added incentive to a thorough job – specifically those referees who reviewed the respective projects at an earlier proposal stage could be engaged; the referees' written comments (perhaps

²² Assuming an average of three referees per proposal, two successive reviews, and an average time of one day spent per referee per proposal, an average collective total of 6 days or 48 hours is invested by referees per proposal. By comparison, Board members collectively are likely to spend less than a day reviewing each proposal.

some 2–3 pages long), instead of the full progress reports, would be submitted to the Research Board for review and a decision on the release of further funds; this process would be more effective, since the researchers' progress reports could be reviewed more carefully and more detailed and useful feedback given to the researchers (thus improving the learning process), and interactions between grantees and referees could be strengthened.

- *Developing special programmes* that are segmented off from the Fund in terms of funding modality and run in a largely self-managing and self-governing fashion, but within the overall conceptual and institutional framework of WARFSA;

Efforts to become more proactive and directive in addressing major regional research priorities in the region, as identified and defined by multi-stakeholder processes (see sub-sections 3.5 and 3.7) could also have implications for how WARFSA might be governed in future. A case could be made to go further than inviting stakeholder groupings like the National/Regional Water Partnerships to identify key IWRM issues and related research priorities. There should arguably be continuous stakeholder input and participation at the level of WARFSA's governance structure, to ensure that critical issues from a stakeholder perspective are addressed and funded research is effectively used.

At present, the WARFSA Board is a *Research Board*. At least two options exist to strengthen stakeholder participation in overall WARFSA governance:

- Expand the present Board to include regional stakeholder representatives (from GWP SA, SADC WSCU, or national stakeholders) – at the same time the Board could form a smaller regional Research Executive Committee to handle all research-related aspects on behalf of the Board; the Board might meet only once a year, while the Executive Committee might meet twice a year;
- Create a new tier of governance – a regional Steering Committee comprised of stakeholders in the region²³ – and set up a structure and process for interactions between the Steering Committee and the Research Board.

A final observation on the work procedures adopted so far by the Research Board. While Board members certainly work hard and spend considerable time on the detailed review of all WARFSA proposals that are submitted to the Board, curiously they do not appear to have been concerned with those WARFSA proposals that do not reach them – or with how IWSD selects projects for Board consideration or on what basis IWSD rejects proposals. It may well be worthwhile for the Board to get a sense of some of those other proposals in order to be able to put the ones they see in the larger context of the overall spectrum of funding requests received by WARFSA.²⁴

3.11 Country-wise representation of grantees and Research Board members

Table 1 below provides an overview of proposals submitted to date, by country, and whether they have been funded, rejected, or are still under review. Note that proposals submitted to the Board but not funded for one reason or another, may be re-submitted to IWSD, but as new proposals competing anew with other proposals and under a new project number. It thus appears that such proposals effectively appear twice under 'total received' as well as appear both under 'rejected' and under either

²³ Such a steering committee was proposed by one of the working groups set up during the WARFSA preparatory workshop in March 1998 (see workshop report).

²⁴ To be fair, IWSD has always provided the Board with a list of all those proposals rejected (and why), those under review, as well as those whose files have been closed and why. But the Board has not discussed these other proposals lately, perhaps for lack of time.

‘under review’ or ‘funded’, depending on whether they have been funded after re-submission. It is not clear how many such proposals exist.²⁵

Table 1: Proposals submitted to WARFSA, as of October 2001

Countries	Total received	Approved projects	Active projects	Rejected proposals	Proposals under review
Mozambique* **	1	0	0	0	1
Botswana**	1	0	0	0	1
Malawi* **	5	0	0	1	4
Swaziland	2	1	1	0	1
Namibia*	7	2	1	2	3
Tanzania* **	18	2	2	3	13
Zambia* **	12	3	2	2	7
South Africa* **	23	3	3	9	11
Zimbabwe* **	63	15	14	23	25
Total projects	132	26	23	40	66

Notes:

(1) This table is adapted from Table 1 in IWSD's report to the 6th Board meeting, October 2001. Five projects approved at the October 2001 Board meeting are included as 'approved projects' as well as 'active projects'. Also included are three projects for which funding offers were not taken up (difference in numbers between approved and active projects).

(2) One asterisk * denotes country representation within the initial WARFSA Board (1999-2001); two asterisks ** denote country representation within the 2nd WARFSA Board (2001 – present); * ** denotes representation within both Boards; and no asterisk means no representation at Board level.

(3) No proposals have yet been received from the following continental SADC countries: Angola, DRC and Lesotho.

It is apparent from the table that about 60% of all approved and active projects are from Zimbabwe.²⁶ On the other side of the spectrum, one or two proposals have been received from Swaziland, Botswana and Mozambique, and none from Lesotho, Angola and DRC. Several factors are likely to account for the dominance of Zimbabwe among WARFSA grantees:

- The regional Fund manager, IWSD, is located in Harare and hence much more accessible to Zimbabwean applicants than applicants from other countries.
- In comparison with most other countries in the region, Zimbabwe historically has had a superior education system and hence today enjoys greater local research capacity and diversity. There is little doubt that this has contributed to far more and better proposals being received from Zimbabwe.
- With IWSD's direct presence in Harare, advertising and promoting WARFSA in Zimbabwe could be done more easily and faster than in other countries. It has taken more time and greater effort to reach other countries and establish some visibility there.

²⁵ An example is the project entitled "Quantifying precipitation use efficiency for maize-bean intercrop" (South Africa). This project was submitted to the April 2001 Board meeting but could not be funded because it was outscored by five other projects, hence being ranked No.6, on the basis of the composite scoring index. The same project was re-submitted to the October 2001 Board meeting and funded as No.1 on the list.

²⁶ South Africa, of course, is a still greater research powerhouse than Zimbabwe and would likely outshine even Zimbabwe on winning WARFSA grants, were it not for their own water research fund. A tiny-percentage levy on all water consumption in South Africa is used to replenish their water research grant, currently to the tune of some \$ 8–10 million Rand annually. This represents 3 times as large a resource pot as WARFSA so far and largely meets domestic water research demand. This explains the under-representation of South Africa among WARFSA projects.

- The first 2-week training course in proposal development was held in Zimbabwe. Training courses or seminars in other countries (Zambia, Malawi, Tanzania and Botswana) followed later.
- Zimbabwe has had the strongest *representation* of all countries on the *Research Board*. The initial Board of 12 members was not only chaired by a Zimbabwean but had two other members from Zimbabwe. Other Board members came from South Africa (2), Zambia (1), Malawi (1), Tanzania (1), Namibia (1), Sweden (2) and The Netherlands (1). There was no representation from the following continental SADC countries: Botswana, Mozambique, Angola, Swaziland, Lesotho and the DRC.

The change in Board composition after two years, in April 2001, reduced the Zimbabwean dominance and diversified country representation somewhat. One Zimbabwean and one Namibian Board member were replaced by two Board members from Botswana and Mozambique, respectively. As well, the chairpersonship shifted from Zimbabwe to Malawi.

- Zimbabwe's current uncertain funding climate is likely to have left more local researchers looking for project funding, with resulting greater demand for accessible, flexible and rapid-response funding mechanisms like WARFSA.

In the light of these factors, and given that WARFSA grants funding on a competitive basis, it is not entirely surprising that Zimbabwe features so strongly among the grantees. IWSD's and Board members' efforts to increase visibility and mobilise interest in other countries should, in time, make some difference and generate more proposals from those other countries, hopefully translating into more of them successfully reaching funding stage.

It is doubtful, however, whether such efforts can change the situation fundamentally. It is more likely that as long as WARFSA adopts a competitive approach to research grant making, a country like Zimbabwe, will continue to have an edge because of the capacity and ability of her researchers to produce higher-quality proposals. This strongly suggests that if WARFSA is serious about working in the whole region, including in countries with a weaker research capacity, it cannot expect to be able to do this by running research competitions only. Rather, some diversification of funding modalities seems to be called for, toward more directive and proactive methods of building capacity in the less developed countries and regions of Southern Africa. This capacity-building challenge is further examined, and related options further developed, in sub-section 3.13.

3.12 Representation of research areas

WARFSA five eligible research areas and 26 sub-areas, as presented in WARFSA Operational Guidelines and Statutes, are reproduced in Appendix E. Table 2 summarises the representation of the main research areas within the set of 26 approved and 23 active WARFSA projects. Most projects fall under area (i). Far fewer projects deal with socio-economic and particularly, policy & legal issues. This is not too surprising, given the continuing, though diminishing, preponderance of engineers among water researchers.

A comment on how the WARFSA eligible research areas are presented. It appears that their delineation appears to reflect more traditional reductionist than holistic thinking, with some areas (e.g. socio-economic issues, and policy & legal issues) seemingly defined in a distinctly disciplinary fashion. For a research fund expressly dedicated to promoting and supporting integrated water resources management (IWRM) -type research, this impression is unfortunate. It is recommended that the list of research areas be re-cast in ways that highlight their integrated and holistic nature. In addition, if WARFSA research areas are to be defined in ways that reflect stakeholder needs and priorities, as this evaluation argues they should, then the current list might be re-fashioned so as to more clearly picture

stakeholder entry points as well as highlight the complex and multi-faceted nature of water problems to be tackled in an integrated and multi-disciplinary manner.

Table 2: Representation of research areas among WARFSA projects

WARFSA eligible research area	Approved projects	Active projects
(i) Water use, conservation and technologies	16	14
(ii) Social, political and economic issues	7	7
(iii) Policy and legal issues	2	2
(iv) Ecological water requirements	3	3
(v) Rainwater harvesting	3	2

Source: WARFSA Operational Guidelines and Statutes, revised draft, 2001, pp.13–14.

Notes: (1) Earlier WARFSA promotional material show only four research areas, with (i) and (iv) merged.

(2) Some projects relate to more than one research area – which explains the project totals are larger than 26 and 23, respectively.

3.13 Capacity-building (e.g. through training courses)

As pointed out earlier, capacity-building has not been one of the specific objectives of WARFSA (see sub-section 1.3 and Appendix A). Nevertheless, the mixed quality of proposals received suggested that few researchers in the region were fully able to develop relevant and sound research proposals for immediate WARFSA support. In order to broaden the range of potential clients and attract, or facilitate the development of, a greater number of higher-quality proposals, WARFSA has engaged in capacity-building efforts, on several fronts:

- *Two-week training workshops on research proposal development* – they were held in Zimbabwe in July 2001 and later on in Zambia. IWSD developed a 121-page ‘research proposal development manual’ in support of these training workshops. The manual not only covers proposal development and writing as such, but also represents a kind of primer on research methodology issues. The first training workshop in Zimbabwe produced a number of proposals, without giving an assurance or guarantee that they could be funded, due to the competitive nature of the Fund. Due to its length²⁷, the training workshop was later replaced by shorter one-day awareness building and training seminars which were held in several countries (Malawi, Tanzania, Botswana).
- *On-the-job training of graduate students carrying out thesis research* toward their MSc, Mphil, PhD or Dphil degrees, as an integral part of WARFSA funded research projects. Already, 15 of the 23 active WARFSA projects provide a project home for one or more students to undertake such thesis research.
- *The referee system* (see sub-section 3.9) contributes importantly to research and proposal writing capacity building through peer review of proposals;
- *The annual Symposium* allows grantees to develop and test presentational skills and exposes the grantees to valuable peer critique;

²⁷ The length of the training workshop was a factor in Namibian WARFSA partners deciding not to accede to IWSD’s offer to hold such a workshop in Namibia.

- WARFSA has funded *project monitoring visits*, for this purpose engaging suitable resource persons to interact with WARFSA project teams considered to be facing difficulties (so-called ‘problem projects’). The monitoring visits have been brief but long enough – on the order of one day – to provide time for going through all aspects of the research in some depth. Three WARFSA projects have so far been monitored this way. The experience appears to have been good.

