



Report Number : ICRR0021495

## 1. Project Data

**Project ID**

P100406

**Project Name**

Lake Victoria Phase II APL 1 (FY09)

**Country**

Africa

**Practice Area(Lead)**

Environment &amp; Natural Resources

**Additional Financing**

P153466

**L/C/TF Number(s)**

IDA-45300,IDA-45310,IDA-45320,IDA-56340,IDA-56410,IDA-D0560,TF-56812,TF-56813,TF-56814,TF-90883,TF-95196

**Closing Date (Original)**

30-Jun-2013

**Total Project Cost (USD)**

125,850,800.44

**Bank Approval Date**

03-Mar-2009

**Closing Date (Actual)**

31-Dec-2017

**IBRD/IDA (USD)**
**Grants (USD)**

Original Commitment

90,000,000.00

14,046,056.74

Revised Commitment

122,545,045.08

12,173,981.92

Actual

118,850,800.44

12,173,981.92

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**Project ID**

P103298

**Project Name**

Lake Victoria Phase II APL 1 (SIP) (P103298 )



L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
TF-94205	30-Jun-2013	7,000,000.00
Bank Approval Date	Closing Date (Actual)	
03-Mar-2009	30-Jun-2015	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	7,000,000.00
Revised Commitment	0.00	7,000,000.00
Actual	0.00	7,000,000.00

## 2. Project Objectives and Components

### a. Objectives

The Project Development and Global Environmental Objective (PDO/GEO) was to: (i) improve collaborative management of the transboundary natural resources of Lake Victoria Basin (LVB) for the shared benefits of the Partner States; and, (ii) reduce environmental stress in targeted pollution hotspots and selected degraded sub-catchments to improve the livelihoods of communities who depend on the natural resources of the LVB.

The PDO in the Financing Agreements was the same as that in the PAD.

The revised PDO, approved in a restructuring of June, 2012, was as follows: to contribute to: (i) the improvement of the collaborative management of the transboundary natural resources of the LVB among the Partner States; and, (ii) the improvement of environmental management of targeted pollution hotspots and selected degraded sub catchments for the benefit of communities who depend on the natural resources of LVB.

The revised PDO reduced the ambition and prefaced the objective elements with the words “contribute to” and “improvement” rather than the original words, “to improve ..” and “reduce environmental stress in ..”. These changes lowered expectations to be more realistic against progress and were more consistent with the timeframe and resources provided. Accompanying this change of statement, the indicators were changed from mostly outcome level to mostly intermediate outcome or output level, effectively lowering expectations.

Due to the changed language of the objectives and changes in indicators at restructuring, a split evaluation is carried out. The percentage disbursement at that point at US\$24 million was 18%.



Subsequently, in 2015, an additional financing (AF) was approved for Kenya, Tanzania, and the East African Community (EAC). However, the type of indicators remained unchanged other than some upward revision of targets reflecting the additional expenditure proposed. The ICR notes that the extension of targets in most cases was larger than the proportion of increase in financing, suggesting either some gain in efficiency or perhaps too conservative a set of original targets.

**b. Were the project objectives/key associated outcome targets revised during implementation?**

Yes

**Did the Board approve the revised objectives/key associated outcome targets?**

Yes

**Date of Board Approval**

20-Jun-2012

**c. Will a split evaluation be undertaken?**

Yes

**d. Components**

Component 1. **Strengthening institutional capacity for managing shared water and fisheries resources** (US\$22.4 million at appraisal; US\$31.8 million actual)

This component was focused on enhancing the capacity of existing institutions to improve the cooperative management of the transboundary natural resources. There were two subcomponents: (a) harmonization of policies and regulatory standards; and, (b) ecosystem monitoring and applied research. The component covered capacity building, training, technical assistance, office and laboratory equipment, and vessels for research, monitoring and enforcement. It also included the development of options for sustainable financing of natural resource management and the development of regional frameworks for the management of transboundary natural resources in both water and fisheries.

Component 2. **Point source pollution control and prevention** (US\$37.2 million at appraisal; US\$35.3 million actual)

This component was to mitigate and prevent environmental stresses within the lake and littoral zone. Investments included; reduction of pollution at priority hotspots complementing ongoing activities supported by other World Bank-funded projects in water and sanitation. It had three subcomponents: (a) rehabilitation and improvement of wastewater treatment facilities; (b) promotion of cleanup production technologies; and, (c) pollution risk management and safety of navigation.

Component 3. **Watershed management** (US\$43.6 million at appraisal; US\$36.3 million actual)



This component was to reduce the lake basin environmental stresses by implementing nonpoint sources pollution mitigation and prevention measures. This included sediment loads, nutrients, and agrochemicals. The aim was to scale up successful models of watershed management practices piloted under the prior LVEMP-I project and other national projects with similar aims. There were two subcomponents: (a) natural resources conservation livelihoods improvement; and, (b) community capacity building and participation.

Component 4. **Project coordination and management** (US\$11.6 million at appraisal; US\$27.4 million actual)

This component provided the resources for effective coordination, communication, and monitoring and evaluation. At the regional basin level these tasks were carried out by the Regional Project Coordination Team (RPCT). At the national level they were the responsibility of the National Project Coordination Teams (NPCTs). There were two subcomponents: (i) project coordination and communications; and, (b) monitoring and evaluation.

