

This item was submitted to [Loughborough's Research Repository](#) by the author.
Items in Figshare are protected by copyright, with all rights reserved, unless otherwise indicated.

Support services agents for rural water schemes

PLEASE CITE THE PUBLISHED VERSION

PUBLISHER

© WEDC, Loughborough University

VERSION

VoR (Version of Record)

PUBLISHER STATEMENT

This work is made available according to the conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) licence. Full details of this licence are available at:
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

LICENCE

CC BY-NC-ND 4.0

REPOSITORY RECORD

Stephen, David A.. 2019. "Support Services Agents for Rural Water Schemes". figshare.
<https://hdl.handle.net/2134/30136>.



Support services agents for rural water schemes

David Stephen, South Africa

UMGENI WATER, ONE of the largest water boards in South Africa, has been involved in the provision of water and sanitation services to many rural communities within the province of KwaZulu-Natal. As a result of changing legislation in both the local government sphere and within the water sector, Umgeni Water is in the process of transferring its self-funded schemes and facilitating the transfer of a number of water schemes which were funded by the national Department of Water Affairs and Forestry (DWAF) to various District Municipalities (DM's) (in their capacity as Water Services Authorities (WSA's)).

It is important to both the funder and to the receiving authority that the transferred schemes continue to be operated, managed and funded in such a way so as to achieve an acceptable level of functional and financial sustainability.

In terms of s11(1) of the Water Services Act (No. 108 of 1997) (DWAF, 1997), WSA's are required to "progressively ensure efficient, affordable, economical and sustainable access to water services to all consumers or potential consumers in its area of jurisdiction". This responsibility includes both the delivery of infrastructure and the ongoing provision of water services. In terms of the Act, WSA's may either carry out the water services provider

(WSP) function themselves, or contract with another party. There may be different WSA/WSP arrangements within a WSA's area of jurisdiction, and possibly within a scheme itself.

Most WSA's are in the process of increasing their own capacity or developing contract agreements in order to fulfill their legal obligation to provide water services. However, for many DM's, this is proving to be a difficult task, and interim measures are required to be put in place, in the short- to medium-term at least.

Opportunities now exist for water boards, NGO's and private sector companies to enter into contractual agreements with DM's to provide the necessary expertise. Each DM differs in respect of its current capacity and outlook in respect of WSA/WSP options. Flexibility is therefore required in providing appropriate solutions.

The purpose of this paper is to describe a **modular approach to the provision of support services for rural water schemes** to DM's as WSA's once the schemes have been transferred (see Figure 1, which shows the key components of the project-life cycle for DWAF-funded rural water schemes). DM's may choose from a menu of options, depending on their particular needs for each scheme. The "Support Services Agent" (SSA) concept recognizes the