Various other capacity-building exercises on critical aspects of IWRM research in the region might be contemplated, including:

- *Short training workshops on research methodological aspects*, such as IWRM frameworks, gender research methods, and multi-disciplinary research approaches – possibly jointly with stakeholders or in conjunction with stakeholder policy workshops on these aspect, and building on the existing one-week IWRM training courses offered by IWSD for stakeholders, GWP SA’s planned gender workshops for regional stakeholders, or other relevant course and workshops.
- *Short training workshops on research project design and management*, including how to use log frame techniques – building on the research proposal development workshops and seminars held to date as well as IWSD’s research proposal development manual.
- *Establishing a special WARFSA programme dedicated to improving MSc-level IWRM thesis research in the region* – this idea was raised by a WARFSA grantee/ referee and was welcomed by a variety of grantees, referees, and Board members during interviews. The proposed programme, run on a ‘quasi-competitive’ basis, might support the best 10-15 MSc/MPhil thesis research projects in the region that are not yet already supported within WARFSA projects²⁸ and meet specified conditions in terms of thesis topic, field research to be carried in the region, suitable institutional affiliation, written thesis advisor support, etc, could qualify in principle. The attribute ‘quasi-competitive’ means that available grants would be offered on the basis of the quality and utility of the proposal, but with extra scoring points earned by students from countries with capacity problems, so as to avoid concentrating the support in the countries with a stronger research capacity. Women would be encouraged to apply.

Students completing the planned regional MSc degree programme in IWRM organised by WaterNet, would be prime candidates to apply for this research grant facility, but only some of them could be supported. The programme could possibly be organised in collaboration with interested regional research centres which could provide ‘research homes’ for some of the MSc students. With a budget ceiling of perhaps \$5,000 (MSc thesis research project) or \$10,000 US (MPhil research) over periods from six months (MSc thesis) to 24 months (Mphil research), this special programme could be sustained financially on less than \$100,000 annually over the next few years. Yet the regional impact could be considerable.

It is normally at the Masters level that students have the opportunity to do their first major piece of research. Masters research in the region suffers from chronic lack of available funds, often forcing students to carry out unexciting and unimportant desk studies. Even modest financial support could make a huge difference to the sophistication, quality and relevance of MSc research, allowing the students to do field research and get important field experience. Such support could ensure that this first major research experience becomes a worthwhile one, giving students the necessary positive attitude, confidence and methodological tools to continue on with water research and boost the region’s research capacity, or to put to good use their acquired analytical skills in the planning and implementational challenges they will face as future water managers or policy makers.

²⁸ Several WARFSA projects already provide homes for students to carry out thesis research toward their MSc degrees.

Recent development experience in the region suggests that it will continue to be people with a Master-level (or lower) formal education who will form the backbone of the human resources capacity, supplying the managers and policy-makers (and in some countries perhaps even tertiary-level teachers and researchers) necessary for development. The water sector is unlikely to be an exception to this pattern. By dedicating a relatively modest portion of the WARFSA financial resources to exposing the best and brightest of a new generation of water managers and policy makers to a more rigorous and richer research experience at Master level, WARFSA could make an important contribution to sustainable development in the region.

PhD-level students in the IWRM arena, of course, also need research support. But it can be argued that the existing WARFSA competitive grant funding mechanism already caters for this group. At the PhD level, research takes longer, is more expensive and of a level that it can be considered under the existing competitive WARFSA grant funding mechanism or under the proposed non-competitive grant funding mechanism, if it cannot garner support from other sources. Indeed, WARFSA is already funding several PhD thesis research projects as well as supporting PhD-level research as an integral part of other WARFSA projects.²⁹ Also, WaterNet has a facility – called Staff Development Fund (see 3.15) – which can be used, among others, to support PhD thesis research in the region.

- *Using WARFSA referees for the purpose of in-depth review of progress reports* submitted by WARFSA grantees, thus contributing to capacity development among grantees and at the same time reducing the workload of Board members (see sub-section 3.10).
- *Organising meetings between IWSD and selected WARFSA researchers and referees to review and improve existing guidelines* on proposal submission (e.g. add substantive but brief write-ups on the essence of IWRM approaches and log frame analysis), proposal review by referees, and how to prepare progress reports and financial statements.
- *Development of a CD on how to write effective proposals* – such CDs already exist for certain target groups³⁰ and might be adapted.

Non-competitive funding mechanism

However, none of these methods could address research capacity-building needs in the region perhaps as fundamentally as diversifying the very project development and funding modalities of the Fund. Research grant competitions, as other kinds of competitions, arguably work most efficiently and equitably where the playing field in endowments and capacities across potential contenders is approximately level. On the other hand, approaches to research grant allocation that are based on market competition tend to benefit the stronger contenders at the expense of the weaker contenders, and thus narrow the range of potential participants, in contexts where there are marked differences in research endowments and capacities. The latter is certainly the case in Southern Africa.

Based on this observation, a complementary non-competitive funding mechanism might be introduced to broaden WARFSA's work in the region and an appropriate portion of the Fund capital be segmented off in support of this mechanism. This new modality could be dedicated to providing support for interesting and promising but overall still weak proposals, often but not exclusively from historically disadvantaged countries. The new segment of the Fund could and should also be used to cover the costs of training and capacity building necessary to develop and improve these proposals to the point

²⁹ WARFSA projects on "Analysis of hydrological droughts" and "Mupfure basin: land-use, groundwater- surface water interactions", both carried out by Zimbabweans, are examples of PhD students pursuing their individual thesis research with the support of a WARFSA small grant.

³⁰ For instance, Oxford Learning Space recently produced a CD entitled "Proposals that make a difference – How to write effective grant proposals: a manual for NGOs" which might be adapted for WARFSA purposes.

where they can be funded. The point is that these proposals would not have to compete with others for financial support but would have a de-facto funding guarantee, subject to necessary efforts to be made to bring them up, in time, to an acceptable level of quality and utility. The development and implementation of such proposals could be backstopped in various ways, including use of consultants (which may be recruited from among the WARFSA referee group) to visit the applicants and work on their proposals.

How could such proposals be pinpointed? A starting point would be for the Research Board not necessarily to reject all proposals that cannot be funded during any one sitting, as is current practice. Interesting and promising proposals that are outscored by others and could not be funded right away, but are still worthwhile pursuing, might be separated out into a select group of proposals that are earmarked for funding in principle, with an understanding that steps would have to be taken to improve the proposal, on the basis of comments from Board members, referees, and others and with the financial support from the Fund and possible input from consultants. In other words, these proposals, once identified, would be pursued outside the competitive grant allocation process. The latest Board meeting revealed that there are such proposals which are likely to be lost opportunities in the present system but which could be captured and nurtured as embryos for useful evolving research and important related research capacity development.³¹

National strategies for capacity-building in IWRM research

Finally, in order to prioritise above-mentioned and other possible capacity-building measures and methods, and tailor them to local needs, it would be useful to develop national capacity-building strategies for IWRM research, starting with the countries having weaker research capacities. Such strategies could be developed on the basis of country-level situational analyses and needs assessments for IWRM research capacity, which could be commissioned perhaps with funding from the Consultancy Fund.

3.14 Collaboration between researchers within the region and North-South

Regional collaboration

One of the serious constraints faced by most researchers in the region, as elsewhere in the developing world, is that they still work largely in isolation from each other. As a result, local researchers are often not aware of what is going on in neighbouring countries, even in their own field of speciality. This makes it difficult to build on research carried out by others in the region, with attendant risks of inefficiency by 're-inventing the wheel' and duplicating work already done.

Regional collaboration among researchers is an essential ingredient in addressing issues affecting more than one country (such as joint or co-ordinated management of shared water resources in international basins) or other issues that are of common concern. Most integrated water management problems are, indeed, common to a number of countries in the region or even directly shared by some of them. This calls for collaborative or at least co-ordinated research among linked research teams to tackle these problems.

³¹ For instance, at the most recent WARFSA Board meeting (October 2001) an interesting but not well-focused and seemingly unmanageable proposal entitled "The effect of awareness on the recovery of bills in the water sector in Zambia" was considered by some Board members to have considerable potential. There was also a closely related proposal on aspects of urban water service delivery ("A survey of willingness and ability of households to pay for water"). With the new project funding mechanism proposed, these two proposals could have been pursued further, with the necessary assistance, toward a viable research project addressing critical issues in urban water service delivery using private companies in Zambia. This could also be the beginning of a larger regional research effort supported by WARFSA on issues of efficient, equitable and sustainable water service delivery in urban areas in the region – a problem area so far not addressed by WARFSA.

Regular contacts and, indeed, networking among researchers is also vital for capacity-building purposes. Peer interaction and peer review of research in progress create contexts within which researchers, particularly younger researchers, have the opportunity to learn from others.

For these reasons, promoting regional collaboration has been one of WARFSA's aims. The following mechanisms and methods have served to move toward this aim:

- Flagging regional (south-south) collaboration in calls for proposals and promotional brochures, as something that is generally encouraged by WARFSA;
- Including 'collaboration' (intra-team, intra-country as well as inter-country) as one of five criteria on which Board members score proposals (others being relevance, scientific quality, research team, and budget);
- Holding regional symposia once a year to bring WARFSA grantees together with each other and the larger WaterNet community;
- Peer review of research proposals using WARFSA's system of referees.

How much regional collaboration has, actually, taken place within the set of WARFSA-funded projects? Of all 26 approved (23 active) WARFSA projects, three have involved regional collaboration. This is not much. On the other hand, the time and transaction costs to develop and cultivate regional research collaboration are generally considerable. Where team collaboration across countries does not already exist or is already being pursued for other purposes, it can hardly be expected to materialise in connection with applications for WARFSA competitive small grant support. Rather, regional collaboration within WARFSA projects has been a by-product of ongoing collaborative processes. This is unlikely to change, unless WARFSA decides to become more proactive and directive in targeting and channelling its research support, diversifying away from the competitive approach to funding allocation used to date.

Indeed, within a more proactive and directive programme approach to research funding it would be much more feasible to devise (usually complex) institutional arrangements for co-ordinated and collaborative research in the region. For instance, for any given priority issue area (such a shared water management, municipal water service delivery, or rainwater harvesting), key researchers and stakeholders invited to an initial regional programme definition workshop could establish the state of the art (in terms of policy, practice and research) in that issue area and hammer out the parameters and priorities for a regional programme, including institutional collaboration aspects. WARFSA could then allocate an appropriate portion of its financial resources to funding this programme, thus dealing with some of the risks inherent in regional collaboration.

As far as regional peer interaction opportunities for younger researchers are concerned, WARFSA could make a proactive effort to find 'research homes' for them at major research centres in the region, by entering into active partnerships with these research centres. This modality could be particularly relevant in connection with the proposed MSc-level thesis research support programme (see capacity-building sub-section 3.13).

There may also be more or different ways to encourage regional collaboration under the present competitive set-up of WARFSA:

- Giving 'regional collaboration' a greater weight in the Board-level proposal scoring and ranking process;
- Making the scoring emphasis on regional collaboration more explicit in the promotional materials;

- Bringing WARFSA grantees and referees together for deliberations on how to work together more effectively;
- Developing twinning arrangements between institutions and researchers in the region, seeking to transfer research skills and capacities to disadvantaged countries in the region; and
- Allowing for a higher budget ceiling for projects engaging in cross-country collaborative research (see 3.1).

North-South collaboration

North-South research collaboration is important in that it provides researchers in the region with access to resources (information, literature, cutting-edge research methods and equipment, etc) as well as perspectives from the North. WARFSA, therefore, has encouraged North-South collaboration, and this is reflected in WARFSA pamphlets.

North-South collaboration was built into WARFSA from the outset. Its common origins with WaterNet entailed a strong linkage with IHE in Delft, The Netherlands (see sub-section 3.15), and at the level of the 12-member Research Board, three members have been from the North (two from Sweden and one from The Netherlands) all along.

Only one WARFSA project features some North-South collaboration – with researchers in the US. This not surprising, since the complexities and transaction costs of institutional arrangements with Northern groups are considerable. WARFSA competitive small project support cannot realistically hope to facilitate the creation of project-level North-South links. But it can build on those already existing and strengthen them.

North-South collaboration could be integrated into WARFSA in yet other ways:

- At the level of the referee system – by inviting (a small number of) selected Northern researchers, with experience in the subject matter as well as the region, to join the roster of referees and to make themselves available for reviewing WARFSA proposals; and
- At the level of capacity building – specifically within the proposed MSc thesis research programme where MSc students could be placed at major regional (field) research centres while carrying out their thesis research and during this time, interact with resident Northern guest researchers and PhD students.³²

3.15 Linkages to the Consultancy Fund, WaterNet, and any other relevant institution/initiative

Consultancy Fund

The Consultancy Fund (CFund) was formally established in February 1999 with DANIDA support (approximately same level of support as WARFSA – \$1 million US over three years). Like WARFSA, CFund has been managed by IWSD. The *purpose* of the CFund is to establish a facility for funding short-term consultancy services within IWRM. A *secondary purpose* is to create institutional awareness about IWRM issues and to educate the regional consultancy resource base in appropriate formulation and documentation of practices and approaches. The *immediate objectives* are a) to provide flexible assistance to relevant institutions in the area of IWRM which require short-term consultants; and b) to improve the capacity of institutions and regional consultants in the area of IWRM to prepare sound

³² An example of a regional research centre where such North-South interaction has been taking place is the Gobabeb Research and Training Centre in Namibia.

projects, programmes and terms of reference for studies and consultancies, and to document good practices.³³

In relation to possible linkages between WARFSA and the CFund, the original WARFSA project proposal pointed out that ‘the dividing line between research projects and consultancy is very thin and it is largely the magnitude of the activity that differentiates them’. The WARFSA proposal also highlighted the opportunity for these two Funds to be well co-ordinated, given that they would be managed by the same institution (IWSD). ‘Decisions on whether an activity falls under the research or consultancy fund can be made and appropriate action taken within a very short space of time’. At this stage, some 30 months later, there are no indications that there has, in practice, been any co-ordination. It appears that WARFSA and CFund projects have so far operated in largely unconnected ways, even though the managing institution is the same.

