

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

**A. PROJECT DATA AND KEY DATES**

**I. BASIC INFORMATION**

<b>Project or Loan Number</b> 2100150006726 2100155001729	<b>Project Name</b> Integrated Rural Water Supply and Sanitation Project for Ntchisi and Mzimba	<b>Country</b> Malawi	<b>PCR Date</b> December 2009
<b>Lending Instrument</b> ADF Loan TAF grant		<b>Sector</b> Water Supply and Sanitation	<b>Environmental Classification</b> Category II
<b>Original Commitment</b> UA 8.49 million loan UA 1.10 million grant	<b>Amount Cancelled</b> UA976,555 UA110,663	<b>Amount Disbursed</b> UA7,513,452 loan UA989,368 grant	<b>Percent Disbursed</b> 88.46% loan 90% grant
<b>Client</b> Government of Malawi			
<b>Executing Agencies.</b> [List the main Ministries, Project Implementation Units, Agencies and civil society organizations responsible for implementing project activities.] Ministry of Irrigation Water Development; Project Liaison Unit; Project Implementation Units; Project District Steering Committee			
<b>Co-financers and Other External Partners</b> [List all other sources and amounts of financing, technical assistance or other resources used in this project.] Government of Malawi UA 1.49 million			

**II. KEY DATES**

<b>Concept Review</b> Identification 1999 Preparation June 2001	<b>Appraisal</b> October 2001	<b>Approval</b> December 2001
<b>Restructuring(s): Revised / Actual Dates [list multiple dates if needed]</b> Conditions precedent to entry into force of the Loan Agreement were fulfilled in 2002 and those precedent to first disbursement were fulfilled in 2003. A revised environmental and social management plan was done in February 2006.		

	<i>Original Date</i>	<i>Restructured Date</i>	<i>Actual Date</i>	<i>Difference in months [Actual - original / restructured]</i>
<b>EFFECTIVENESS</b>	June 2002		November 2003	17
<b>MID-TERM REVIEW</b>	May 2004		None	Not applicable
<b>CLOSING</b>	December 2006		December 2008	24

**III. RATINGS SUMMARY**

<b>CRITERIA</b>	<b>SUB-CRITERIA</b>	<b>RATING</b>
<b>PROJECT OUTCOME</b>	<i>Achievement of Outputs</i>	<b>3</b>
	<i>Achievement of Outcomes</i>	<b>3</b>
	<i>Timeliness</i>	<b>3</b>
	<b>OVE RALL PROJECT OUTCOME</b>	<b>3</b>

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

<i>BANK PERFORMANCE</i>	<i>Design and Readiness</i>	<i>3</i>
	<i>Supervision</i>	<i>3</i>
	<i>OVERALL BANK PERFORMANCE</i>	<i>3</i>
<i>CLIENT PERFORMANCE</i>	<i>Design and Readiness</i>	<i>3</i>
	<i>Implementation</i>	<i>3</i>
	<i>OVERALL CLIENT PERFORMANCE</i>	<i>3</i>

**IV. RESPONSIBLE BANK STAFF**

<i>POSITIONS</i>	<i>AT APPROVAL</i>	<i>AT COMPLETION</i>
<i>Country Director</i>		Frank Black, ORSB
<i>Sector Director</i>	G. Giorgis, Director OCDS	Mr. Sering B. Jallow, OIC OWAS/AWF
<i>Project Team Leader</i>	Mr. E.H.J. Schroten	Mr. Eskendir Alemseged
<i>PCR Team Leader</i>		Mr. William Joiner

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

## B. PROJECT CONTEXT

*Summarize the rationale for Bank assistance. State:*

- *what development challenge the project concerns*
- *the Client's overall strategy for addressing it*
- *why and how the Client requested Bank assistance*
- *previous Bank activities in this country and sector and how they performed, citing all relevant PCRs*
- *ongoing Bank and other externally financed activities that complement, overlap with or relate to this project*

*Comment on the strength and coherence of the rationale.*

[250 words maximum. Any additional narrative about the project's origins and history, if needed, must be placed in Annex 4: Project Narrative].

The Government of Malawi (GOM) introduced reforms to reduce poverty and improve living conditions of the people in the rural area through the implementation of measures aimed at improving health standards and providing convenient and suitable water supply, environmental sanitation and health promotion programs. The absence of adequate health care coupled with the lack of clean water, health education and environmental sanitation have been major contributing factors to the high incidence of water-borne.

The strategy of the GOM is to achieve universal coverage by 2025 for both potable water supply and sanitation, and to achieve coverage of 80% of the rural population by 2015. For water, this coverage is defined as access to an average of 27 litres per capita per day with in a maximum distance of 500m, whereas for sanitation it is for every household to at least have access to an improved pit latrine.

The GoM, as part of its effort to reduce poverty and to improve the living conditions of the population, requested the ADB in 1999, following the Fund's identification mission, to consider financing the project which it regarded as high priority then. Subsequently, the Bank fielded a preparatory mission in June 2001, followed by an appraisal mission in September 2001. The project was in line with the Country Strategy Paper (CSP) for Malawi at the time that focused on support of critical areas of sustainable development, improved living standards among the rural poor and human capital development.

Since 1994, the GoM with support from NGOs and Development Partners such as the ADB, NORAD, GTZ, JICA, CIDA, IDA, UNICEF, and EU has implemented a number of programs to cover urban and rural water supply and sanitation, water quality monitoring and environmental protection.

The Bank has funded and completed more than sixty projects and studies since 1969 in various fields ranging from transport, industry, finance, water and sanitation, power, communications, agriculture and social services. 11 of the projects have been in the water and sanitation sector including Mpira Balaka Rural Water Supply Project, which is the largest rural piped scheme in this region of Africa. The Bank also financed the successful district water supply I, II and III projects which contributed immensely to the water supply coverage in districts. The Bank is currently supporting the National Water Development Program along with other development partners. The Bank's contribution (including RWSS Trust Fund) amounts to UA 29 million (USD 44 million) of the total US 228 million committed for the Program. Major partners supporting the program include; DFID, IDA, EU, EIB, UNICEF, OPEC, UNDP and JICA. All other current ongoing Bank supported projects (3 in agriculture, 4 in social and 2 in transport sectors) complement to the sustenance of the outcomes of the water and sanitation sector intervention.

