



## **Consultancy Services: Output to Purpose Review of Rural Water Supply and Sanitation Programme in Zambézia Province**

Contract No. DFID/MOZ/2005/06-15

**Consultant's Report**

**Department for International Development  
Maputo, Mozambique**

**DFID** Department for  
International  
Development

October, 2005

 **WSP**

824-MZ ZA05-18823

**OUTPUT TO PURPOSE REVIEW**

**ZAMBÉZIA PROVINCE WATER SUPPLY  
AND SANITATION PROJECT**

**FUNDED BY DFID**

**SUPPORTED BY UNICEF**

**IMPLEMENTED BY GOM, DPOPHZ**

**TECHNICAL SUPERVISION BY GOM, DNA**

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October, 2005

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# ZAMBÉZIA INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT

## EXECUTIVE SUMMARY

1. The Zambézia Integrated Rural Water and Sanitation (IRWS) Project is funded by DFID through a Memorandum of Understanding with UNICEF. It began in February, 2001 and is scheduled to finish on 31 December 2005. The project was conceived to provide a role-model for planning and implementation of rural water supplies and sanitation in Mozambique, both provincially and nationally. It involves capacity development, changing community hygiene behaviour, establishing which are appropriate technologies, and extending coverage to show that it works. The model's main aim is to produce a Master Plan that can be adapted by other provinces, or by DNA for national planning, and as a paradigm likely to attract increased funding to provinces or to the sector as a whole.
2. For years, the project seems to have operated at well below expectation requiring major re-adjustments as recommended in the 2003 and 2004 assessments for DFID. This present assessment at end August 2005 appears to have seen the fruits of those re-adjustments.
3. Perhaps most striking is that all players now appear to have clearly defined rôles which everyone understands. There seems to be no competition for areas of responsibility and overlapping of functions seems to be a thing of the past. Where a new problem is encountered, it seems clear to whom the project must refer and problems are now even seen as possible opportunities.
4. The net effect of this is a very much more harmonious working environment with staff from all agencies seeming to share a common vision of the project. It appears to be an appropriate time to look at how this new found mix of agencies and personalities can be harnessed to do what the project was originally structured to achieve despite it being scheduled for completion at the end of December, 2005.
5. The project is beginning to show tangible results in the facilities that have been placed. This consultant has observed a range of situations, and believes that the design, and now the execution, of facilities is resulting in well functioning water supplies and latrines - which bodes well for the Master Plan when it is to be used as a model for others to emulate.
6. The unsung success story of the project is that the choice of latrine technology has been pitched at a most suitable level, and the results so far seen are very satisfactory. The use of ash to reduce smell and fly nuisance is widespread and virtually all of the many latrines seen during the field visit were odourless and kept in immaculate condition.
7. Finally, while the project schedule appears to be coming to an end, none of the players appears to see the closure of funding from this source as a barrier to continuation of the project which virtually everyone believes should be seen through to completion. To abandon it now would be to lose much of what the project was set up to obtain - providing a pattern for others to follow.
8. It should be noted that the contribution of the donor to this project - both in financial terms and in a willingness to continue through the difficult period - has been a significant factor towards its present success. In development terms, it has allowed DNA and DPOPH to function much as they should in policy development, sector oversight and provision of sustainable services. The ultimate recipients of the project - local communities - are already seeing considerable benefits even while the project is being fine-tuned.



## THE REPORT

### 1. INTRODUCTION:

1. This report provides an independent assessment - output to purpose review - of the progress achieved in the Zambézia Province Integrated Rural Water Supply and Sanitation project, funded by DFID, executed through UNICEF, Mozambique, and implemented by DPOPHZ/DAS under the technical direction of DNA/DAR of the Government of Mozambique. DPOPH(Z) is provided technical support by WaterAid, a British NGO.

2. The review was carried out by Ken Gibbs between 23rd August and 6th September, 2005. A series of meetings was held with officials in Maputo and Quelimane, and field visits were made in Zambézia. We would like to thank all those who provided their time and assistance. A list of people met is provided in Annex 1.

3. Previous assessments of the project took place in April, 2003, and September, 2004<sup>1</sup>. The current review also assesses the effectiveness of the latter set of recommendations.

4. The review has seen evidence of a major turnaround in the performance of the project since 2004. A far greater level of commitment by key partners is apparent; a more sustainable approach seems to be taking root, and the prospects for future performance appear positive. This review was not required to analyse reasons for delay, but observes that, given another year, many of the project's original aims can be achieved.

5. The Terms of Reference for the Review (see Annex 2) required the Consultant to look at:

- Results and extent of achievement of objectives to date
- Management of the Project and Partnerships
- Design of the Master Plan
- Community participation
- Service coverage

Details on all of these aspects are discussed further in the report, but findings are summarised below:

6. The project has not yet achieved its objectives, and will not do so within the existing project timeframe. It is felt, however, that major progress has been made in the past 12 months, and if the project is extended for a further 12 months, there is a high probability that they will be met.

7. The previous review identified major shortcomings in the management of the project and the partnerships integral to project success. The steps taken since that review are very encouraging and though it is too early to make a definitive judgement, present performance suggests that a sustainable approach to project management is being demonstrated.

8. The Master Plan has - belatedly - been initiated. Progress so far is positive, but this is still a work in progress, and will not be complete for several months - a process that will require continued involvement and commitment from all project partners.

9. Community participation continues to be active, and within the more supportive project framework, has a better chance of being sustainable.

10. Service coverage has improved quite significantly over the past 12 months. This quantified and qualified in detail in the sections that follow.

<sup>1</sup> Project Evaluation Report, Sally Sutton, April 2003; Output to Purpose Review, Ken Gibbs (WSP), September, 2004

## 2. BACKGROUND:

11. This review is being undertaken at a time when the project is due to close. However, since the original project budget has not been fully utilised, and since the objectives have only been partially met to date, the review is set to consider whether the project should continue and if it does, under what conditions.

12. The Agreement between DFID and the Contractor undertaking the Review is contained in the document DFID MOZ/2005/06 - 15. The Terms of Reference are summarised and attached to this document as Annex 2. A detailed project background appears in the full Terms of Reference and will not be repeated here.

13. The Project has faced many difficulties to date. Some details of these may be seen in the 2003 and 2004 reviews. A summary of the Gibbs (2004) recommendations may be seen in Annex 3 to this review, which is a table prepared by UNICEF showing what has been done about each recommendation as at July 2005 and what is still required to be done by the end of 2005.