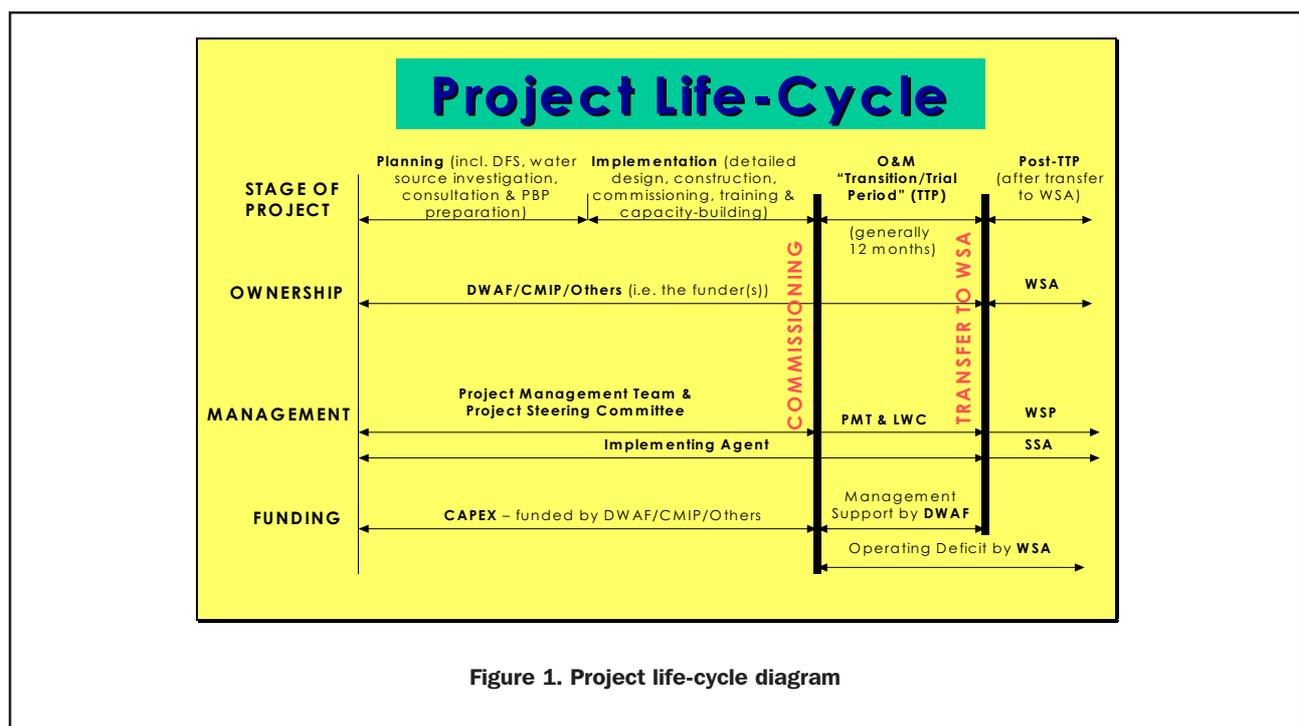
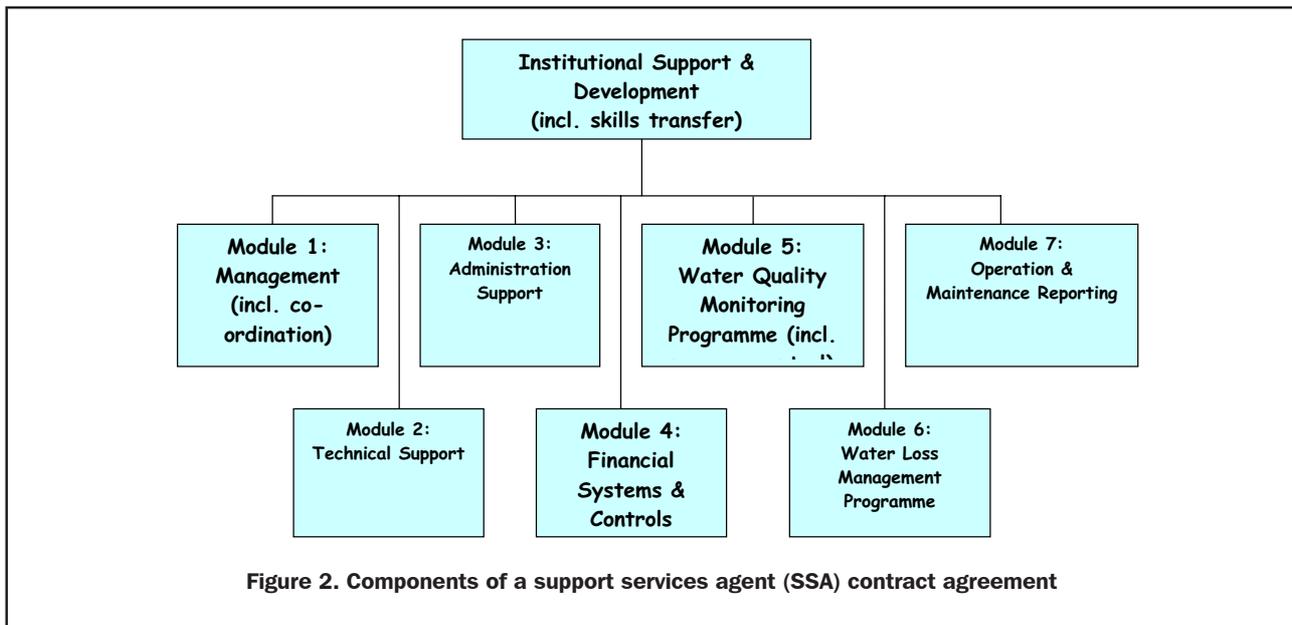


Figure 1. Project life-cycle diagram



legal authority of the DM's as WSA's, and a fundamental component in this approach is the institutional support and development which the SSA provides in enabling the DM to assume its full responsibility as a WSA (in terms of its governance and provision functions), and in the area of skills transfer (e.g. project management, finance, administration, etc.) (see Figure 2).