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

## C. PROJECT OBJECTIVES AND LOGICAL FRAMEWORK (LOG FRAME)

<b>1. State the Project Development Objectives (as set out in the Appraisal Report)</b>			
a) To assist in providing safe and reliable water supply and sanitation facilities to the population in the project area.			
b) To carry out a hygiene and environmental sanitation campaigns and a water quality monitoring program.			
<b>2. Describe the major project components and indicate how each will contribute to achieving the Project Development Objectives.</b>			
<p>Through the development of waterpoint infrastructure, social and environmental support, institutional and project implementation support, the project will mobilize the people in the rural areas to take responsibility for their own rural water supply and sanitation, and increase access to safe water supply and improved sanitation.</p> <p>Through the construction of 335 sanitation facilities for schools and health posts, district population covered by environmental health education, a large percentage of the population will change their hygiene behaviour practices and reduce the incidences of some diseases.</p> <p>Even though it was appreciated that the availability of spare parts will contribute to the reliability and sustainability of the water points, the issue was not a component of the project. GOM wanted to encourage the private sector to develop the supply chains to make spares readily available but it did not succeed because the entrepreneurs did not find it profitable. There are no further plans for the distribution of the spares.</p>			
<b>3. Provide a brief assessment (up to two sentences) of the <u>project objectives</u> along the following 3 dimensions. Insert a working score, using the scoring scale provided in Appendix 1.</b>			
<b>PROJECT OBJECTIVES DIMENSIONS</b>		<b>ASSESSMENT</b>	<b>WORKING SCORE</b>
<b>RELEVANT</b>	a) <u>Relevant to the country's development priorities</u>	The project is very relevant to the GOM's sector goal, as spelt out in the country's IPRSP, to provide clean water and adequate sanitation to the total population in the long term, and to achieve coverage of 80% by 2010. It is based on community ownership and decentralized government system.	4
<b>ACHIEVABLE</b>	b) <u>Objectives could in principle be achieved with the project inputs and in the expected time frame.</u>	Achievable with inputs but not within the timeframe.	3
<b>CONSISTENT</b>	c) <u>Consistent with the Bank's country program</u>	The project was in line with the Country Strategy Paper (CSP) that focused on support for critical areas of sustainable development, improved living standards among the rural poor and human capital development.	4
	d) <u>Consistent with the Bank's policies concerning:</u>		
	• <u>Poverty focus (beneficiaries)</u>	Over 60% of the Bank's contribution went directly to the improvement of safe water supply and sound environmental sanitation facilities as direct poverty reduction intervention measures.	3
	• <u>Environment</u>	Over 20% of the Bank's resources went to environmental and social support. The damages to the environment were negligible.	3

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

	• <i>Fiduciary requirements</i>	The GOM and the Bank have consistently fulfilled the fiduciary requirements in order to achieve the project objectives.	3
	• <i>Post Conflict and Fragile states</i>	Not applicable	6
	• <i>Regional Integration</i>	Not applicable	6

**4. Lay out the log frame.** If a log frame does not exist, complete the table below, indicating the overall project development objective, the major components (maximum of three) of the project, the major activities (maximum of three) of each component and their expected outputs, outcomes, and indicators for measuring the achievement of outcomes. See sample log frame in Appendix 2.

Project Objective

- a. To assist in providing safe and reliable water supply and sanitation facilities to the population in the project area.
- b. To carry out a hygiene and environmental sanitation campaign and a water quality monitoring program.

<i>COMPONENTS</i>	<i>ACTIVITIES</i>	<i>OUTPUTS</i>	<i>EXPECTED OUTCOMES</i>	<i>INDICATORS TO BE MEASURED</i>
<b>Component 1.</b> Infrastructure development	<b>Activity 1.</b> Construction & rehabilitation of waterpoints	<b>Output 1.</b> <ul style="list-style-type: none"> <li>• 1100 new wells and boreholes constructed</li> <li>• Rehabilitation of 225 wells &amp; boreholes</li> </ul>	<b>Outcome 1.</b> <ul style="list-style-type: none"> <li>• Improved water supply in 1325 villages;</li> <li>• 369,000 additional people now have access to safe water</li> </ul> <p>Contributed to figures above</p>	<ul style="list-style-type: none"> <li>• Number of water points in districts</li> </ul>
	<b>Activity 2.</b> Construction of rainwater harvesting systems	<ul style="list-style-type: none"> <li>• 280 rainwater harvesting systems constructed</li> </ul>	<b>Outcome 2.</b> <ul style="list-style-type: none"> <li>• Improved sanitation &amp; a number of sanitary facilities for 50% of population in Ntchisi and Mzimba Districts</li> <li>• School enrolment, especially for girls, increase</li> <li>• Incidence of water-borne diseases reduced</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of people using improved sanitary facilities</li> <li>• Statistics on school enrollment</li> <li>• Number of reported cases of waterborne and water related diseases</li> </ul>
	<b>Activity 3.</b> Construction of sanitation facilities	<b>Output 2.</b> 335 sanitation facilities constructed in schools and health centres constructed		

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

<b>Component 2.</b> Social and environmental support	<b>Activity 1.</b> Capacity building & training for village & health committees, community, district & regional staff	<b>Output 1.</b> Conducting workshops & seminars on environmental health education	<b>Outcome 1.</b> <ul style="list-style-type: none"> <li>• Water point committees formed;</li> <li>• The district populations covered by environmental health education</li> <li>• Pump mechanics and artisans trained</li> </ul>	<ul style="list-style-type: none"> <li>• Number of water committees formed</li> <li>• Effective and sustained community participation</li> <li>• Number of people using proper environmental health practices</li> <li>• Number of pump mechanics and artisans trained</li> </ul>
		<b>Output 2.</b> Conducting studies to ensure effective distribution of spareparts	<b>Outcome 2.</b> Distribution of spare parts still not solved. Further interventions required.	<ul style="list-style-type: none"> <li>• Ease with which spareparts are procured</li> </ul>
<b>Component 3.</b> Institutional and project implementation support	<b>Activity 1.</b> Construct offices and residential houses for staff in provinces	<b>Output 1.</b> 2 offices and 4 staff houses	<b>Outcome 1.</b> Incentive for senior staff to stay in provinces	<ul style="list-style-type: none"> <li>• No of offices and houses</li> <li>• No. of senior staff employed and retained to end of project</li> </ul>
	<b>Activity 2.</b> Provision of office equipment & vehicles	<b>Output 2.</b> 6 computers, 2 photocopiers, 4 vehicles and 12 motorbikes supplied	<b>Outcome 2.</b> Project effectively managed	<ul style="list-style-type: none"> <li>• Project successfully completed</li> <li>• GOM has monitoring and control system</li> </ul>

5. For each dimension of the log frame, provide a brief assessment (up to two sentences) of the extent to which the log frame achieved the following. Insert a working score, using the scoring scale provided in Appendix 1. If no log frame exists, score this section as a zero ("0").

