

PCR EVALUATION NOTE FOR PUBLIC SECTOR OPERATIONS

1. BASIC INFORMATION

a. Basic project data			
Project title: Nairobi Rivers Basin Rehabilitation and Restoration Program: Sewerage Improvement Project (NaRSIP)			
Project code: P-KE-EB0-003	Instrument number(s): 2100150023655		
Project type: ADF loan	Sector: Water Supply and Sanitation		
Country: Kenya	Environmental categorization (1-3) : 1		
Processing Milestones	Key Events	Disbursement and Closing date	
Date approved: 06 Dec 2010	Cancelled amount:	Original disbursement deadline: 31 Dec 2015	
Date signed: 23 Mar 2011	Supplementary financing:	Original closing date: 31 Dec 2015	
Date of entry into force : 09 Dec 2011	Restructuring:	Revised disbursement deadline: 30 Dec 2016	
Date effective for 1st disbursement: 31 Jan 2011	Extensions (specify dates): 365 days (1 year) 10 Jun 2015	Revised closing date: 30 Dec 2016	
Date of actual 1st : 09 Dec 2011			
b. Financing sources			
Financing source/ instrument (MUA)	Approved amount (MUA) :	Disbursed amount (MUA) :	Percentage disbursed (%) :
Loan: ADF	35,000,000.00	29,306,175.87	83.73
Grant:	4,870,000.00	5,740,000.00	79.94
Government:			
Other (ex. Co-financiers):			
TOTAL :	39,870,000.00	33,546,215.87	84.14
Co-financiers and other external partners:			
Execution and implementation agencies: Ministry of Water & Irrigation (MWI) and Athi Water Services Board (AWSB)			
c. Responsible Bank staff			
Position	At approval		At completion
Regional Director	Ms. Diaretou GAYE		Mr. Gabriel NEGATU
Country Manager	Ms. Domina BUZINGO		
Sector Director	Mr. Ali KIES		Mr. Mohamed EL AZIZI
Sector Manager	Mr. Sering B. JALLOW		Mr. Oswald CHANDA
Task Manager	Mr. Oswald CHANDA		Mr. John SIFUMA
Alternate Task Manager			
PCR Team Leader			Ms. Nancy A.N.A. OGAL
PCR Team Members			Mr. Christopher MUTASA
d. Report data			

PCR Date : 30 Jan 2017		
PCR Mission Date:	From: 21 Nov 2016	To: 02 Dec 2016
PCR-EN Date:		
Evaluator/consultant:		Peer Reviewer/Task Manager:

2. PROJECT DESCRIPTION

Summary from Appraisal Report including addendum/corrigendum or loan agreement, and taking into account any modification that occurred during the implementation phase.

The project was considered one of Kenya's flagship projects and part of the Nairobi Rivers Rehabilitation and Restoration Program (NRRRP) which aims to improve the environment of Nairobi city and in particular the polluted rivers through amongst other interventions, expanding waste treatment systems. The NRRRP has also been elaborated in the Nairobi Sewerage Master Plan Study (1998) and detailed in the Feasibility Study (2010). The total cost of the project was estimated at UA 39.87 million (Kshs 4.7 billion), net of taxes and duties. These costs were derived from the Project Feasibility Study Report with details of unit rates derived from suppliers and contractors, as well as from experience with similar ongoing projects in the country and in the region. As the lead financier, the Bank financed UA 35 million, which was 88% of the total project cost. The ADF financing conformed to the Bank's Result Based Country Strategy Paper for Kenya 2008-2012.

Changes

No changes were reported by the PCR in the activities of the project during implementation.

a. Rationale and expected impacts:

Provide a brief and precise description on the project/programme rationale (concerns/questions raised), expected impacts and the intended beneficiaries (directly or indirectly impacted by the project/programme). Highlight any change that occurred during the execution phase.

According to the Appraisal report, at the start of the project, the sewerage infrastructure in Nairobi could treat less than 50% of the wastewater generated and covered less than 40% of the population of Nairobi. Consequently the majority of the people in the city relies on poorly managed on-site sanitation or has nothing at all. The effluent in these cases is discharged into drains and rivers degrading the environment.

The increasing incidences of water and sanitation related diseases and degradation of the environment in and around Nairobi are a manifestation of the City's poor sanitation. Sanitation related diseases are among the top three causes of child mortality and morbidity in Nairobi. The project is therefore urgently required to improve the living conditions of the population of Nairobi and surrounding areas.

The appraisal report says that people living within the entire catchment of the sewerage system in Nairobi (approx. 3.5 million), including the people living down stream of the Athi river, will benefit from the project as it will rehabilitate and extend the sewerage system in these areas, where wastewater is currently being disposed without treatment. Most of the beneficiaries are expected to participate in the general promotion of improved sanitation and hygiene to be carried out throughout the city, while the urban poor living in informal settlements will be provided with ablution blocks and trained in improvement of personal hygiene.

The specific impacts from the project include the following;

- The project will increase sewerage coverage from 40% to 56% by 2014. This translates to increase in sewer coverage to 1,013,064 people in Nairobi, 416,570 of who live in Nairobi's

informal settlements, by 2015.

- Over 72,000 households are expected to have access to sewerage connection and over 15,000 household to have access to improved sanitation through provision of 100 public ablution blocks in the informal settlements.
- The health and hygiene campaigns targeting the informal settlements will increase the number of people using good hygiene practices.
- Capacity building targeting 150 staff of NWSC and AWSB will improve operation sustainability of the infrastructure.
- Tree planting along the right of way of the trunk sewers will contribute to the conservation of the riparian zone.

b. Objectives/Expected Outcomes:

Provide a clear and concise description of the project objectives, expected outcomes, and intended beneficiaries. In so doing, highlight any revision/amendment.

From the Results Based Logical Framework:

Objective	Outcomes	Beneficiaries
To rehabilitate and expand sewerage services management of Nairobi city for sustainable environment	1 Improved living environment of people around the Nairobi rivers 2. Improved access to sewerage services 3. Improved public health among population in Nairobi living along the river basins	3.5 million people in Nairobi city and the population of the surrounding areas * People downstream of the treatment works along Athi river basin have reuse of improved wastewater effluent for agriculture

The objective in the results framework of the appraisal report is poorly stated and while it is concise, it is not clear about whether the intended objective focuses on the rehabilitation and expansion of services or their management.

The Supervision mission of April 2015 says that the objective is “improving access, quality, availability and sustainability of wastewater services in Nairobi through the rehabilitation and extension of sewerage services and wastewater treatment.” This is the statement of objectives that the PCR uses.

c. Outputs and intended beneficiaries:

Provide a clear and concise description the expected outputs and intended beneficiaries. In so doing, highlight any revision/amendment.

Outputs	Beneficiaries
*Sewer lines, treatment plants. An additional 54km of trunk sewers and 40km of reticulation laid by 2014. Additional 40,000m ³ /d treatment capacity at Dandora by 2014 and Kariobangi restored capacity to 32,000m ³ /d in2014. Effluent Quality meeting NEMA standards *Construction of 100 public ablution blocks *11,000 Trees planted	The approximately 3.5 million people in Nairobi and surrounding areas, including people living downstream.

<p>*Capacity buildings in sewerage management: About 150 staff of which 40% are women trained to manage sewerage by 2014</p> <p>* Population sensitized on Health & Hygiene: 24,000 people of whom at least 50% will be women</p>	<p>The 150 staff of NWSC and AWSB</p>
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d. Principal activities/Components:

Provide a clear and concise description of the principal activities/components. In so doing, highlight any revision/amendment.

Extension of trunk sewers (54km) within Nairobi, Ngong, Mathare and Kiu River Basins, where sewer lines are non-existent; Laying 40km of reticulation in areas with new trunk lines in medium, low income and informal settlements; Duplication of trunk sewer lines in places where the sewer lines capacity is low or has been encroached; The increase reticulation will result in over 73,000 households being connected and many more to the trunk lines.

Rehabilitation of Kariobangi conventional wastewater treatment plant. The plant has facility for gas generation and power from the gas as well as solid waste; Extension of Dandora waste stabilisation ponds by two series of 9 ponds and duplication of inlet works to accommodate increased flow. The works will increase capacity by 40,000m³/day;

Consultancy services for design, supervision and commissioning of the works;
 Consultancy services for designing Phase III of Dandora waste stabilization ponds.