## **e. Comments on Project Cost, Financing, Borrower Contribution, and Dates**

### **Project Cost**

The original Total Project Cost included 12 sources of Trust Fund and IDA resources along with US\$7.8 million provided by the borrowers. There are some discrepancies in cost figures given in the ICR, partly, according to the ICR, from system supplied data. However, taken from ICR Annex 3 financing table, the Total Project Cost was US\$136.8 million. This includes US\$22 million of additional financing. The actual disbursed from all sources was US\$130.8 million. Differences between planned and actuals are due to exchange rate changes. A Multi-Donor Trust Fund was set up for bridging the activities between the prior LVEMP-I project and the LVEMP-II project. This amounted to US\$2.96 million of which actual disbursed was US\$1.09 million.

### **Financing**

There were multiple sources of financing. The Trust Funds were: under the bridging financing to bridge the first and second LVEMP projects, TF56812, TF 56814, TF 56813, TF 90883, and the following two project Trust Funds: TF 95196 (SIDA) and TF 94205. The IDA credits were: IDA 45300, IDA 45310, IDA 45320, IDA D0560, IDA 56410, IDA 56340. Of the original total planned of US\$140.85 million, US\$130.8 million was disbursed. As noted above there were exchange-rate changes.

### **Borrower Contribution**

Despite the dropping of the contribution requirement due to the delays it was creating in procurement and implementation, in the end, according to the Project Team, the borrower's provided the full planned amount of contribution of US\$7.8 million.



## Dates

Project approval was on March 3, 2009 with effectiveness nearly 5 months later, on July 30, 2009. The additional financing was approved on May 26, 2015 and was effective August 6, 2015. The original project closing date was set at June 30, 2013 but was extended by 4 ½ years to December 31, 2017. This allowed for the continued implementation of the additional financing activities over approximately a two and a half year period, therefore the effective extension of the original project period, omitting the additional financing, would have been about two years.

The main restructuring came on June 20, 2012 with the change in PDOs, Results Framework, some component changes, a loan closing date change, the dropping of a number of legal covenants, and an adjusted implementation schedule. By this date, the amount disbursed was US\$24.15 million. Later, in June 2014, there was a reallocation between disbursement categories and then, on May 4, 2015, US\$77.92 million was added as Additional Financing. This also involved some changes in components and costs and a further change in loan closing date.

The Midterm Review was carried out in September 2011, about 2 ½ years after approval.

## 3. Relevance of Objectives

### Rationale

Relevance of Original Objectives.

The main issues, as expressed in the ICR para 7, were: (i) deteriorating water quality; (ii) declining lake levels; (iii) resurgence of water hyacinth; (iv) declining fish stocks due to loss of habitat, competition from Nile Perch, and increased fishing effort; (v) wetlands destruction; (vi) forest degradation; and, (vii) climate change, potentially. Through the GEF-financed Transboundary Diagnostic Analysis, the project identified the following priorities: (a) land, wetland and forest degradation which addressed issues (i),(v), and (vi) above; (b) weak governance, which addressed the overall capacity, policy and institutional framework needed to tackle all the issues identified; (c) declining fish stocks and loss of habitat and diversity which addressed issues (iv) and (v), but not the Nile Perch introduction which cannot now, and probably should not, be reversed; (d) increased pollution which addressed issues (i) and (iv); (e) unsustainable water management, declining lake levels, and climate change which addressed issues (i),(ii),(iv) and (vii).

The project objective appropriately aggregated these priorities into three main areas of support: (a) improving collaboration and management, including policies; (b) reducing environmental stress in pollution locations around the lake; and, (c) reducing environmental stress in land areas in the lake catchment.

While, overall, the project design thoroughly covered all these main areas of challenge as shown in ICR Figure 1 on the theory of change, there are two areas that could have benefited from more design attention.



First, the relationship between the long-term nature of the outcomes sought and what that meant for design of the land management interventions could have been addressed with more attention to the efficiency of technologies, R&D, and incentives and pathways to scaling up. Second, the longer term strategy for non-point pollution sources from towns and cities could have been better identified, although there was some investment provided for sanitation facilities. However, overall, the design was comprehensive, perhaps too complex for the limited implementation capacity.

In relation to existing Bank and country strategies, the project was listed as a high priority regional project in the World Bank FY18-23 Regional Integration and Cooperation and Assistance Strategy for Africa (Report no. 121912-AFR). The aim of that strategy was to strengthen the management of regional commons and cooperation among countries of the region on issues related to regional public goods. There was an expectation that participation in such collaboration would strengthen the capacity of the East African Community to coordinate better across a wider range of activities and policies.

For Kenya, the project objectives contributed to the Kenya FY 14-18 Country Partnership Strategy with respect to the aim to improve competitiveness and sustainability and human resource development for shared prosperity. It was anticipated that the project would help to strengthen planning and management of urban growth, increase agricultural productivity, and improve social service delivery to vulnerable groups, particularly women. It was also expected to contribute to improved capacity to manage risks of climate change and to provide better health and sanitation services.

For Tanzania, the project objectives contributed to five of the focal areas in the World Bank Tanzania FY 18 – 22 Country Partnership Framework: enhanced productivity and accelerated diversified and equitable growth; boosting human capital; social inclusion; modernizing and improving efficiency of public institutions; and natural resource management for equitable growth. This had explicitly specified the need to improve transboundary management of the lake and its basin.

For Uganda, the objectives of the project reflected the World Bank FY 16 – 21 Country Partnership Framework with respect to one of the key objectives which was enhanced resilience of the poor and vulnerable with a special focus on the environment and climate change. Sustainable watershed and fisheries management had been specifically mentioned in that framework.