LOG FRAME DIMENSIONS		ASSESSMENT	WORKING SCORE
LOGICAL	a)Presents a logical causal chain for achieving the project development objectives	Easy to follow how the objectives of the project were to be achieved.	4
MEASURABLE	b)Expresses objectives and outcomes in a way that is <u>measurable</u> and <u>quantifiable</u>	This was clear for the water supply component. That of sanitation was not stated in an easily measurable manner	3
THOROUGH	c)States the risks and key assumptions	A key risk was that failure of the community to accept DRA would have resulted in the objectives not being met.	3

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

## D. OUTPUTS AND OUTCOMES

### I. ACHIEVEMENT OF OUTPUTS

*In the table below, assess the achievement of expected vs. actual outputs for each major activity. Import the expected outputs from the log frame in Section C. Score the extent to which the expected outputs were achieved. Weight the scores by the activities' approximate share of project costs. The overall output score will be auto-calculated as an average of the weighted scores. Override the auto-calculated score, if desired, and provide justification.*

<i>MAJOR ACTIVITIES</i>		<i>Working Score</i>	<i>Share of Project Costs (as stated in Appraisal Report)</i>	<i>Weighted Score</i>
<i>Expected Outputs</i>	<i>Actual Outputs</i>			
<ul style="list-style-type: none"> <li>• 1100 new wells and boreholes constructed</li> <li>• Rehabilitation of 225 wells &amp; boreholes</li> <li>• 280 rainwater harvesting systems constructed</li> <li>• 335 sanitation facilities constructed in schools and health centres constructed</li> </ul>	<ul style="list-style-type: none"> <li>• 1372 new boreholes constructed</li> <li>• 1300 boreholes maintained</li> <li>• 47 boreholes rehabilitated</li> <li>• 153 taps from gravity schemes constructed</li> <li>• 53 rainwater harvesting systems constructed</li> <li>• 74 shallow wells constructed</li> <li>• 17 protected springs constructed</li> <li>• 666 ventilated improved pit latrines constructed</li> </ul>	4	50.51%	<i>2.0204</i>
<ul style="list-style-type: none"> <li>• Conducting workshops &amp; seminars on environmental health education</li> <li>• Conducting studies to ensure effective demand driven approach</li> </ul>	<ul style="list-style-type: none"> <li>• Improved sanitation training was done</li> <li>• District population covered by environmental health education</li> </ul>	2	<i>10.28%</i>	<i>0.2056</i>
<ul style="list-style-type: none"> <li>• 2 offices and 10 staff houses</li> <li>• 6 computers, 2 copiers, 4 vehicles and 12 motorbikes supplied</li> </ul>	2 offices and 6 staff houses constructed	2	<i>27.69%</i>	<i>0.5538</i>
<b>OVERALL OUTPUT SCORE</b>				<b>3</b>
[Score is calculated as an average of the weighted scores]				

Check here to override the calculated score

The following box pops up if the box is checked and score can be modified.

*Provide justification for over-riding the auto-calculated score.*

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

II. ACHIEVEMENT OF OUTCOMES

<i>1. Using available monitoring data, assess the achievement of <u>expected outcomes</u>. Import the expected outcomes from the log frame in Section C. Score the extent to which the expected outcomes were achieved. The overall outcome score will be auto-calculated as an average of the working scores. Override the auto-calculated score, if desired, and provide justification.</i>		
<b>OUTCOMES</b>		<b>Working Score</b>
<i>Expected</i>	<i>Actual</i>	
1. Improved water supply in 1325 villages	Over 1450 villages were covered with improved water supply	4
2. Improved sanitation & a number of sanitary facilities for 50% of population in Ntchisi and Mzimba Districts	A large number of population of the two districts now use improved sanitation More girls enroll in schools and drop-out rate reduced where facilities are built in schools.	2
3. <ul style="list-style-type: none"> <li>• Water point committees formed;</li> <li>• The district populations covered by environmental health education</li> <li>• Pump mechanics and artesans trained</li> </ul>	Over 2000 water point committees formed District populations were covered by environmental health education. 17 Pump mechanics and artesans were trained	4
4. Effective and sustained community participation	The communities participated fully in identification, design and implementation of project	3
<b>OVERALL OUTCOME SCORE</b> [Score is calculated as an average of the working scores]		<b>3</b>

Check here to override the calculated score

The following box pops up if the box is checked and score can be modified.

<b><i>Provide justification for over-riding the auto-calculated score.</i></b>

<b><i>2. <u>Additional outcomes and impacts.</u> Comment on the project's actual or likely impact on poverty, gender equity, marginalized groups, employment or other relevant dimension.</i></b>
<p>With so many water points provided, women and girls now spend shorter periods on fetching water. The time gained is being used for other income-generating activities. All of the beneficiaries interviewed mentioned that the incidence of waterborne diseases has reduced, thus increasing the time family members can spend on other productive activities, but this was not corroborated by the health statistics, the reason being that not all diarrhoeal diseases originate from contaminated water or sanitation. The drainage at most of the water points were well constructed and have functioning soakaways that prevented stagnation of water, thus avoiding pollution of groundwater and the breeding of insects that can cause diseases. The area around the water points were also kept reasonably clean.</p> <p>The artesans were trained on constructing latrines and some on repairing the hand pumps. The artesans build latrines for private households, while pump mechanics repair the hand pumps and assist in the acquisition of spares. They are now earning extra income from these activities.</p> <p>By promoting community based management and equal contribution to the operation and maintenance of the facilities, every member of the community has equal say in the affairs of the facilities. Most households, however, are headed by men and so most decisions are likely to be dominated by them. The project, therefore, recommended mainstreaming gender by ensuring that at least 50% of the water point committees be made up of women and that they occupy important positions</p>

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

like chairperson and treasurer. The project was able to involve women in all stages of the project cycle, from planning to operation and maintenance, and achieved about 60% membership by women in the water committees.

The sanitary facilities built in the schools gave teenage girls the ability to clean themselves up during their mensuration and this boosted their confidence to stay in school enrollment after they reached puberty.

There was some short-term employment for community members during construction, mostly for unskilled labor.

***3. Risks to Sustained Achievement of Outcomes. State the factors that affect, or could affect, the long-run or sustained achievement of project outcomes. Indicate if any new activity or institutional change is recommended to help sustain outcomes. The analysis should draw upon the sensitivity analysis in Annex 5, if available.***

Sparepart shops are generally far away from communities where they are required. GOM intends to carry out a study to find out the best measure to make spares available and affordable.

The lack of banking facilities close to the communities could affect the safety of the monthly contributions. Some banks charge commissions on deposits.

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

**E. PROJECT DESIGN AND READINESS FOR IMPLEMENTATION**

**1. State the extent to which the Bank and the Client ensured the project was commensurate with the client's capacity to implement by designing the project appropriately and by putting in place the necessary implementation arrangements.** Consider both design aspects (inputs) and actual outcomes. Design aspects include: extent to which project design took account of previous operations in the sector; how well Bank and Client assessed the capacity of the implementing agencies and Project Implementation Unit; provision made for technical assistance. Project outcomes include the extent to which the project was completed on time and activities were implemented as designed.  
[250 words maximum. Any additional narrative about implementation should be included at Annex 4: Project Narrative]

The new water policy adopted by the GOM in 1994 recognised water as an economic and social good, and put in place mechanisms for sustainable operation and maintenance of the facilities by advocating community based management systems through a demand responsive approach. The project has taken into consideration the GOM's targets to achieve the MDGs and the policy to achieve sustainability which includes a decentralization policy and guidelines, the increased role of the private sector, non-governmental organisations and community-based organizations.

Dedicated project liaison unit based at the Ministry of Irrigation and Water Development, and project implementation units were established in each district. Within each of these units were project managers and accountants to ensure smooth implementation of the project. They were each trained on the requirements of the ADB's procurement and disbursement procedures.