At a scheme operational level, it is proposed that the SSA contract agreement include seven modules, viz.:

1. Management functions
2. Technical support
3. Administration support
4. Financial systems and controls
5. Water Quality Monitoring programme
6. Water Loss Management programme
7. O&M Reporting

Description of modules

The seven modules are described in more detail as follows:

Module 1: Management functions

Management is regarded as a separate function, as it serves to hold the other modules together, irrespective of who carries out those functions. It includes, *inter alia*,

- Co-ordination and communication with all stakeholders
- Customer service centre management
- Project management
- Contract administration
- Community liaison and facilitation
- Monitoring and evaluation
- Interventions

Module 2: Technical support

Technical support includes:

- Inspections, planned maintenance and repair work
- Emergency repairs
- Meter readings
- Disconnections
- Technical inspections
- Special investigations (with recommendations to resolve problems)

Depending on the requirements of the WSA, the SSA could either provide direct technical assistance, or assist local staff who are employed by the WSA itself.

Module 3: Administration support

Administration support includes:

- Development of administrative policies and procedures
- Training and development of local staff
- Record keeping and filing
- Audit procedures
- Development of appropriate procurement policies and procedures.

All policies, procedures and training requirements need to be developed in close consultation with the WSA, and will depend on the choice of WSA/WSP arrangement, and extent of delegated authority.

Module 4: Financial Systems and Controls

Financial systems and controls support includes:

- Development of appropriate financial policies and systems which are easily understood at local level, and able to be implemented.
- Adequate control mechanisms to reduce the risk of financial loss and fraud
- Financial procedures
- Training and development of local staff

- Record keeping and filing
- Financial audits, with recommendations to resolve and/or improve financial management and control.

All policies, systems, procedures and training requirements need to be developed in close consultation with the WSA, and will depend on the choice of WSA/WSP arrangement, and the legal status of the body responsible for scheme-specific financial matters.

Module 5: Water quality monitoring programme

A Water Quality Monitoring (WQM) Programme includes:

- Sampling of water at source(s) and consumer supply points
- Analysis of water samples
- Reporting of results
- Recommendations for improvement of water quality, including treatment processes
- Specific interventions as required
- Community health and hygiene awareness programme

Module 6: Water loss management programme

A Water Loss Management (WLM) Programme includes:

- Water balance analyses
- Verification of water meter accuracy and calibration
- Water system audits
- Water loss control through physical leak detection
- Pressure management
- System optimization
- Hydraulic and statistical modeling
- Benchmarking studies
- Revenue analyses
- Training and development of local staff
- Record keeping and filing

Module 7: Operation & maintenance reporting

In terms of s23 of the Water Services Act, the WSP is required to give information to a wide range of interested parties, including the WSA, Provincial Authorities, the Minister of Water Affairs and Forestry and consumers (both existing and potential). An Operation and Maintenance Report has already been developed and is being used to monitor and evaluate a number of rural water schemes in KwaZulu-Natal (Stephen, 2001).

The O&M Report serves as a valuable **management tool** for WSP's by providing a record, on a regular monthly basis, of both the technical and financial aspects of water schemes, and by providing a means for sound business planning.

It also serves as a **management information system** for WSA's by providing the information necessary for appropriate and timely interventions to assist in the long-term functional and financial sustainability of schemes.

The SSA could assist in the report's preparation, its interpretation (to both WSA and WSP), or use it as a teaching tool. Improvements in the managerial, technical, financial or administrative aspects of schemes are some of the desired outcomes arising from the use of the report. The O&M Report provides information relating to schemes at both local operational level and at overall scheme level (i.e. including support and mentoring costs), in both tabular and graphical forms.