There are marked differences in the way the two Funds have operated and how they relate to the intended users of the results of projects – and these differences may explain, at least in part, why the two Funds have not been working together more closely. For one, WARFSA is largely research supply-driven, with some linkages between individuals projects and relevant users. By contrast, the CFund is largely demand-driven in that institutions requiring consultancy services take the initiative in requesting support and shaping the objectives and ToR for the consultancy inputs they need. For another, WARFSA has a very hands-on governing body, reviewing and approving themselves all progress reports for active projects and all proposals submitted for funding. By contrast, CFund has a largely hands-off Board, focused on setting and reviewing Fund policies only, while leaving all detailed project review and approval activities to the Manager (IWSD).

It would appear important to exploit the apparent complementarities and potential synergies of WARFSA and CFund. Under current arrangements, funding requests could be handled more flexibly and stand a greater chance of a positive response, at least in principle, given the availability of two complementary funding mechanisms. In future, if WARFSA diversified its funding modalities and established programmes dealing with key water management issues, CFund could contribute to these programmes, for instance by supporting state-of-the art reviews of policy, practice and research on key water management issues. WARFSA and CFund could also join forces in organising more integrated training exercises – on IWRM approaches, gender, logical framework project management, or other topics – targeted at stakeholders as well as researchers and stakeholders. Finally, CFund might assist in supporting strategy development in IWRM research capacity-building by commissioning country-level situational analyses and needs assessments.

WaterNet

WaterNet was established as a regional capacity-building initiative following the SADC/EU Conference on Management of Shared River Basins (Maseru, 1997). WaterNet currently has about 25 members – primarily university departments and other institutions of higher education – and a regional secretariat based in Harare. IHE, Delft was instrumental in facilitating WaterNet’s establishment and is an important supporting member. While a group of higher education institutions forms WaterNet’s bedrock, networking on a wider scale, including with regional stakeholders, is being promoted. WaterNet has been focusing its efforts on the following areas of activity:

- Training in IWSD –

The University of Zimbabwe in collaboration with IWSD and IHE, Delft have been offering since 1997 a MSc-level programme on Science of Water Resources Engineering and Management.

³³ Consultancy Services Fund for IWRM in the SADC Region – Statutes, Guidelines and Agreements, revised February 2001, p.5.

Building on the curricula of this programme and of another MSc programme at the University of Dar es Salaam, WaterNet has been developing a modular regional MSc programme on IWRM, to be distributed over participating institutions in the region. This MSc programme will be initiated soon.

- Fellowship Fund – will focus on funding fellowships for MSc students that will be enrolling in the distributed regional MSc programme.
- Nodal Strengthening Fund – supporting member institutions in upgrading facilities where required for improved WaterNet activities.
- Staff Development Fund – dedicated to training and capacity-building, through short courses and degree training/research (MSc, PhD) and targeted at staff from WaterNet member institutions.
- Staff Exchange Fund – stimulating south-south exchanges, particularly for joint development of MSc course modules.

WARFSA emerged as a brainchild of the prime movers of WaterNet (see sub-section 1.2) and has remained closely associated with WaterNet, not least through key individuals prominently affiliated with both institutions.³⁴

The complementary nature of the two institutions programme thrusts (revolving around training and research, respectively) suggests that the strong linkages between the two partners should be maintained, while recognising the differences in their perspectives and interests.

The joint organisation of symposia that the two institutions have been holding – Oct 2000 in Maputo and Oct 2001 in Cape Town – should probably be continued, but in a way that allows WARFSA Board members to spend more time interacting with WARFSA grantees. It is felt by the WARFSA Board that the opportunity of having most WARFSA grantees in one place and the considerable cost to WARFSA of the symposia (about \$20,000 US in the case of the Maputo symposium) could be put to better use, in terms of holding special capacity-building sessions with WARFSA grantees. On balance, adjusting the structure of the symposia to better accommodate WARFSA priorities seems better than the alternative of holding separate annual meetings.

One area where WARFSA and WaterNet could closely work together in future is on MSc degree training in IWRM. The idea of dedicating a portion of WARFSA's financial resources to supporting MSc/MPhil thesis research projects in the region (see sub-section 3.13) could be closely linked with WaterNet's envisaged regional MSc programme and Fellowship Fund support, in mutually complementary ways.

Global Water Partnership (GWP) Southern Africa (SA)

GWP was created in 1996 by the World Bank, UNDP and Sida, with the aim of promoting global networking and capacity-building on IWRM principles and objectives. GWP's regional chapter for SADC countries was set up in November 1996, with a secretariat in Harare. Initially GWP's SADC chapter worked through an advisory committee of 10 water experts – the Southern African Technical Advisory Committee (SATAC). This technical expert approach gave way to a multi-stakeholder-based partnership approach, with the establishment of a Regional Water Partnership (GWP SA). Today, GWP SA has more than 100 regional members and is facilitating the formation of Country Water Partnerships.³⁵

³⁴ Four individuals who are members of the WaterNet Board of Directors – Eng. Mudege, Dr Savinije, Dr Kgarebe, and Prof. Brito – are also WARFSA Board members. In addition, the regional Sida representative dealing with water issues (currently Katarina Perroll) is also on both Boards.

³⁵ Zambia, Zimbabwe, Namibia, Lesotho and South Africa already have their own Country Water Partnerships.

WARFSA has interacted or intersected with GWP SA in the following ways:

- Publicising WARFSA through the existing GWP SA networks;
- Distributing WARFSA brochures among GWP SA members;
- GWP SA member inputs into reviews of WARFSA proposals;³⁶
- Overlap at the level of governing body – one of WARFSA early Board members, Dr Mark Mujhwanzi, is a member of GWP SA's 11 member Regional Steering Committee.

GWP SA's mandate of networking, awareness and capacity building (among stakeholders) would appear to be complementary to WARFSA's mandate of supporting research and related capacity building. There may be scope for co-operation to extend to training. For instance, GWP SA has been running or is planning short awareness building/training workshops with stakeholder groups on particular IWRM dimensions, specifically the role of gender or youth in IWRM. WARFSA may want to consider collaborating with GWP SA on broadening these workshops by integrating research aspects and including researchers as participants. Last but not least, Country and Regional Water Partnerships could also be used as a multi-stakeholder mechanism to define or revise key national and regional IWRM issues and related research needs, so as to periodically inform WARFSA funding priorities for IWRM research. This could be done at Country/ Regional Partnership meetings or at the WARFSA/ WaterNet symposia.

Other institutions/initiatives

IUCN's Water & Nature Initiative in Southern Africa focuses on IWRM in three particular areas:

- Water demand management (WDM) – regional programme supported by Sida and IDRC;
- Wetlands – wetlands study (NORAD support) and Zambezi basin work (CIDA support), etc; and
- Catchments – groundwater aspects and community management issues; focus on Limpopo River, Blythe River, and Kafue River basins (GEF African Land and Water Initiative).

Cross-cutting dimensions include: legal aspects; socio-economic aspects; and gender aspects.

All of these areas and dimensions are of relevance to WARFSA. When reviewing WARFSA applications, attention should be paid to potential overlap or synergy with these and other regional programmes. One litmus test for a working referee system is that such overlap and synergy is noted and flagged.

3.16 Advertisement of the Fund in the region

WARFSA has been advertised in the region in various ways, including:

- Adverts in the local press and major newspapers within the SADC region;
- An article in IWSD's newsletter;
- Distribution of notices/brochures through existing networks (e.g. GWP SA, WaterNet);
- Distribution of brochures and other publicity at regional workshops and conferences (e.g. SADC Water Weeks);
- WARFSA training workshops and seminars held in at least five SADC countries;
- Contacts with donors (DANIDA, DfID, NORAD, CIDA, World Bank, etc); and
- On the Internet – IWSD page, Africa Water page, and SOURCE page.

³⁶ GWP SA's executive director, for instance, has acted as WARFSA referee on gender and environment issues.

It is clear that a variety of different vehicles for information dissemination have been used. While publicity in Zimbabwe seems to have been immediate, it took some time to get the message out to other countries. This was unavoidable to some extent, but delays perhaps could have been reduced. For instance, it took more than a year to prepare a brochure in Portuguese for distribution in Mozambique and Angola.

The quality of the promotional material has been generally adequate. But there are some inconsistencies in content and detail between different WARFSA brochures and booklets and some of them need updating and better focusing. The most recent booklet WARFSA Operational Guidelines and Statutes is the most complete and readable version of what WARFSA is all about³⁷ and might serve as a basis for improving the others.

The presentation of the research areas in all of the promotional materials could be strengthened to provide better focus and give it an IWRM flair (see sub-section 3.12).

A year into the WARFSA project, 'rainwater harvesting' was added as a research area and additional funds were allocated by SAREC/Sida specifically for this area. Initially, rainwater harvesting was advertised as a separate fund – the Rainwater Harvesting Research Fund for Southern Africa (RHARFSA) – using a separate flyer. Having two separate but closely linked funds was confusing – even more so as the funds differed with respect to some basic parameters (e.g. project budget ceiling of \$24,000 US under RHARFSA and \$50,000 US under WARFSA). Soon the two funds were merged into one, a wise decision. The small grant funding mechanism – and capital fund supporting it – should remain an integral whole, be advertised as such, and insist on financial contributions into the overall resource pot – or risk losing its identity and coherence.

³⁷ It still suffers from more errors and typos than necessary.

4 Conclusions (by area of findings)

This section provides a summary of conclusions reached in the previous section. Emphasis is placed on those conclusions that relate to WARFSA's performance and achievements to date. Forward-looking conclusions concerning ways in which WARFSA's structure, policies and operations might be adjusted to deal with the challenges ahead are integrated with the recommendations presented in section 5.

Relevance

- In less than three years, WARFSA has built a workable regional project funding allocation mechanism from scratch. A large number of proposals were received (131 by October 2001). It has been possible to get up to funding stage a large enough proportion of these proposals for WARFSA to be able to fully allocate its available capital funds – some \$900,000 US to 23 research projects.
- WARFSA has filled a gap as an accessible funding source for water research in the region, and in particular as a flexible rapid-response funding mechanism for smaller projects in the field. By most accounts, WARFSA has succeeded in responding quickly and flexibly to requests coming in from applicants and been able to fund a sizeable proportion of them (about 20%).
- WARFSA has delivered proof that decision-making processes about the allocation of funding to (water) research projects can be managed effectively and transparently in a developing region such as Southern Africa.

Achievement of project objectives

- The objective “to promote and facilitate the implementation of multi-disciplinary research projects in integrated water resources management in the region” has been achieved to a significant extent, but there is room for improvement on the multi-disciplinary nature of the research. About 40% of the active WARFSA projects are effectively uni-disciplinary, another 40% weakly multi-disciplinary, and only about 20% strongly multi-disciplinary.
- The objective “to promote the utilisation of research results for decision-making aimed at ensuring sustainable development of water resources in the region” has seen some headway being made, but deserves a great deal of attention in future. Too many research proposals have been research(er)-driven and too few have been user- or demand-driven. Only about 20–25% of the active projects have strong linkages to research users. Thus, the aim of involving users in the research from the very beginning has been achieved only in relatively few cases.
- The objective “to encourage research that leads to better use of precipitation to increase land productivity or availability of water for domestic use” has been partially met. A reasonable proportion (9%) of incoming proposals have been on issues of precipitation use/rainwater harvesting and the proportion of these proposals that have been funded (2 out of 12 proposals, or 17%) approximately corresponds to the overall ratio of funded projects to incoming funding requests. However, overall, proposals on precipitation use and rainwater harvesting have been rather disappointing in often not addressing the critical issues. A more proactive approach to research priority setting and mobilisation of proposals may be called for to steer researchers in the right direction.
- Expected outputs – funding at least 20 research projects and training at least 48 researchers in research proposal development – have not just been fully met, but exceeded (23 projects funded and more than 100 researchers trained).