Since there was a general lack of essential development knowledge and skills such as management, the project incorporated capacity building of all stakeholders as a matter of priority.

The project took account of the farming calendar to ensure that communities participate without compromising farm work.

**2. For each dimension of project design and readiness for implementation, provide a brief assessment (up to two sentences). Insert a working score, using the scoring scale provided in Appendix 1.**

PROJECT DESIGN AND READINESS FOR IMPLEMENTATION DIMENSIONS		ASSESSMENT	WORKING SCORE
REALISM	<i>a) Project complexity is matched with country capacity and political commitment.</i>	The GOM is committed to the overall goal of sustainable management and utilization of water resources acceptable to every Malawian. The decentralization process was lagging in that decisions were being taken from the ministry and the District Assemblies had little say on important project issues.	2
RISK ASSESSMENT AND MITIGATION	<i>b) Project design includes adequate risk analysis.</i>	The risk assessment assumed that DRA CBM will be readily accepted by all communities. there were no contingency plans for rejection.	3
USE OF COUNTRY SYSTEMS	<i>c) Project procurement, financial management, monitoring and/or other systems are based on those already in use by government and/or other partners.</i>	Use of country systems was limited. Bank's procurement and financial procedures were used.	1

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

For the following dimensions, provide separate working scores for Bank performance and Client performance:			WORKING SCORE	
			Bank	Client
CLARITY	<i>d) Responsibilities for project implementation are clearly defined.</i>	Responsibilities were clearly defined	4	4
PROCUREMENT READINESS	<i>e) Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.</i>	Detailed implementation documents were only prepared after project was approved and implementation started.	2	2
MONITORING READINESS	<i>f) Monitoring indicators and monitoring plan are agreed upon and baseline data are available or are being collected.</i>	Adequate measures were put in place to monitor that the project was contributing to achieving the sector policy and the water quality of constructed water points.	3	3

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

## F. IMPLEMENTATION

*1. State the major characteristics of project implementation with reference to: adherence to schedules, quality of construction or other work, performance of consultants, effectiveness of Bank supervision, effectiveness of Client oversight, and compliance with safeguards. Briefly list what was accomplished at the time of project closing.*  
[250 words maximum. Any additional narrative about implementation should be included at Annex 4: Project Narrative.]

All conditions to get the loan and grant effective were fulfilled in September/October 2003. Implementation of preparatory works started towards the end of 2004, about 2 years later than was planned at appraisal. The GOM immediately proposed a Project Liaison Unit and Project Implementation teams which the Bank approved without delay. The teams remained coherent till the end of the project.

Construction of wells and boreholes started at the end of 2005 instead of 2003, and all works were completed 2 years later than the planned December 2006. The main reason for the delay is progress by contractors who could not improve despite efforts by the consultant to assist them. Contracts for sanitation facilities were awarded to many small contractors who had limited financial and technical capacities. Most the contractors did not finish their work within the agreed contract period due to various problems, the major factor being lack of good contract management and financial capacity. Some of the contractors, especially VIP latrine contractors, ended up sub-contracting their work and this greatly assisted completion of the works.

Baseline and demand studies were not completed as per program for the two districts, only Ntchisi was completed by December 2004. The survey for Mzimba was completed June 2005. Construction of offices and staff houses started June 2005 and was expected to finish September 2005. However, construction of the offices was extended and the contractors failed to finish so that the Executing Agent terminated contract for the contractor in Ntchisi. Other software components have delayed but with a short period.

Bank supervision was planned for every six months, but the actual were not consistent with the plans. They were effective, however, in providing guidance for progress on the project. A MTR was not conducted because the Bank did not make it a priority, and so no budgetary/financial and manpower allocation was made for it.

The project was able to construct more waterpoints and sanitary facilities than envisaged, carry out more hygiene and environmental sanitation campaign in more communities than was planned. The design of the sanitary facilities needs to be improved upon to incorporate optimum space for users, secure the vent pipe against vandalism, rainwater harvesting for handwashing, etc. but they were generally constructed with good quality of workmanship and materials. The spareparts network was not well established because it was difficult to get the private entrepreneurs interested as they do not find it profitable. To resolve this issue, GOM needs to carryout a study that will make recommendations for a long term nationwide approach. In the medium term, entrusting a set of spares to the Water Committees at commissioning of the water points should be considered, buttressed by clear instructions to the water committees during their training, that they must be replaced within the shortest period after using them.

The project conducted water quality tests for some of the existing boreholes and tap points to get a sample view of the expected quality of ground water and surface water. It was observed from the ground water assessment report that the aquifer in both districts is not homogeneous and this means that it is possible to have a borehole with unacceptable water quality and not more than 200 metres away have another borehole with acceptable water quality. Though there are such differences it is also observed that certain characteristics apply to a wide area. A good example is water hardness which is common in some areas but one is still able to get pockets of water with hardness below the maximum limit.

**MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)**

In order to assess the chemical and physical properties of the water of all wet wells, the contractors conducted preliminary quality checking of Total Dissolved Solids, Conductivity and Power of Hydrogen during the progress of the drilling and complete chemical analysis after pump testing. The chemical qualities of groundwater of all productive wells meet the Malawi Standard except for 9 boreholes in Ntchisi and 60 boreholes in Mzimba. The bacteriological qualities of the productive wells were checked by the Central Water Laboratory and most boreholes checked were found to have acceptable water for human consumption. All boreholes and shallow wells were disinfected at commissioning.

There was a high incidence – in 41 villages – of pump parts’ theft since the completion of the project. This was blamed on the poor citing in isolated locations of some water points away from the village centre. Some wells had to be cited away to increase the chance of hitting the right aquifer.

According to statistics (2008), the national rural water supply coverage was 78%, while that of sanitation was 81%.

**2. Comment on the role of other partners (e.g. donors, NGOs, contractors, etc.)**

This project was entirely funded by the ADB and GOM, but in the past, GOM, with the support of NGOs, and other development partners like NORAD, GTZ, CIDA, IDA, UNICEF and the EU, has been able to implement a number of programmes in both urban and rural water supply.

Contractors were used for all construction work, including drilling of boreholes. NGOs, CBOs and other private consultants did the hygiene campaign.

**3. Integrity. State whether during project implementation Bank or Client raised instance(s) of suspected corruption or lack of integrity in procurement, accounting, auditing, and quality of work, personnel matters, or another project aspect. If so, state how the issue was handled by Bank and Client and what the result was.**

No instances of corruption was reported.

