

MSB III Mid-Term Review

Appropriate Technology **13**

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Abstract**Relevance**

The need to consider appropriate technology solutions in the drive to supply water services to all in South Africa is identified in the Strategic Framework for Water Services and is generally acknowledged within the sector and was identified as a key outcome from the 2008 Municipal Indaba.

The draft strategy document is the key planning document that provides direction of the AT cross cutter and the strategy must still be reviewed and adopted by the sector urgently so it can be implemented and translated into practical useful outputs.

Effectiveness

While very little implementation took place during the reporting period, since then progress has been made in appointing a champion to drive the mainstreaming of AT and a draft strategy produced to guide implementation.

Conclusions

While progress has been made in producing a strategy that provides an appropriate and relevant framework for mainstreaming AT, the challenge now is to get the strategy adopted by the sector and to implement the strategy within the limited time left in the programme. Within the reporting period very little effective progress has been made and this can be clearly seen from the expenditure.

Practical learning workshops, like the one held in Limpopo in March, provide a direct learning experience between experience and need and should be repeated in other areas.

Recommendations

- 1) For further progress to be made during MSBIII, DWAF must urgently initiate a process of sector consultation, review and adoption of the strategy. The top priority activities within the strategy must be identified based on what will have the greatest impact in achieving the goal and implementation of these activities must commence as soon as possible.
- 2) If the planned work and expenditure are to be achieved, implementation must be accelerated
- 3) Actively organise, promote and support local information sharing workshops like March 2009 Limpopo workshop and include sharing of experiences between provinces where appropriate.

Introduction

In the final evaluation of MSBII (Aug 2007) the main finding on Appropriate Technology (AT) was that no progress had been made in implementing the planned activities that were described in the MSB II finance agreement as follows:

- guidelines for addressing AT, based on best practices locally and internationally
- inclusion of formal considerations of AT in the business plan/project evaluation cycle
- developing KPIs and reporting structures for monitoring and evaluating utilisation of AT¹

The recommendation was that these activities be implemented in the MSBIII programme.

In the MSBIII finance agreement AT is addressed under EU outcome 7, which is focussed on water services provider (WSP) operations. The task for MSBIII is to provide support to municipalities and water services providers and to “assist with the incorporation of cross cutting issues” (including AT) “in business plans and practices in-line with the Government strategies and programmes.

The Consolidated Water Sector Quarterly reports further describe the objective of AT as follows:

A function of DWAF with regard to the Use of appropriate technology will be to maintain a legislative and policy framework that provides guidelines for the use of appropriate technology in development projects and develop National standards in this regard. This must be done in such a way so as to achieve the Strategic Framework's objective to “ensure technology is appropriate, affordable and sustainable through replication of best practice”. The Monitoring perspective for the Use of appropriate technology should therefore be: “In order to ensure appropriate delivery solutions the various environments into which services will be delivered must be taken into account, appropriate technology solutions developed and the community must be involved in the choice of the most appropriate option.”

All the quarterly reports for 2007/2008 identified the lack of a national champion at DWAF as a significant impediment to the implementation and also identified the appointment of CSIR as a significant development that would drive progress on AT. The quarterly reports also list a number of “concerns” relating to the use of appropriate technology including the following:

- The narrow focus of project planning excludes due consideration to sustainability and operation and maintenance
- Budgets and time constraints generally limit the use of alternate appropriate technology solutions
- Lack of technical skills

¹ MSBII Financing Agreement between the European Community and the Republic of South Africa, p.17.

- Lack of coordinated planning with sector partners in project implementation
- Pressure for backlog eradication and service delivery

The 2007/2008 4th quarter report describes implementation progress as “AT strategic framework has been developed” and that “Position paper, strategy and toolkits still to be developed”. The 2008/2009 3rd quarter report highlights the use of appropriate technology as a key resolution from the municipal indaba held on 11 September 2008 and further records some activity in regions, mainly in awareness creation (Western Cape and Limpopo) and the scrutiny of planning documents (KZN and Mpumalanga).