The ICR notes that the objectives became even more relevant following the 2015 adoption of the General Assembly of the United Nations Goal 6 of the Sustainable Development Goals related to clean water and sanitation and the defining of targets for the improvement of water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials. Transboundary cooperation was a part of that goal.

### **Relevance of Revised Objective**

The revised objectives at restructuring were largely appropriate given the high level of ambition against the timeframe and given the issues of attribution. However, the new formulation of the objectives clouded the specificity by prefacing the statement with the qualifying phrase: “to contribute to: ... ” which made any measured achievement difficult to interpret.



With this changed objective and lowered ambition, some of the indicators associated with the objectives became less informative, for example, the shift to the "number of hotspots" for effluent lost the measure of scale as did the land management indicator in not measuring the density of the treatment coverage within each sub-catchment.

Relevance is rated on the basis of the primary over-arching aspect of alignment with Bank strategy or framework agreed with the borrower and the extent to which there was an important development problem to solved; the extent to which objectives were both outcome oriented and consistent with development status and country capacity; and the level of prior project or sector experience in relation to the formulation of the objectives, with higher expectation for projects later in a series and lower for earlier phases. Clearly, based on the identification of the issues at appraisal, there was a very important development problem to be solved - slowing and then reversing the environmental decline in the Lake Victoria basin and the lakes and rivers within that basin. Indeed, alongside employment from all sources and infrastructure, and as a part of these, it is difficult to conceive of a more vital development achievement than improving the environment and ecosystem of the Lake Victoria basin.

The lower ambition of the revised objective and associated indicators, while setting a lower bar, was largely realistic given the scale of the challenge against the progress up to that point and given the difficulty of attribution of some of the planned investments to the original objective and indicators. The Relevance of Revised Objectives is rated, on balance, Substantial and, in line with the guidelines, this remains the overall rating; the project was extremely important for improving the environment of Lake Victoria.

## **Rating**

Substantial

## **4. Achievement of Objectives (Efficacy)**

### **Objective 1** **Objective**

Original Objective 1: Improve the collaborative management of the transboundary natural resources of the LVB for the shared benefits of the partner states.

### **Rationale**

Note: Throughout this section on the Achievement of Objectives, to reduce duplication, under each Objective, the discussion of achievements for both the before and after restructuring periods is given under the Original Objective and only commentary on the differences that the changed levels of ambition or indicators made is given under the Revised Objectives.





The project's design logic was essentially that the environmental status of the lake basin would improve if partners collaborated better on policies, investments and legislation to ensure a consistent and coordinated program, especially the management, at the EAC level in the areas of: fisheries, water management including water release, pollution, water hyacinth and nutrient and siltation inflow. This design logic was generally sound, but there were some weaknesses. First, there was too much focus on the ends and not enough on the means. The PAD did not spell out clearly enough what the institutional weaknesses had been in the prior project and what changes were therefore needed in institutional relationships, responsibilities, processes, and modalities of interaction. Second, the steps to reach longer term scale could have been better specified. For example, in land management, there was no experimentation planned to understand the profitability of erosion control measures that would influence adoption by farmers if subsidies were phased out or to understand the cost effectiveness of erosion control measures for reducing sediment movement.

The evidence that collaboration improved could potentially come from two sources, first, the attributable and incremental delivery of outcomes in terms of policies, frameworks, plans and, second, from intermediate outcomes in improved partner institutional relationships, improved communications, improved sharing of data, and qualitative impressions by players of changes in relationships or collaborative practices. The evidence from the ICR shows some achievement of documentary deliverables, although in most cases delayed and reaching lower levels of approval than originally planned, but little evidence of improved institutional relationships or processes.

The main deliverables expected were originally specified in legal covenants related to implementing monitoring of water releases, adoption and implementation of a Water Resources Management Plan, harmonization of water and fisheries policies and standards, and reviews related to the establishment of a Fish Levy Trust Fund and operationalization. However, these covenants were dropped at restructuring because the dates were considered unrealistic and because it was considered that they were covered by the indicators. This was of questionable benefit since covenants carry more standing and are given more management attention.

The achievement of this objective is difficult to assess for three reasons. First, in the absence of baselines, and given that some of these documents were updates of earlier versions, it is difficult to assess the incremental achievement. Second, the incremental attribution is uncertain because the documentary products were mostly developed at the level of the East African Community for which the remit has long been to "widen and deepen cooperation among partner states" so it is hard to separate project advances from the trend of EAC activity. Third, there is little evidence to show how the institutional linkages and processes of collaboration improved.

The project delivered the following:

1. On *fisheries*, a draft Fisheries and Aquaculture Policy was submitted to the Lake Victoria Fisheries Organization Council and was approved by the Council of Ministers in March 2018. This did not meet the original covenanted target of harmonizing the policy and the regulatory standards by 2012 and missed the





date of the revised target for approval by the Council of Ministers. However, the evidence does not show that the targeted regulatory standards at country level have been harmonized other than the few guidelines and manuals reported later in this paragraph. The ultimate benefits of such a document for Lake Victoria will come when this collaboration has influenced national policies, legislation and enforcement, and in a coordinated manner. At a level below these overarching documents, three specific sets of guidelines were produced. It is not clear from the ICR and from discussion with the Project Team, how fishing regulations can be fully harmonized because there has been a trend, particularly in Tanzania and Uganda, to give greater autonomy to landing site (beach) associations, to determine and impose regulations. This seems likely to result in a web of different regulations and a risk of free-riding.