**4. For each dimension of project implementation, assess the extent to which the project achieved the following. Provide a brief assessment (up to two sentences) and insert a working score, using the scoring scale provided in Appendix 1.**

PROJECT IMPLEMENTATION DIMENSIONS		ASSESSMENT	WORKING SCORE
<b>TIMELINESS</b>	a) <i>Project was completed on time.</i> Draw directly from Section A on Project Data and Key Data. Calculate the ratio of planned time from approval to closing. Score “4” if the ratio is 1.0, score “1” if the ratio is 2.0, score “0” if ratio is greater than 2.0 (i.e. project completion took more than twice as long as planned)].	There was a delay of two years before the project commenced but activities were completed within the number of months allocated for each. Time allocated by the Bank for loan to be effective and project to start up is usually never realized.	3
<b>BANK PERFORMANCE</b>	b) <i>Bank enforced:</i>		
	• <i>Environmental safeguards</i>	It was a loan condition for the PIUs to supervise and monitor the environmental aspects of the project. An ESMP was cleared by the Bank before commencement of physical works.	4
	• <i>Fiduciary safeguards</i>	The fiduciary requirements were made by the Bank throughout the project implementation period.	3
	• <i>Project covenants</i>	The Bank ensured that all project covenants were fulfilled.	3

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

	c) <i>Bank provided quality supervision in the form of skills mix provided and practicality of solutions.</i>	Throughout implementation, the Bank fielded missions composed of engineers, public utilities economists, financial analysts, social economists and environmentalists.	3
	d) <i>Bank provided quality management oversight.</i>	There were no reports of the Bank taking too long to respond to requests for 'No objection' or to give guidance on any issue.	3
<b>CLIENT PERFORMANCE</b>	e) Client complied with:		
	<ul style="list-style-type: none"> <li>• <i>Environmental safeguards</i></li> </ul>	The client submitted on time to the Bank for approval, proposals for an ESMP. Its implementation was supervised by the client. Care was taken in siting of water points in order not to adversely affect the sources. A catchment management plan was prepared for gravity schemes	4
	<ul style="list-style-type: none"> <li>• <i>Fiduciary safeguards</i></li> </ul>	The client complied with the fiduciary safeguards over the project period and accordingly all financial reports including audits were timely submitted to the Bank	3
	<ul style="list-style-type: none"> <li>• <i>Project covenants</i></li> </ul>	GOM delayed on the payment of its financial contribution, but paid all its arrears in the end.	3
	f) <i>Client was responsive to Bank supervision findings and recommendations</i>	The client carried out the recommendations of the Bank's supervision missions	3
	g) <i>Client collected and used monitoring information for decision-making.</i>	There is no evidence that the client collected monitoring information	1

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

## G. PROJECT RATINGS SUMMARY

All working scores are auto-generated by the computer from the relevant section in the PCR. The overall scores and sub-scores for project design and supervision/implementation are to be entered by the author.

<i>CRITERIA</i>	<i>SUB-CRITERIA</i>	<i>WORKING SCORE</i>	
<i>PROJECT OUTCOME</i>	Achievement of Outputs	3	
	Achievement of Outcomes	3	
	Timeliness	3	
	<b>OVERALL PROJECT OUTCOME SCORE</b>		<b>3</b>
<i>BANK PERFORMANCE</i>	<b>Design and Readiness</b>		
	Project Objectives are <u>relevant</u> to country development priorities.	4	
	Project Objectives could in principle be <u>achieved with the project inputs and in the expected time frame</u> .	3	
	Project Objectives are <u>consistent</u> with the Bank's country program.	4	
	Project Objectives are <u>consistent</u> with the Bank's policies concerning:		
	• Poverty focus (beneficiaries)	3	
	• Environment	3	
	• Fiduciary requirements	3	
	• Post Conflict and Fragile states	N/A	
	• Regional Integration	N/A	
	The log frame presents a <u>logical causal chain</u> for achieving the project development objectives.	4	
	The log frame expresses objectives and outcomes in a way that is <u>measurable</u> and quantifiable.	3	
	The log frame states the risks and key assumptions.	3	
	Project complexity is matched with country capacity and political commitment.	2	
	Project design includes adequate risk analysis.	3	
	Project procurement, financial management, monitoring and/or other systems are based on those already in use by government and/or other partners.	1	
	Responsibilities for project implementation are clearly defined.	4	
	Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.	2	
	Monitoring indicators and monitoring plan are agreed upon and baseline data are available or are being collected.	3	
	<b>PROJECT DESIGN AND READINESS SCORE</b>		<b>3</b>
	<b>Supervision</b>		
	Bank enforced:		
	• Environmental safeguards	4	
• Fiduciary safeguards	3		
• Project covenants	3		
Bank provided quality supervision in the form of skills mix provided and practicality of solutions.	3		
Bank provided quality management oversight.	3		
<b>SUPERVISION SCORE</b>		<b>3</b>	
<b>OVERALL BANK PERFORMANCE SCORE</b>		<b>3</b>	

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

<i>CLIENT PERFORMANCE</i>	<b>Design and Readiness</b>	
	Responsibilities for project implementation are clearly defined.	4
	Necessary implementation documents (e.g. specifications, design, procurement documents) are ready at appraisal.	2
	Monitoring indicators and monitoring plan are agreed upon and baseline data are available or are being collected.	3
	<b>PROJECT DESIGN AND READINESS SCORE</b>	
	<b>Implementation</b>	
	Client complied with:	
	• Environmental safeguards	4
	• Fiduciary safeguards	3
	• Project covenants	3
	Client was responsive to Bank supervision findings and recommendations.	3
	Client collected and used of monitoring information for decision-making.	3
	<b>SUPERVISION SCORE</b>	
	<b>OVERALL CLIENT PERFORMANCE SCORE</b>	

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

H. SELECTED LESSONS [tentative]

*Summarize two key lessons suggested by the project's outcomes*

[100 words maximum.]

1. The water committees that were formed as part of the project need to be monitored and supported otherwise there is the risk that many of them will cease to be functional after a few years and that will affect the sustainability of the waterpoints. Some of the challenges they face are:

i) banking facilities for the monies that they collect are too far away from them, up to 120km in some cases, and some of the committees that have succeeded to open bank accounts are being charged commission on turnover by the banks. Keeping the money in one of the committee members' house could lead to accountability issues.

ii) spareparts, for which the communities contribute regularly, are not usually close to the committees. GOM needs to revisit the issue of the distribution of spares to make them more accessible and affordable. This will contribute immensely to the sustainability of the facilities. The Bank should consider including a set of fast-moving spares in the project design that should be entrusted with the Water Committees, Steps should be taken to replace any used spares within the shortest period, and not to wait for the next breakdown.

2. There was no household sanitation strategy. As such, sanitation facilities were built at public institutions, but the campaign did not translate massively down to the household level, although many people are using the communal facilities built. This would have given the sanitation and hygiene behavioural campaign more impact. Moreover, the latrines are deficient in some design aspects. Some elements of projects such as hand washing facilities, ventilating pipes, rainwater harvesting, etc. in public toilets, should be piloted and assessed before going to scale to ensure that designs and siting are appropriate. It is recommended that the Bank develop a template for latrines which will be used to ensure that certain facilities are incorporated in the design.

3. The impact of rainwater harvesting is not much. Water is harvested during only 4 months of the year, during a period when there is abundant water from the rains. The tanks are a maximum of 8 cubic metres which does not last for even 1 month after the rains cease for a community of say 250 people or even a school of five hundred population. For the rest of year, the facility remains redundant. The Bank should consider the possibility of using underground storage and fitted with a hand pump. That way, much more storage can be put in place.