3. PROJECT PERFORMANCE ASSESSMENT

RELEVANCE

a. Relevance of the project development objective:

Evaluation of the relevance ex-ante and ex-post (including during the implementation phase). The relevance of the project objective (during the evaluation ex-ante and the post-evaluation) in terms of alignment with country’s development priorities and strategies, the beneficiary needs (including any changes that may have occurred during the implementation), applicable Bank sector strategies, the Bank country/ regional strategy, and general strategic priorities of the Bank. This criterion equally assesses the extent to which the project’s development objective was clearly stated and focused on outcomes and the realism of the intended outcomes in the project setting.

The proposed Nairobi Sewerage Improvement Project addresses sewage cleanup in the city of Nairobi through collection, conveyance and treatment of wastewater. It is closely aligned with the Government of Republic of Kenya (GOK) Vision 2030, its 2008-2013 Medium Term Plan and is part of the Nairobi River Rehabilitation and Restoration Program. The GOK recognizes the importance water and sanitation plays in the performance of key sectors of the economy and the livelihoods of Kenyans. The GOK hence in the Vision 2030 and its associated first Medium Term Plan (MTP) for the period 2008 – 2012 underscores the importance of investing in water supply and sanitation services (WSS) as a fundamental need for productive livelihoods. In addition, the Vision 2030 and the MTP advocate reducing hazards related to an unhealthy environment by reducing disposal of untreated wastewater and solids from domestic and industries to ensure a clean, healthy and secure environment.

As noted above, the objective statement in the results framework is not clear, but the objective statement adopted during supervision was clear. The statement of outcomes is clear but the monitoring indicators for numbers of beneficiaries is questionable and is not clear on the needs of different types of beneficiaries, i.e. those directly connected to the sewerage system or having access to public ablution blocks vs those living elsewhere in the city who benefit indirectly. See below section f.

Rating = 3

b. Relevance of project design (from approval to completion):

The evaluator should provide an assessment of the relevance of the project design regardless of the one provided in the PCR. The evaluator

will also comment on the PCR conclusion for this section, and will provide an evaluation of the relevance of the project design. The latter assesses the soundness and the timing of eventual adjustments, or technical solutions to ensure the achievement of the intended results (outcomes and outputs), the adequacy of the risk assessment, environmental and social protection measures, as well as the implementation arrangements. For Programme Based Operations (PBO), an assessment will be made on the relevance of the prior actions, the policy dialogue and the extent to which the operation could have been more pro-poor in its design.

The sewerage facilities schemes were based on an assessment of alternative technical solutions that took account of the settlement patterns, the topography, current practices and challenges of the existing systems in Nairobi. For subprojects involving restoring the functioning of an existing subsystem, an assessment was carried out as to whether it would be cheaper to rehabilitate or to construct new.

In the case of wastewater treatment, the Nairobi Sewerage Master Plan carried a recommendation for use of wastewater stabilization ponds (WSP) for secondary treatment of wastewater. This recommendation was assessed as part of project preparation and accepted. New conventional treatment plants and other compact treatment options were not chosen for cost reasons as well as the desire to employ technology that would be simple to operate.

The PCR considers the use of stabilization ponds to be appropriate, but it notes that a technical design issue developed in the Dandora treatment facility. The PCR found that the screens and grit chamber at the inlet are dysfunctional due to failure of a control system resulting in flow of screenings into the anaerobic ponds, where after settlement, the effective depth in the pond is reduced below the level necessary for anaerobic digestion. This results in excessive BOD load as it leaves the anaerobic ponds and flows to the subsequent ponds, with final effluent exceeding standards. The rehabilitation the inlet works at Dandora will be addressed through the proposed NaRSIP II project.

The project originally planned to utilize a conventional two-stage tendering for construction at the Kariobangi Treatment Works. However, during implementation a decision was taken to adopt a single stage tendering for a Design, Supply and Install (DSI) contract. This led to a 4-month time loss in start of construction, but the DSI approach has helped realize savings in the overall timeframe, ensured better quality control for works and budget management and also enhanced accountability. The PCR therefore considers this design change as reasonably successful.

On the institutional side, the PCR noted that a steering committee of the NRRRP, in collaboration with the now Ministry of Environment and Natural Resources (MENR), was to be constituted to monitor and guide the Project implementation during its quarterly coordination meetings. While the PCR found that the implementation structures put in place were appropriate for the context as they aimed to address capacity gaps within the Project executing and implementing agencies. The PCR concluded that steering committee did not fulfill its mandated role. This impacted negatively on key processes and functions including timely acquisition of way-leaves, security of Project sites and of Project staff, monitoring of some of the Project outcomes, and implementation of some activities under the promotional hygiene and sanitation. As a result, aspects of E&S safeguards were not systematically assessed and reported on.

Overall the PCR assessment is sound and the rating of 3 is appropriate.

Rating = 3

EFFECTIVENESS

c. Effectiveness in delivering outputs:

Evaluation of the extent to which the project achieved its stated results (obtained from the logical framework) based on the last Implementation Progress and Results Report (IPR) and by considering accurate reporting of direct or indirect evidence on intended and unanticipated outputs. In the absence of sufficient data (as direct evidence), indirect evidence (such as project outcomes and other pertinent processes/elements of the causal chain) should be used particularly in the evaluation of the extent to which the project is expected to achieve its stated results/ objectives. The absence of sufficient data to assess the effectiveness should be indicated (and clearly detailed in the PCR quality evaluation section). The PCR score should equally be indicated in this section.

There was no Implementation Progress Report (IPR) in the file that was provided for the PCR review.

Output indicators	Most recent value (A)	End target (B)	Progress towards target (% realized) (A/B)	Comment of PCREN
*Sewer lines, treatment plants. An additional 54km of trunk sewers and 40km of reticulation laid by 2014. Additional 40,000m ³ /d treatment capacity at Dandora by 2014 and Kariobangi restored capacity to 32,000m ³ /d in 2014. Effluent Quality meeting NEMA standards	Additional 63.3 km of trunk sewers and 43km of reticulation laid Additional 40,000m ³ /d treatment capacity at Dandora	Additional 54km of trunk sewers and 40km of reticulation laid Additional 40,000m ³ /d treatment capacity at Dandora; Kariobangi restored capacity to 32,000 m ³ /day	+117.22% (Trunk sewers) +107.50% (Reticulation system) 100% NA	The Dondora plant was operating at a capacity of 40,000m ³ /d, however, as noted above, the quality of the effluent is not at agreed standards because of a design flaw. At the time of the PCR mission, the Kariobangi Treatment Facility, was only 55% complete although it was projected that the 32,000 m ³ /day target for operational capacity will be met once the plant becomes operational in June 2017
*Construction of 100 Public ablution blocks	67	100	67%	The cost of the ablution blocks was higher than anticipated allowing only 67 to be built
*11,000 Trees planted	25,000	11,000	227%	At the time of the PCR mission, some tree saplings had withered and were reportedly being replaced by the contractor to ensure a 100% tree survival rate to maturity.
*Capacity building in sewerage management: About 150 staff of which 40% are women trained to manage sewerage by 2014	150 staff from AWSB and NWSC trained to manage sewerage of which 50% are women	About 150 staff of which 40% are women of AWSB and NWSC trained to manage sewerage by 2014	100%	The PCR reported that this output had been met through various customized trainings held for the targeted AWSB/NWSC staff, and that the 40 per cent target for gender equality was exceeded as 50 per cent of the 150 staff that were trained were women.
* Population sensitized on Health & Hygiene: 24,000 people of whom	25,000 people were sensitized	24,000 people of whom at least 50% will be women	104%	It should be noted that only one training session was held for training of trainers. It is assumed that the trainees will

at least 50% will be women				<p>train other trainers and also beneficiaries. The number of 25,000 people being sensitized, is purely an estimate that assumes that those who were trained will train others to the point that 25,000 are trained. In the absence of evidence that this is actually being done, and that there are funds to pay for all of the subsequent rounds of training required, this seems to be a fanciful bit of speculation.</p> <p>The PCR mission noted the mandatory requirement of 50 per cent women membership in the management committees of community groups to be responsible for the operations of the installed ablation blocks. The target can therefore be viewed as having been exceeded</p>
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The PCR discussion of the Dondora treatment plant did not note in this section that the effluent from Dandora did not meet standards. Since meeting standards was part of the definition of the output, it is incorrect to attribute this sub-output to have been met 100%.

On the positive side, the construction of the trunk and reticulation sewers proceeded according to plan, and capacity building and population sensitization also went according to plan.