## 3. PROGRESS ON OUTPUTS:

14. Reference is made to the Logical Framework in the Project Memorandum dated March, 2001. There are four expected outputs from the project as follows:

- a) Strengthened capacity of DPOPHZ and provincial partners related to RWSP;
- b) Improved hygiene behaviour in target communities, especially school children;
- c) Improved reliability of water supplies as a result of appropriate technology improvements and capable, decentralized community management structures; and
- d) Increased service coverage of affordable rural water supplies and appropriate sanitation practices.

Each of these will be examined briefly both in absolute terms and in the light of the 2004 recommendations where they are relevant.

### 3.1 Strengthened Capacity for DPOPH(Z):

15. Major changes have taken place in the management structure of the project in the past 12 months. UNICEF has lost two staff and gained one; and in March of this year, a two-day workshop was held to clarify the roles of the parties involved in the project. All involved staff to whom this consultant spoke, agreed that the workshop provided a very clear understanding of who is (and who is not) responsible for which activity. A clear indication of the high degree of engagement was that the workshop lasted well into the night on the second day; and judging by the working relationships seen on the ground in Zambézia where all parties have been involved (DNA, DAS, DAR, DPOPH(Z), WaterAid and UNICEF), the harmony engendered by this definition of rôles has been welcome, if rather overdue.

16. In September of 2004, UNICEF was in the process of placing a staff member in the DPOPH office in Quelimane. Not only was this action outside of the rôle of UNICEF in the project, but it would have greatly complicated the rôle of DPOPH(Z). Events since then have clarified matters. Now, no UNICEF staff is resident in Quelimane and the travel by UNICEF sector staff has changed from (around) monthly monitoring visits to policy-focussed trips which are predicted to reduce in frequency. Annex 4 presents field trips by sector staff to Zambézia during 2004 and 2005. It is significant that since the March, 2005, workshop there have been 5 visits to Zambézia. In the same period last year, there were almost twice that number. Travel by UNICEF to Quelimane today is only with DNA staff and generally has the objective of pushing forward policy decisions or the resolution of problems that central organisations have the power to resolve. DPOPH is being provided 'space' in which to fulfil its designated rôle of project implementer, which it is clearly using to good effect as the output in services provided over the last year attests.

17. On the side of DPOPH(Z), there has been a recent change in the post of Director which appears not to have changed the part played by DPOPH(Z) itself. This is probably a commentary on the continuity provided by staff implementing the project who remain much as they were during the September 2004 assessment. Significantly, the most visible characteristic seen during the current assessment is the much enhanced confidence of field staff of DPOPH/DAS/PEC. The technical advisers to the project (WaterAid) have also encouraged field staff to take a lead rôle, and they, too, confirm this confidence.

### 3.2 Examination of the links between the technical achievements and policy:

18. The project seeks to enhance capability in policy development. The Master Plan is the framework on which many of the project outputs are based. The development of this plan has been delayed, but is now being elaborated. This is inevitably an iterative and symbiotic process: clear and well-informed policy provides the framework for the rollout of technical solutions, but should also be based on sound technical solutions. In other words, if the technology works, the policy can; and if the framework is sound, the technical solutions can be sustainable. The report looks at both sides of the equation, and recognises the interplay between them. In terms of avenues or incentives for decision makers, effective communication channels and a willingness to listen - both upwards and downwards - will benefit all partners and stakeholders.

### 3.3 Improved hygiene behaviour in communities, especially school children:

19. During the assessment of 2004, a number of the latrines seen left something to be desired in terms of cleanliness even though the technology was noted as being almost ideal. By comparison, during the current visit when rather more latrines were inspected than in 2004, only one latrine was found to be slightly deficient.

20. Local communities culturally require the house and surroundings to be swept and kept clean at all times but it is reassuring to note that this level of tidiness seems to encompass the latrine and washing area as well. Perhaps the most significant factor in encouraging families to use their latrines is the widespread use of ash as an odour reducer. It has been promoted and the message appears to have been received, noted and acted upon. In 2004, when discussing the advantages of a latrine with families, responses appeared to mirror what the PEC teams were saying to them at the time rather than what they believed. In 2005, families generally gave more personal reasons for their liking of their facility reflecting how - for those fortunate enough to receive the facilities - it has become a part of life.

21. Of specific interest is one double-pit latrine in Nicoadala. During last year, one of the pits became full and was sealed allowing the second pit to begin being used. Very recently, the sealed pit was deemed to have composted sufficiently (~ one year) and was opened in front of a large audience - many of whom were extension workers - and the contents examined at close quarters. The whole process was photographed and will be used to encourage others to exploit what is, in fact, a commercially valuable agricultural resource. Incidentally, the pit contents were used on a nearby cabbage patch indicating no cultural taboos to the reuse of human excreta.

22. The only disappointment was that while at least three schools' latrines were seen, none was in use at the time. Two were under construction and the third was already complete but the school appeared not to be in session at the time so we were unable to obtain the views of the users. In Luabo (Chinde), a secondary school is being provided with 12 latrines plus urinals and it has been suggested that a short study be undertaken about 2 to 3 months after they become operational, to solicit the views of the girls and the boys separately, to ensure that the design meets their needs; and that if it doesn't, what they suggest might be a better alternative.





23. It is felt that the present design of the school latrine might not be ideal. It includes a small rainwater harvesting system which cannot function when there is no rain (~7 to 8 months each year) so that water for hand-washing needs to be found from another source anyway. The present door design may not be suitable for girls who require far greater privacy than boys. Also, while the urinal for boys appears satisfactory, that for the girls may need to be tested before being used as a standard. However, there are systems in place to allow for these modifications if/when they are found to be needed, and thus these (possible) variations should not be seen as a barrier to a successful outcome.

### 3.4 Improved reliability of water supplies due to appropriate technology:

24. A feature of the 2004 assessment was that many Afridev pumps seen were out of order - mostly from a lack of spares. It was crudely estimated then that only 60% were operational at any one time. During the current assessment however, only one pump was seen to be out of action. While this may not be statistically significant, it appears to mark a change in attitude towards the distribution of spare parts for the pump.

25. Unlike last year, this year sees spares in a number of rural locations, available through commercial outlets. A small 'starter' stock has been allocated by DPOPH(Z) from their own stock to these areas. The policy of the sale of spares remains in place with differential prices being charged in Quelimane and in the districts giving a small 10% incentive for the distributors who buy from the main agents in Quelimane (Agro Alfa). It is to be hoped that there will be sufficient numbers of these pumps installed in the districts for the commercial outlets to continue to be interested in carrying these spares.