2. On *water resources*, an effort to reach agreement on water release had not succeeded by the date of the ICR. However, a consultancy report detailing a water resources management policy with an agreed action plan and strategy was approved by the Council of Ministers and adopted by the East African Community. The accompanying Bill has not yet been passed by the respective countries but was submitted to them for their legal input. This policy and plan did not meet the original covenanted target of having a harmonized water policy along with regulatory standards by 2012. Again, the real impact on water resource management for Lake Victoria will emerge only when it becomes reflected in national legislation and enforcement. Currently there is a roadmap calling for approval and adoption by partners by June 2019.

3. On *water hyacinth* infestation, a regional strategy on water hyacinth monitoring and control was endorsed by the Council of Ministers, action plans were prepared, and these are now being implemented within the partner states through the CDD and CMI approaches. The identification and monitoring and removal at the three “hotspots” (the revised indicator target) was achieved but not the original target that defined scale as a percentage reduction in water hyacinth area. At restructuring, this indicator was considered unrealistic and difficult to attribute. While it probably would have been difficult to attribute, area measurements have other longer-term trend value. The ICR reports that a Bank team visited a few subprojects on water hyacinth removal and found them to be performing well, enabling improved navigation on the lake. Following the Additional Financing, the units for breeding weevils for the biological control of water hyacinth were increased from 15 to 41.

4. A *Sustainable Land Management Strategy* was adopted in 2012 and reportedly this contributed to the Kenya Strategic Investment Framework for Sustainable Land Management 2017 – 2027. Tanzania and Uganda are reportedly mainstreaming it in their Integrated Development Plans. Land management achievements on the ground are covered under Objective 3

5. A proposed *Fish Levy Trust Fund* (FLTF) for each partner country was developed but national treasuries were not prepared to ring fence fishing revenue for such a fund so the fund was not capitalized. The three country partners' commitment on this appears to have been weak.

6. Options were developed for a Lake Victoria Environmental Trust Fund but there have been only modest contributions, mainly US\$5 million from the Climate Adaptation Fund for LVBC countries. Again, commitment appears to have been weak.

7. On the aim to advance collaboration through shared Management Information Systems (MIS), and on M&E more broadly, there was very limited achievement, particularly considering that this was a second project. At the time of project preparation, the system design had been poorly specified, leaving



uncertainties about whether the MIS system was to be focused on the basin or the national level. In implementation, there was a slow M&E start-up. This resulted in individual partner countries establishing their own independent systems. This later proved almost impossible to reconcile and coordinate. These data systems have been functional and of some value in fisheries and water resources and are reported to be improving on water hyacinth monitoring. But water quality monitoring made limited progress. It is not clear why, after about 20 years of Bank support, water quality monitoring was still weak, since the main parameters are not technically difficult to measure even if sometimes they may be difficult to interpret. Throughout the monitoring and information systems, an important weakness was the lack of baselines.

Overall, while there is mixed but generally positive evidence of documentary deliverables at the EAC level, there is limited evidence of changes in the institutional linkages and collaboration changes. The achievement of this objective is rated Modest.

### **Rating**

Modest

## **Objective 1 Revision 1**

### **Revised Objective**

Revised Objective 1: Contribution to improvement of collaborative management of transboundary natural resources of the LVB among the partner states.

### **Revised Rationale**

The main achievements are given above under Original Objectives.

The revision of Objective 1 prefaced the statement with the words, “contribution to ...” This had no substantive impact on the broad aim but introduced uncertainty as to the expected achievements.

The collaboration achievement in the policies, frameworks, and plans finally delivered, but with limited evidence of advances in institutional linkages and collaborative processes, and with weak collaboration on M&E, supports a Modest rating.

### **Revised Rating**

Modest

## **Objective 2**

### **Objective**

Original Objective 2: Reduce environmental stress in targeted pollution hotspots.



## Rationale

The project design was adequate for contributing to effluent reduction in specific pollution hotspots. However, the design might have been more able to contribute to longer-term program objectives if it had laid the groundwork for future institutional enhancements to support scaling up these interventions.

The original outcome indicator for this objective was the cumulative percentage reduction in untreated effluent disposed of by targeted municipalities at three hotspots. The target was a 10% reduction in effluent by the end of the project. Spot measurements of effluent discharges were carried out at the site of improved wastewater treatment facilities, and Biological Oxygen Demand (BOD) reductions were measured. Training was provided for cleaner technologies to targeted industries.

The project achieved the following results on pollution reduction:

1. The number of urban pollution hotspots supported was 13 against a target of 9 and the number of preliminary technical designs for wastewater treatment facilities was 16 against a target of 15. But note that an indicator giving simply the number of hotspots says little about scale.
2. The ICR estimates that the BOD on pollution loads was reduced by about 600 tons per year, a modest achievement even in localized bay-scale terms. Based on field interviews, the ICR expresses some confidence that O&M of the funded facilities could be sustained through sewerage fees, but it is not clear what percentage of operators are yet actually charging fees. At the three largest plants, actual wastewater treatment was between half to two thirds of plant capacity.
3. Improved sanitation interventions were expected to give access to sanitation to about 330,000 people directly and many more were expected to benefit less directly. However, the ICR does not present evidence on behavioral change in the use of these facilities which is often the most important indicator of impact.
4. The most successful part of the whole project was in achieving the adoption of cleaner production by industries, partly a result of industry training. This offered financial returns to the entities along with public benefits. With growing success, the number of targeted industries increased. Training was an important trigger. The percent of targeted industries adopting the new technology was 47% of targeted firms in Kenya, 51% in Tanzania, and 30% in Uganda against an original average target of 15% and a revised target of 35%. As has been the experience globally, where private and public incentives converge there is strong performance. This offers a promising opportunity for later phases.
5. As noted earlier, the project provided some assistance with aids to navigation. A total of 37 locations were equipped with such aids, meeting the target, although it is not clear what benefit this offered to reducing environmental stress.