Effects on target group

- A total of 23 research teams, comprising some 100 researchers, have been engaged by WARFSA to focus their minds on tackling IWRM problems. Many of these projects provide opportunities for younger researchers to do research toward their MSc or PhD degrees. There is room for improvement for WARFSA to attract more women to IWRM research – 15 out of 23 projects are carried out entirely by men. This may be explained by the circumstance that water research has traditionally been engineering domain and hence a rather male-dominated domain. It is too early to assess WARFSA's impacts on its immediate clients (researchers), let alone intermediate users (policy- and decision-makers) and ultimate beneficiaries.

Cost-effectiveness

- WARFSA's cost effectiveness ratio defined as the ratio of 'overhead costs' to (funds allocated to) 'desired output' ranges between 15% and 37%, depending on how 'overhead' and 'desirable output' are defined. These figures are not unreasonable. Greater emphasis on research capacity-building in future could push up the above ratio. The governance system (Research Board) accounts for as much overhead cost as the management system.

Utilisation and dissemination of research results

- Researchers have a vested interest in pursuing WARFSA grant funding, regardless of project utility, for reasons of furthering their careers and earning some extra money. But the region can ill afford not to channel its limited research capacity into addressing the most urgent water management issues, as identified by the region's stakeholders.
- WARFSA's stated research areas were not defined with much stakeholder involvement, but seemingly put together with an emphasis on inclusivity to give interested researchers maximum scope and flexibility for picking research topics and thus attract maximum possible interest in WARFSA and ensure its viability. With WARFSA established now, it may be time to re-think and adjust this approach, toward focusing on fewer and more focused research areas informed by stakeholders' needs in order to enhance research utilisation and synergy among projects.
- Dissemination of research results is important in its own right, but is clearly not a substitute for 'front-end' approaches to research utilisation. The annual WaterNet/WARFSA symposium is a valuable regional dissemination mechanism, but lower-cost national- and local-level mechanisms (seminars, community meetings, etc) should also be pursued.

The Fund in the light of Sida's development objectives

- WARFSA is fully consistent with Sida's mission statement and goals as well as Sida's Policy for the Management and Use of Water Resources.

The research projects in the light of critical water issues in the region

- Most if not all WARFSA projects appear to tackle research problems that relate, at broadly, to critical (dimensions of) water issues in the region. But they do so more 'by default' than by design, without much synergy among individual projects, and some of the projects seem more consistent with IWRM frameworks and principles than others.

Fund management including disbursement of funds

- IWSD, overall, has done a good job in running the Fund management system. Most WARFSA researchers interviewed seemed to be satisfied with the way IWSD has been handling WARFSA proposals and projects. In particular, IWSD, by and large, appears to have been able to maintain rapid response times which is critical to the Fund's viability and credibility.
- Communications between IWSD and grantees seem to have been good for close-by grantees in Zimbabwe, but not always so smooth and effective vis-à-vis grantees in other countries. Difficulties and time lags in communication may be, in part, due to poor local communication infrastructure in the region, but are also caused in some instances by applicants and grantees who fail to communicate and respond. There seems to be some room for improvement here.
- Other areas experiencing some problems include: transit times from Board approval to informing applicant about funding decision; speed and size of payments; access to funds for symposia; foreign exchange losses; paying for equipment in hard currency; guidelines on how and when to prepare financial statements; proposal guidelines, and guidelines for narrative progress reports.
- IWSD already gets involved in what gets funded and what not by shepherding proposals through the review process, deciding which ones to submit to the Board, and rejecting others. This de facto decision-making role, as well as far-reaching authority over project approval under the Consultancy Fund for IWRM, have given IWSD considerable experience in project assessment, processing and approval. This experience is an asset that can be utilised in a possible delegation of greater responsibilities in project approval to the managing institution.

Referee system

- The referee system is vital to the proper functioning of WARFSA, contributing to the quality and relevance of proposals and funded projects and helping to build research capacity among applicants. While the system has worked reasonably well, the following problems were mentioned during interviews: non-responses from a sizeable number of referees; uncertain qualifications of some of the referees; and lack of feedback to the referees on what happens to proposals they review.
- Most of the referees acknowledge that as researchers it is their job and lifeline to review proposals, and recognise the professional value to them of doing proposal reviews. But referees are somewhat split on whether they should be given some remuneration for their reviews. Some, probably a majority, suggest or even insist that a small nominal fee (perhaps on the order of \$100 US) could make a significant difference in providing additional motivation for referees to do a better and more timely job. Others say that pecuniary aspects do not really matter that much.
- For the future success of WARFSA, it is essential to further raise the quality of the referee system and the perceived honour and recognition associated with being a WARFSA referee.

Supervisory/backstopping facility for the grantees

- The rationale for the Research Board's hands-on style – Board members reviewing in detail all proposals submitted for funding as well as the progress reports of all ongoing WARFSA projects and making all approval and funding decisions themselves – appears to have been to ensure the greatest possible quality and highest possible standards of research and to maintain as much control over funding and disbursement decisions as possible. In other words, the concern was to put WARFSA on the map as a credible and transparent as well as flexible and responsive mechanism for water-related research support in the region. This has been largely achieved.

- However, given increasing project-related workloads, questions are starting to be asked about the feasibility and sustainability of the governance system. If project budget ceilings are reduced and WARFSA's financial resources expand, project throughputs would continue to increase and Board-level workloads rise further. This threatens to compromise the ability of the Board to ensure quality control, unless adjustments and changes are made.
- WARFSA's current Board is a *research* board made up of researchers and research managers. Moving away from the so far largely research(er)-driven approach toward a more user- or demand-driven approach – and becoming more proactive and directive in addressing the most critical national/regional research issues as informed by stakeholder priorities – suggests the need to enhance stakeholder representation and participation in WARFSA's governance system.

Country-wise representation of grantees and Research Board members

- About 60% of all approved and active projects have been from Zimbabwe. On the other hand, very few or no proposals have yet been received from Botswana, Moçambique, Swaziland, Lesotho, Angola and DRC. Zimbabwe's dominance is due to a number of factors, including: the location of regional Fund Manager (Harare); Zimbabwe's historically superior education system; more immediate advertising of WARFSA in Zimbabwe; training courses in proposal development started in Zimbabwe; Zimbabwe has had the strongest representation at Board level; and the current uncertain funding climate in Zimbabwe.
- IWSD's efforts to get the message out, increase visibility and mobilise interest in other countries may, in time, make some difference, generating more proposals from underrepresented countries. But it is doubtful that such efforts can change the situation fundamentally. As long as WARFSA adopts a competitive approach to research grant making, it is likely that a country like Zimbabwe, will continue to have an edge because of the capacity and ability of her researchers to produce higher-quality proposals. This suggests the need for diversifying funding modalities, away from running research competitions only, to allow WARFSA to operate throughout the whole region, i.e. also in countries with weaker research capacities.

Representation of research areas

- Out of five advertised eligible research areas, by far the most projects fall under area (i) 'water use, conservation and technologies'. This is not surprising, given the continuing, although diminishing, preponderance of engineers among the water researchers.
- WARFSA research areas are presented in a way that appears to reflect more traditional reductionist than holistic thinking, with some areas seemingly defined in a distinctly disciplinary fashion.

Capacity-building

- While capacity-building is not a specific objective of WARFSA, the Fund has engaged in capacity-building efforts on several fronts: offering a two-week training course in proposal development for researchers, later replaced by shorter one-day training workshops; on-the-job training of graduate students (within many of the WARFSA projects); the referee system building research and proposal writing capacity through peer review; the annual symposia bringing together WARFSA grantees as well as others; and monitoring visits by designated resource persons to 'problem projects' of WARFSA. Various other capacity-building exercises might be contemplated.

- The disadvantaged parts of the region often lack the research capacity to come forward with proposals that stand a chance of support under the competitive funding mechanism. The need to further encourage, rather than drop, not-yet-competitive but worthy proposals from countries with weaker research endowments and capacities calls for an additional complementary non-competitive funding mechanisms under which such proposals can be strengthened and eventually funded.

Regional collaboration

- WARFSA has been promoting regional research collaboration, since many IWRM issues are of common concern or even directly shared among countries in the region and since regional peer interaction and review of research-in-progress reduces the relative isolation of researchers and contributes to greater research capacity and higher-quality research in the region. Mechanisms that WARFSA has used to encourage regional research collaboration include: emphasising regional collaboration in the promotional materials and calls for proposals; including ‘collaboration’ as a scoring category in Board-level project approval; co-sponsoring regional symposia; and organising peer review of proposals.
- Little apparent regional collaboration has been taking place within WARFSA projects – three out of 23 active projects involve co-ordinated or collaborative research. One likely reason is that the time and transaction costs required to develop regional research collaboration is considerable. Regional collaboration within WARFSA appears to have been largely a ‘by-product’ of ongoing collaborative processes. Various options exist to further strengthen regional collaboration under WARFSA.

North-South collaboration

- North-South collaboration has been an integral part of WARFSA’s history (common origins with WaterNet) and Board composition (three member from the North).
- Very little North-South collaboration has happened within WARFSA projects – only one project features links to the North. But developing such links is difficult because it is complex and time-consuming. WARFSA projects and related activities at best can capitalise on and strengthen North-South links where they already exist, using different available mechanisms.

Linkages with the Consultancy Fund, WaterNet and other institutions/initiatives

Consultancy Fund

- WARFSA and the Consultancy Fund have so far operated in largely unconnected ways, despite their complementarities and even though the managing institution (IWSD) is the same, one reason being that the two Funds have been run in very different ways. The Consultancy Fund has the potential to make an important contribution to WARFSA’s future activities and operations.

WaterNet

- WARFSA and WaterNet have maintained a close working relationship, facilitated through key individuals affiliated with both institutions. The complementary nature of the two institutions suggests that the strong linkages between the two partners be maintained, while recognising the differences in interests and perspectives.
- The joint organisation of symposia that the two institutions have been holding – Oct 2000 in Maputo and Oct 2001 in Cape Town – should probably be continued, but in ways that allow

WARFSA Board members to spend more time interacting with their WARFSA grantees. The symposia could also be used as a staging ground for various relevant activities feeding into WARFSA, utilising the presence of many WARFSA grantees and referees as well as a great many other water professionals and stakeholders.

Global Water Partnership (GWP) Southern Africa (SA)

- WARFSA has used the GWP SA network on publicising the Fund and GWP SA staff as WARFSA referees. GWP SA's mandate of networking, awareness and capacity building (among stakeholders) would appear to be complementary to WARFSA's mandate of supporting research and related capacity building. There is scope for co-operation to be extended to training and research priority setting with inputs from Water Partnership stakeholders.

Advertisement of the Fund in the region

- WARFSA has been advertised in a variety of ways (local press, newsletters, networking, Internet, etc). Publicity in Zimbabwe was instant, while it took some time to get the message out to other countries. The quality of the promotional material has been generally adequate, but some WARFSA brochures and booklets need revision, updating and better focusing. The presentation of research areas in WARFSA's promotional materials could be improved to provide better focus and achieve more consistency with IWRM principles.
- The experience with the Rainwater Harvesting Fund for Southern Africa (RHARFSA) suggests that WARFSA (i.e. the small grant competitions fund) should remain an integral whole, be advertised as such, and insist on financial contributions into the overall resource pot – or risk losing its identity and coherence.

5 Recommendations

It is clear from the findings and conclusions that there are some major challenges ahead for WARFSA and some choices to be made, as the Fund prepares to enter another phase of support. The level of support could be considerably larger than what has been to date – and this raises some issues in itself. This section presents a series of recommendations designed to address major issues and challenges identified.

Most of the recommendations that follow are deemed feasible to be acted upon immediately, as soon as phase II of WARFSA starts. Some recommendations imply more far-reaching and complex adjustments and changes than the others, requiring more time and greater human and institutional resources and capacities for their successful implementation. These latter recommendations may be considered for the less immediate future. On the basis of this distinction, recommendations are prioritised in terms of two categories:

- *necessary* steps to be taken *immediately*; and
- *desirable* actions proposed for *later* implementation.