Under the CSIR support project, four draft documents have been produced.

- 1) Position paper: Appropriate technologies in the water sector in South Africa, Draft 4, May 2008 available on DWAF’s web site but to be replaced by the following inception report.
- 2) Inception report: Appropriate technologies for the water sector in South Africa, Final draft, March 2009
- 3) Case study report 1: Developing a strategy for mainstreaming Appropriate Technologies for water and sanitation services in South Africa, February 2009.
- 4) Strategy for mainstreaming appropriate technology in the water sector. Draft (version 0), March 2009.

While the last three documents have all only been issued after the evaluation period and none have been finally accepted by the sector or DWAF, they have been considered in the review as much of the work was done during the reporting period and they are significant outputs of the programme.

Water services guideline documentation and information distributed by DWAF and DPLG was reviewed for references to appropriate technology.

1. DWAF’s main technical guidance document, the technical guidelines for the development of water and sanitation infrastructure², makes no mention of AT.
2. The DWAF feasibility study guidelines³ make very brief mention of AT and the need to match technology to the situation but does not provide details or examples of AT.
3. The DWAF document “Sanitation Technical Options” provides clear guidance on appropriate solutions and unacceptable options for basic sanitation services and this information is reproduced in the MIG basic services guide⁴.
4. The DWAF website pages previously called the technical innovation and guidance decision support (TIGDS) has been revamped into the Technical Knowledge Centre (TKC) which has many useful documents, guidelines, research reports and product information. While there are a few direct

² DWAF (2004): Technical guidelines for the development of water and sanitation infrastructure, Second edition.

³ DWAF (September 2002): Minimum standards and guidelines for feasibility studies of water services projects

⁴ DPLG (June 2005): Basic Level of Services and Unit Costs: A guide for municipalities

references dealing with appropriate technology solutions, there is a wide range of information available covering many water and sanitation technologies and their appropriate application.

5. The sector has produced two recent guideline documents for infrastructure planning.
 - DWAF Water Services: Regional Bulk Infrastructure Grant (RBIG) – Policy and Criteria. Draft 1 dated February 2007
 - DPLG MIG: Municipal Infrastructure Grant Feasibility Study Framework & Process. Draft V1.0 for comment, dated 12 September 2005

The DWAF RBIG document emphasises the importance of appropriate solutions based on integrated planning of bulk water services with multiple criteria for assessing project feasibility including social, technical, legal, institutional, environmental and economic sustainability. The MIG document describes the process of planning and options analysis that places significant emphasis on appropriate solutions including the consideration of appropriate technology. Both documents provide guidelines that refocus the objectives of feasibility studies from the traditional mainly technical focus to integrated planning for “implementation readiness”.

Relevance⁵

Main Findings:

The need to consider appropriate technology solutions in the drive to supply water services to all in South Africa is identified in the Strategic Framework for Water Services and is generally acknowledged within the sector (as demonstrated by the outcomes from the Municipal Indaba).

The key planning document that defines the direction of the AT cross cutter is the draft strategy document. Noting that the document is a draft and must still be reviewed and adopted by the sector, for the purpose of the review it is assumed that the content is not likely to radically change.

Firstly, the strategy contextualises AT in South Africa and provides a definition of AT. While the definition contained in the draft strategy is all encompassing and not particularly succinct, the important thing is that once the strategy has been reviewed and accepted by the sector, it will be a common, sector wide definition of AT.

The sustainable application or operation of a technology (process, tool or device) to meet national imperatives within the local institutional, financial, social, cultural, ethical, economic and environmental requirements and constraints experienced by the authority or household responsible for the technology.

⁵ The extent to which the objectives of MSB III are consistent with beneficiaries' requirements, country needs, institutional priorities. It also entails an assessment of project coherence in achieving its objectives. i.e. how relevant is what MSB III doing in this area to SA's needs? And how relevant are the activities being performed in this area to what was intended under MSB III?