26. A close examination of the standard of manufacture of the latest version of the Afridev handpump (made by Agro Alfa) indicates an improvement over former years. True, these pumps are still being installed on shallow wells for which they were never designed, but until an alternative has been tested and approved, there will be no change.

27. The Rope Pump has seen some interesting developments. Considerable work has been undertaken by DNA and WaterAid to eliminate the confusion over which version of the Rope Pump to test. There were three in the arena being tested by different groups - The Nicaraguan Rope Pump, the Madagascan Rope Pump and a near relative, the Elephant Pump from Zimbabwe. The relative merits of each of the three different models were considered and it has been decided that a variation on the Nicaraguan Rope Pump will be the only model to be tested. There are a number of good technical reasons why this should be so, relating to performance, longevity, ease of maintenance and cost. Manufacture of units of the Rope Pump is due to start only in September, 2005, in Quelimane. No useful data will be available for at least 18 to 24 months.

28. A further interesting comment has been made about the Rope Pump - even in its most appropriate version - that it is possibly more suited to being a family pump than a community pump because of the intense usage which communities demand of their facilities which the Rope Pump may not be able to withstand. This can only be tested over the next 18 to 24 months. If a more robust alternative is required in the future, it is suggested that a version of the Tara, such as was envisaged in the original policy document, might be worth considering. The Nira Pump which has been used in Cabo Delgado - apparently successfully - is based on the Tara, but it is said to be very expensive. The Tara would have the advantage that it would use the same cylinder, piston, check valve and pick-up arrangement (fishing tool) as the Afridev, simplifying the necessary inventory of spares required.

### 3.5 Increased service coverage:

29. The OPR for September, 2005, shows that 177 new water points have now been constructed and 22 have been rehabilitated. New contractor-installed facilities were closely inspected. The quality of construction is exceptionally good and, providing the price remains affordable, should provide an

excellent model for others to follow. In the same period, just over 1,300 latrines have been completed and, given the greater amount of promotional work required to gain acceptance of something not yet culturally embedded, this total is considered adequate even though the OPR refers to the pace of acceptance of latrines as "slow".

30. In September 2004, no new water points had been completed. At the same time, only 54 latrines had been installed. Thus, although this is not a particularly good indicator, during the last 12 months, around 7 family latrines have been installed / accepted for every water point completed. It is supposed that much the same progress will continue during the next 12 months on the assumption that funding continues (or is available), and while fine tuning of the Master Plan takes place.



31. This progress should be seen against the logistical situation of each area. Inhassunge is close to Quelimane but requires the use of the ferry if direct access is required, or a much longer journey by vehicle if the ferry is to be avoided. Nicoadala - which was not originally included as a district to be served - is easily accessible. However, both Lugela and Chinde present logistical barriers, making them some of the most difficult areas to access in the province. As the project seems able to deliver water and sanitation services satisfactorily in these latter two areas, then the Master Plan should be able to provide a framework for delivery of these services almost anywhere else in the country.

#### **4. PROJECT MANAGEMENT:**

32. The September 2004 assessment of the project paid considerable attention to project management which it is not intended to repeat here. Mention has already been made of the management changes that have taken place in the last twelve months resulting in a harmonious working environment which is producing results.

33. Having had the benefit of undertaking a field trip with a group which included staff from DNA, DAR, DES, DPOPH(Z), DAS, PEC, UNICEF and WaterAid in late August, 2005, it is clear that relationships between all players are far better than in earlier years. This is put down to the 2-day seminar to which frequent mention was made. The contribution that DFID itself made in attending the meeting is noted, and it seems likely that their obvious concern was a factor in its successful outcome.

34. Section 3.1 above notes the change in management emphasis for UNICEF. Given that the project may well become the pattern for all other provinces to follow, this is a welcome and necessary change.



35. Mention should be made of the output of the project - changing views of hygiene in communities; new and functional water points capable of being sustained through availability of spares and an acceptance that they must be paid for; many family latrines, well kept; and the building of a Master Plan which will be used as the tool for both short and longer term management of rural sector water and sanitation in Zambézia and potentially in the rest of Mozambique as well. These are all indicators of a well-functioning management structure. An added bonus is that systems are in place to effect fine-tuning of policies and procedures where these are deemed necessary. Other indicators of how the management or the project has improved include:

- Where the school latrine design requires modification, the work was already in hand within a week of it being shown to be necessary. Last year, this would have taken some months even to agree who was responsible to undertake the work;
- The contract for the construction of water points is unclear on the point of community responsibility for minor maintenance during the one-year retention period. It is understood that

contractors were being instructed to hand over maintenance tools (spanner and fishing tool) in the week following discovery that this was a problem;

- In 2004, some 40% of handpumps in the project area were not working for want of spare parts. Spare parts were available in DPOPH(Z) stores; but DNA wished to apply the policy that spare parts be sold, and there was no mechanism for donated spare parts to be sold. This was solved on agreement between the parties that the donated spares would be used as a "starter stock" for small commercial outlets in the districts, to allow the system to start functioning;
- The change in frequency and purpose of travel by UNICEF staff to the project area between 2004 and 2005 has been profound. Since the March, 2005, workshop the only travel to Zambézia by project professional staff has related to inception of the Master Plan and the current evaluation.

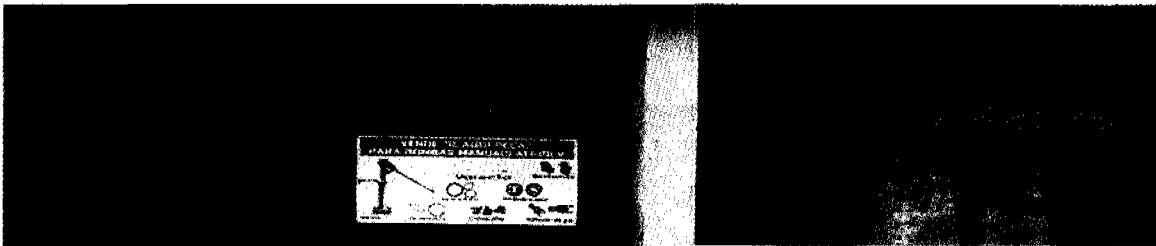
36. Financial flows: Up to the end of 2004, a large proportion of the project funds had been utilised, but the physical outputs had not met forecasts. In 2005, by contrast, fewer funds had been expended but physical outputs had increased. In 2004, there had been a cumulative spend of £1.548 million and no new waterpoints and 54 latrines had been completed. By the 2005 Review, with a cumulative spend of £2.793, the project had produced close to 200 waterpoints (see para 29) over 1300 completed latrines and nearly 1700 latrine slabs. We would expect at least this rate of output to be repeated in 2005-06. It is recognised that the simplified system of financial flows between Unicef and its partners has contributed to the improvement. As the administrative burden of monthly fund reconciliations, for example, has been dropped, it has freed up more time to concentrate on management issues. Results from technical and financial audits will provide more specific detail on this subject, but from an overall project perspective, the streamlining of reporting systems has resulted in improved performance.