5.1 Steps to be taken immediately

Adjusting the competitive small grant funding mechanism to make it more effective and relevant

- (i) *Broaden the project scoring index used at Board level to rank projects for funding by integrating other important aspects being promoted by WARFSA as explicit quantitative scoring indicators – and flag this adjustment in scoring method in the calls for proposals and WARFSA promotional material –*

The current scoring index combines the following scoring indicators: relevance, scientific quality, research team, collaboration, and budget. For each project being scored, these five indicators are scored on a scale of 1 to 10, with weights of 4 (first three indicators) and 2 (last two indicators). Aside from these five indicators, the current proposal assessment form for Board members provides for a rubric ‘other factors’ where other aspects that might influence the project ranking and funding outcome are noted in a qualitative fashion.

Since it is the quantitative project score that essentially determines a project’s ranking and chance of funding, it is recommended that those ‘other factors’ (which are aspects that WARFSA wants to promote) also be scored in order for them to influence project scoring, ranking and funding outcomes more explicitly. ‘Other factors’ that should be considered for explicit scoring (perhaps using weights of 1 or 2) include:

- degree of multi-disciplinarity of the research;
- extent to which gender analysis is involved;
- degree of representation of female researchers in the research team;
- degree of regional and north-south collaboration; (the existing scoring indicator ‘collaboration’ should be restricted to aspects of intra-team and intra-country collaboration.)
- links to users – aspects of research utilisation; and
- PhD/MSc research being supported (under a project) – aspects of capacity-building.

This adjustment in the scoring method – and the greater promotion of those ‘other factors’ that it entails – should be highlighted in WARFSA calls for proposals and promotional material, to make sure that applicants are aware of the changes and take them into account in their proposals.

(ii) Reduce the project budget ceiling – except for projects carrying out regional collaborative research that requires financial support for more than one team – and build support for attending symposia into project budgets –

The Research Board should lower the project budget ceiling from \$50,000 US to \$ 30,000 US (granted over a period of up to three years, including funds for attending symposia – see below). But the budget ceiling for regional collaborative projects involving two or more teams should remain unchanged, since these projects tend to be more costly but are to be promoted (lowering the budget ceiling would act as an disincentive for such projects). A lower budget ceiling would make it possible to spread available financial resources across a larger number of projects and grantees, while doing greater justice to the attribute ‘small’ in the grants competitions and counteracting tendencies among some applicants to unnecessarily beef up project budgets – a situation that has repeatedly forced the Board to take corrective budget-pruning action. \$ 30,000 US budgets still allow relatively major pieces of IWRM research to be carried out, particularly if bloated budgets are trimmed and emphasis is placed on breaking proposed longer research endeavours into shorter and perhaps more manageable phases.

All WARFSA grantees are, or should be, required to attend the annual symposia and present work in progress. For administrative ease, the required funds should be built into the individual project budgets at the time of approval.

(iii) Focus WARFSA grant competitions on fewer and better defined research issue areas informed by stakeholder needs and priorities, in order to promote cross-linkages, synergy, utilisation, and impact of funded research –

Calls for proposals under WARFSA grant competitions should specify 1–2 major strategic themes at a time, indicating the priority research issues to be addressed within these themes. The major themes should of regional significance as well as of national significance in a number of countries. The strategic themes and priority research issues should be identified through stakeholder deliberations. Existing Country and Regional Water Partnership groups in Southern Africa lend themselves as an appropriate mechanisms for this purpose, and special consultative workshops during their annual meetings, or during the annual WaterNet/WARFSA symposia, could be organised to facilitate discussions aimed at establishing research priorities. These Water Partnership stakeholder groups could suggest priority topics for research on an annual basis, and WARFSA could advertise those topics in periodic (annual) calls for proposals.

Each year, the priority topics should be re-visited by the Water Partnership groups and might be changed (or remain the same), on the basis of changing stakeholder needs and preferences. A substantial proportion of available grant funds, perhaps two thirds of the total, should be allocated to projects addressing the stated priority research issues. The remaining one third could be left untied. Periodic WARFSA calls for proposals and promotional material should clearly spell out the key strategic themes and priority research issues being pursued at the time (see recommendation (viii)).

(iv) Review and revise existing guidelines for the formulation of proposals (applicants), for the review of proposals – as well as of progress and final reports, as recommended (referees), and for the preparation of narrative progress reports and financial statements (grantees) –

Not all existing guidelines are clear, specific or informative enough to assist their target groups as much as they could (see 3.8). Specifically, the guidelines on how to prepare proposals should spell out in considerably greater detail the purpose and method of doing project log frames (perhaps appending a 3–5 page authoritative summary paper) as well as expand on the description of IWRM principles and methods. IWSD should set up a ‘task forces’ of applicants, referees and grantees, respectively, to review and revise the existing guidelines – and to formulate new ones for the recommended review of progress and final reports by referees (see recommendation (x)). IWSD might organise a special session at the

next possible annual symposium for these task forces to meet, review the issues, and agree on the content and format of revised or new guidelines.

Building IWRM research capacity and enabling WARFSA to work throughout the region, including currently disadvantaged countries

(v) Set up a non-competitive Fund mechanism and segment under which worthy proposals that are not strong enough to compete with others – in particular proposals from countries that have capacity problems and are underrepresented in WARFSA – could be identified, strengthened and funded, thus contributing to research capacity-building in the region and allowing WARFSA to work more evenly throughout the region –

The basic idea behind the non-competitive segment has been explained in sub-section 3.13. IWSD and referees should look out in the early stages of proposal review for proposals potentially qualifying for support under this segment. IWSD should include these proposals in the sets of proposals submitted to the Research Board for consideration at their sittings. In most cases, these proposals would anyway reach the Research Board under the competitive funding allocation system used to date. But they would now be given a chance of funding by being selected for support under the proposed non-competitive Fund segment (with a pre-commitment to funding conditional on satisfactory proposal development), if they did not score high enough to be funded under the competitive proposal selection process.

Under the proposed two-tier system (competitive and non-competitive grant allocation, respectively), the Research Board, at each sitting, might, after scoring and ranking all proposals submitted to the Board, decide how many of the highest-ranked proposals could be approved for funding right away (based on the available funding envelope), and thereafter consider (some of) the remaining proposals for possible support under the non-competitive Fund segment. The Board would also have to review, at each sitting, how much progress has been made with proposals already being developed under the non-competitive mechanism – and provide feedback to the applicants as to whether or not progress is satisfactory and warrants further support.

Proposals for support under the non-competitive mechanism should be selected on the basis of criteria similar to those used for competitive scoring. However, preference should be given to proposals coming from countries endowed with a more limited research capacity, given the aim of building such capacity in these countries and of levelling the playing field in the region. For each of the selected proposals, necessary improvements and appropriate mechanisms to achieve these improvements – including the use of referees that could be hired as consultants to provide outside assistance – would be specified, financial requirements and time frames for further proposal development determined, and a ‘notional’ amount of funds pre-committed, subject to successful proposal development within the specified time frame.

The development of proposals and the resulting projects would both be funded from the non-competitive segment of the Fund. The level of initial capitalisation of this Fund segment should be based on reasonable assumptions about the demand for non-competitive funds, drawing from past experience with proposals that may have been considered under this mechanism, had it existed. Capitalisation levels should be re-visited annually or semi-annually and adjusted, as necessary, in the light of accumulating experience.

(vi) (Continue to) pursue specific IWRM research capacity-building measures, but at the same time develop (and implement) strategies for capacity-building in IWRM research in the region, based on country-level situational analyses and needs assessments –

The need for further capacity-building in IWRM research in the region is unquestionable. Some training activities have been undertaken and various other options for further capacity-building efforts

offer themselves (see 3.13). Some broad capacity-building measures are already being recommended – see recommendation (v) on a non-competitive grant funding mechanism, and recommendation (xvii) on a special MSc/MPhil thesis research support programme. In addition, short training courses or workshops focused on key methodological aspects relating to research methodology and project formulation and implementation – specifically on multi-disciplinary research approaches, on gender analysis (and social analysis more broadly), and on research project design and management (including log frame techniques) – should be organised. These steps are expected to further strengthen IWRM research capacity in the region, but in the longer term it will be necessary to systematise the research capacity-building approach and to tailor it to specific identified local needs.

In other words, there is a need for the development (and later implementation) of strategies for research-capacity building that are specific to each country in the region. To underpin strategy development, situational analyses and needs assessments for IWRM research capacity-building should be carried out, perhaps starting with those countries currently least represented in WARFSA. This should be done in collaboration with WaterNet (who have a mandate in promoting IWRM training) and the Consultancy Fund (which could be used to commission and fund the suggested country-level situational analyses and needs assessments).

Promoting and publicising WARFSA in the region

(vii) Designate leading research institutions as national WARFSA focal points in different SADC countries –

National focal points could be used to:

- promote WARFSA in their respective countries;
- organise seminar series on IWRM issues (or integrate IWRM as a theme within existing seminar series) that would give WARFSA grantees a forum for disseminating research results in their countries;
- assist in communications between IWSD and local applicants or grantees, where necessary; and
- serve as points of contact (or intermediaries) for IWSD in other WARFSA-related matters concerning their respective countries.

The role of WARFSA focal points would be particularly important in countries not represented at the level of the WARFSA Research Board. In countries that are represented, the national focal point should closely collaborate with the respective Board member(s).

(viii) Review and revise all WARFSA promotional material, in the light of recommended adjustments and changes in WARFSA's policies, modalities and operations –

IWSD should review and revise all promotional materials, including (periodic) calls for proposals, to reflect the new process of research priority setting, the adjustment in the proposal scoring method, and other recommended adjustments and changes.

Strategic themes and related priority research issues proposed for the research grant competition in any given year and the other eligible research areas should be presented in a format that reflects IWRM principles and makes entry points for stakeholders clearly visible.

Reducing workload while enabling continued quality control and policy guidance at the level of the Research Board, through delegation of limited tasks and responsibilities to IWSD and the referee system

(ix) Delegate limited project approval authority to IWSD –

The Research Board should delegate to IWSD the authority to approve projects up to \$ 10,000 US, and limit their detailed review and approval decisions to larger projects, in order to cut down on

workload. IWSD would reach funding decisions in collaboration with referees, on the basis of their comments on proposals reviewed. IWSD should be requested to provide the Board with full information on all projects approved under the delegated authority. IWSD could do this by including in their semi-annual progress reports to the Board reasonably detailed information on approved projects. In continuing to fulfil its research quality and transparency control functions, the Board may request further information on any of the projects approved by IWSD and carry out spot checks, as deemed necessary.

(x) Delegate the detailed review of project progress (and final) reports to referees –

The Research Board should delegate to selected referees the detailed review of progress reports submitted by the principal investigators of all ongoing WARFSA projects on a semi-annual basis. The task of reviewing particular progress reports should be given to those referees who previously reviewed the respective proposals and hence are already familiar with the projects. Normally, it would be sufficient to nominate one referee to review any given progress report, but should a second opinion be required, a second referee could be engaged. Referees should be provided with clear guidelines on how to carry out their reviews. They should be given a modest honorarium – perhaps \$100–200 US for each satisfactory review of a progress report. Instead of examining the full progress reports, Board members should henceforth limit their review work to reviewing the referees' written comments (perhaps 2–3 pages for the average progress report) – and on that basis reach decisions on whether or not to approve the progress reports. However, in cases of doubt about the quality or veracity of reviews, Board members could still request to see full progress reports. Such a system would cut down on the Board member's workload, while allowing the Board to make informed decisions and to retain quality control.

Referees should also start to get involved in reviewing final reports, in a similar fashion to progress report, as soon as the first WARFSA projects are completed. In addition to commenting on aspects relating to the content of the final reports, they should make recommendations on where to publish the results, who the target audiences might be, and what publishing form(at)s might suit the intended target audiences most. Final reports are likely to be more comprehensive and longer than progress reports. Therefore, referees should receive a higher fee for reviewing final reports – perhaps \$ 300 US. The Board should make decisions concerning approval and publication of final reports, on the basis of the referees' comments and recommendations.

(xi) At the Board level, use time savings through re-organisation of work procedures and delegation of project review and approval tasks for the purpose of assessing broader policy issues –

The Research Board, of late, has found available time at its 2-day sittings nearly entirely consumed by the detailed review of increasing volumes of proposals and progress reports. Re-organisation of work procedures and the proposed delegation of some of the proposal/project review tasks should free up valuable time that could be spent on debating critical policy issues. To begin with, the findings, conclusions and recommendations of the WARFSA phase 1 evaluation will require thorough discussion. Once phase 2 gets underway, a variety of various policy issues need to be re-visited, on a regular basis, to assess whether/how adjustments made to WARFSA are assisting in moving WARFSA's closer to its aims and what impacts these changes may have had on WARFSA's main target and beneficiary groups (see 3.3).