Secondly, the strategy defines the goal for the strategy as:

By 2014, all technology decisions made by the water sector will ensure that the most appropriate technology is applied and/or implemented for that specific locality and context.

Thirdly, a comprehensive strategy for the mainstreaming of AT is presented consisting of six strategic responses.

Strategic response 1: Creation of an enabling environment

- Include Appropriate Technology in policies and procedures
- Introduce incentive mechanisms for Appropriate Technology
- Establish a national platform for Appropriate Technology

Strategic response 2: Development of competency

- Build knowledge networks
- Support development and implementation of capacity building in institutions
- Skills development and training
- Support mechanism for areas of weak capacity in Appropriate Technology

Strategic response 3: Incorporation of Appropriate Technology in institutional arrangements

- Include Appropriate Technology in planning processes and procedures
- Develop a national information system

Strategic response 4: Tools to assist and support decision makers in choosing appropriate technology

- National technical database of Appropriate Technology options
- Guideline for Appropriate Technology choices
- Development of technical design standards and norms for Appropriate Technology
- Develop processes and systems for Monitoring, Evaluation and Reporting

Strategic response 5: Research and development of new appropriate technologies

Strategic response 6: Raising awareness about Appropriate Technology in the water sector

- Include Appropriate Technology in the Water Education Programme
- Advocacy and promotion of Appropriate Technology

The last section of the strategy addresses the communication strategy and M&E of the roll out of the strategy.

The development of a strategy for mainstreaming of AT is a crucial step in implementing the cross cutter and is significant progress compared to progress in MSBII. However, real progress must be measured against the acceptance and roll out of the strategy and the translation of the relatively high level strategy into effective action.

Implementation of the strategy must not duplicate existing initiatives but should rather ensure that there is integration with the existing support and knowledge sharing systems and networks of the sector (like DWAF's Technical Knowledge Centre (TKC), WIN-SA, eWISA). In addition, there is a lot of information available already and the challenge is in communicating and making the information accessible to the people who need it.

The other two documents produced are largely background documents to the development of the strategy.

The inception report presents the background, current status of AT and the motivation for developing an AT strategy.

The case study report documents site investigations to 11 sites that are utilising one or another form of AT. The case studies include both water and sanitation and, while focussed on water services, include one site where water is used for food production.

While the case studies are both interesting and informative they are not central to the acceptance and roll out of the strategy and more case studies should not be the main focus of the remaining MSBIII implementation period.

Key Recommendations:

1. For further progress to be made during MSBIII, DWAF must urgently initiate a process of sector consultation, review and adoption of the strategy.
2. With the limited time available, the top priority activities within the strategy must be identified based on what will have the greatest impact in achieving the goal and implementation of these activities must commence as soon as possible.

Effectiveness⁶

Main Findings:

A critical development has been the identification of an AT champion to drive the process of mainstreaming within the sector. Ms Antonino Manus from the Directorate of Water Services and Strategy has added the role of AT champion to her portfolio.

Progress has been made with the implementation of the MSBII AT activities.

- Guidelines for addressing AT – while no guidelines have been produced, the draft strategy is on the table which provides the framework which includes guideline development

⁶ The extent to which MSB III's objectives were achieved, or are expected to be achieved, taking into account their relative importance. Basically is MSB III delivering?

- Inclusion of AT in planning and project evaluation. While not a direct result of any masibambane project, AT has been incorporated into recent planning documents of DWAF and MIG.
- Developing KPIs and reporting structures for monitoring and evaluating utilisation of AT. While the strategy identifies the M&E as one component for implementation, no progress has been made in developing indicators for AT.