Rating = 2.5 primarily because the output of the Dandora treatment plant did not meet the output standard, and the Kariobangi treatment plant was not yet operational (at the time of the PCR). **This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is operational and provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets.**

d. Effectiveness in delivering outcomes:

Evaluation of the extent to which the project achieved its intended set of outcomes (including for Program Based Operations (PBOs) where complementary measures are necessary for their implementation, namely public awareness, policy dialogue and institutional arrangements for instance). The evaluator should make an assessment based on the results of the last project Implementation Progress and Results (IPR). The evaluator shall indicate the degree to which project outcomes (intended and unanticipated) as well as reasons for any eventual gap were discussed in the PCR.

The table below shows the figures from the PCR and the comments of the PCREN team.

Outcome indicators	Baseline value (A)	Most recent value (B)	End target (C)	Progress towards target	PCREN comments
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Outcome 1: Quality of water of the Nairobi rivers	BOD ₅ 300mg/l (2009)	BOD ₅ averages between 39 mg/l to 67.5 mg/l	BOD ₅ less than 30mg/l	86.11 – 96.67%	Targets not fully attained. Also it is not clear what caused the improved water quality in the rivers, since the treatment plant at Kariobangi was not yet on line as of the date of PCR, and, according to the data in the table, the effluent at Dandora has gotten worse. (see Outcome 2 below)
Outcome 2: Quality of wastewater effluent discharged into the Nairobi rivers	Dandora effluent BOD ₅ 57mg/l; Kariobangi effluent 231mg/l (2009)	Dandora Effluent BOD ₅ 90mg/l; Kariobangi not yet operational	Effluent BOD ₅ less than 30mg/l	81.82% for the Dandora treatment facility	Targets not attained. The PCR calculation of progress towards the quality of effluent target at Dandora is incorrect. The effluent quality target for Kariobangi , could be attained when this facility becomes operational, but is not guaranteed as evidenced by problems at Dandora.
Outcome 3: Percentage of population in surrounding areas with access to Sewerage facilities	40% (2009)	-	59%	-	The PCR notes that no information was collected during supervisions and data was not available at completion. Without the relevant data, it is not possible to assess the outcomes against this indicator. The PCR says that the only available information is that so far a total of 3,000 sewerage connections (an approximate 18,000 people) have been installed in the sections that were recently handed over to the NWSC.
Outcome 4: Incidence of waterborne diseases	52 % (2004)	6.5%	20%	227.5%	The PCR notes that in addition to the progress made, information received from the county disease surveillance coordinator of the Nairobi County Government (NCG) indicate that there have been health improvements with 22% reduction in diarrhoea morbidity after the sanitation improvements were carried out. It is not clear to the PCREN whether the improvements noted in the table and those provided by NCG overlap or not.

Outcome 5: Percentage of residents in the surrounding areas practicing good hygiene	Increase from 25 % (2009)	60%	37 %	291.6%	The PAR target has been exceeded. The PCR says that the data was not available at the time of the PCR mission but was an output of the survey conducted under the Sustainable Communication component of the Project, which was concluded in March 2016.
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Comments.

Outcome indicator 1 in the table: While the quality of the river water has improved, it is not clear how the project may have been a cause of this improvement, since the treatment plant at Kariobangi was not yet on-line as of the date of PCR and according to the data in the above table, the effluent at Dandora is worse than it was before the project started.

Outcome indicator 2 in the above table: Based on the data in the PCR, the calculation by the PCR of progress toward the target is incorrect. Because the effluent quality actually worsened, the progress toward achieving the target is negative not positive.

The logical Framework also says that 3.2 million people in Nairobi city and surrounding areas will be beneficiaries of the project. How this statement of 3.2 beneficiaries was arrived at is not explained. No indicators of these beneficiaries are in the logical framework of the appraisal report and they are not discussed either in the appraisal report or in the PCR. Certainly beneficiaries who are directly connected to the system, or who are users of the ablution blocks will benefit in a different way than those in the city who are not in either of these two categories. They may be indirect beneficiaries, but this is not explained. Some explanation of this would have been helpful since the logical framework seems to count the entire city and surrounding area as project beneficiaries. The logical framework also says that people downstream of the treatment works along the Athi river basin will have reuse of improved wastewater effluent for agriculture. How agriculture in this area is actually benefiting from the project should have been discussed.

The PCR does attempt to discuss the question of the health impact of the project, and despite data issues, it is positive that they attempt to do so given that the logical framework outcomes and the cost benefit analysis each rely on health benefits.

There is hope that the correction to the problematic intake at the Dandora treatment facility can be made in a timely manner, and that the Kariobangi facility will operate as planned. Also it is hoped that households will respond to government campaigns and connect to the system at a more rapid pace. It is also possible that some of the issues above are issues of measurement rather than substantive issues. However, based on the data in the PCR and the few supervision reports provided, and based on the outcomes at closing, the effectiveness in delivering outcomes is rated 2. This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is operational and provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets.

Rating = 2

e. Project development outcome:

The ratings derived for outcomes and output are combined to assess the progress the project has made towards realizing its development objectives, based on the rating methodology recommended in the Staff Guidance Note on project completion reporting and rating (see IPR

Combining the outcomes and output ratings gives a combined rating of 2.25

f. Beneficiaries:

Using evidence, the evaluator should provide an assessment of the relevance of the total number of beneficiaries by categories and disaggregated by sex.

As indicated above, the PCR notes that no information on beneficiaries was collected during supervision missions and data was not available at completion. Without the relevant data, it is not possible to assess the achievements against the target number of beneficiaries. The PCR says that the only available information on direct beneficiaries of the sewerage system is that so far a total of 3,000 sewerage connections (an approximate 18,000 people) have been installed in the sections that were recently handed over to the NWSC.

Also as discussed above, the logical Framework says that 3.2 million people in Nairobi city and surrounding areas will be beneficiaries of the project. No indicators relating to these beneficiaries are in the logical framework of the appraisal report and they are not discussed in the PCR. Certainly beneficiaries who are directly connected to the system, or who are users of the ablution blocks will benefit in a different way than those in the city who are not in these categories. Some explanation of this would have been helpful since the logical framework seems to count the entire city and surrounding area as potential project beneficiaries. The logical framework also says that people downstream of the treatment works along the Athi river basin will have reuse of improved wastewater effluent for agriculture. How agriculture in these areas is actually benefiting from the project should have been discussed.

The PCR notes that 25,000 people received sensitivity training, of whom 50% were female, and 150 staffed were trained, of whom 50% were female.

Rating = 2.5

g. Unanticipated additional outcomes (positive or negative, not taken into consideration in the project logical framework):

This includes gender, climate change, as well as social and socio-economic- related issues. Provide an assessment of the extent to which intended or unanticipated additional and important outcomes have been taken into consideration by the PCR. The assessment should also look at the manner the PCR accounted for these outcomes.

Unanticipated Outcomes from the PCR	Comments by PCREN
<p>Direct and indirect job creation. It is estimated that a total of 2,000 jobs were created at the implementation stage of the sewerage and sanitation infrastructure facilities and an additional 200 anticipated to be created at the post commissioning phase. This enumeration includes WSS related income generating activities within the Project areas</p>	<p>Any construction project creates temporary jobs during construction. Both the 2000 jobs created as part of implementation, and, the 200 post completion jobs should have been anticipated in advance.</p>
<p>Co-generation. It is anticipated that upon completion, 0.5 megawatts of electricity will be generated each month from digesting the sludge at the Kariobangi treatment facility. This would represent 62.5% of the electricity needs (0.8 megawatts per month) of the Treatment Plant.</p>	<p>This also is part of engineering design that could have been anticipated.</p>
<p>Recycling/reduction in environmental degradation. It is anticipated that an estimated 30,000 kg/day of treated sludge from the treatment facilities (both Kariobangi and Dandora) usable as soil conditioner or largely meeting NEMA standards for dumping at landfill site.</p>	<p>Sludge is a known by-product of waste treatment and this should have been anticipated</p>

EFFICIENCY

h. Timeliness:

The timeliness of project implementation is based on a comparison between the planned and actual period of implementation from the date of effectiveness for first disbursement. For Programme Based Operations (PBOs), the timely release of the tranche(s) are assessed through this same criterion.

The PCR notes that given that some Project components remain under construction, and that the earliest Project completion date is 30th June 2017. This is 6 months beyond the date of the PCR.