Overall, achievement of this objective is rated Modest, mainly due to modest achievement on effluent reduction and pollution loads.

## Rating

Modest

## Objective 2 Revision 1



### **Revised Objective**

Revised Objective 2: Contribution to improvement of environmental management of targeted pollution hotspots.

### **Revised Rationale**

The main achievements are given under the original objectives in Objective 2 section above. The main change with the Revised Objective was that the ambition was reduced from, "reduction of environmental stress in targeted hotspots ...", an outcome level indicator, to "contribution to improvement of environmental management of targeted hotspots...", an intermediate outcome level indicator. Again, adding "contribution to ..." did not substantively change the objective.

Changing the objective specification to "improved environmental management" from "reduced environmental stress" reduced the ambition of the objective, reducing relevance but increasing realism given slower than expected progress.

The revised indicators also suggested similarly lowered ambition, but in several cases they lacked baselines and targets which made it difficult to assess incremental achievement.

Given the relatively modest reduction in pollution loads even in hotspot areas, and the lack of targets and lack of evidence on outcomes for sanitation interventions, the revised objective is rated Modest.

### **Revised Rating**

Modest

## **Objective 3**

### **Objective**

Original Objective 3: Reduce environmental stress in selected degraded sub catchments to improve the livelihoods of communities who depend on the natural resources.

### **Rationale**

The design logic here was that better land management by farmers and communities in lake basin areas would, in due course, reduce siltation and damaging nutrient flow into the lake. Again, while the logic was sound and sufficient to achieve the specific project objectives, the design would have better supported overall longer term program objectives if it had included more support for determining what would be needed to achieve large scale impact through wider adoption by farmers. The design could also have benefitted from greater prioritization of areas very close to the lake with more immediate impact, more experimentation in land management practices to identify practices with least cost and highest benefit, and, greater efforts to support technology demonstration.

There were three main original outcome indicators: (i) the percentage reduction in harvesting pressure on the Nile Perch fishery; (ii) the percentage increase in land productivity for participating households in watershed management; and, (iii) the percentage reduction in area covered by Water Hyacinth.



These were revised at restructuring. There was insufficient data for the Nile Perch fishing pressure indicator and questions about interpretation, the land productivity indicator was dropped as too difficult and premature to measure, and the water hyacinth indicator was changed from a reduction in area coverage to the less informative number of hotspots treated.

The actual achievements were the following: (i) A total of 12,307 ha was measured to be “under” SLM, exceeding the revised target of 8,000 ha which had been increased from 6,150 ha at the time of Additional Financing. This was a greatly reduced target from the original of 45,000 ha but, based on appraisal and ICR documents, there is some uncertainty as to whether the same metric was being used, whether area actually treated, or area of (partially treated) sub-catchment. (The Project Team indicated that the hectares measured were based on actual hectares treated rather than the total area of sub-catchments within which there was some defined threshold coverage of SLM practices.) (ii) a very small achievement in afforestation which, in the ICR, seems to have been subsumed under the land area treated with SLM practices and not measured separately. This was against an unrealistic original target of 100,000 ha; and, (iii) achievement of 2,272 hectares of restoration of wetlands against an original target of 7,000 ha and a revised target of 1,450 ha, well short of the original.

The percentage of community natural resource management sub-projects rated satisfactory or better, an original indicator, was dropped in 2012. This would have been useful and, although somewhat subjective, has been widely used in managing India livelihoods projects. (iv) The number of individuals trained in SLM practices was approximately 25,000, double the target. (v) The number of households adopting improved SLM was reported as 12,000 against a target of 10,000, a target that had been greatly increased from 2,400 at the time of Additional Financing. (vi) The hectares of degraded wetland restored or re-habilitated by communities was 2,272 ha against a target of 1,450 ha. (vii) The number of CDD subprojects implemented was 630 against a target of 660.

The ICR (page 39, para 86) gives a realistic assessment of the challenge of lake basin scale in relation to the modest project interventions. It notes that the project interventions represent a fraction of the needs basin wide. This raises questions about whether the project focused sufficiently on the testing of alternative technologies to improve on-farm cost effectiveness in pursuit of greater spontaneous adoption, and whether it focused sufficiently on enhancing the demonstration effect. There is little evidence of any experimentation and monitoring of alternative technologies nor of demonstrations for moving to greater scale.

On community involvement, initially, the approach was to use Community Driven Development (CDD) subprojects. However, to tackle some of the larger impacts and to ensure district team collaboration with local communities, an alternative of Community Management Initiatives (CMI) was introduced. The concern was that, with CDD's alone, there may be insufficient public good coverage. This appears to have been a sound judgment.