## 5. SECTOR POLICIES:

### 5.1 Community Contributions:

37. There has been no change to this policy, and it appears to be working as intended both for new pumps and for the sale of spare parts.

### 5.2 Sale of Spare Parts for Handpumps:



38. Noted earlier is the fact that the policy of sale of spare parts has not changed. What has changed is the acceptance that an interim measure is necessary to 'kick-start' the process; which has been the distribution of existing DPOPH(Z) stocks of spares to district commercial outlets to be used as a form of revolving fund. It may be too early to say whether the system will work in the longer term since it may also depend on the total numbers of pumps for which spares are required. Too few, and the commercial outlets may lose interest, so that the system needs to be monitored.

### 5.3 Choice of Hand-pump(s):

39. For deeper water sources, the Afridev Handpump is the only pump supported by Government. It is robust and two have been seen recently which have operated without maintenance intervention for up to 8 years, indicating its sturdiness. It is still too expensive to use on shallow facilities but will be used on them until acceptable alternative(s) has/have been determined.

40. For shallower water levels (up to around 15 metres depth), a variation on the Nicaraguan Rope Pump is being tested. Depending on how it performs, so it may be accepted as the standard; but a delay of at least 18 months is likely to be needed before even a preliminary decision can be made in the matter. Areas where the Madagascan Rope Pump and the Elephant Pump are currently being used will presumably have to follow policy in the matter and test the Nicaraguan model. DNA, UNICEF and WaterAid may need to consider what would happen if the Nicaraguan Rope Pump is found to be suitable only for family duties.

#### **5.4 Rural Sanitation:**

41. While it has not been seen by this consultant, it is understood that there is a draft policy document for rural sanitation within DNA. It is to be assumed that as with other policy documents, it will eventually form part of the Master Plan for Zambézia and potentially other provinces as well.

## **6. COMMUNITY PARTICIPATION (DEMAND CREATION):**

### **6.1 For water supplies:**

42. The assessment in September, 2004, noted that the project appeared to be somewhat menu-driven. This may still be the case since the comment that latrine construction is "slow" implies that there is a target needing to be met, rather than allowing DPOPH(Z)/DAS to determine what the demand is and to respond to it. That said, participation of the communities in providing the necessary contributions for obtaining the new facility and to provide enough money for spares appears most satisfactory, as does their willingness to manage the water point and maintain it. In many areas visited, there is a strict timetable for use of the pump, with it being locked out of hours to avoid theft or vandalism.

### **6.2 For Latrines:**

43. Noted earlier was the change in attitude of owners of latrines between 2004 and the present. While extension agencies often champion the health benefits of latrines, users are frequently unaware of them and far more concerned with privacy, convenience, security and smell as being the major benefits for them - and so it seemed from responses to questions during the present trip.

44. The only area of community participation not encountered - for the reasons already stated - were in the schools. If, however, the surveys of user attitudes at the secondary school in Luabo (Chinde) go ahead as suggested, then it will be easily seen whether they place a value on their latrines or not, and DPOPH(Z)/DAS can respond accordingly. Since it has been suggested that DNA be involved in the survey, then if there are policy implications (or standards to be modified), support will be available to central level.

## **7. THE MASTER PLAN:**

45. A briefing was provided to this consultant by the Director of UMC, the consultants recently appointed to formulate the Master Plan. Clearly, considerable work has already been undertaken. What is evident is an understanding across most of the sector that the plan will never be static and should be continually updated to reflect the current situation. The renewed - albeit belated - focus on the Master Plan is welcome. It is clear that as it develops, and incorporates new data from the field and learns from other experience, some policies may require revision. Previous assumptions on coverage, for example (e.g. is 500 people per water point realistic?) may impact on approaches towards supply of spares, financing arrangements etc. Many of the original assumptions may be challenged, and this is a welcome and positive step. As the MP develops over the next few months, it will assist all partners to make informed decisions on what needs to be done.

46. The four studies that were originally planned for the Master Plan have been indefinitely postponed. These were to have included water technological options; sanitation options; community involvement; and community financing arrangements. Rather, ongoing work has required practical solutions to be developed effectively eliminating the need for the studies. The trial of the approved version of the Rope Pump will show whether it will perform adequately as a low-lift pump. In addition, other data are being incorporated into the Master Plan on the suggestion of the Director, DNA, which include the School Sanitation Study (which is country-wide); Models of Contract Management (DNA); and the HIV/AIDS Study which impacts on the sector as well. It should also be noted that a follow-up KAP study is planned for 2006 which will also feed into the Master Plan, and be a useful marker for changes induced by the project's activities over the last two years.

47. Existing coverage by water supplies: The Master Plan is using the existing DPOPH database which is not yet compatible with GIS. This is important since the precise position of water points has a direct bearing on coverage (as per the WaterAid study in Namacurra and Namarroi). While 5% of all facilities are assumed to go out of operation each year, this is only an estimate which needs to be confirmed. There is a census due in 2007 which can be used to cross-check the validity of assumptions and surveys. Of perhaps crucial importance is the assumption that all water points serve 500 people who (probably ?) live within a 500 metre radius of the water point. The Master Plan needs to check how accurate this is and as to whether further study is indicated lest present estimates are too high for coverage. It has a direct bearing on the fiscal needs to achieve universal access, and thus annual budgets.

48. Statistics for demographic purposes are being taken from two sources - INE (Instituto Nacional d'Estatística) and the DHS (Demographic Health Survey). Both are considered to be authoritative.

49. Technical options are being taken from DNA policy documents for water sources (Springs, boreholes and wells); for water lifting devices (handpumps) together with ongoing work on the Rope Pump; and the draft of the Policy Document on Rural Sanitation presently with DNA.

50. Costs for different technical options and software: For hardware, normal estimates used within DNA and DPOPH(Z) will be used but decisions have yet to be made about how software (PEC) costs will be reflected (by well, or by community, or per capita). Presently, the spending on PEC represents just over 10% of the total spending on the project.