The Project implementation was planned for a period of five (5) years from the date of effectiveness to the date of the last disbursement. The actual implementation time period was however 6.42 years (77 months). A one-year time extension was granted in 2015 to allow completion of outstanding works. The PCR says that final implementation of the wastewater component, was expected by June 2017. Other outstanding activities include the Sustainable Communication Consultancy, which was expected to be concluded in March 2017.

Rating = 3

i. Resource use efficiency:

Provide and assessment of physical implementation (based on outputs delivered) against resources used (based on cumulative commitments) at completion for all contributors to the project (the Bank, Government, and others). This criterion would normally not apply to PBOs, as there is often no direct link between the outputs and the amount of contribution (in which case the rater would indicate N/A).

Because the standards for the output of the Dandora treatment plant were not met and because the Kariobangi treatment plant was not yet operational (at the time of the PCR), resource use efficiency is rated 2.5

This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is operational and provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets.

j. Cost-benefit analysis:

Provide an assessment of the timeliness of the development outputs, and the extent to which costs of the costs have been effective and have been provided in the most efficient manner. The PCR rating should be discussed. The evaluator should verify whether the benefits of the project (achieved or expected) exceed its actual costs. To achieve this, evidences will mainly be based on a comparison between Economic Rates of Return (ERR) calculated at appraisal, the mid-term review and completion. When commenting PCR ratings, the degree of utilization of valid sources for evidence justifying the rating assigned should be taken into consideration. The evaluator should ensure of the validity of assumptions and that the same model was used for the calculation of others ERRs. For PBOs for which this calculation model does not apply, an assessment could be done with regards to the contribution of policy reforms to economic growth. In the absence of sufficient evidence, an appropriate rating should be assigned.

The ERR was calculated to be 20.2% at appraisal, and recalculated to be 22.6% at completion.

The appraisal report says that the underlying assumptions for the calculation of the EIRR of the project are provided in Annex B7. However, there is no Annex B7 to the Appraisal Report.

The PCR does have an annex on the re-computation of the ERR. The benefits from the project that are assumed in the PCR calculation are due to health improvements and are based on WHO estimates of the global averages of health impact per capita in water and sanitation investments. This is an extremely crude indicator. Benefits from a sewerage project like the Nairobi project, would vary widely depending on how underserved a given population is to start and depending on whether the population is provided with both water and sanitation or just sanitation in the same project. Also, families receiving direct connection

to a sewer system would receive a higher level of benefits than families gaining access only to ablution blocks. Many other factors would come into play in affecting the level of per capita benefits including the state of solid waste collection and the condition of the surface water drainage system. Presumably the quality of effluent after treatment by the new facilities would also be a factor in determining the level of health benefits.. The fact that effluent quality from the Dondora treatment plant is worse after the project than before, and that the Kariobangi plant was not yet operational, is therefore an issue with the use of WHO global parameters.

It is understandable, given that there was no monitoring of changes in actual health statistics during implementation of the project, that the PCR team would seek and use whatever sources were available to measure benefits. However, the use of global parameters is not likely to provide useful evaluative information about the project. It may have been better to seek data from local health infirmaries about changes in health conditions. Another possibility would be to form a panel of local medical experts, social workers, economists and municipal engineers and present examples of actual living conditions of different classes of beneficiaries before and after the project to solicit professional estimates of changes in health conditions. Failing this it might have been appropriate to say simply that reliable data does not exist to perform a cost benefit analysis.

This example points to the potential benefit of AFD conducting assessments of health conditions before during and after selected water and sanitation projects to get a better handle on the health and related economic benefits. This could require monitoring that continues for a few years post closing. It would provide data very useful to refining the justification of future projects.

The number of beneficiaries is also an issue. The logical framework in the appraisal report says that the number of beneficiaries would be “3.5 million people in Nairobi city and the population of the surrounding areas”. The cost benefit analysis in the PCR assumes a beneficiary population of 985,000. The difference is not explained in the PCR. The flow of funds in the annex to the PCR also apparently assumes that all beneficiaries (i.e. those newly connected, those already connected, those connected to ablution blocks, benefit in the same way. Unfortunately, because there was no monitoring & evaluation there is no good survey evidence of the number of actual beneficiaries of different categories.

Given the questionable value of using global parameters and the uncertainties in the number of beneficiaries, the rating = 2.5

k. Implementation progress:

The assessment of the Implementation Progress (IP) on the PCR is derived from the updated IPR and takes into account the all applicable IP criteria assessed under the three categories : i) Compliance with covenants (project covenants, environmental and social safeguards and audit compliance), ii) project systems and procedures (procurement, financial management and monitoring and evaluation), and iii) project execution and financing (disbursement, budget commitments, counterpart funding and co-financing).

Implementation Progress takes into account the following aspects:

Compliance with covenants. According to the PCR, The Loan Agreement included three Conditions Precedent to the First Disbursement, notably MWI to: i) Provide evidence to the Fund of a Subsidiary Financing Agreement between GOK and AWSB; ii) Provide evidence of having opened two special accounts in a Bank acceptable to the Fund, and iii) evidence of issuance of a certificate from NEMA for construction in the specified way-leaves.

All these conditions were fulfilled although not within the stipulated timeframes.

Other undertakings were the requirement for the Borrower to submit evidence satisfactory to the Fund of: i) a Service Provision Agreement signed between AWSB and NWSC for the second 5 year period; ii) evidence of land transfer to AWSB for sewerage infrastructure development and proof of compensation for persons whose properties are affected; iii) evidence of transfer of the urban WSS infrastructure from

CCN to AWSB.

The first and third conditions have been substantially fulfilled. With respect to the second condition, over 95% of the RAP issues have been settled. For the few remaining minor cases, there is need for proof of ownership in order that payment can be made.

In terms of audit compliance, the PCR mission noted that an unqualified clean opinion was given for the 2015/16 audit report for the Special Account whereas a qualified opinion was issued for the Project Accounts. It was also noted that although the Statements of Expenditure were not issued, they were included in the audit scope. The Bank Financial Management division, in its conclusion of the review of the audited statements however accepted the audited financial statements on the basis that both the PIU and the auditors had substantially discharged their duties and responsibilities and that the issue raised as a qualification point had been resolved during the 2014/2015 financial year. Furthermore, the PIU was required to implement the recommendation of the auditors by 31st March 2017.

Project execution and financing. The PCR considered that Bank financing to be highly satisfactory based on the fact that 83.1% of the funds were disbursed against a progress of 88.39% before the deadline.

Monitoring and Evaluation (M&E) Framework. The PCR also noted that whereas specific parameters for monitoring Project outcomes and outputs were clearly established at appraisal and captured in the logical framework, some of the qualitative and quantitative data notably the i) sewerage connectivity, ii) quality of the effluent discharge at the Treatment Facilities and iii) water quality along the Nairobi Rivers iv) prevalence of waterborne diseases in the Project area may have been collected by the responsible Government bodies and Statutory Organizations but were not regularly reported on by the Project.

Because of the importance of monitoring and evaluation and because of the deficiencies in M&E , the rating = 2

SUSTAINABILITY

I. Financial sustainability:

Provide an assessment of the extent to which funding mechanisms and modalities (eg. Tariffs, user fees, maintenance fees, budgetary allocations, other stakeholder contributions, aid flows, etc.) have been put in place to ensure the continued flow of benefits after completion, with particular emphasis on financial sustainability. For PBOs, the assessment should focus on financial sustainability of reforms, as well as the Bank's policy dialogue to promote financial sustainability of the reforms.

The PCR correctly says that the financial sustainability of the project will depend on the sustained drive to connect as many beneficiaries to the system as possible. It says that the outlook is positive because of the enthusiasm and commitment of the NWSC and the AWSB to ensure more beneficiaries are connected to the sewer system. The main revenue driver will be the number of additional connections. A number of NGOs are also involved in encouraging customers to connect to the system. Some of the initiatives include revolving credit schemes where soft loans are availed to encourage more customers connecting to the system.

The NWSC is responsible for billing and collections arising from the constructed assets as formalized by the Services Provision Agreement, while the AWSB will continue to oversee management of the assets. The PCR notes that the current arrangement involves a cross-subsidy of wastewater functions, but says it is difficult to assess the impact of separation of the wastewater functions from water supply delivery functions within the NWSC as anticipated under the ongoing Organization Study for Sewerage Improvement Services. The PCR says the NWSC has a credit and billing system in place that enables the company to bill and collect appropriately.