In assessing the achievements of this project, IEG referred to the Bank's lessons from prior projects on how to scale up Sustainable Land Management, in particular, the lessons of the TerrAfrica Partnership. There were three areas of learning: (i) knowledge and technological; (ii) institutional and governance; and, (iii) economic and financial. Neither the PAD ex ante nor the ICR ex post responded sufficiently to these



lessons. The first and third would have called for assessments of land management treatments, including yields, soil loss, and labor requirements, profitability and the impact on incentives of different levels of grants. The second would have called for a study of the efficacy and efficiency of the relationships between local government institutions, NGOs, CDD groups, local research institutions, and other players leading to an assessment of the needs for knowledge, training, and technical support.

A study by Makerere University in 2016 assessed the impact of 183 subprojects. Incomes were found to have approximately doubled for beneficiaries over the project period, but the methodology, particularly the with and without project scenario in the absence of a control group and whether the income changes were real or nominal is not clear. The highest income increases were from: fishing about a 300% increase (but given the overfishing concern and declining catch to effort ratios this would need careful interpretation); fish processing approximately 265%; and, fish farming approximately 225%. Reportedly water related diseases among respondents declined within the range 3% to 29% depending on the disease. The extent of direct attribution to the project is not clear.

Overall, the achievement of the project under this objective is rated Modest, mainly due to limited data.

**Rating**  
Modest

### **Objective 3 Revision 1**

#### **Revised Objective**

Revised Objective 3. Contribution to improvement of environmental management of selected degraded sub-catchments for the benefit of communities who depend on the natural resources of LVB.

#### **Revised Rationale**

As noted under the Original Objective, there is limited outcome level evidence on which to assess environmental management improvement, and assessing whether what was achieved was a “contribution to improvement of environmental management” is difficult on just the area treated data. Moreover, there is no intermediate performance evidence such as seedling survival rates for forest planting. The achievement of this revised objective is rated Modest.

**Revised Rating**  
Modest

### **Rationale**

Each of the objectives are rated Modest, thus the overall Efficacy rating is Modest.





## Overall Efficacy Rating

Modest

## Primary reason

Insufficient evidence

### 5. Efficiency

The Economic Rate of Return estimated by the PAD was 15%. Some of the assumptions in the PAD were clearly not realistic, particularly a tenfold increase in agricultural yield.

The ICR economic analysis is limited in scope and coverage. It is a cost-benefit analysis looking only at six representative case study activities to show indicative economic benefits of these activities. The internal rates of return on these six cases ranged from a benefit/cost ratio of 1.2 to 1.9. From the evidence presented in the ICR, these appear to be realistic with respect to the cases themselves, however, they have not been aggregated to the project level and so do not include project management overheads.

On cost effectiveness, the connection of households to main sewer lines in Mwanza, Tanzania, at a unit cost of US\$31 per capita is reported to be within the range for Africa and Asia at US\$19 to US\$59 per capita. It was not possible to relate the reduction in erosion at sites practicing sustainable land management to the ultimate sedimentation in Lake Victoria but there are questions about the efficiency of the land management activities. The fact that these investments covered such a small percentage of the catchment land area within the sub-basins, suggests that, at this stage, an important factor in assessing the contribution to the longer-term environmental benefits for the lake are the longer-term learning and demonstration effects.

It appears that the main land management technology applied was Napier Grass strips in maize. This is certainly worth consideration as one of the lowest cost farmer options. However, the July 2011 study from the Tana catchment referenced in the ICR, and a main source for the CB analysis, found Napier Grass Strips to be the least effective of the four technologies tested and having the lowest B/C ratio (1.18%) and the lowest IRR 9%. It found that Napier Grass Strips alone, without the addition of other measures like *fanya juu* bunds plus ditches were only suited to the shallower gradient, less vulnerable, slopes. It also found that they required reinvestment about every six to eight years. The relative efficiency therefore of the Napier Grass strips is questionable.

The ICR notes that the unit costs of US\$154 per direct beneficiary in Tanzania, Uganda and Kenya, was similar to the Egypt, Alexandria Coastal Zone Management Project, however, labor costs in Egypt are higher. The cost of about US\$2,000 per treated ha. for Tanzania, Uganda, and Kenya was in the same range as similar activities in Rwanda, although Rwanda is not really an outside comparator being part of the same program.

On implementation efficiency, the project had a slow start. Apart from the delay in Board approval which is not a direct project cost, by the date of restructuring it had disbursed only US\$24 million of the total of US\$114 million provided for. The subsequent restructuring helped to accelerate implementation. These delays imply a reduction in the potential IRR.





Project management costs by the end of the project were more than double the amount planned which had been 10% of project costs. However, the original estimate seems to have been an underestimate for a project with a substantial amount of management support including direct investment in collaboration. On the other hand, the ICR argues that the amount of Additional Financing was less than proportionate to the increased targets suggesting some later improvement in implementation efficiency.

One explanation for the quite high operational costs is that the objective of collaboration called for substantial travel to coordination events. The ICR notes that costs were impacted by high per diems paid for travel although these were apparently within the guidelines of the EAC. Greater use of remote conferencing would have been more efficient.

Overall, Efficiency is rated Modest, mainly for the following reasons: questions about the efficiency evidence including lack of on-site field evidence, for example in land management; lack of an overall project rate of return; weak collaboration evidence; slow initial disbursement; and some cost overruns. Neither the appraisal nor the ICR economic analysis is complete or comprehensive enough to represent an overall ERR or FRR so the figures reported are not entered in the table below

## Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

A split rating is undertaken but the weighting calculations are academic given Modest ratings on Efficacy and Efficiency both before and after the restructuring. Relevance was rated Substantial. Outcome is therefore rated Moderately Unsatisfactory, but for a somewhat wider range of reasons than the same rating by the ICR.