51. All work is focussed on Zambézia Province at present. DFID, Mozambique has noted that the Director, DNA, has indicated that he is considering embarking on Master Plans in Sofala, Manica and Tete provinces. As the Zambézia Project is not yet complete, this shows a belief that the model offers significant advantages. While confidence in the plan, and enthusiasm to roll it out is positive, it may be worth considering delaying a definitive decision until early 2006, when the Plan is complete and can be fully discussed by all partners. Only when the Plan is sufficiently refined will it be possible to see how it may be applied in other locations. A compelling reason that the Zambézia Project should be completed is that it will be able to demonstrate that it can provide what was intended.

## **8. TERMS OF REFERENCE FOR THE EVALUATION:**

52. The Terms of Reference (Annex 2) include the following:

Results to the present,  
Project management;  
The Master Plan;  
Community Participation; and  
Service coverage

53. All items have been covered in previous sections with the possible exception of service coverage which is estimated based on a unit of 500 persons per water point. Thus 200 water points imply the provision of water to ~100,000 people. This may not be accurate as noted in the comments on the

Master Plan. 2006 is likely to see the calculation (or estimate) of coverage amended to reflect the reality. Reference is made to the excellent work done by WaterAid in reviewing the situation in Namacurra and Namarroi districts.

54. Coverage by family latrines will be considerably less since a family unit may be as little as 5.5 or 6 persons on average. Thus 1,300 latrines implies just less than 8,000 people benefiting. One cannot count school latrines in the same way since some school children may already have access to a latrine at home. Nevertheless, many projects in the sector elsewhere tend to view the provision of latrines as a promotional opportunity rather than using it as a service level objective. This consultant concurs with this view since otherwise one would be obliged to require communities to commit themselves to over 80 latrines for every water source.

55. The Terms of Reference require that the consultant verify "that annual audits were undertaken and that follow up actions have been taken". It is noted that UNICEF does not undertake annual audits of projects. The last audit performed on the UNICEF, Mozambique, office to include the water and sanitation sector, was in 2003. That audit is unlikely to be helpful in describing the current status of the sector. According to the UNICEF Representative, it is likely that she will be requesting an audit for next year, 2006.

56. The consultant wishes to raise an item (not included in the Terms of Reference) for consideration and discussion: that of the manner of contributions to the sector and how they are managed. This is discussed in the next section.

## **9. DONOR & SUPPORT AGENCY CONTRIBUTIONS & MANAGEMENT:**

57. The project has a multiplicity of agencies involved, each with the final aim of sustainable service coverage. Since each organisation requires to have its own administration, the sum of money absorbed which does not produce services for the people of Mozambique is considerable, and this is regrettable. It does seem possible that there are more efficient ways of going about the task.

58. Consultation with at least two of the donors to the sector (The Netherlands and Japan) has indicated a development which perhaps should be more widely used - that of sector budget support. This system, if it can be made to operate to the satisfaction of donor auditors, can be more efficient than ad hoc projects. Already, the Dutch Government which is perhaps the largest single donor to the sector in Mozambique, is providing its assistance through budget support with agreed audit systems in place. During the final meeting related to this assessment of the project, the UNICEF Representative noted that sector budget support was one of a number of options which UNICEF was considering for future involvement of the agency in Mozambique. DFID currently disburses US\$64 million in Direct Budget Support and supports this policy move. It is in everybody's interests to make such an arrangement function properly, since it allows the Government the independence to allow its own systems to function, develop and be proven.

59. It is understood that UNICEF - and all other UN agencies based in Mozambique - intend to synchronise their respective planning cycles to that of the Government of Mozambique starting in 2007. This decision is another indication that external support agencies recognise the need to allow the Government of Mozambique to lead in such matters. Perhaps it might help from a long-term planning perspective if agencies such as UNICEF could agree with the Government what steps are required before they withdraw and leave GoM to run its own affairs: in other words, to outline an exit strategy for themselves. Present programme arrangements seem not to have any termination date, even far in the future. However, with respect to the present project, a detailed exit strategy on the part of Unicef does not appear necessary. DPOPH(Z) has already assumed its leadership role and, should it be necessary, it can negotiate with WaterAid to continue to provide technical support at least until the Rope Pump trials are complete. Unicef may decide to continue to support the project after DFID's funding ceases; but this would, in effect, represent a new situation, and Unicef would then need to develop another exit strategy at that time.

60. If donor and aid agency support is to be simplified to increase efficiency, it might be useful for government to consider examining its own sector implementation organisations to simplify their administration(s) and thus reduce costs where this is possible. It is understood that there are other sector systems operating which are project specific and which have, in essence, created parallel structures to the existing system(s). Not only is this likely to cost more than having a single system, but it runs the risk that capacity development will disappear when the project closes. These comments might apply to the Inhambane and Niassa/Nampula models.

## 10. RECOMMENDATIONS:

61. Few recommendations are made. The project appears to have reached a stage of some maturity with systems in place to deal with most aspects of need. A review of the recommendations made in September, 2004, shows that virtually all the problems addressed have been corrected. Management seems stronger than in 2004, and the few recommendations which follow are aimed at fine tuning rather than making major corrections.

62. The Project should be allowed to continue to completion: While the project has been delayed considerably from the original target dates, it has now reached a stage where management systems can handle nearly all necessary functions, and the outputs - The Master Plan and sustainable water points and sanitation - are being delivered. The project should definitely be completed by December, 2006 and any unutilised funds at that time returned to the donor; and the Master Plan adopted by DNA for wider application.

63. DFID should consider permitting the unused portion of the budget to be used by December, 2006: Providing it can be accommodated within the DFID accounting and management systems, DFID should permit the unused budget amount not yet consumed within this project, to be utilised before the end of 2006. It is, however, strongly recommended that no extension beyond December 2006 should be entertained. By that time, the Master Plan should be ready for wider application, and other contributions to the sector in Mozambique will be able to be accommodated within the next plan cycle in Zambézia Province, using the Master Plan.

64. DFID and UNICEF should explore the potential of promoting the use of budget support as the main means of funding the sector: Combining sector contributions and routing them through a single administration avoids duplication. This reduces the sums that need to be spent on multiple administrations. Moreover, if parallel structures can be avoided, then capacity development can be focussed on strengthening government institutions.

65. UNICEF could usefully explore with DNA an exit strategy from the sector: Traditionally, UNICEF aims to 'empower' governments so that they can care for their own. To ensure that this 'empowerment' is real, plans should be laid for when UNICEF will no longer be needed, fixing possible dates and necessary actions by both parties to make it effective.