Progress with implementation of AT head office project within MSBIII has not progressed as originally planned and the reasons provided for this include the following:

- Delays in the procurement process for appointing the CSIR to develop the strategy
- Resignation of key staff at DWAF and CSIR
- A lack clarity on the roles and functions of the CSIR and DWAF
- Communication

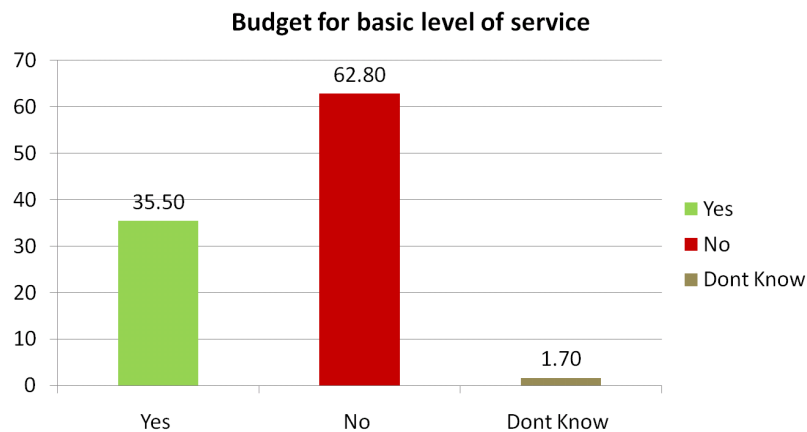
Draft Strategy developed

- The high level strategy is seen by some as too technical and scientific
- The challenge will be in targeting the key audience and translating the high level strategy into practical usable tools for the target audience

Other Achievements

- Limpopo AT sanitation workshop held in March 2009 – sharing of ideas and the experiences with using AT in Limpopo province. Sector partners - active involvement of CSO's and local government. This is an important achievement in a critical arena, as it is bringing together the people with experience on the ground with those who are faced with solving real on the ground problems. The programme would do well to document this workshop and look at repeating it in other areas.
- The establishment of the Technical Knowledge Centre (TKC) web site
- WISA appropriate technology conference is now an annual event

Technologies like handpumps, protected springs, wells and rainwater tanks provide critical access to some water for settlements that are not yet served and for served settlements when piped water supplies are not working. Maintaining basic infrastructure is normally more economical than tankering water and 35.2% of the WSA's surveyed recognise this and allocate budgets for that purpose.



Threat – lack of technical skills where they matter most, creatively applying technical knowledge to develop innovative solutions to the practical challenges faced by municipalities and communities on the ground.

Key Recommendations:

1. Support the WISA AT conference and use it as a platform for communicating AT initiatives of DWAF, NGO's and local government
2. AT champion must provide CSIR with clear direction and set targets for implementing the remainder of the head office support project
3. If the planned work and expenditure are to be achieved, implementation must be accelerated
4. Actively organise, promote and support local information sharing workshops like March 2009 Limpopo workshop and include sharing of experiences between provinces where appropriate.