For instance – How is the degree of multi-disciplinarity of research and the extent of gender analysis improving, if at all? What about links to research users and greater research utilisation? Are methods and strategies in IWRM research capacity building working? How could regional and north-south collaboration be further promoted? What is the right mix of competitive and non-competitive research support modalities for WARFSA? In what ways might the regional development context be changing and what implications does that have for WARFSA?

Strengthening the referee system

(xii) Set up a data base on referees, their areas of special expertise, and register as well as monitor their performance –

IWSD should set up a computer-based data base on all referees (or systematise it, if one already exists), with a view to documenting and closely monitoring their individual performances. Each review (of a proposal – or as recommended, progress or final report) should be scored in terms of the quality and relevance of the comments and the score entered in the data base. Such a system would make it easier to identify and draw on consistent good performers as well as eliminate repeated non- or under-performers, in an attempt to further raise the level and quality of the referee system.

(xiii) Provide feedback to referees on (the quality of) their comments and on what happens to projects they review –

IWSD should let referees who turn in quality comments know about their good performance by sending them a standard letter of appreciation. In addition, IWSD should periodically publish lists of the best-performing WARFSA referees in its newsletter, thus publicly recognising their important contribution to WARFSA. Another mechanism to reward and further inspire well-performing referees is to invite them to attend the annual Waternet/WARFSA symposia (where the top performers might be given awards). Such tangible positive feedback to deserving referees acts as an incentive for them to maintain high standards in their reviews and contribute to favourable publicity about WARFSA. Positive feedback to strong performers, along with the elimination of weak performers, is also likely to enhance the perceived quality of the referee system and hence the professional honour and recognition associated with being a WARFSA referee.

IWSD should also keep referees, particularly the strong performers, informed about the fate of proposals they have reviewed, in particular for those proposals which are eventually approved for funding and turn into projects. This should be done with a view to using those referees as reviewers of the progress and final reports referees who were asked to provide comments at proposal stage.

Maintaining the viability and effectiveness of the Fund management system

(xiv) Give IWSD the necessary resources to cope with increasing management loads while meeting expanding responsibilities

IWSD currently has sufficient human resources to absorb a modest increase in the management load in the short- to medium-term. However, if WARFSA grows significantly, possibly doubling or tripling its financial resources, then IWSD's human resources will have to be expanded as well, particularly at the secretarial and junior management staff level. But the senior Fund manager is also likely to have to increase his current time commitment of 4–5 days per month to WARFSA business, possibly doubling it to half-time commitment, as the Fund expands, the project budget ceiling is lowered, IWSD is granted limited approval authority, a non-competitive grant funding mechanism is introduced, and other capacity-building activities are embarked upon.

The inevitable increase in administration cost resulting from an expansion of WARFSA, greater project throughput, and adjustments to WARFSA's modalities and operations should be carefully monitored. All possible efforts should be made to keep management overhead or cost effectiveness (ratio of management cost to the total amount of funds allocated to desired output) from rising above the current 15%.

5.2 Actions proposed for later implementation

(xv) Build stakeholder representation into WARFSA's governance structure

So far WARFSA has been governed by a Research Board, with little if any stakeholder representation. Yet stakeholder participation and inputs are essential to the proper running of WARFSA – there must be a mechanism in place to continually ensure that WARFSA, indeed, addresses the (changing) needs and priorities of actual or potential users of IWRM research in the region – private and public water managers, water policy and decision makers, basin authorities, local communities, etc. In the short term, it may be sufficient to rely on existing multi-stakeholder groups like the Country and Regional Water Partnerships to identify or revisit the most critical IWRM issues and to define or re-define related research needs and priorities that should be addressed by WARFSA (see recommendation (iii)).

However, in the longer run, it will be desirable to build stakeholder participation right into WARFSA's governance structure. At least two options exist to do that:

- Expand the Board to include stakeholder representatives – drawn from regional organisations like the National and Regional Water Partnerships, SADC Water Sector Co-ordination Unit (WSCU), and shared river basin authorities, as well as national institutions like government ministries, private and public water utilities, municipal and town administrations, national river basin authorities and community organisations – and form a smaller regional Research Executive Committee to handle all research-related aspects on behalf of the Board, whereby the Board may need to meet only on an annual basis to deliberate on various policy issues while the Research Executive Committee might meet semi-annually – with every other meeting coinciding with a full Board meeting, organised back-to-back with the annual symposium) to make project funding and grant allocation decisions; or
- Create a regional Steering Committee – a new WARFSA governance tier – comprised of selected stakeholders in the region and the chairperson (plus perhaps 1–2 other members) of the Research Board, whereby the Steering Committee might meet on an annual basis to handle policy issues while the Research Board continues to meet on an semi-annual basis to review and approve proposals, project reports, and programmes – with every other Research Board meeting coinciding with the annual Steering Committee meeting, organised back-to-back with the annual symposium.

It is not clear, a priori, which option would be preferable. The pros and cons of the two options should be debated and a decision made in due time.

(xvi) Establish special regional research programmes under WARFSA

The need to move away from an entirely research(er)-driven approach to a more user- or demand-driven approach has been highlighted elsewhere in this report (see 3.2, 3.5 and 3.7). So has the need to enhance IWRM research capacity, particularly in the disadvantaged countries, for WARFSA to be able to work throughout the region and to generally improve the quality of IWRM research (see 3.11 and 3.13).

In the short term, to address these needs, it may be sufficient to:

- to establish research priorities, and focus WARFSA support on fewer and better defined research areas, using the annual Country and Regional Water partnership groups as a research priority setting mechanism (see recommendation (iii)); and
- introduce a non-competitive mechanism to develop, and allocate small research grant funds to, worthy but still rather weak proposals under a special Fund segment dedicated for that purpose (see recommendation (v)).

In the longer run, however, it will be desirable, from time to time and funds permitting, to go beyond small grant funding approaches (competitive and non-competitive) and establish special regional research programmes that would be founded on purposeful multi-institutional regional research collaboration. Such programmes could be designed to address particular regional priority issues in a more proactive and concerted fashion – generating more comprehensive research results likely of more direct and immediate benefit to users and decision-makers in the region – than would be possible under small grant funding mechanisms. There would be greater scope for both regional and north-south research collaboration, as well as for the necessary research training and capacity-building, to be built in and carried out within the framework of any given programme.

How could a special programme be developed and organised? Starting with a key issue area identified by the National and Regional Water Partnership groups in Southern Africa – see recommendation (iii) (or by an expanded WARFSA Board or the Regional Steering Committee – see recommendation (xv)), terms-of-reference (ToR) could be worked out for that issue area and WARFSA could advertise a call for expressions of interest (EoI) from researchers in the region. EoIs received – and a possible state-of-the-art review of the issue area commissioned through the Consultancy Fund – could be used as a basis for convening a regional programme definition workshop in order to hammer out a regional research agenda and agree on appropriate institutional arrangements for the management, substantive review and oversight/control functions of the programme. Special programmes should be set up such that they are largely self-managing and self-governing, adding as little as possible to the workload of the WARFSA managing and governing institutions, while maintaining close links to them.

Special programmes should not be set up at the expense of the small grants funding mechanism, but as an additional modality, and they would therefore be viable only if WARFSA's financial resources were to expand significantly, for instance if they doubled or even tripled. This could happen if Sida renewed its funding commitment at the same or a higher level and if at least one other donor were to make a comparable contribution (e.g. if the request to DANIDA for co-support of \$ 1 million US comes through).

At the same time, should WARFSA's financial resource base, indeed, expand significantly, it is recommended that the large amounts of 'extra' funds that would become available *not* all be ploughed into the small grants mechanism – even if fewer priority issues are focused on and even if non-competitive grants allocation is initiated under a special Fund segment. The reason is that judging from experience to date, it is unlikely that sufficient good-quality proposals would be received, even with further capacity-building inputs, such that there would be a risk that standards might have to be lowered to be able to spend all available funds – all the more so, as with recommended reductions in the project budget ceiling, there would already be more available grants looking for worthy projects. Rather, active consideration should be given to using the 'extra' funds for setting up at least one special programme over the next three years. Doing so would also make it possible to test the feasibility of the programme approach to supporting IWRM research under present conditions in Southern African.

Key regional topics of regional and (in most countries) national importance that might lend themselves to eventually being tackled by special programmes include:

- Efficiency, equity and sustainability aspects of urban water service delivery systems, methods and approaches in the region – in direct collaboration with municipalities water utilities, and consumer organisations in the region;
- Land & water management – efficiency, equity and sustainability aspects of rainwater use options and technologies for different land uses – in direct collaboration with the International Water Management Institute (IWMI) and others); and

- joint or co-ordinated management of (water in) regionally shared river basins – in direct collaboration with existing river basin authorities.

(xvii) Set up a special support programme dedicated to raising the level of MSc/MPhil thesis research in the region

The case for a special WARFSA support programme for Masters research (as opposed to PhD research) in the region is argued in sub-section 3.13.

Various WARFSA-funded research projects have been homes for MSc/MPhil-level students to pursue thesis research under the guidance of more experienced researchers. Thus WARFSA has already been making a contribution to research capacity-building at that level – and this should be encouraged to continue. But there appears to be scope for WARFSA to expand its efforts, since the demand for support at that level will rise, with IWRM generally becoming a ‘sunrise sector’ and with WaterNet soon initiating a regional institutionally distributed Masters course devoted to IWRM.

Based on positive reactions during interviews with WARFSA grantees, referees, IWSD staff and Board members, it is recommended that WARFSA seriously consider setting up a special support programme, in close collaboration with WaterNet, that would offer generous funding for a limited number of MSc/MPhil students (perhaps 10–15 per year) to enable them to undertake toward their degree a more comprehensive, in-depth, rigorous and/or relevant piece of research, under better supervision and guidance, than would otherwise be possible. Grants would be awarded on the basis of the quality of proposals and other criteria ensuring a regionally more representative selection of students. The prospect of being awarded support from this mechanism could act as an incentive for MSc/MPhil students and their supervisors to put in greater efforts to prepare quality proposals. This incentive and the rich research experience resulting for the awardees could both contribute to raising the quality, level and impact of Master level research in the region.

Grants might be limited to \$ 5,000 US for MSc theses and \$ 10,000 for MPhil theses. In collaboration with the tertiary-level educational institutions where the students are enrolled, WARFSA might explore opportunities of partnerships with regional research centres – like the Gobabeb Training & Research Centre in Namibia or the Harry Oppenheimer Research Centre in Maun, Botswana – with a view to placing some students at these centres, where they could get valuable field research experience under proper guidance and be exposed to a wider range of peers from the region and the north. A special segment of WARFSA of up to \$100,000 US per year could be created for this programme. The Programme might be jointly managed by IWSD and the WaterNet, in collaboration with participating educational institutions. A special committee of WARFSA referees might be formed to assist in assessing the incoming proposals and making recommendations as to which ones to fund, outside the regular research competitions.

Proposals consisting of or involving PhD-level thesis research on IWRM issues should continue to be considered under the regular WARFSA research competitions. There are also opportunities with WaterNet’s Staff Development Fund which is designed as a facility to provide support, among others, to selected teaching staff in the region to carry out IWRM research toward a PhD degree.

Appendix A

Terms of Reference for the Evaluation of the Water Research Fund for Southern Africa

1. Background

The Swedish Initiative for Sustainable Management of Water Resources in Southern Africa has got two main objectives; i) to support integrated management of international river basins and ii) to raise awareness and build capacity in sustainable use and management of water resources. The basis for this regional Initiative is to support projects that involve two or more countries.

One of the projects supported within the Initiative is the Water Research Fund for Southern Africa (WARFSA), managed by the Institute of Water and Sanitation Development (IWSD), a regional non-governmental organisation based in Harare, Zimbabwe. The Initiative was evaluated in 2000 and a brief assessment of WARFSA is provided in the Evaluation Report (Annex 1).

WARFSA was established against the background that Southern Africa faces a number of constraints within the context water and development. The climate is predominately semi-arid and with an increased demand for water due to, for example, population growth, urbanisation, industrialisation, an increased demand for irrigated agriculture, the competition for water is increasing. This in combination with, in most cases, an inefficient management calls for innovative and integrated approaches to solve the problems faced. The concept integrated water resources management (IWRM) is relatively new and research is needed to find efficient solutions in a wide variety of water use sectors, in technology as well as in institutional, legal and policy frameworks.