The PCR notes that the National Water Services Strategy (2007-2015) aims to gradually achieve operational cost recovery of all WSS systems with the exception of targeted subsidies to the poor. It is expected that the organization study of the sewerage Improvement services mentioned above will define

guidelines for ensuring cost recovery including rationalized tariff regimes of the sewerage systems so as to ensure sustainable operations. The PCR suggests that for future revenue-generating wastewater projects, Bank supervision should conduct periodic assessment of the costing model and the levels of returns to water and sewerage utilities. However, the PCR does not report on or discuss the financial projections for the Athi Water Services Board (AWSB) or the Nairobi Water and Sewerage Company (NWSC). It also does not discuss the adequacy of the current tariff structure, in the discussion of financial sustainability. However, in the PCR section on lessons learned related to sustainability, it says that there is an inability to cover operational costs for wastewater services that appears to be a challenge for NWSC.

Rating = 2.5

m. Institutional sustainability and strengthening of capacities:

Provide an assessment of the extent to which the project has contributed to the strengthening of institutional capacities – including for instance through the use of country systems – that will continue to facilitate the continued flow of benefits associated with the project. An appreciation should be made with regards to whether or not improved governance practices or improved skills, procedures, incentives, structures, or institutional mechanisms came into effect as a result of the operation. For PBOs, this should include an assessment on the contributions made to building the capacity to lead and manage the policy reform process; the extent to which the political economy of decision making was conducive to reform; the Government's commitment to reform; and how the design reinforced national ownership.

The PCR notes that the project has made some contributions towards strengthening of institutional capacities. Specifically 150 AWSB/NWSC staff have been trained on sewerage management. However, it notes that there was no comprehensive institutional assessment at appraisal and no corresponding action plan for capacity building. The Project has a scheduled period of training of NWSC staff on facility operations and maintenance (O&M) procedures by the contractor for the Kariobangi Treatment works. However the PCR mission noted a lack of formal written operational procedures for support functions like finance.

NWSC has indicated plans to separate water and wastewater services provision within its internal organizational structures in order to streamline services delivery. Apart from a concern expressed about financial cross subsidies, little is said in the available reports about the potential impact on institutional stability.

Rating for institutional Sustainability = 2.5

n. Ownership and sustainability of partnerships:

Provide an assessment of whether the project has effectively involved relevant stakeholders, promoted a sense of ownership amongst the beneficiaries (both men and women) and put in place effective partnerships with relevant stakeholders (eg. local authorities, civil society organizations, private sector, donors) as required for the continued maintenance of the project outputs. For PBOs, the assessment should measure the extent to which the Government's capacity to conduct consultations during policy dialogue and the extent to which the Bank supported the Government in deepening the consultation processes of this move.

The PCR says that at Project formulation, stakeholder consultation was undertaken and the Project was prioritized as part of the NRRRP. A series of participatory meetings and discussions were conducted with all stakeholders, including beneficiaries during Project design. Stakeholder consultation at the early stage of implementation resulted in the formation, with support from the Nairobi County Government, of Community Based Organizations (CBOs), which subsequently applied for funding for ablution blocks under the Sanitation, Hygiene and Social Environment Support Project component. The Project can therefore be assessed as having highly satisfactorily inculcated a sense of ownership amongst stakeholders.

The PCR also notes that an area which appears to have received insufficient attention is involvement of beneficiaries at the subsequent stages of project implementation. This is typically an important element for the continued maintenance and hence sustainability of Project outputs. The PCR concludes that a lack of information provided during implementation impedes any meaningful assessment of the sustainability of the partnerships with beneficiaries.

The Section of the PCR on Lessons Related to Sustainability provides information on relationships with

other official institutions that should have been included in the main text. It says that the consultancy firms and the contractors engaged under the Project decried the inadequate links between Government institutions and statutory Organizations as a major setback to acquisition of way leaves and permits, relocation of services and monitoring of Project results among other impediments.

Rating = 3

o. Environmental and social sustainability:

Provide an assessment of the objectivity of the PCR rating on the project's implementation of environmental and social mitigation/enhancement measures with regard to the Environmental and Social Management Plan (ESMP), the capacity of country institutions and systems, as well as the availability of funding to ensure the environmental and social sustainability of the operation. This criterion would normally only apply to Environmental Category I and II projects.

The PCR mission undertook an assessment of the E&S safeguards and found as follows:

- E&S management, monitoring, and reporting mechanisms were established and the ESMP was prepared as a standalone document. The environmental mitigation measures, which were broadly identified in this framework, were included by AWSB in bidding documents. There is also a dedicated team with E&S experts within both AWSB and the consultancy firm. The AWSB Project team worked with the contractors and supervising consultant in devising practices to resolve E&S impacts and complaints by the affected communities as they arose. There was also documentation prepared on the implementation of the ESMP.
- The Project was designed to minimize relocation of communities as much as possible with 1174 persons considered as Project Affected Persons (PAPs) under the Resettlement Action Plan (RAP) prepared in accordance with Bank's Policy. At the time of the mission, a total of approximately USD 1.66 million had been paid from the GOK Escrow account as compensation to a total of 1667 PAPs so as to secure wayleave for the sewer lines. The PCR mission noted that the PAPs were included in the RAP implementation committee and were involved in the community sensitization and awareness activities under the Project. Most of the affected people are reportedly owners of the temporary structures on the riparian land.
- NEMA and the Water Resources Management Authority (WRMA) are expected to conduct post-Environmental Impact Assessment (EIA) monitoring in order to guarantee project compliance with national legislation and regulations. A laboratory testing program conducted by the NWSC at the Dandora Treatment facility indicates that the quality of treated effluents from the plant presently does not comply with the requisite standards for BOD5 < 30 mg/l.
- The Quarterly Progress Reports submitted by AWSB to the Bank lacked details on the management of E&S concerns as the Bank did not formally make E&S reporting a requirement for the Project. No significant collection, monitoring, or reporting of quantitative data on the Project's environmental impacts were conducted and social monitoring was generally lacking. Furthermore, data collected is not disaggregated to allow gender, beneficiary level of satisfaction etc. to be done.
- Social impacts of the Project were not examined as part of the post-EIA monitoring activities. However, the tariff structure for wastewater services incorporates social concerns through the use of increasing block tariff structure.

Rating = 3

4. PERFORMANCE OF STAKEHOLDERS

a. Bank performance:

(Preparation/approval, ensure of Quality at Entry (QAE) : quality of the supervision, completion) : Provide observations on the objectivity of the PCR ratings and feedback provided by the Borrower, and if necessary, re-assess the Bank's performance throughout the project cycle (design, implementation, completion) by focusing on evidence from the PCR in relation to 7 criteria defined in the PCR Guidance Note.

The Borrower stated that overall performance of the Bank was commendable. In particular, the Borrower expressed satisfaction with Bank's performance in terms of timely responding to Borrower's needs and promoting Project sustainability through provision of training to the AWSB/NWSC staff and Project stakeholders in general. The Borrower however expressed concern over the delays (of up to 8 months) in processing disbursements of the Project funds by the Bank under the direct payment method, which impacted on overall Project progress.

From the Bank's comments and the PCR, it appears that the Bank maintained regular dialogue with the authorities. Yet, the Bank did not conduct a comprehensive institutional assessment at appraisal. This limited the ability to deal with institutional issues during implementation.

Also the Bank did not formally make E&S reporting a requirement for the Project. As a result, no significant collection, monitoring, or reporting of quantitative data on the Project's environmental impacts were conducted and social monitoring was generally lacking. This was a particular problem that affected the regular measurement and reporting of E&S risks and benefits. During supervision and at the mid-term review, corrective measures might have been introduced to facilitate the collection, monitoring and reporting of Project information, with a view to performance improvements. Also, measures for monitoring of the level of attainment of both outcomes and outputs indicators could have been improved.

The supervision missions were staffed with multidisciplinary skills mix (environmental, fiduciary and procurement experts) in order to adequately support the Project by reviewing and processing of procurement, safeguards, financial management and disbursement documents.

Rating = 3

b. Borrower performance:

Provide observations on the objectivity of the PCR ratings, and if necessary, re-assess the Borrower's performance throughout the project cycle (design, implementation, completion) by focusing on evidence from the PCR in relation to questions defined in the PCR Guidance Note.

The PCR notes that there are a number of areas in which the Borrower performed well. GOK through MWI as well as the various stakeholder Government institutions and statutory bodies provided leadership at Project planning and implementation. Furthermore, Government was found to be responsive to the Bank supervision mission's findings and recommendations. The Borrower also subjected the Project operations to regular internal audits and concerns raised were expeditiously addressed.