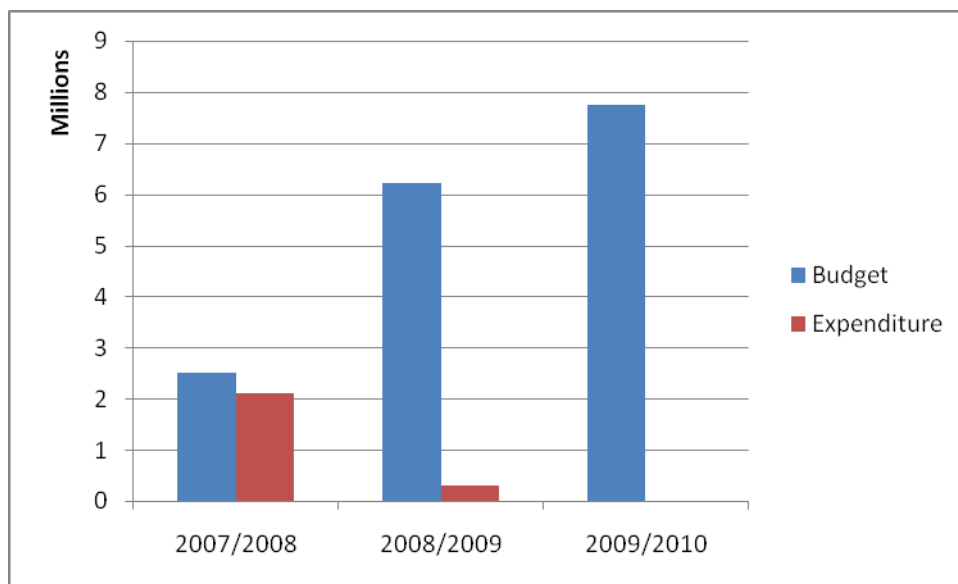
Efficiency⁷

Main Findings:

Within the Masibambane project database there are six projects that refer to Appropriate Technology. Expenditure was only recorded on two projects (Northern Cape feasibility studies and Limpopo Province Sector Workshop on Appropriate Technology) during evaluation period but progress on another two projects was made that only recorded expenditure after September 08 (the CSIR support project and Gauteng).

⁷ A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted into results. Issues to look at might include, for example, what are the costs of the outputs; is the cost ratio of inputs to outputs acceptable; what are the administrative costs per output; what factors account for the efficiency/inefficiency of MSB III.

Code & Name	Sum Total Expenditure (April 07 to Sept 08)
EC888 Facilitate Appropriate Technology	-
HO181 Appropriate Technology Support	-
LP246 Appropriate Technology	516,867
NC186 NC Feasibility studies	1,888,346
GP064 Cross-Cutting Elements	-
NW177 Appropriate Technology Solutions	-
Total	2,405,213



2008/2009 expenditure is for 6 months only

It is very difficult to evaluate the efficiency as most of the work done was not delivered or accounted for in the reporting period. During the reporting period little work was completed and there was little expenditure.

Key Recommendations:

Implementation of AT projects must be accelerated if the budgets are to be spent and the project objectives achieved. While expenditure on strategies and guidelines is important, equal emphasis should be placed on information sharing between people actively working to address problems on the ground. This is arguably where one can get the best value for money.

Conclusion

While progress has been made in producing a strategy that provides an appropriate and relevant framework for mainstreaming AT, the challenge now is to get the strategy adopted by the sector and to implement the strategy within the limited time

left in the programme. Within the reporting period very little effective progress has been made and this can be clearly seen from the expenditure.

Practical learning workshops, like the one held in Limpopo in March, provide a direct learning experience between experience and need and should be repeated in other areas.

Findings and recommendations for AT guidelines taken from the final evaluation of MSBII and still relevant

<i>Appropriate technology for sanitation solutions are well documented and integrated into the systems of planning. What is still often lacking is the planning for operation and maintenance of basic sanitation solutions, specifically pit emptying and the disposal of waste.</i>	Develop guidelines on the operation and maintenance of basic sanitation solutions, specifically pit emptying and the disposal of waste and incorporate into the planning, technical design and M&E of sanitation projects.
<i>For DWAF to fulfil its promise that all will have water by 2008 and the only feasible way to achieve this is for there to be more of an emphasis on "basic" or "emergency" water supplies.</i>	Develop guidelines for appropriate technology solutions that include technologies suitable for basic or emergency water supplies like handpumps, protected springs, wells and rainwater tanks including O&M
<i>Technologies like handpumps, protected springs, wells and rainwater tanks can provide critical access to some water when piped water supplies are not working.</i>	Develop guidelines for appropriate technology solutions that include technologies suitable for basic or emergency water supplies like handpumps, protected springs, wells and rainwater tanks including O&M
<i>Information on appropriate solutions for water efficient gardening, grey water reuse and home garden food production is not freely available</i>	Guidelines on AT must include solutions for water efficient gardening, grey water reuse and home garden food production