4. Where water points are located in isolated places, additional protection of the facility should be incorporated like locking devices and/or fencing of the perimeter.

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

Annex 1a

Project Costs and Financing by Project Cost by component

**Summary of Project Cost by Components  
(UA)**

Components	LC	FC	Total (UA)
1. Infrastructure Development	1 905 896,32	4 050 029,68	5 955 926,00
2. Social and Environmental Support	602 518,00	-	602 518,00
3. Institutional and Project Implementation Support	1 585 239,12	1 860 932,88	3 446 172,00
<b>Total Base Cost</b>	<b>4 093 653,44</b>	<b>5 910 962,56</b>	<b>10 004 616,00</b>
<b>Physical Contingency (10%)</b>	<b>409 365,34</b>	<b>591 096,26</b>	<b>1 000 461,60</b>
<b>Price Contingency (3%)</b>	<b>122 809,60</b>	<b>177 328,88</b>	<b>300 138,48</b>
<b>Total</b>	<b>4 625 828,39</b>	<b>6 679 387,69</b>	<b>11 305 216,08</b>

Annex 1b

Project Costs and Financing by Financing by Sources of Funds

**Financing by Sources of Funds  
(UA)**

Sources	LC	FC	Total	%
ADF	2 254 035,60	5 259 416,40	7 513 452	75,1
Grant (TAF)	-	989 368,00	989 368	9,9
GoM	1 501 665,00	-	1 501 665	15,0
<b>Total</b>	<b>3 755 700,60</b>	<b>6 248 784,40</b>	<b>10 004 485,00</b>	<b>100,0</b>

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

Annex 3

**Bank Inputs**

<b>Dates of Mission</b>	<b>Type of Mission</b>	<b>Composition of Team</b>
16 <sup>th</sup> June to 30 <sup>th</sup> June 2001	Preparation of IRWSS for Ntchisi and Mzimba	Sanitary Engineer (SE) Mr. E. Schroten and Public Utilities Economist (PUE) Mr. D.T. Lekoetje
1 <sup>st</sup> September to 15 <sup>th</sup> September 2001	Appraisal of IRWSS for Ntchisi and Mzimba	(SE) Mr. E. Schroten and (PUE) Mr. D.T. Lekoetje
14 <sup>th</sup> November to 17 <sup>th</sup> November 2001	Negotiation of IRWSS for Ntchisi and Mzimba	Manager Ms. A. Hamer, Legal Counsel Mr. T. Edjua and (PUE) Mr. D.T. Lekoetje
14 <sup>th</sup> February to 26 <sup>th</sup> February 2002	Supervision of BWS II, DWS III, DCS study and IRWSS	(SE) Mr. E. Schroten and (PUE) Mr. D.T. Lekoetje
24 <sup>th</sup> November to 3 <sup>rd</sup> December 2002	Supervision of DWS III, IRWSS and DCS study	(PUE) Mr. Lekoetje
4 <sup>th</sup> April to 18 <sup>th</sup> April 2003	Supervision of DWS III, IRWSS and DCS study	(SE) Mr. E. Schroten and (PUE) Mr. D.T. Lekoetje
31 <sup>st</sup> October to 11 <sup>th</sup> November 2003	Supervision of DWS III, IRWSS and DCS study	(SE) Mr. E. Schroten and (PUE) Mr. D.T. Lekoetje
25 <sup>th</sup> April to 8 <sup>th</sup> May 2004	Supervision of DWS III, and IRWSS	(SE) Mr. E. Schroten
13 <sup>th</sup> March to 22 <sup>nd</sup> March 2005	Supervision of DWS III, and IRWSS	(SE) Mr. E. Schroten and (PUE) Mr. D.T. Lekoetje
26 <sup>th</sup> February to 7 <sup>th</sup> March 2006	Supervision of IRWSS for Ntchisi and Mzimba	Water and Sanitation Engineer (WSE) Mr. T. Roberts, (FA) Ms. J. Ngure and (SE) Mr. E. Schroten
15 <sup>th</sup> May to 2 <sup>nd</sup> June 2006	Audit of IRWSS for Ntchisi and Mzimba	Auditors Ms. F. Bishota-Folquet and Mr. M. Audu
23 <sup>rd</sup> April to 4 <sup>th</sup> May 2007	Supervision of IRWSS and Project Completion of DWS III	(WSE) Mr. T. Roberts, (FA) Mr. Y. Ahmad and Social Economist Ms. J. Ofori
1 <sup>st</sup> November to 16 <sup>th</sup> November 2007	Supervision of IRWSS and Preparation of NWDP	(WSE) Mr. T. Roberts, (FA) Mr. P. Wadja, Social Economist Mrs. J. Maula and Environmentalist Mr. R. Nafti
20 <sup>th</sup> February to 4 <sup>th</sup> March 2008	National Water Development Program Appraisal Mission	(WSE) Mr. T. Roberts, (Consultant FA) Mr. A. GoMani, Social Economist Mrs. J. Maula and Analyst Ms. P. Chileshe
17 <sup>TH</sup> to 29 <sup>TH</sup> August 2008	Supervision of IRWSS and Update of NWDP	(WSE) Mr. T. Roberts, (Infrastructure Expert) Mr. B.B. Nkhoma
1 <sup>st</sup> to 5 <sup>th</sup> December 2008	Supervision of IRWSS and Update of NWDP	(WSE) Mr. T. Roberts, (Infrastructure Expert) Mr. B.B. Nkhoma

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

INDICATORS	RATINGS				
	Precedings report				This report 02.12.20 08
	01.11.200 6	23.04.200 7	01.11.200 7	17.08.200 8	
<b>A. PROJECT IMPLEMENTATION</b>					
Compliance with loan conditions precedent to entry into force	-	3	3	3	3
Compliance with General Conditions	-	2	2	2	2
Compliance with Other Conditions	-	2	2	2	2
<b>B. PROCUREMENT PERFORMANCE</b>					
Procurement of Consultancy Services	-	2	3	3	3
Procurement of Goods and Works	-	2	3	3	3
<b>C. FINANCIAL PERFORMANCE</b>					
Availability of Foreign Exchange	-	2	2	3	3
Availability of Local Currency	-	3	2	1	2
Disbursement Flows	-	2	1	2	2
Cost Management	-	3	3	3	3
Performance of Co-Financiers	-		2	2	2
<b>D. ACTIVITIES AND WORKS</b>					
Adherence to implementation schedule	-	2	2	2	3
Performance of Consultants or Technical Assistance	-	2	2	2	3
Performance of Contractors	-	1	2	2	2
Performance of Project Management	-	3	3	2	3
<b>E. IMPACT ON DEVELOPMENT</b>					
Likelihood of achieving development Objectives	-	3	3	3	3
Likelihood that benefits will be realized and sustained beyo	-	3	3	3	3
Likely contribution of the project towards an increase in	-	3	3	3	3
Current Rate of Return	-		3	3	3
<b>F. OVERALL PROJECT ASSESMENT</b>					
Current Supervision Average	-	2.38	2.44	2.44	2.67
Current Trend over time					2.48