However, the PCR also noted that the contractors and consultants engaged under the Project expressed dissatisfaction at the Government's performance with respect to timely processing of tax exemptions and disbursement of Project funds - the latter attributed to lack of adequate counterpart funds. The Borrower did not independently seek to establish robust procedures to collect data for M&E. The Project Steering Committee within the MENR intimated that they did not have adequate budget to facilitate implementation of their intended roles under the Project and that generally the national goodwill for the Project had diminished.

Rating = 3

c. Performance of other stakeholders:

Provide observations on the objectivity of the PCR ratings, and if necessary, re-assess the other shareholders' performance throughout the project cycle (design, implementation, completion) by focusing on evidence from the PCR in relation to relevant questions specific to each

stakeholder (co-financiers, NGO, contractors and service providers).

According to the PCR, some progress was achieved towards harmonizing activities between the Project stakeholders and actors. For instance, AWSB prepared quarterly reports for the Project which were submitted to the MWI for circulation to stakeholder organizations. Additionally, NWSC continuously compiles data on the effluent quality for disposal at the operational Dandora treatment facility as stipulated by NEMA. The WRMA also produces periodical reports on the status of the Nairobi Rivers Basin, whereas the Ministry of Health periodically compiles data on health and hygiene for the Project area. Additionally, MWI through NWSC commissioned a Study in 2016 on profiling of the Nairobi Rivers' water quality as part of results monitoring under the Project. The PCR mission however observed that better results could have been achieved had the formal structures for liaison and collaborations between the stakeholder and actors been defined under the ambit of the Project Steering Committee. This could have afforded the Project team a wider and long-term outlook with respect to Project planning (mobilizing funding for subsequent phases) while addressing emerging Project issues.

Despite the challenges encountered from time to time, the good working relationship between the AWSB, contractors, consultancy firms, and the NWSC impacted positively on implementation of Project activities. AWSB involved NWSC in activities including document review, whenever their input was required, and updated them on Project progress. AWSB also provided information whenever required by the MWI. This ensured that challenges were addressed at Project level which translated in time and cost savings on the Project

Rating = 3

5. SUMMARY OF OVERALL PROJECT PERFORMANCE

a. Overall assessment:

Provide a summary of the project/programme's overall performance based on the PCR 4 key components (Relevance, Effectiveness, Efficiency and Sustainability). Any difference with the PCR and the reasons that have resulted in them should be mentioned. For cases with insufficient evidence (from the PCR and other documents) available, the evaluator should assign a partly satisfactory rating (to be revised) until a post project performance evaluation (e.g. PPER, PER or PRA) is complete.

The project successfully built an extensive network of sewer lines adding 63.3 km of trunk sewers and 43km of secondary lines. The water treatment plant at Dandora was rehabilitated and its capacity increased by an additional 40,000m³/d treatment capacity. Work started on the water treatment plant at Kariobangi which would add 40,000m³/d treatment capacity but this plant was not functional, at the time of the PCR and the Dandora plant Effluent Quality did not meet NEMA standards.

Bank supervision missions did not do enough to require adequate information on monitoring of project implementation, and data on beneficiaries is partial at best.

If the intake at the Dandora plant can be modified, (the cost or possible timing is not mentioned in the PCR) and the Kariobangi plant became operational and met targets, the rating would be substantially be higher.

Rating =2

b. Design, implementation and utilization of the M&E (appreciation of the evaluator):

Provide an assessment of planned and actual cost of the design, implementation and utilization of the M&E system. Design : To which extent the project M&E system was explicit, adequate and realistic to generate and analyse relevant data ; Implementation : To which extent relevant data was collected – Elements of M&E implementation and effectiveness in the PCR ; Utilization : degree of utilization of data

generated for decision-making and resource allocation – elements of M&E utilization in the PCR.

As noted above, the Bank did not do enough during supervision to make E&S reporting a priority for the Project. As a result, no significant collection, monitoring, or reporting of quantitative data on the Project's environmental impacts were conducted and social monitoring was generally lacking. This was a particular problem that affected the regular measurement and reporting of E&S risks and benefits. During supervision and at the mid-term review, corrective measures might have been introduced to facilitate the collection, monitoring and reporting of Project information, with a view to performance improvements. Also, measures for monitoring of the level of attainment of both outcomes and outputs indicators could have been improved.

Rating =2

6. EVALUATION OF KEY LESSONS LEARNED AND RECOMMENDATIONS

a. Lessons learned:

Provide a brief description of any agreement/disagreement with all or part of the lessons learned from the PCR after analysis of the project performance with regards to each of the key components of the evaluation (Relevance, Effectiveness, Efficiency, and Sustainability). List the PCR main new and/or reformulated pertinent (and generic) lessons learned for each of these components here. It is recommended that no more than five lessons learned are discussed. Key questions and targeted audience must also be specified for each lesson learned.

Lesson from PCR	Comment from PCREN
<p>GOK through MWI provided leadership, adopting a systematic approach to ensuring that the various activities synchronized to ultimately achieve the targeted Project outputs and outcomes. However, it is generally appreciated that a lot more could have been achieved in terms of savings in Project duration and therefore costs and forward planning had the Project Steering Committee of the MENR been active during the implementation phase</p>	<p>Agreed, but this is too project specific and is more of a defect in project implementation rather than a lesson learned.</p>
<p>Efficiency of data collection and posting modalities is integral for the success on any M&E framework. The challenges faced in measuring results under the Project include inadequate capacity for data collation at the level of the Executing Agency. Furthermore, data collected is not disaggregated such that evaluation of E&S aspects including gender, beneficiary level of satisfaction etc. cannot be done.</p>	<p>Agreed, but this is too project specific, and is more of a defect in project implementation than a lesson learned.</p>
<p>There is need to consider inclusion of additional provisions in the Bank Procurement Rules to enable the Engineering and Construction Contract to be used in an early contractor involvement approach which allows the Contractor to be appointed before details of what is to be constructed have been fully developed and priced. This approach is already adopted under the NEC3 Standard Contract recommended for public sector organizations (Institute of Civil Engineers, United Kingdom) which presents the following two options: i) The Employer appoints a consultant to carry out design, and the Contractor assists the consultant in designing the project. The Contractor may or may not be required to carry out specific elements of the design in addition to assisting the designer. The Contractor is in this case instructed to proceed with the works, including any outstanding design, under a standard arrangement following agreement of the Prices for Stage Two;</p>	<p>The concern is understandable. However, this is a recommendation rather than a lesson learned.</p> <p>This recommendation may require more sophistication in managing consultants and contractors than exists in most countries. A possible alternative recommendation might be to consider a design, build operate and maintain contract where the winning bidder is selected by competitive bidding rather than negotiation. There is a lot of experience with this type of contract, and the winning bidder has incentives to build efficiently and to a reasonable quality standard, since they will be responsible for maintenance and operation after construction.</p>

<p>ii) The Employer appoints a Contractor to carry out the design, and the Employer's consultant works with the Contractor in completing the design. In using one of the options, the Contractor is incentivized to provide a cost-effective solution by sharing in the savings on the Employer's Budget – including other costs incurred by the Employer</p>	
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b. Recommendations:

Provide a brief description of any agreement/ disagreement with all or part of the recommendations from the PCR. List the PCR main new and/or reformulated recommendations (requiring more actions by the Borrower and/or the Bank) here.