### a. Outcome Rating

Moderately Unsatisfactory



## 7. Risk to Development Outcome

In the PAD, the risk to the main objective of collaboration was rightly rated High given the performance of the previous project and the complexity of the design. Many of those risks are still relevant.

The main four risks at the time of project closing are the following:

1. There is still a risk of not getting sustained commitment by the partners to achieve continuation of harmonized policies and frameworks. This would need to include: (i) commitment on essential budgetary resources over time; and, (ii) commitment to continue with the same lead ministries unless there are strong reasons to make another change. Between the first and second LVEMP projects, the continuity, collaboration, and learning seems to have been compromised by the change of lead agencies. Building strong and sustained collaboration calls for sustained long-term capacity, continuity, and commitment. The ICR and the Project Team believe that the partners have seen enough benefits to maintain their commitments.
2. There is justified concern expressed by the ICR that some of the business plans for community investment and for O&M have not been in place for long enough to adequately test the institutional sustainability. However, the ICR expresses hope that communities will have seen sufficient benefits to sustain them. On sustainable land management, the relatively low benefit cost ratios at farm level for some of the technologies raises questions about whether they would be scaled up.
3. In both the LVEMP II projects APL I and APL II, there is an expectation in the ICRs that governments will enforce measures to protect restored buffer zone areas close to rivers, lake shore or wetlands in order to protect CDD or CMI investments made. It seems unlikely that governments or local authorities will be in a position to do much better than they have in the past. This is more a CDD challenge. However, the Project Team believes that the CDD support in these areas, as well as some of the technologies selected, offer incentives for sustained management for example investment in bee-keeping to keep away grazing livestock.
4. There is clearly climate change risk given the projections for this part of Africa which are outside the control of the project or the program. However, most of the measures under the project would be positive in ameliorating at least some moderate level of climate change.

A follow-on project is under consideration.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry



Project design was carried out with consultation with stakeholders in the main sectors and there was quite thorough examination of, and reference to, the performance issues arising with the earlier projects. However, despite this, the design exhibited a number of weaknesses.

It is not clear that sufficient support and mechanisms were designed into the project to address the known problems with the processes and capacity for collaboration. For example, the ICR notes that the expectations for processing policies and frameworks within the specified time frames were unrealistic. Yet, under the previous projects there had been experience in the preparation of such policies and frameworks so the slow internal processes and known procedural steps were well known and should have been better projected.

The original objectives were too ambitious but had mostly measurable indicators, albeit with challenges for interpretation. The Results Framework and indicators related to the overarching collaboration objective in terms of frameworks and policy documents and formal adoption at national level were not sufficiently backed by intermediate outcome indicators defining stages and processes and communication mechanisms for collaboration. Greater use of Computerized Project Management and Sociograms showing interaction flows and responsibilities would have helped, both in the PAD and, later, in the ICR. There was too much focus on specific, already covenanted, outcome products and not enough on the means to deliver these products and to continue to advance collaboration as the program evolved.

Since the project could only be expected to have a limited measurable impact on the lake basin environment and on water, fishing and land management, the design could have focused more on experimentation, learning and demonstration for scaling up. In this respect, significantly, the ICR was unable to refer to even one actual measured results from sustainable land management activities for the efficiency analysis. There was a missed opportunity here to build knowledge for advancing the longer-term program.

The ICR notes that there was insufficient detailed preparation in the identification of specific investments, that there could have been more careful selectivity in project design in the direction of simplifying implementation given the partner countries limited capacities, and that there could have been more selectivity and more capacity analysis in the project preparation work.

### **Quality-at-Entry Rating** Moderately Unsatisfactory

#### **b. Quality of supervision**

The ICR reports (p.60) that the World Bank played a pivotal role in cultivating functioning relationships between national and regional parts of the project. The Bank organized procurement clinics to build capacity. The beneficiaries at regional and government level (ICR Annex 5) rate the Bank's overall performance as satisfactory, although they were concerned about the changes of TTL with three TTLs



between April 2010 and January 2014. There was good support later from local co-TTLs based in the field. The Bank team helped to mobilize additional resources through a number of agencies.

The ICR also reports, and IEG agrees that this was a serious weakness, that some of the aide memoirs from supervision were not analytical enough and did not sufficiently flag the M&E challenges. Performance ratings were optimistic and did not raise flags on some emerging issues.

One specific positive supervision contribution reported by the ICR is that, in Tanzania, the safeguards team noted that the lack of funds for land acquisition had led to the suspension of some subprojects, and the team gave guidance on the need to prepare a Resettlement Action Plan.

Supervision is rated, on balance, Moderately Unsatisfactory.

Overall, Bank performance is rated Moderately Unsatisfactory mainly because of weaknesses in project design and concerns about the monitoring of impacts and M&E. IEG finds insufficient focus at project design and in follow-up supervision on monitoring the processes of collaboration relative to too much focus on Outcome indicators that measured already covenanted deliverables; in other words, too much focus on ends and not enough focus on tracking and understanding the means.

### **Quality of Supervision Rating**

Moderately Unsatisfactory

### **Overall Bank Performance Rating**

Moderately Unsatisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

M&E was to take place at several levels, at the regional lake basin level, at national level, at sector ministry level, at local authority level, and at community level.

The Results Framework of the original design had several weaknesses including lack of baselines or unclear baselines, excessively ambitious targets, and overlap between indicators. There were also incompatibilities between some of the intermediate indicators and some of the outcome indicators. Some of the indicators were too broad to be attributable to the project investments, for example annual catch trend of the Nile perch fishery in the lake. The ICR (p.54) also reports difficulties with indicator definition.