**STATUS**

Implementation Progress (IP) = 2.57  
Development Objectives (DO) = 3.00

**OVERALL STATUS : NON PROBLEMATIC PROJECT / NON POTENTIALY PROBLEMATIC PROJECT /**

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

JUSTIFICATION OF RATINGS

Annex 5

Economic Analysis (EIRR) and Financial Analysis

Economic Analysis

Basic Assumptions for the

Computations of Economic Net Present Value (ENPV) &  
Economic Internal Rate of Return (EIRR)

1. The life of the project is 25 years
2. The analysis is based upon constant prices
3. Physical contingency of 10% and price contingency of 3% are applied on the total base cost of the project
4. All financial costs are converted to their equivalent economic prices by using appropriate Conversion Factors (Shadow Prices) such as Standard Conversion Factor (0.85), Shadow Wage Rate (0.50) and an Economic Discount Rate of 15%. They are applied after the costs are disaggregated into foreign and local components respectively.
5. The Operation and Maintenance cost is 2.5% of the total original capital outlay.
6. The average exchange rate is 1 UA=USD 1.54189 and 1 UA= 208.93179
7. Taxes such as duty are excluded from the economic cost estimates because in economic terms, they are transfer of funds and that do not involve economic costs.
8. No replacement period is considered over the project life due to the fact that the periodic maintenances made are adequate enough to get the project last longer
9. A salvage value which is 10% of the original cost is accounted as a benefit to the project at the end of the project life which is the 25th year.
10. In order to estimate the volume of water production (consumption), the number of population served by the program is considered over the project life.
11. Based upon the existing minimum level of rural water consumption of 30 liters per capita per day, the estimation of the annual volume of water production and the direct benefits are estimated.
12. The consumers' willingness to pay which is equal to an average of MK 100/month/household for an average of 4 buckets/day (0.03/liter) of water is considered for estimating the direct benefits (consumer surplus) of the project.
13. The education benefits that can be accrued as a result of the program intervention are estimated as per the following assumptions: (i) The primary school enrolment rate is 80 %, (ii) The dropout rate is 5%, (iii) The dropout rate is expected to reduce by 80% and (iv) The cost per pupil is estimated to be MK 10,000 per year.
15. The health benefits are calculated in terms of health cost savings. For this purpose one of the major incidences of water-borne diseases, Diarrhea is considered. Thus, the assumptions are: (i) The prevalence rate for the incidence is 100/1000,

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

(ii) the incidence of Dysentery will be reduced by 80% and (iii) the medication cost will be MK200/person/year (on the basis of MK 50/person/treatment for the pass card/registration card for 2 times per year and MK 100 for transport).

16. The additional income that can be obtained as a result of saving in time spent collecting water is calculated based upon the following assumptions: (i) the average time spent fetching water will be reduced from the existing 4 hour to 1 hour. This indicates that there is 3 hours saving which will be equivalent to a wage rate of MK 75.0 (MK 25/hour \*3). This is also equivalent to 37.5% of the rural daily wage rate. The average rural daily wage rate is approximately equal to MK 200.

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

Economic Analysis

Computation of ENPV and EIRR

(MK)									
Year	Investment Cost	Operating Cost	Total Cost	Direct Benefit	Health Benefit	Education Benefit	Time Saving in collecting Water	Total Benefit	Net Benefit
2005	271 962 872,86	6 523 709,41	278 486 582,28	79 530 145,65	581 042,16	23 241 686,40	69 036 584,77	172 389 458,98	(106 097 123,30)
2006	203 972 154,65	4 892 782,06	208 864 936,71	88 366 828,50	645 602,40	25 824 096,00	76 707 316,41	191 543 843,31	(17 321 093,40)
2007	589 252 891,21	14 134 703,73	603 387 594,93	98 185 365,00	717 336,00	28 693 440,00	85 230 351,56	212 826 492,56	(390 561 102,37)
2008	702 570 754,90	16 852 915,98	719 423 670,88	109 094 850,00	797 040,00	31 881 600,00	94 700 390,63	236 473 880,63	(482 949 790,26)
2009	498 598 600,25	11 960 133,92	510 558 734,18	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	(247 809 977,93)
2010		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2011		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2012		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2013		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2014		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2015		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2016		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2017		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2018		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2019		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2020		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2021		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2022		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2023		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2024		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2025		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2026		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2027		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2028		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	262 748 756,25	250 788 622,32
2029		11 960 133,93	11 960 133,93	121 216 500,00	885 600,00	35 424 000,00	105 222 656,25	489 384 483,64	477 424 349,71
								<b>ENPV at 15% DR</b>	<b>25 848 009,07</b>
								<b>EIRR</b>	<b>15,48%</b>

**MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)**

**Malawi: Integrated Rural Water Supply and Sanitation Project for Ntchisi and Mzimba Districts  
Sensitivity Analysis (Economic) (MK)**

Year	Cost	Benefit	Net Benefit Scenario 1	Net Benefit Scenario 2	Net Benefit Scenario 3	Net Benefit Scenario 4	Net Benefit Scenario 5
2005	278,486,582.28	172,389,458.98	(78,248,465.07)	(133,945,781.53)	(123,336,069.20)	(88,858,177.40)	-140575015.10
2006	208,864,936.71	191,543,843.31	3,565,400.27	(38,207,587.07)	(36,475,477.73)	1,833,290.93	-55629862.06
2007	603,387,594.93	212,826,492.56	(330,222,342.88)	(450,899,861.87)	(411,843,751.63)	(369,278,453.12)	-433126400.88
2008	719,423,670.88	236,473,880.63	(411,007,423.17)	(554,892,157.35)	(506,597,178.32)	(459,302,402.20)	-530244566.38
2009	510,558,734.18	262,748,756.25	(196,754,104.51)	(298,865,851.34)	(274,084,853.55)	(221,535,102.30)	-300359729.18
2010	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2011	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2012	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2013	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2014	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2015	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2016	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2017	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2018	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2019	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2020	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2021	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2022	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2023	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2024	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2025	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2026	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
2027	11,960,133.93	262,748,756.25	251,984,635.72	249,592,608.93	224,513,746.70	277,063,497.95	198238871.07
		<b>ENPV</b>	<b>241,029,533.65</b>	<b>-67,877,766.56</b>	<b>-76,535,354.91</b>	<b>249,687,122.00</b>	<b>(239,646,593.37)</b>
		<b>EIRR</b>	<b>18.85%</b>	<b>12.98%</b>	<b>12.74%</b>	<b>18.49%</b>	<b>10.19%</b>
Scenario 1:	Costs decrease by 10%				Scenario 4:	Benefits increase by 10%	
Scenario 2:	Costs increase by 10%				Scenario 5:	Benefits decrease by 20%	
Scenario 3:	Benefits decrease by 10%						

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

Annex 6

Summary of Procurement: Value of Contracts and Procurement Method Financed by ADF Loan