66. Priority should be given to development and testing of the Rope Pump: There is a need for an alternative pump for shallow applications to avoid the wasteful use of Afridev pumps on shallow wells and boreholes, saving the government considerable sums of money. Manufacture is due to start immediately and as many units as reasonably are feasible should be made and placed on shallow wells and boreholes at the earliest opportunity.

67. DNA should investigate with WaterAid and UNICEF possible alternative shallow pumps in case the Rope Pump is not sufficiently robust: An exercise should be undertaken to identify other possible low-lift hand or foot operated pumps as alternatives in case the Rope Pump does not meet expectations in terms of wear.

68. The sustainability of community water supplies needs to continue to be closely monitored, and corrective action taken early if necessary: The high percentage of operational facilities seen this year may be a mark of the attention paid both to construction quality and to the flow of spare parts. It is recommended that this close monitoring be maintained. It is noted that while commercial outlets for spare parts were found in all districts visited, until there is a regular sale and replenishment of parts, it will not be possible to be sure that the system functions as it was intended. Thus it is recommended that the supply and use of spare parts for pumps be given priority in monitoring. Commercial viability is to some extent a function of the number of pumps in use in a given area (dependent on 'project' activity or local purchasing power in neighbouring districts etc).



**Annex 1****List of Persons Met during the 2005 Review****Government:**

Dr Carvalho Muária	Governor, Zambézia Province
Américo Muianga	Director, DNA, Moçambique
Antonio Mirasse	Director, DPOPH, Zambezia
Nilton Trindade *	Chief, DAR, DNA, Maputo
Daoud Carimo *	Adviser, Sanitation, DNA, Moçambique
Rogério Batine *	Sociologist, DNA, Maputo
S <sup>ra</sup> Idalina Alfai *	Focal Point for RWSPZ in DAR, DNA, Maputo
Leonardo Chambe *	Chief, DAS, DPOPHZ, Zambézia
S <sup>ra</sup> Amelia Cacilda Majimeja *	Chief, PEC, DAS, DPOPHZ, Zambézia

**Support Agencies:**

Leila Pakkala	UNICEF Representative, Moçambique
Ms Gloria Kodzwa *	SPO, UNICEF, Moçambique
Manuel Freitas *	Chief, WES, UNICEF, Moçambique
Antero Pina *	PO, WES, UNICEF, Moçambique
Erik Harvey *	Coordinator, WaterAid, Zambézia, Moçambique

**Donors:**

Sam Bickersteth	Deputy Director, DFID, Moçambique
Eng <sup>a</sup> Elizabeth Jones	Growth Adviser, DFID, Moçambique
Emidio de Oliveira	Senior Programme Officer, DFID, Moçambique
Katsuyoshi Sudo	Deputy Resident Representative, JICA, Moçambique
Kees Konstapel	First Secretary, Water & Sanitation, Royal Netherlands Embassy

**Others:**

Alberto Cumbane	Head of UMC (Master Plan Consultants)
Agro-Alfa, Quelimane	Suppliers of Afridev pumps and spare parts (Sr Altides, Manager)

\* People noted participated in the field trips for the review, as part of the review team.

A number of other people were met during the visit, too numerous to list, but their contribution is gratefully acknowledged, particularly from the communities visited in Lugela (Mungulune and Nantutu), Nicoadala (Muguwa), Chinde (Luabo) and Inhassunge (Cherimane and Bingabira). The assistance of the Mayor of Mocuba was invaluable; as was the help provided by The Red Cross in Mopeia.

**Output to Purpose Review  
Zambézia Rural Water Supply and Sanitation Project  
22 August – 06 September 2005**

**TERMS OF REFERENCE**

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**Objective:**

The objective of this Output-to-Purpose review (OPR) is to evaluate the progress achieved by the project since the September OPR, recommend whether it is good value for money to continue funding the project and the pertinence of extending it up to December 2006. The report will be in the format of an OPR. DFID will provide the format to the consultant.

**Specific Objectives:**

1. Results and extent of achievement of objectives to date.
  - The extent to which the changes introduced reflect the recommendations of the OPR of 2004 and if those have improved project implementation;
  - The cost effectiveness of what was achieved to date versus the investment already made. Are there better uses we should be putting these funds to?
  - Has this project had any policy impact at either national or provincial levels? How has it impacted on policy implementation?
2. Management of the Project and Partnerships
  - Assess the current clarity of roles and responsibilities within the project. Have the roles and responsibilities actually changed in practice?
  - Analyse the quality of the new system of flow of funds and its practical impact in the project and into the DPOPH.
  - Assess the effectiveness of: DFID's overall management; UNICEF's management; Government responsibilities and technical assistance to the programme.
3. Design of the Master Plan:
  - Analyse progress in the design of the Master Plan, forecast its completion and recommend measures to accelerate it.
  - Assess how the Master Plan process could impact on policy changes and donor harmonisation at a national level
4. Community participation
  - Knowing that the Government's policy encourages that each community should contribute between 2 to 5% for the investment cost, the consultant should assess how many communities so far have done their contribution in money for the identified sites for construction.
  - Being aware that the sustainability of the water sources and the sanitation works depends on the level of awareness, ownership and community organisation, assess the quality of the PEC work to build that capacity within the community groups.
5. Service coverage
  - Assess up to what extent the project improved water supply and sanitation coverage and its specific links to the MasterPlan.
  - Assess the innovative technology options in the context of national policy and practice and review lessons being learnt from the field.
  - Assess the enabling and inhibiting factors for effective and sustainable implementation of Rural Water and Sanitation in the selected pilot districts.

## Annex 2

### **Expected outputs:**

The consultant will be asked to produce:

1. A completed DFID OPR report ready to upload onto the DFID monitoring system ensuring the participation of the stakeholders in the scoring process.
2. The consultant should produce a supplementary report of not more than 15 pages in both Portuguese and English, plus annexes containing more detailed information and, in particular, identify the strengths and the weakness of the project implementation and make specific proposals to improve it. The first draft can be in English or Portuguese, with a summary in both languages.
3. The consultant should verify that annual audits were undertaken and that follow up actions have been taken.
4. The consultant should offer recommendations for a phase out strategy of the technical assistance to ensure a sound handing over of responsibilities to the DPOPH.