Recommendations from the PCR	Comments from the PCREN
<p>An integrated approach for planning encompassing all aspects of effective River Basin Management is crucial for the ultimate success of a basin-wide Program with environmental and social outcomes. Whereas the NRRRP recognized the need for a holistic focus in all critical areas including storm water management, integrated solid waste management, river ecosystem enrichment, very little progress has been achieved so far towards these aspects. Moreover, the PCR mission is of the view that more could have been achieved by Project completion had simultaneous complementary initiatives (including installing additional service lines where necessary) been effected to increase the capacity of the newly installed sewerage systems. On this basis, future projects should put measures in place to consider these needs at the planning phase.</p>	<p>The first part of this recommendation has little to do with the second part.</p> <p>The PCR Recommendation notes that an integrated approach for planning is crucial for a basin wide Program and that NRRRP recognized the need for a holistic focus including storm water management, integrated solid waste management, and river ecosystem enrichment and that little progress has been achieved in these aspects. However, this project is not dealing with basin-wide issues. It deals only with sewerage and sanitation in the Nairobi area. A holistic approach was not adopted in this project and there is no evidence that had such an approach been adopted, the project would have had better results. This is not a lesson learned from this project.</p> <p>In fact, it is possible that the results would have been much worse had the project been more complicated by virtue of a holistic approach being taken that involved for example, storm water management, solid waste management, river ecosystem enrichment. Complexity in individual projects, particularly institutional complexity involving multiple agencies responsible for different types of outcomes, can be very difficult to manage during supervision. It is possible to have an integrated approach for planning, without having an integrated approach in each individual project. Rather, a program of multiple projects that conform to an integrated plan is more likely to achieve success. This seems to be what is suggested in the next recommendation.</p> <p>It is agreed that installing additional service lines should have been considered as part of this project.</p> <p>It is a lesson from this project (and others) that when sewerage lines are built, particular attention needs to be given to service lines and household connections at the planning stage. A faster rate of household connections will improve revenue to the institution and also provide more sewerage flow through the network reducing the risk of blockage.</p>
<p>The NRRRP was planned to be implemented in phases under four key strategies: i) (re)afforestation ii) reduction of environment-related diseases, iii) environmental conservation, iv) pollution control and waste management. The ongoing NaRSIP was designed to largely address the fourth strategy</p>	<p>Agreed that a programmatic approach is often a very useful and</p>

<p>while contributing to realization of the other three. The Program challenges are therefore broad and cut across various sectors/ and sub-sectors, thereby involving several actors. The magnitude of funding envisaged to realize the overall Program goal is equally enormous. It could be worthy to consider tackling the strategic objectives in a programmatic way with emphasis on viewing the Program not just as a collection of individual projects through; i) collective analysis and planning, ii) creating synergy between interventions, as well as iii) linking and learning between relevant stakeholders/actors. This way, it would be possible to secure buy-in of actors and and to facilitate leverage of funding from several sources including Development Partners, Government and beneficiaries. Lessons drawn from past Bank funded interventions have listed high level development impacts within short implementation timelines and less Program overhead costs amongst merits of programmatic aid delivery.</p>	<p>effective approach.</p>
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7. COMMENTS ON PCR QUALITY AND TIMELINESS

The overall PCR rating is based on all or part of the criteria presented in the annex and other: The quality of the PCR is rated as highly satisfactory (4), satisfactory (3), unsatisfactory (2), and highly unsatisfactory (1). The timeliness of the PCR is rated as on time (4) or late (1). The participation of the Borrower, co-financier, and the bank's external office(s) are rated as follows: Very Good (4), Good (3), Fair (2), Poor (1).

The two main deficiencies in the PCR are:

- (1) A lack of critical discussion or attempt to estimate the possible number of beneficiaries of different categories and the level of benefits that accrue to the different categories of beneficiaries. Such a discussion is needed to help understand the possible impact of the project even without monitoring and evaluation data on actual numbers of beneficiaries of the project, and
- (2) A lack of a discussion of the effect on project outcomes of the Dandora plant not meeting the agreed effluent standards and the Kariobangi plant not being operational at the time of the PCR.

Criteria	Rating
1) Quality of PCR: satisfactory	3
2) Timeliness: effectively on time. Closing date: 30 Dec 2016; PCR issued on 30 January 2017. PCR issued 4 months after closing	4
3) Participation of borrower/co-financier and the Bank's external office:	3
4) Overall	3

8. SUMMARY OF THE EVALUATION

This is a summary of both the PCR and IDEV ratings with justification for deviations/comments. Appropriate section of the PCR Evaluation should be indicated in the last column in order to avoid detailed comments. The evaluator must provide a reasonable explanation for each criterion the PCR rating is not validated by IDEV. Consequently, the overall rating of the project could be “equally satisfactory”.

Criteria	PCR	PCREN	Reason for disagreement/ Comments
RELEVANCE			
Relevance of project development objective	4	3	As noted above, the objective statement in the results framework is not clear. The monitoring indicators for numbers of beneficiaries is questionable and is not clear on the needs and level of benefits that would accrue to different types of beneficiaries.
Relevance of project design	3	3	
EFFECTIVENESS			
Development objective (DO)	3	2.5	PCREN rating is based on the data showing that effluent quality at Dandora does not meet agreed standards, and based on fact that Kariobangi is not yet operational. This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is now operational and can provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets
EFFICIENCY			
Timeliness	3	3	
Resource use efficiency	4	2.5	PCREN rating is based on the data showing that effluent quality at Dandora does not meet agreed standards, and based on fact that Kariobangi is not yet operational. This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is operational and provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets
Cost-benefit analysis	4	2.5	The monitoring and evaluation did not cover the number of actual beneficiaries. The logical framework says there will be 3.2 million beneficiaries; the PCR recalculation

			of the Cost benefit assumes 985,000 beneficiaries. This is not explained. The cost benefit analysis in the PCR makes no distinction among different classes of beneficiaries as to the level of benefits received.
Implementation progress (IP)	3	2	Insufficient attention to monitoring and evaluation
SUSTAINABILITY			
Financial sustainability	3	2.5	The PCR section on lessons learned related to sustainability says that there is an inability to cover operational costs for wastewater services that appears to be a challenge for NWSC.
Institutional sustainability and strengthening of capacities	3	2.5	NWSC has plans to separate water and wastewater services. Apart from a concern expressed about financial cross subsidies, little is said about the potential impact on institutional stability of this change. The PCR notes that there was no comprehensive institutional assessment at appraisal and no corresponding action plan for capacity building. The PCR mission noted a lack of formal written operational procedures for support functions like finance.
Environmental and social sustainability	3	3	
OVERALL PROJECT COMPLETION RATING			
Bank performance:	3	3	
Borrower performance:	3	3	
Performance of other shareholders:	3	3	
Overall PCR quality:		3	The two main deficiencies in the PCR are: (1) a lack of critical discussion of the numbers of actual beneficiaries and the level of benefits that accrue to different categories of beneficiaries, and (2) a lack of a discussion of the effect on outcomes of the Dandora plant not meeting the agreed effluent standards and the Kariobangi plant not being operational at the time of the PCR.

9. PRIORITY FOR FUTURE EVALUATIVE WORK: PROJECT FOR PERFORMANCE EVALUATION REPORT, IMPACT EVALUATION, COUNTRY/SECTOR REVIEWS OR THEMATIC EVALUATION STUDIES:

- Project is part of a series and suitable for cluster evaluation
- Project is a success story
- High priority for impact evaluation
- Performance evaluation is required to sector/country review
- High priority for thematic or special evaluation studies (Country)
- PPER is required because of incomplete validation rating

Major areas of focus for future evaluation work:

- a) Performance evaluation is required for sector/ country review
- b) Cluster evaluation (institutional support)
- c) Sector evaluation (budgetary support or public finance management reforms)

Follow up action by IDEV:

Identify same cluster or sector operations; organize appropriate work or consultation mission to facilitate a), b) and/or c).

Division Manager clearance

Director signing off

Data source for validation:

- Task Manager/ Responsible bank staff interviewed/contacted (in person, by telephone or email)
- Documents/ Database reports

Attachment:

- PCR evaluation note validation sheet of performance ratings
- List of references

PROJECT COMPLETION REPORT EVALUATION NOTE

Validation of PCR performance ratings

PCR rating scale:

Score	Description
4	Very Good – Fully achieved with no shortcomings
3	Good – Mostly achieved despite a few shortcomings
2	Fair – Partially achieved. Shortcomings and achievements are roughly balanced
1	Poor – very limited achievement with extensive shortcomings
UTS	Unable to score/rate
NA	Non Applicable

Criteria	Sub-criteria	PCR work score	IDEV review	Reasons for deviation/comments
RELEVANCE	Relevance of the project development objective (DO) during implementation	4	3	As noted above, the objective statement in the results framework is not clear. The monitoring indicators for the target numbers of beneficiaries are questionable and are not clear on the needs of different types of beneficiaries.
	Relevance of project design (from approval to completion)	3	3	
OVERALL RELEVANCE SCORE				
EFFECTIVENESS*	Effectiveness in delivering outcomes			
	Outcome1: Quality of water of the Nairobi rivers		2.5	Targets not fully attained. Also it is not clear what caused the improved water quality in the rivers, since the treatment plant at Kariobangi was not yet on line as of the date of PCR, and, according to the data in the table, the effluent at Dandora has gotten worse.
	Outcome 2: Quality of wastewater effluent discharged into the Nairobi rivers		2	Targets not attained. The PCR calculation of progress towards the quality of effluent target at Dandora is incorrect. The effluent quality target for Kariobangi , might be attained when this facility becomes operational, but is not guaranteed as evidenced by problems at Dandora.
	Effectiveness in delivering output			
	Output1: Sewer Lines		4	Trunk lines and reticulation lines exceeded target by 17% and 7% respectively.
	Output2: Treatment Plants		1.5	Effluent quality at Dondora did not meet standard; Kariobangi construction not complete at time of PCR