Goods & Services Procured	Number of Contracts	ADF (MK)	ADF(USD)	Total (UA)	Procurement Method
<b>1. SERVICES CONTRACTS</b>					
1.1 METAFERIA CONSULT ENG.	1		1,475,297.71	956,811.26	Short List
1.2 WILLY AND PARTNER	1	5,950,000.00		28,478.19	NCB
<b>Sub -Total</b>		<b>5,950,000.00</b>		<b>985,289.45</b>	
<b>2. CONSTRUCTION CONTRACTS (CIVIL WORKS)</b>					
2.1 CENTRAL AFRICAN DRILLING CO.	1	70,949,224.36		295,435.30	NCB
2.2 CHINA GANSU ENGINEERING CORP.	1	57,414,995.66		239,078.25	NCB
2.3 CHITSIME DRILLING COMPANY	1	68,615,284.00		285,716.68	NCB
2.4 CENTRAL AFRICAN DRILLING CO.	1	83,485,382.46		347,636.34	NCB
2.5 KIERETSU CONSTRUCTION LTD	1	10,136,106.33		42,207.14	NCB
2.6 TROPICAL DRILLING COMPANY	1	81,172,440.40		338,005.16	NCB
2.7 UNIVERSAL BOREHOLE DRILLERS	1	69,464,562.80		289,253.11	NCB
2.8 SELECT DRILLING COMPANY	1	86,259,226.00		359,186.73	NCB
2.9 CHINA GANSU ENGINEERING CORP.	1	66,815,808.75		278,223.59	NCB
2.10 WATER DRILLING CONTRACTORS	1	6,103,010.00		25,413.17	NCB
2.11 SELECT DRILLING COMPANY	1	53,072,042.77		220,994.02	NCB
2.12 MOZAGUA MALAWI LIMITED	1	20,207,700.50		84,145.64	NCB
2.13 NELSON DRILLING COMPANY	1	1,109,738.56		4,620.99	NCB
2.14 TROPICAL DRILLING COMPANY	1	62,520,329.20		260,337.05	NCB
2.15 CHARUTA CIVIL AND BUILD CONTR.	1	109,667,650.24		456,660.31	NCB
2.16 OFFICE MART	1	7,916,400.00		37,889.88	NCB
2.17 JANA BUILDING CONTRACTOR (Mzimba)	1	16,962,044.20		40,592.30	NCB
2.18 CHRISTIAN SERVICE (Ntchisi)	1	9,946,313.32		23,802.78	NCB
<b>Sub-Total</b>	<b>1</b>	<b>881,818,259.55</b>		<b>3,629,198.44</b>	<b>NCB</b>
<b>3. MZIMBA SANITATION CONTRACTS</b>					
3.1 CHARUTA CIVIL ENGINEERING CONTR	1	13,970,923.91		66,868.35	NCB
3.2 HEMA CONSTRUCTION	1	6,976,556.39		33,391.55	NCB
3.3 DORA BUILDING CONTRACTORS	1	6,258,884.43		29,956.59	NCB
3.4 KALAYIZGA BUILDING CONTRACTORS	1	15,127,469.03		72,403.86	NCB
3.5 WESTFERRY BUILDING CONTRACTORS	1	8,101,224.91		38,774.50	NCB
3.6 PHAKA BUILDING CONTRACTORS	1	8,821,409.18		42,221.48	NCB
3.7 TATHA CONSTRUCTION	1	12,323,767.89		58,984.65	NCB
3.8 PHAKA BUILDING CONTRACTORS	1	11,765,323.35		56,311.79	NCB

**MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)**

3.9 CHINGELEZI CONSTRUCTION	1	13,276,917.84		63,546.66	NCB
3.10 KAMVABINGU BUILDING CONTRACTORS	1	7,862,725.50		37,632.98	NCB
3.11 TIMM CONSTRUCTION	1	4,809,001.00		23,017.09	NCB
3.12 BUPE BUILDING CONTRACTORS	1	4,894,730.73		23,427.41	NCB
3.13 ANGEL INVESTMENTS	1	4,651,990.16		22,265.59	NCB
3.14 PHAKA BUILDING CONTRACTORS	1	14,662,289.61		61,054.34	NCB
3.15 DURBAN CONSTRUCTION COMPANY	1	94,452.48		393.30	NCB
3.16 KAMVABINGU BUILDING CONTRACTORS	1	7,601,373.19		31,652.41	NCB
3.17 CHARUTA CIVIL ENGINEERING CONTR	1	13,307,013.09		55,410.91	NCB
3.18 KALAYIZGA BUILDING CONTRACTORS	1	4,500,908.51		18,741.96	NCB
<b>Sub-Total</b>		<b>159,006,961.20</b>		<b>736,055.42</b>	
<b>4. SUPPLY AND DELIVERY CONTRACTS</b>					
4.1 AUTOMOTIVE PRODUCTS (CONTRACT 1)	1		31,825.84	20,640.80	NCB
4.2 AUTOMOTIVE PRODUCTS (CONTRACT 2)	1		7,956.45	5,160.19	NCB
4.3 OLIVETTI (MW) LIMITED	1		12,758.00	8,274.26	NCB
4.4 CFAO MALAWI CONTRACT 1	1		59,940.00	29,155.78	NCB
4.5 CFAO MALAWI CONTRACT 2	1		17,610.00	8,565.79	NCB
4.6 DELT TECH ENGINEERING	1		55,963.50	36,295.39	NCB
4.7 JMC INTERNATIONAL	1		66,869.85	43,368.76	NCB
4.8 GESTETNER LIMITED	1	1,530,000.00		7,322.96	NCB
4.9 POLYPLAST LIMITED	1	13,165,800.00		63,014.82	NCB
<b>Sub-Total</b>			<b>252,923.64</b>	<b>221,798.75</b>	NCB
<b>5. AUDIT SERVICES MONITORING, EVALUATION AND AUDIT</b>					
5.1 GRAHAM CARR	1			47,600.00	NCB
<b>Sub-Total</b>					
<b>Total</b>				<b>5,619,942.06</b>	
1 UA= 208.93179					
1UA=1.54189					

MALAWI: INTEGRATED RURAL WATER SUPPLY AND SANITATION PROJECT FOR  
NTCHISI AND MZIMBA  
COMPLETION REPORT (PCR)

Annex 9

List of Supporting Documents

1. Appraisal Report, ADB, 2001
2. Assessment of Integrated Water Supply and Sanitation Project for Ntchisi and Mzimba Districts, Malawi, Willy and Partner Engineering Services, Blantyre, 2008
3. Inception Report, Metaferia Consulting Engineers, 2004
4. Aide Memoires and Back-to-Office Reports, ADB, 2001-08
5. Quarterly Progress Reports
6. Socio-economic Survey Report, Ntchisi District, Metaferia Consulting Engineers, 2004
7. Socio-economic Report, Mzimba District, Metaferia Consulting Engineers, 2004
8. Project Completion Report, Project Liaison Unit, Ministry of Irrigation and Water Development, Lilongwe, 2009
9. Population and Housing Census, 2008, National Statistical Office, Zomba, 2000
10. Mzimba District Socio Economic Profile, November 2008