There is a lack of capacity in the region to develop and carry out research projects and also a lack of funding opportunities, with the exception of South Africa. Water related research in the region has primarily been funded by institutions from Europe and Northern America and has rarely involved researchers from Southern Africa in decision-making of fund allocation. Research results also predominantly ends up being publicised in international journals, not easily accessible in the region. The gap between researchers and practitioners is a problem faced in many parts of the world, but the need to address the critical water situation in the region call for mechanisms that will assist in dissemination of results to the end-users.

Sida funded a logframe workshop in 1998 with the aim to consult the potential users of a research fund on constraints and needs within water research in the region (Workshop Report, Annex 2). As a result of the workshop the project proposal for WARFSA was developed (Annex 3). Sida approved the proposal in January 1999 (Assessment Memo, Annex 4) and a disbursement of MSEK 9.1 was made for the activity period February 1999–January 2002.

The objectives of WARFSA are:

- to promote and facilitate the implementation of multidisciplinary research projects in integrated water resources management in the region, and
- to promote the utilisation of research results for decision making aimed at ensuring sustainable development of water resources in the region.
- to encourage research that leads to better use of precipitation to increase land productivity or availability of water for domestic use.

This last objective has come to be in a later stage and is mainly referring to rainwater harvesting practices.

The expected outputs during the three year period are to fund at least 20 research projects from the SADC countries, to train at least 48 researchers in research proposal development, to make research results available and accessible for use in decision making and to publish and disseminate research results to relevant individuals and institutions.

2. Objectives of the Evaluation

Since the Sida support to WARFSA is ending in February 2002, there is a need to evaluate the performance and design of WARFSA. The results of the evaluation will provide an input to the development of a proposal for a second phase and will be used by Sida, the WARFSA Research Board and IWSD.

The objectives of the Consultancy are:

- a) to evaluate the achievement of the objectives of WARFSA,
- b) to analyse the efficiency of the managerial set-up of the Fund, and
- c) to give recommendations on improvements with regards to the set-up and management of the Fund.

3. Scope of Work

A. General performance of WARFSA

The Consultant should assess the performance in terms of:

- a) relevance
- b) achievement of project objectives
- c) effects on target group (gender specific)
- d) cost-effectiveness
- e) utilisation and dissemination of research results
- f) the fund in the light of Sidas development objectives
- g) the research projects in the light of critical water issues in the region

B. Special issues

The Consultant should also address the following special issues, in terms of efficiency, outcome and/or strengths/weaknesses:

- a) fund management system including disbursements of funds
- b) referee system
- c) supervisory/backstopping facility for the grantees
- d) country wise representation of grantees and research board members
- e) representation of research areas
- f) capacity building (e.g through training courses)
- g) collaboration between researchers within the region and North-South
- h) linkages to the Consultancy Fund, Waternet and any other relevant institution/initiative
- i) advertisement of the Fund in the region

C. Recommendations

Based on the assessment made, of the issues under A and B, the Consultant should present conclusions and recommendations on improvements that could be made in terms of set-up and management of the Fund. The recommendations should also address the need and relevance for a possible expansion of the Fund and the capacity and resources that would be needed.

4. Methods

Information needs to be acquired through existing documentation at Sida, the Embassy of Sweden in Harare and IWSD (Annexes 5–9). Information should also be acquired through interviews with key staff at IWSD, key stakeholders, a selection of Research Board members, grantees, supervisors, referees and cooperating partners such as the Netherlands and DANIDA (see Annex 10 for a list of contacts).

The Consultant needs to work closely with IWSD throughout the Consultancy.

The Consultant shall, in consultation with Sida and IWSD, choose countries, other than Zimbabwe, to visit for interviews with stakeholders etc.

5. The Consultancy Personnel

The team should consist of a lead consultant with documented experience in operation of research funds, research dissemination and other related research issues. Knowledge of water resources management is an added advantage. He/she should also have knowledge of Sida's development policies.

The team should also consist of one local consultant well acquainted with the water sector and relevant research institutions in the region.

6. Organisation

The team shall report to the Head of Water Division at the Department of Natural Resources and the Environment at Sida-Stockholm, who is responsible for the evaluation. The local consultant is sub-contracted by the lead consultant.

The team should begin the evaluation by studying central documents followed by communication with Sida and IWSD regarding the approach to be used for the evaluation. Following this preparatory phase, the team should travel to Zimbabwe and a selection of other countries in the region.

A briefing should be given to the Embassy of Sweden in Harare before the team leaves Zimbabwe.

7. Time Schedule

The team shall begin their work 2001-10-01. It is estimated that a maximum of eight person weeks is needed for the team of consultants (four calendar weeks for the assignment), out of which the lead consultant should spend approx. two weeks in the region.

8. Reporting

The following reports should be submitted to Sida:

- a) A brief interim report giving “early warning signals” regarding the performance of the Fund by 2001-11-15
- b) a draft final report by 2001-12-31
- c) a final report by 2002-01-31

The evaluation report shall be written in the English language. Format and outline of the report shall follow the guidelines in “Sida Evaluation Report – a Standardised Format” (see Annex 11).

The draft report shall be submitted to Sida no later than 2001-12-31, in two copies to Sida-Stockholm, two copies to Embassy of Sweden in Harare and two copies to IWSD. Sida and IWSD should provide their comments on the draft report by 2002-01-15 the latest. The final report should be submitted on 2002-01-31 the latest in six copies, distributed as above, and on a diskette to Sida.

Subject to decision by Sida, the report will be published and distributed as a publication within the Sida Evaluations series. The evaluation report shall be written in Word 7.0 for Windows (or in a compatible format) and should be presented in a way that enables publication without further editing.

The evaluation assignment includes the production of a Newsletter Summary following the guidelines in "Sida Evaluations Newsletter – Guidelines for Evaluation Managers and Consultants" (Annex 12) and also the completion of "Sida Evaluations Data Work Sheet" (Annex 13). The separate summary and a completed Data Work Sheet shall be submitted to Sida along with the draft report.

Annexes

1. Evaluation Report of the Swedish Initiative for Sustainable Management of Water Resources in Southern Africa, including a brief assessment of WARFSA
2. Report from Workshop, March 1998
3. Project Proposal, dated 12 January 1999
4. Assessment Memo, dated 28 January 1999 (in Swedish)
5. Progress Reports 1999–2001
6. Statutes of WARFSA
7. Guidelines for Operation and Management of WARFSA
8. Notes for Preparing Research Proposals for WARFSA
9. Letter of Agreement for Grantees
10. List of Key People to Contact
11. Sida Evaluation Report – A Standardised Format
12. Sida Evaluations Newsletter – Guidelines
13. Sida Evaluations Data Worksheet

Annex 10

List of key people to contact

Sida – Stockholm and Harare

Mr Bengt Johansson, Head Water Division, Department for Natural Resources and the Environment

Dr Mats Eriksson, Programme Officer, Water Division, Department for Natural Resources and the Environment

Dr Bo Göhl, Research Officer, SAREC and member of WARFSA Research Board

Ms Katarina Perrolf, Second Secretary, Embassy of Sweden, Harare

IWSD – Harare

Mr Ngoni Mudege, Executive Director

Dr Jerry Ndamba, Research Manager

SADC-Water Sector Coordinating Unit – Maseru

Mr Phera Ramoeli, Sector Coordinator

Dr Thomas Charamba, Programme Manager, Regional Strategic Action Plan

Global Water Partnership Southern Africa – Harare

Ms Tabeth Matiza-Chiuta, Executive Secretary

Water,Net – Harare

Dr Pieter van der Zaag, Interim Manager

Royal Netherlands Embassy – Harare

Other

Dr Paul Taylor, Consultant, Harare, former chairperson of WARFSA Research Board and DANIDA's consultant for DANIDA's programme for water in Southern Africa.

Referees, research boards members, grantees etc. Contact information provided through IWSD.

Appendix B

Documentation and bibliographic references reviewed

A wide range of available documentation relating to WARFSA, WaterNet, the Consultancy Fund, IWSD, and relevant Sida policies and programmes, were reviewed, including the following items:

- Report of project preparation workshop, Harare, 30–31 March 1998;
- Project proposal, dated 12 January 1999;
- Five (5) half-year or annual WARFSA progress reports prepared by IWSD, 1999–2001;
- Minutes of five (5) Board meetings, 1999–2001;
- Report by IWSD to the 6th Board meeting, 28–29 October 2001;
- Thirteen (13) research proposals submitted to the 6th Board meeting;³⁸
- Eighteen (18) narrative progress reports submitted to the 6th Board meeting;³⁹
- Operational guidelines and statutes of WARFA;⁴⁰
- Information brochures about WARFSA – general overview of WARFSA; “call for research proposals” (English and Portuguese versions), “call for rainwater harvesting research proposals”, research methodology course;
- WARFSA research proposal development manual;
- 2nd WaterNet/WARFSA Symposium, 30–31 October 2001, “Integrated Water Resources Management: Theory, Practice, cases” (pre-conference volume comprising papers to be presented at the Symposium);
- Information materials relating to Waternet (2nd Annual Report, year 2002 brochure for MSc Programme on Water Resources Engineering and Management, University of Zimbabwe;
- Information booklets and brochures about the Consultancy Services Fund for Integrated Water Resources Management (IWRM) in the SADC Region Southern Africa on IWRM (“statutes, guidelines & agreements”; annual report; “call for consultancy proposals”);
- Information materials about IWSD (brochures, newsletter, annual reports);
- “Swedish initiative for support of sustainable management of water resources in Southern Africa”, Sida Evaluation report No. 00/40;
- Sida Policy for the management and use of water resources; and
- Sida mission statement and goals.

³⁸ Review of research proposals consisted of a combination of direct review and indirect review, the latter by listening to Board members commenting upon and seeing them score the proposals.

³⁹ Like research proposals, review of progress reports included direct and indirect review (by way of listening to respective comments by Board members).

⁴⁰ These have recently been comprehensively put together by IWSD in a draft booklet (revised 2001)

Appendix C

Persons interviewed or otherwise surveyed

- *Zimbabwe-based WARFSA grantees interviewed in Harare*
 - Dr Moses Chimbari, WARFSA Principal Investigator (PI), Lake Kariba Research Station
 - Mr Sibekile Mtetwa, WARFSA PI, Department of Water Development⁴¹
 - Mr Nyasha Nyagwambo, WARFSA PI, Dept of Civil Engineering, University of Zimbabwe
 - Mr Dominic Mazvimavi, WARFSA PI, Dept of Geography, University of Zimbabwe
 - Dr Emmanuel Manzungu, WARFSA PI, Dept of Soil Sciences & Agricultural Engineering, University of Zimbabwe
 - Dr Richard Owen, WARFSA PI, Dept of Geology, University of Zimbabwe
 - Mr Simon Madyiwa, WARFSA researcher and PhD student⁴²
 - Mr Pieter van der Zaag, WARFSA researcher
- *Zimbabwe-based WARFSA referees interviewed in Harare*
(* denotes referees who are also WARFSA PIs; ** denotes referees who are also WARFSA researchers)
 - Dr Moses Chimbari*
 - Mr Sibekile Mtetwa*
 - Mr Simon Madyiwa**
 - Mr Dominic Mazvimavi*
 - Mr Walter Chitsike
 - Prof Norman Nyazema
 - Mr Nyasha Nyagwambo*
 - Dr Peter Morgan
 - Dr Emmanuel Manzungu*
 - Dr Richard Owen*
 - Dr Pieter van der Zaag**
- *Other Zimbabwe-based individuals interviewed in Harare*
 - Mrs Tabeth Matiza-Chiuta, Executive Secretary, Global Water Partnership Southern Africa (GWP SA)
 - Dr Pieter van der Zaag, Interim Manager, WaterNet, Harare
 - Dr Paul Taylor, Consultant, Harare, WARFSA Research Board member (former chairperson of WARFSA Research Board)
 - Ms Joyline Ndoro, Programme Officer, Netherlands Embassy, Harare
 - Ms Katarina Perrolf, Second Secretary, Embassy of Sweden, Harare
 - Dr Yemi Katerere, Director, Regional Office for Southern Africa, IUCN, Harare

⁴¹ Mr Mtetwa is co-ordinating two WARFSA projects. He is so far the only case of the same PI running more than one WARFSA-funded project. It should be noted that the combined budgets of the two projects co-ordinated by Mr Mtetwa do not exceed the stipulated \$50,000 US project funding ceiling.

⁴² He is a member of Dr Chimbari's research team.