It includes information on:

- Scheme design parameters and utilization figures
- Capital costs
- Tariffs
- Finances (targets, historical, monthly, cumulative and average figures)
- Water volumes
- Water losses
- Population served
- Consumption per capita
- Reliability of supply
- Water quality performance
- Incidents of vandalism
- Employment figures

Linked to the O&M Report would be Graphed Key Performance Indicators (KPI's), with targets set for each scheme (Stephen, 2000).

The O&M Report should be seen as a critical component of the SSA's function, and must be accurately and diligently completed on a monthly basis. The information obtained should be critically assessed, and appropriate interventions applied in order to improve the performance of the scheme.

Critical success factors

Some of the critical success factors which need to be taken into account when developing the Support Services Agent contract agreement include the following:

- A clear understanding of the institutional, legal and financial policy framework within which the SSA agreement is to be structured, and the roles and responsibilities of the various parties already involved.
- A knowledge of the existing policies and procedures which are in place (if any) within the WSA, relating to the provision of water services to rural communities in general (and the scheme in particular), and the terms and conditions of the current WSA/WSP contract agreement (if available).
- Mutual understanding and acceptance that the SSA becomes a supporting partner to the WSA, WSP and the community, and has not been appointed to remove any obligations that lie with the other parties. The shared objective is to achieve a sustainable water scheme, and improve the quality of life of the benefiting consumers.
- An appreciation of and respect for the inherent capabilities and resources which are available within the com-

munity being served by the water scheme, and a commitment to making use of such resources.

- The availability of documentation relating to: (i) the technical aspects of the scheme (including design reports, commissioning or closure reports, record drawings, operation and maintenance instruction manuals, O&M reports (if available)), (ii) administrative procedures and records, and (iii) financial system procedures and records (including audited statements (where available)).

It is important to note that the content and pricing structure of the SSA agreement will depend not only on the resources which may be within the WSA, WSP and community, but on extent to which those resources are prepared (in the case of human resources) to be committed to the scheme itself. Experience has shown that resources may exist within organizations, but are not able to be effectively used in the achievement of the stated goals and objectives.

A major contributor to the price of the SSA contract agreement is the apportionment of risk between the various parties.

Conclusion

The SSA concept is a new one for many WSA's within South Africa, but one which is being considered by a number of role-players within the water sector who have been, and continue to be, involved with the delivery of infrastructure and water services provision to rural communities.

A number of delivery mechanisms are available to WSA's for the planning and implementation of schemes, which are efficient and cost-effective. However, within the context of new legislation and changing policies at national, provincial and local government levels, there are still many challenges facing the operation and maintenance stage of water schemes.

The contribution which a Support Services Agent can make is to provide the necessary expertise, where needed,

in order to enhance the functional and financial sustainability of schemes, and to ensure that water of an acceptable quality is supplied reliably to consumers, to improve the quality of life of rural communities.

The modular approach described in this paper is intended to allow flexibility for WSA's to select appropriate levels of support for schemes of varying complexity. The full scope of services would be applicable to larger piped rural water schemes. Smaller, stand-alone schemes which rely on protected springs or boreholes fitted with hand-pumps, would only require limited support.

It is recognized that the need for integration between water, sanitation and health and hygiene remains a key issue in trying to achieve these objectives.

Acknowledgements

The writer wishes to acknowledge the support given by Umgeni Water, and the positive contribution of a number of people involved with the on-going provision of support services for rural water schemes in KwaZulu-Natal.

References

- Department of Water Affairs and Forestry, 1997: *Water Services Act (No. 108 of 1997)*, South Africa.
- Stephen, D.A., 2000: *Performance Indicators for Rural Water Schemes*, Paper presented at 26th WEDC Conference, Dhaka, Bangladesh.
- Stephen, D.A., 2001: *An Operation and Maintenance Report for Rural Water Schemes*, Paper presented at 27th WEDC Conference, Lusaka, Zambia.

DAVID STEPHEN, RDP Programme Manager, Umgeni Water, P.O. Box 9, Pietermaritzburg, KwaZulu-Natal, South Africa.