### **Skills Required from the Consultant:**

The consultant will have the following competences:

- Rural water supply and sanitation policy experience with more than 10 years in developing countries or in Africa, preferably in Mozambique.
- Experience in evaluation of similar kind of water and sanitation projects, preferably in Africa.
- Skills in the areas of institutional analysis, policy analysis, capacity analysis, and technology issues.
- Knowledge of the Mozambican water policy, the on-going strategies and reforms within the sector and the major rural water supply and sanitation challenges facing the country.
- Knowledge of Zambézia Province in particular will be an advantage.
- Fluency in either Portuguese or English with a good working knowledge of the other language.

### **Timeframe and duration:**

The review will take place between 22 August and 06 September 2005 subject to negotiation and will take up to 16 days. The consultant will spend up to 8 days in Zambézia Province, up to 2 days consulting with national stakeholders including DFID; up to 1 ½ day to prepare a preliminary report to consult with the provincial authorities, and 3 days for report preparation. GoM (DNA), UNICEF and/or DFID staff may accompany the consultant for part of the review, particularly in the visit to the province. A meeting with DNA, UNICEF, DFID representatives and another key stakeholders (max. half-day) should be called to discuss the consultant's findings and recommendations; and the results from this meeting will be reflected in the final report. A proposed schedule has been attached.

### **Reporting:**

The consultant will report to the Project Officer at DFID–Mozambique.

### **Background Documentation:**

Useful background documentation is annexed to these ToRs, namely the Project Memorandum, the new logframe and the new roles and responsibilities table.

**OUTPUT TO PURPOSE REVIEW (OPR) – ZAMBEZIA RURAL WATER SUPPLY AND SANITATION PROJECT  
ANALYSIS OF RECOMMENDATIONS OF LAST EVALUATION (SEPTEMBER 2004)**

Nr	Recommendation	Status as of July 2005	Still to be done
01	Roles and Responsibilities for Zambézia Project to be refined for all participants	<p>A two day Workshop with all the key stakeholders (DNA, DPOH, DPE, WaterAid, UNICEF, DFID) and other partners (JICA, SDC) was organised in March 2005 with two main results achieved: a) roles and responsibilities clarified; b) logical framework improved.</p> <p>MoU for 2005 signed between DNA and UNICEF reflecting, among others, new roles and responsibilities agreed upon and signed.</p> <p>A complete revision of the Roles &amp; Responsibilities doc and respective degree of implementation was done last June 2005.</p>	Continue follow-up on some specific recommendation from the consultant's report: a) progress reporting format prepared and agreed; c) indicators (process, output and TA performance) agreed.
02	Redefine UNICEF's role in the project at provincial level for the period after January 2005	<p>On meeting with DFID held on 26 January UNICEF's role was clarified (see NFR of 26 January 2005) and agreement was reached that UNICEF would continue to actively engage at the national policy level, utilising its technical experience to continue to share evidence based information at the national level as an input to policy processes. UNICEF will focus on the macro level policy forum with limited field monitoring of the overall implementation of the programme. It was agreed that field visits by UNICEF would correspond with the quarterly steering committee meetings</p> <p>There is a clear separation of the UNICEF role (representing the Funding Agency) and the role of Water Aid (as the Client's Consultant – DPOPH Zambézia consultant) and there are no ambiguities regarding the respective roles. In particular, UNICEF is performing a closer role on the monitoring of the Master Plan Development process.</p>	Continue advocate the clear "separation" of roles and responsibilities among the four main Actors: The Client (National level) – DNA; The "main" Client – DPOH; The Client's Consultant: Water Aid; The Funding Agency: UNICEF; and the Contractor's ; UNICEF will continue to monitor regularly the preparation of the Master Plan
03	Prepare agreed ToR for the UNICEF staff member to be posted to Quelimane	UNICEF informed DFID on the 26 January meeting that they would not post a staff member in Quelimane to provide direct technical assistance to the project.	.
04 05	<p>The Application of handpump policy in Zambézia to be adjusted</p> <p>Alternative hand pumps for shallow applications (&lt;10m) should be tested</p>	<p>UNICEF and other key partners (SDC, WaterAid, Care World Bank) have gone through an extensive policy dialogue with DNA to review the current hand pump policy. As a result, a project document for the official testing of an alternative pump for shallow wells (e.g. Rope Pump) has been prepared and submitted for approval to the Minister of Public Works and Housing with DNA seal of approval. GAS group discussion about the rope pump was held in January/February as well as a visit to Niassa Province.</p> <p>The evaluations of Rope Pump and Elephant Pump carried out in Niassa (April) and Zimbabwe (May) shared with GAS members.</p> <p>A pilot project for the introduction and testing of 250 rope pumps in Mozambique</p>	<p>The local manufacturer was identified in Quelimane and will start production in September.</p> <p>Follow-up the installation of 20 rope pumps in 2005 and the installation of the remaining ones (30). Monitor and evaluate the operation of the installed rope pumps according to indicators agreed upon.</p> <p>Produce final report with recommendations.</p>

### Annex 3

		<p>was prepared by DNA and approved by the Minister in July 2005. For Zambezia Province 50 rope pumps are included.</p> <p>Presently been implemented and the project plans in Zambezia to start testing 20 rope pumps in 2005. At the moment four have been installed.</p>	
06	A transition system for the supply of hand pump spares should be arranged	<p>DNA/DAR agreed with the recommendation of GAS for a workshop (to be planned for October) to share various experiences ongoing in the country (e.g. Inhambane, Sofala, Cabo Delgado) regarding the supply chain of spare parts.</p> <p>A meeting was organised by DNA with Agro Alfa, Kanes, Afridev International and others commercial agents linked with hand pump spare parts to discuss the supply chain and information sharing about the introduction of two new pumps: play pump and rope pump.</p> <p>AgroAlfa is improving its capacity to have a reliable commercialisation of spare parts at provincial level.</p> <p>At District level - the project has set up some information mechanisms at district level (panels with spare parts commercial information).</p> <p>Most communities have been participating with funds for the O&amp;M costs.</p>	<p>Continue to promote and facilitate a sound policy discussion around the supply chain of spare parts at national level and incentives for the private sector.</p> <p>In the Province – and at district level - practical mechanisms will continue to be promoted and implemented to boost the O&amp;M: Technicians will be hired and trained to support the District level; the main task will be the management and monitoring of O&amp;M policy and in particular the functioning of hand pumps</p>
07	Water-sanitation-hygiene model at community level should be made flexible	<p>The PEC strategy component is being substantially reviewed to improve the demand for HH sanitation facilities.</p> <p>Performance indicators reviewed..</p> <p>Contracts reviewed and adapted to be more flexible.</p> <p>25 Technicians were trained in the PEC methodology for water and sanitation projects at provincial level</p>	
08	Water Supply and Sanitation Master Plan for Zambezia Province	<p>Inception report approved in June 2005.</p> <p>Master Plan started to be implemented: analysis of the present situation concluded and respective conclusions under discussion.</p>	Finalise Master Plan until February 2006 latest - and start using the Master Plan as a planning tool
09	The four cancelled studies should be reconsidered	<p>During the development process of the Master Plan the four studies will be scrutinized again and a final decision will be made on the need to have them implemented.</p>	Consultant team preparing the Master Plan will be made aware of the importance of reviewing the need to reconsider the studies.
10	Funding of the Project should continue and project should be extended to 31 December 2006	<p>DFID agreed that funding should continue but condition the extension to 31 December 2006 to the results of the 2005 OPR</p>	