Criteria	Sub-criteria	PCR work score	IDEV review	Reasons for deviation/comments
Development objective (DO)				
	Development objective rating	3	2.5	PCREN rating is based on the data showing that effluent quality at Dandora does not meet agreed standards, and based on fact that Kariobangi is not yet operational. This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is now operational and can provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets
Beneficiaries				
	Beneficiary1			Insufficient information on actual beneficiaries to disaggregate ratings
	Beneficiary2			
Unanticipated outcomes (positive or negative not considered in the project logical framework) and their level of impact on the project (high, moderate, low)				
	Institutional development			
	Gender			
	Environment & climate change		H	The only genuine unanticipated consequence is the deterioration in effluent quality at Dandora
	Poverty reduction			
	Private sector development			
	Regional integration			
	Other (specify)			
EFFECTIVENESS OVERALL SCORE				
EFFICIENCY	Timeliness (based on the initial closing date)	3	3	
	Resource used efficiency	4	2.5	PCREN rating is based on the data showing that effluent quality at Dandora does not meet agreed standards, and based on fact that Kariobangi is not yet operational. This rating is provisional and can be reconsidered if the task manager can confirm that the Kariobangi plant is operational and provide information about the treatment capacity and effluent quality at the plant, and whether these meet planned targets
	Cost-benefit analysis	4	2.5	The monitoring and evaluation did not cover the number of actual beneficiaries. No distinction is made among benefits accruing to different types of beneficiaries.

Criteria	Sub-criteria	PCR work score	IDEV review	Reasons for deviation/comments
	Implementation progress (from the IPR)	3	2	Insufficient attention to M&E
	Other (specify)			
OVERALL EFFICIENCY SCORE				
SUSTAINABILITY	Financial sustainability	3	2.5	The PCR section on lessons learned related to sustainability, it says that there is an Inability to cover operational costs for wastewater services that appears to be a challenge for NWSC.
	Institutional sustainability and strengthening of capacities	3	2.5	NWSC has plans to separate water and wastewater services. Apart from a concern expressed about financial cross subsidies, little is said about the potential impact on institutional stability of this change. The PCR notes that there was no comprehensive institutional assessment at appraisal and no corresponding action plan for capacity building. The PCR mission noted a lack of formal written operational procedures for support functions like finance.
	Ownership and sustainability of partnerships	3	3	
	Environmental and social sustainability	3	3	
<p>*The rating of the effectiveness component is obtained from the development objective (DO) rating in the latest IPR of the project (see Guidance Note on the IPR).</p> <p>The ratings for outputs and outcomes are determined based on the project's progress towards realizing its targets, and the overall development objective of the project (DO) is obtained by combining the ratings obtained for outputs and outcomes following the method defined in the IPR Guidance Note. The following method is applied: Highly satisfactory (4), Satisfactory (3), Unsatisfactory (2) and Highly unsatisfactory (1).</p>				

Criteria	Sub-criteria	PCR Work score	IDEV review	Reasons for deviation/comments
BANK PERFORMANCE	Proactive identification and resolution of problems at different stage of the project cycle		3	
	Use of previous lessons learned from previous operations during design and implementation		3	
	Promotion of stakeholder participation to strengthen ownership		3	
	Enforcement of safeguard and fiduciary requirements		3	
	Design and implementation of Monitoring & Evaluation system		1	No M&E was insisted on during

				implementation of the project
	Quality of Bank supervision (mix of skills in supervisory teams, etc)		3	
	Timeliness of responses to requests		3	
OVERALL BANK PERFORMANCE SCORE			3	
BORROWER PERFORMANCE	Quality of preparation and implementation		3	
	Compliance with covenants, agreements and safeguards		3	
	Provision of timely counterpart funding		2.5	
	Responsiveness to supervision recommendations		3	
	Measures taken to establish basis for project sustainability			Little information from project documents
	Timeliness of preparing requests		3	
OVERALL BORROWER PERFORMANCE SCORE			3	
PERFORMANCE OF OTHER STAKEHOLDERS	Timeliness of disbursements by co-financiers			
	Functioning of collaborative agreements			
	Quality of policy dialogue with co-financiers (for PBOs only)			
	Quality of work by service providers			
	Responsiveness to client demands			
OVERALL PERFORMANCE OF OTHER STAKEHOLDERS				
The overall rating is given: Very Good, Good, Fair and Poor.				
(i) Very Good (HS) : 4				
(ii) Good (H) : 3				
(iii) Fair (US) : 2				
(iv) Poor (HUS): 1				

DESIGN, IMPLEMENTATION AND UTILIZATION OF MONITORING AND EVALUATION (M&E)

Criteria	Sub-criteria	IDEV Score	Comments
M&E DESIGN	M&E system is in place, clear, appropriate and realistic	1	
	Monitoring indicators and monitoring plan were duly approved	1	
	Existence of disaggregated gender indicator	1	
	Baseline data were available or collected during the design	1	

Criteria	Sub-criteria	IDEV Score	Comments
	Other, specify		
OVERALL M&E DESIGN SCORE			
M&E IMPLEMENTATION	The M&E function is adequately equipped and staffed	1	
OVERALL M&E IMPLEMENTATION SCORE			
M&E UTILIZATION	The borrower used the tracking information for decision	1	
OVERALL M&E UTILIZATION SCORE			
OVERALL M&E PERFORMANCE SCORE		1	

PCR QUALITY EVALUATION

Criteria	PCR-EVN (1-4)	Comments
QUALITY OF PCR		
1. Extent of quality and completeness of the PCR evidence and analysis to substantiate the ratings of the various sections	2.5	The two main deficiencies in the PCR are: (1) a lack of critical discussion of the numbers of actual beneficiaries and the level of benefits that accrue to different categories of beneficiaries, and (2) a lack of a discussion of the effect on outcomes of the Dandora plant not meeting the agreed

		effluent standards and the Kariobangi plant not being operational at the time of the PCR.
2. Extent of objectivity of PCR assessment score	3	
3. Extent of internal consistency of PCR assessment ratings; inaccuracies; inconsistencies; (in various sections; between text and ratings; consistency of overall rating with individual component ratings)	3	
4. Extent of identification and assessment of key factors (internal and exogenous) and unintended effects (positive or negative) affecting design and implementation	3	
5. Adequacy of treatment of safeguards, fiduciary issues, and alignment and harmonization	3	
6. Extent of soundness of data generating and analysis process (including rates of returns) in support of PCR assessment	2,5	
7. Overall adequacy of the accessible evidence (from PCR including annexure and other data provided)	3	
8. Extent to which lessons learned (and recommendations) are clear and based on the PCR assessment (evidence & analysis)	3	
9. Extent of overall clarity and completeness of the PCR	3	
Other (specify)		
PCR QUALITY SCORE	3	
PCR compliance with guidelines (PCR/OM ; IDEV)		
1. PCR Timeliness (On time = 4; Late= 1)	4	
2. Extent of participation of borrower, Co-financiers & field offices in PCR preparation		unknown
3. Other aspect(s) (specify)		
PCR COMPLIANCE SCORE	3	
*** rated as Very Good (4), or Good (3), or Fair (2), or Poor (1)		

References

1. African Development Bank Group, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project appraisal Report, July 2010
2. African Development Bank Group, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project, PCR Peer Review Matrix , March 2017
3. African Development Bank Group, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project, Supervision Mission Aide Memoire, dated 21, April 2015 to 29 April 2015
4. African Development Bank Group, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project, Supervision Mission Aide Memoire, dated 7 December 2015 to 11 December 2015
5. African Development Bank Group, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project, Supervision Mission Aide Memoire, 15 June, 2016
6. Athi Water Services Board, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Quarterly Progress Report, April to June 2015.
7. African Development Fund, Nairobi Rivers Rehabilitation and Restoration Program: Sewerage Improvement Project, Project Completion Report, December 2016