- *Staff of Institute for Water & Sanitation Development (IWSD), Harare, interviewed in Harare*
 - Dr Jerry Ndamba, Research Manager, IWSD, and part-time WARFSA Manager
 - Mr Ngoni Mudege, Executive Director, IWSD, and ex officio WARFSA Research Board member
 - Ms Margeret Munyavi, Secretary, IWSD, and secretary to WARFSA
- *WARFSA grantees surveyed by means of questionnaire*
(during WaterNet/WARFSA Symposium, Cape Town)
 - Prof. Thomson Sinkala, WARFSA PI, School of Mines, University of Zambia
 - Mr Caleb Muzariri, WARFSA PI, Dept of Biochemistry, University of Zimbabwe
 - Mr Jim Latham, WARFSA researcher, Centre for Applied Social Sciences, University of Zimbabwe
 - Ms Roumiana Hranova, WARFSA researcher, Dept of Civil Engineering, University of Zimbabwe
 - Mr Washington Nyabeze, WARFSA PI and PhD student (Wits University), Zimbabwe
 - Mr Anthony Turton, WARFSA PI, African Water Issues Research Unit, Pretoria
 - Ms Klaudia Schachtschneider, PI and MSc student (University of Cape Town), Namibia
- *WARFSA referees surveyed by means of questionnaire*
(during WaterNet/WARFSA Symposium, Cape Town)
(* denotes referees who are also WARFSA PIs
** denotes referees who are also WARFSA researchers)
 - Mr Anthony Turton, South Africa*
 - Prof. Thomson Sinkala, Zambia*
 - Mr Jim Latham, Zimbabwe**
- *WARFSA Research Board members interviewed or engaged in informal discussions*
(during WARFSA Research Board meeting, Cape Town)
 - Dr Victor Chipofya, Malawi, Chairperson
 - Dr N. Madulu, Tanzania
 - Dr Zeb Phiri, Zambia
 - Dr B.V. Kgarebe, Botswana
 - Dr Rui Brito, Mozambique
 - Dr Paul Taylor, Zimbabwe
 - Dr Jefta Sakupwanya, Zimbabwe
 - Dr Jenny Day, South Africa
 - Dr Stephen Mitchell, South Africa
 - Dr Hubert Savinije, The Netherlands
 - Dr Jan Lundqvist, Sweden
 - Dr Bo Gohl, SAREC/Sida, Sweden
- *Former WARFSA Research Board members interviewed in Windhoek*
 - Dr Mary Seely, Director, Desert Research Foundation of Namibia (DRFN)
- *Leading WaterNet members interviewed/interacted with*
(during WaterNet/WARFSA Symposium, Cape Town)

- Dr Hubert Savinije (is also WARFSA Research Board member)
- Dr Pieter van der Zaag (is also WARFSA researcher)
- Dr Alaphia Wright, WaterNet Chairperson, Zimbabwe
- *Other resource persons interacted with*
(during the WaterNet/WARFSA Symposium, Cape Town)
 - Mr Luis de Almeida, Senior Water Resources Officer, SADC Water Sector Co-ordination Unit (SADC WSCU), Maseru, Lesotho
 - Dr Douglas Merrey, Director for Africa, Africa Office, International Water Management Institute (IWMI), Pretoria, South Africa
 - Dr Barbara van Koppen, Poverty, Gender and Water, Africa Office, IWMI

Appendix D

Questionnaires for WARFSA researchers and referees

(A) Questionnaire for WARFSA Researchers (Grantees)

Kindly provide reasonably detailed and comprehensive responses to the largely open-ended questions below. Please write your name, occupation, position, institutional affiliation, address and contact numbers as well as your response and comments to the questions into this form in a legible fashion. Do use additional sheets of paper if you need more space for your answers, but make sure you clearly mark all question numbers/letters. Your responses will remain confidential.

If at all possible, please return your filled form before the end of this seminar (by Wednesday, 30 October 2001 evening) to the evaluator. If for some reason you are unable to complete this questionnaire during this seminar, please mail or preferably fax/e-mail the completed form to

Dr Hartmut Krugmann, PO Box 11286, Klein Windhoek; Windhoek, Namibia; Tel: (264-61) 228074, Fax: (264-61) 228076; Email: ssdc@ssdc.com.na Thank you.

Your name:

Your occupation/profession:

Your position and institutional affiliation:

Your address and contact numbers:

- 1) How did you hear about WARFSA and what motivated you to prepare a proposal and apply for financial support from WARFSA?
 - 2) What reasons motivated you to select the particular research problem and topic that you are currently working on?
 - a) Reasons related to your own background and interests?
 - b) Reasons related to the objectives and research areas covered by WARFSA?
 - c) Reasons related to interests and needs of other organisations/third parties?
(if more than one of these three categories applies, please address them all and try to rank them in terms of importance, but only if possible).
 - 3) Did you receive guidelines from the Institute of Water and Sanitation Development (IWSD) on how to prepare WARFSA research proposals? If so, how useful, clear and self-explanatory did you find the guidelines? In your view, what are some of their strengths and weaknesses? What (if anything) might be done to improve the guidelines?
 - 4) Prior to submitting your research proposal, did you attend an IWSD training workshop on or other kind of seminar on how to prepare research proposals for WARFSA? If so, when approximately (month, year) did that workshop/seminar take place and how useful did you find it? Please comment on some of the strengths and weaknesses of the training workshop/seminar and on what (if anything) might be done to improve the workshop/seminar.
-

- 5) How effectively and efficiently was your proposal handled by the WARFSA system?
Please comment on:
- Feedback/communications/assistance you received from (IWSD);
 - Feedback/communications from the referees who reviewed your proposal;
 - Feedback/communications from the WARFSA Board who approved your project;
 - The time it took for your proposal to pass through the different stages of review and approval, signing of the agreement, and release of the first payment; and
 - Any other aspects you can think of.
- 6) When (month, year) was your project approved and how effectively and efficiently has your project been handled by the WARFSA system since the date of approval?
Please comment on:
- Feedback/communications/assistance from IWSD;
 - The usefulness of the guidelines on how to do prepare narrative progress reports and what (if anything) might be done to improve these guidelines;
 - The usefulness of the guidelines on how to prepare financial reports and what (if anything) might be done to improve these guidelines;
 - Feedback/comments from the Board on your progress report(s) and financial reports;
 - The time it took to release further payments; and
 - Any other aspects you can think of.
- 7) Does your research project involve:
- Multi-disciplinary work? – if so, what disciplines are involved?
 - Social analysis? (yes – no)
 - Gender analysis? (yes – no)
 - Research on socio-economic, institutional, legal and/or policy issues? (yes – no)
 - Training and other capacity building objectives and activities? – if so, what kind of training and/or other capacity building?
 - Regional collaboration? – if so, with which other countries in the region, and with researchers there and/or other kinds of partners?
 - North-south collaboration? – if so, with which countries in the North, and with researchers there, and/or other kinds of partners?
- 8) Does your research team and project work involve:
- Researchers from different disciplines? – if so, what disciplines?
 - Female researchers? – if so, how many (total number as well as percentage of the team size) and what capacities?
 - Research users and decision-makers? – if so, in what capacities and roles?
- 9) How well do you think has your project been going? Please comment on:
- Whether your project is likely to achieve its stated objectives – and if not, whether the original project objectives have been changed and/or for what other reasons the objectives are likely not met;
 - Aspects of the project work that have gone particularly well – and why;
 - Aspects of the project work that have presented problems – and why.
- 10) Who is going to use the results of your research and how?
- 11) Do you think that WARFSA (in general) and/or (your project) in particular will benefit your career? If so, please indicate briefly in what ways?

- 12) From your perspective, how useful is WARFSA in overall terms, what are some of its strengths and weaknesses, and what might be done to improve it?

Please feel free to comment on whatever aspects you feel are relevant here.

(B) Questionnaire for WARFSA Referees

Kindly provide reasonably detailed and comprehensive responses to the largely open-ended questions below. Please write your name, occupation, position, institutional affiliation, address and contact numbers as well as your response and comments to the questions into this form in a legible fashion. Do use additional sheets of paper if you need more space for your answers, but make sure you clearly mark all question numbers/letters. Your responses will remain confidential.

If at all possible, please return your filled form before the end of this seminar (by Wednesday, 30 October 2001 evening) to the evaluator. If for some reason you are unable to complete this questionnaire during this seminar, please mail or preferably fax/e-mail the completed form to

Dr Hartmut Krugmann, PO Box 11286, Klein Windhoek; Windhoek, Namibia; Tel: (264-61) 228074, Fax: (264-61) 228076; Email: ssdc@ssdc.com.na Thank you.

Your name:

Your occupation/profession:

Your position and institutional affiliation:

Your address and contact numbers:

- 1) How did you become a referee for WARFSA? Were you first approached by the Institute of Water and Sanitation Development (IWSD)? If so, by whom at IWSD? If not, then who else approached you first? Or did you take the initiative of offering your services?
 - 2) Up to now, how many proposals have you been asked by IWSD to review? How many of these proposals have you been able to review? What happened to those proposals you were not able to review? Did you return them to IWSD? Or did you pass them on to a professional colleague to review?
 - 3) Did you receive guidelines from IWSD on how to prepare comment and recommendations on WARFSA proposals? If so, how useful, clear and self-explanatory did you find them? In your view, what are some of the guidelines' strengths and weaknesses? What (if anything) might be done to improve the guidelines?
 - 4) Overall, what has been the level of quality and relevance of the proposals you have reviewed? Have they been stronger or weaker than you expected? Have you encountered large variations in quality among the proposals?
 - 5) How much time have you typically spent on reviewing proposals? Please estimate the approximate net average, minimum and maximum hours/days spent per proposal (don't count interruptions and time spent on other things during reviews).
 - 6) How many of the proposals you reviewed came back to you via IWSD, after revision by the applicant, with the request for you to check and comment on the adjustments and modifications made
-

and to provide final recommendations on whether or not the revised proposals should be funded? Did IWSD provide guidance on how to review these revised proposals? If so, was this guidance useful and clear?

- 7) Do you think that applicants have benefited from your comments and suggestions? If so, on what basis do you think so?
- 8) Do you think you have benefited from the proposal review? If, so in what ways? Please indicate whether in terms of:
 - a) Finding out what is going on in your field of research?
 - b) Becoming aware and learning from of others' ideas?
 - c) Gaining in professional recognition?
 - d) Other ways?
- 9) Are there ways other than proposal review in which referees might contribute to and benefit from WARFSA?
- 10) In your view, do you think that referees should receive some financial remuneration (e.g. a nominal fee) for reviewing proposals? If so, why? And what level of remuneration do you think would be reasonable (high enough to provide an incentive for the referees, while being financially sustainable by WARFSA)?
- 11) How important do you think is the role and contribution of referees to the proper functioning of WARFSA?
- 12) Overall, from your perspective, how well has the WARFSA referee system worked so far? In your view, what are some of its strengths and weaknesses? What (if anything) might be done to strengthen and improve the referee system?

Appendix E

WARFSA eligible research areas

- a) Water use, conservation and technologies
 - Sustainable management of water resources using an integrated approach
 - Water demand management
 - Wastewater re-use
 - Micro-catchment management practices
 - Land use practices and their influence on water resources
 - Systems approach in IWRM
- b) Social, political and economic issues
 - Social and economic influences of water on community development
 - Cost recovery and willingness to pay
 - Ecological sanitation
 - Water allocation and re-allocation strategies at micro- and macro-river basin scales
 - Gender issues related to IWRM
 - Water and politics
- c) Policy and legal issues
 - Water and security (in a conflict related perspective on a local, regional and international level)
 - Management of shared water courses
 - Institutions and their role in IWRM
 - Legal framework for trans-boundary water
 - Water harnessing and release policies and their influence on river systems (river morphology, sediment transport, and other ecosystems)
 - Inter-basin transfers
- d) Ecological water requirements⁴³
 - Water quality and quantity for aquatic ecosystems
 - Bio-monitoring
 - Human impacts on aquatic ecosystems
 - Sustainable use of living/natural resources from aquatic ecosystems
 - Sustainable use of aquatic ecosystems
- e) Promotion of better use of precipitation
 - Water as a resource for small-scale farmers
 - Rain water harvesting
 - Moisture retention of soils
 - System approaches to links between rainwater harvesting, agricultural productivity, hydrology, ecology, and society

Source: WARFSA Operational Guidelines and Statutes, revised draft, 2001.

⁴³ Earlier brochures show only four research areas – a),b),c) and e). Research area d) has been developed out of research area a).

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