**Annex 4****Unicef Staff Travel to Zambia 2004 - 2005**

NAME	DATE	PURPOSE
Antero Pina	08/03/05	Support the mission of DFID field Auditing project activities in Zambia.
	01/06/05	To participate in the discussion of the Inception Report Master Plan Zambia and introduction of new WSHP Section Head.
	15/06/05	To support the launch of the Water and Sanitation Master Plan for Zambia.
Carvalho Muaria	13/01/05	To participate in the monthly meeting with enterprises, under the Integrated Rural Water and Sanitation Project.
Manuel Freitas	01/06/05	First visit to meet counterparts in Zambia and participate in the discussion of the Inception Report for the Master Plan Zambia.
	23/08/05	To attend Zambia Project Evaluation phase 3.
Teofilo Nhampulo	13/02/05	To monitor CAG liquidation and closure of WaterAid accounts.
	17/04/05	Field visits to UNICEF targeted project Districts (Lugela, Chinde, Inhassunge and Nicoadala) and CAG monitoring.

Antero de Pina	17/08/04	To participate in the Steering Committee meeting to be held on the 18th August in Quelimane.
	12/09/04	To accompany DFID consultant to evaluate the Integrated Rural Water and Sanitation Project in Zambia.
	13/10/04	Monitor field activities (water works construction) in the districts of Chinde, Inhassunge and Nicoadala and contact/meetings with key partners (DPOPH,WA,DPS and DPE, contractors and NGOs) to follow-up other projects activities (Master Plan,PEC activities, training).
	17/11/04	Participate in the monthly monitoring meeting w/ all the enterprises/ NGOS implementing the construction works and PEC activities in project's four districts; analyse the situation of the CAGs with DPOPH; Discuss / plan the annual project review/planning for2005.
Carvalho Muaria	20/01/04	Provide technical assistance to finalize 2004 plan of action for districts, and province. Monitor progress of 2003 activities, particularly on PEC & KAP activities.
	03/03/04	Facilitate meeting between the Rope Pump Consultant and various stakeholders in Zambia. Follow up on KAP and PEC activities; discuss on supplies and finalize the list for 2004 and follow up on demonstration of H25 test kits and Suction hand pump.
	10/09/04	To accompany DFID consultant to evaluate the Integrated Rural Water and Sanitation Project in Zambia.
	01/10/04	To participate in the selection and contractual process for Master Plan development.
	11/10/04	Monitor field activities (water works construction) in the districts of Chinde, Inhassunge and Nicoadala and contact/mtgs w/key partners (DPOPH,WA,DPS and DPE, contractors and NGOs) to follow-up other projects activities(Master Plan,PEC activities, training)
	25/10/04	To monitor field activities (water point and construction of latrines) in the districts of Inhassunge,Nicoadala and Lugela. Contacts/meetings with Director, DPOPHZ and DAS technicians.
	14/11/04	Monitoring visit to Zambia project.
Teofilo Nhampulo	12/12/04	To monitor field activities(water points and latrines construction)in Lugela district and participate in the annual evaluation and preparation of plan for 2005 mtg to be held on the 15th December.
	18/07/04	1. Work on WaterAid and DPOPH Zambia CAG. 2. Supervision and Monitoring of DPOPH Zambia supplies.
	07/09/04	Monitor and provide support to DPOPH-Zambia/DAS staff on CAG work process.
	19/12/04	CAG monitoring and provide training on UNICEF CAG manual to chief of department of Finance Department in DPOPHZ.

### List of Acronyms used

Acronym	Português	English
AgroAlfa	Uma empresa no sector privado que venda sobresselentes para a bomba Afridev	A private sector company which sells spares for the Afridev handpump
DAF	Dept. de Admin e Finanças/DPOPH	Admin and Finance Department
DAR	Dept. de Água Rural/DNA	Rural Water Supply Department
DAS	Dept. de Água e Saneamento/DPOPH	Water and Sanitation Department
DES	Dept. de Saneamento/DNA	Sanitation Department
DFID	Dept. de Desenvolvimento Internacional	Dept. for International Development
DHS	Estudo sobre a Saúde Populacional	Demographic Health Survey
DNA	Direcção Nacional de Águas	National Water Directorate
DPE	Direcção Provincial de Educação	Provincial Education Directorate
DPOPHZ	Dir. Prov. de Obras Publicas e Habitação, Zambézia	Prov. Dir. of Public Works and Housing, Zambézia
DPS	Direcção Provincial de Saúde	Provincial Directorate of Health
DRH	Departamento de Recursos Humanos	Human Resources Department
GIS	Sistema de Informação Geográfica	Geographical Information System
GoM	Governo de Moçambique	Government of Moçambique
KAP	Conhecimento, Atitude e Prática	Knowledge, Attitude and Practice
MoU	Memorando de Conhecimento	Memorandum of Understanding
OPR	Revista de Result. em Compar. à Intenção	Output to Purpose Review
PCA	Acordo de Cooperação de Projecto	Project Cooperation Agreement
PEC	Participação e Educação Comunitaria	Participation and Community Education
PRONAR	Prog. Nacional de Água Rural	Nat. Rural Water Supply Programme
RWSP	Prog. de Água e Saneamento Rural	Rural Water and Sanitation Programme
SDC	Cooperação Suisse	Swiss Development Corporation
ToR	Tarefa	Terms of Reference
UNICEF	Fundo das Nações Unidas para a Infância	UN Children's Fund
VLOM	Operação e Manutenção no Nivel de Aldeia	Village Level Operation and Maintenance
WaterAid	Uma ONG Britânica	A British NGO