Some community-based self-implemented M&E was planned to measure and track the performance of the community driven development watershed rehabilitation subprojects but it is not clear how far this was implemented.

Since this was a second phase project, it is difficult to understand why there was not already an established M&E system linked from national to lake commission level to build on. It seems likely that one reason was that the lead responsible agencies at country level changed between the first and second phases.

There was a design issue with relevance to longer-term learning related to the Results Framework and M&E. In a single-phase project, indicators and M&E-measured variables serve largely the same purpose, to measure project performance. In a project that is part of a long-term multi-phased program, with expectations of sustained support from many donors, M&E should have a broader focus. It needs to measure a range of variables including changing social, productivity and environmental variables that would ultimately show overall program trends. Not all of these need to be the more focused performance indicators for any one project in the series. In other words, performance indicators are flagship variables but M&E should not exclude other measurements for tracking long term changes. For example, in this project, the second in a series some twenty years after the date of effectiveness of the first project, the sustainable land management indicator was originally to be a single indicator defined as evidence of productivity gains. However, as a project in a series, M&E on the sustainable land management objective in this project should have been tracking the adoption of all the main technologies, their cost effectiveness, beneficiary attitudes and preferences, the level of on-site erosion, and other such variables including arguably the efficacy and efficiency of technologies like Napier Grass strips. And, for example, we know the survival rate of forestry seedlings planted under the previous project because it was measured, at least for Tanzania, but we do not know from the ICR the survival rate for this second project. So it appears a trend line has been broken and the potential for improved knowledge reduced.

## **b. M&E Implementation**

There was limited implementation prior to the restructuring. In the end, it proved difficult to get sufficient depth and breadth of M&E to measure the important range of variables including sediment loads, water quality, fish stocks, water hyacinth spread, pollution, sanitation access, watershed erosion, sediment transport and crop yields.

At the time of restructuring in 2012, the Results Framework indicators were revised and simplified to be consistent with the reduced ambition of the PDO but they also became more vague. Targets that were to measure quantities were reduced or changed.

There were delays in establishing systems, so country teams simply set up their own MIS systems and continued to use them. This was pragmatic but reduced the later options to develop a unified collaborative M&E system. Shortages of budget for IT systems at the national levels made it difficult subsequently to bring



the systems together. However, in the fisheries sector there was somewhat more uniformity and a largely standardized system was adopted, partly based on earlier work.

The Water Resources Information System (WRIS) is reported on the website (<http://lvbc.wris.info>). While the site is adequate for some limited purposes, a brief search by IEG found it to be quite weak and not easy to use, with much of the reported data not recent. The ICR itself reports that it is not clear how frequently the water quantity and quality data, and information from measurement stations is updated. IEG found a lot of stations did not have any entered data at all, others had data that was quite old.

There was one M&E specialist in each country and limited resources. The ICR reports that the specialists were fairly experienced, had clear responsibilities, and that, to the extent possible, data was collected regularly and disseminated.

### **c. M&E Utilization**

The ICR reports that the M&E information was of value for the Midterm Review. M&E reports were prepared on a quarterly basis and reviewed by project steering committees, at the Lake Victoria Basin Commission level, at national levels, and by the World Bank.

The ICR reports that M&E information was used to inform the design of instruments and frameworks, to support collaborative management of transboundary natural resources including fisheries and water policies, and to harmonize industrial and municipal effluent discharge standards.

There is evidence of a number of knowledge products including case studies, fact sheets and web portals utilizing the data. It is reported that M&E findings were used in progress and annual reports to help strengthen fiduciary systems and track efficiency in resource use. Information was also used by a number of the oversight committees at both the regional level and the national level including the Council of Ministers and the East African Community committees.

M&E is rated Modest, mainly because, despite earlier M&E support from the prior projects, a harmonized monitoring system was never achieved, making collaboration more difficult.

### **M&E Quality Rating**

Negligible

## **10. Other Issues**

### **a. Safeguards**



The project was rated Category A requiring a full assessment. The safeguard policies applicable were: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Pest Management (OP 4.09); Involuntary Resettlement (OB/BP 4.12); Safety of Dams (OP 4.37); Indigenous Peoples (OP/BP 4.10) but only for Kenya; and, Projects on International Waterways (OP/BP 7.50).

The required environmental and social safeguard instruments were prepared with information specific to each of the countries. There was expectation of some modest impacts from small-scale sanitation and wastewater treatment facilities, watershed management, and CDD activities including potential soil erosion, noise, dust, occupational health and safety hazards, and other such effects. Environmental and Social Management Plans, Resettlement Action Plans, and Environmental and Social Screening Plans were prepared as required. Environmental and Social Impact Assessments were prepared for investments related to wastewater and sanitation facilities.

For some of the investments, national environmental management acts in each country were applied as required to ensure mitigation of negative impacts. The ICR reports that at the regional level, the Protocol on Environmental and Natural Resources Management and the Protocol for the Sustainable Management of the Lake Victoria Basin, signed and ratified by the partner states, were applied as the legal framework to facilitate sound environmental management. There were grievance address systems in place in all three countries.

## **b. Fiduciary Compliance**

Financial management was generally rated moderately satisfactory during supervision, albeit with minor irregularities in most cases. However, in Uganda, there was a 10 month suspension of disbursements from November 2012 to address irregular transactions in more than one agency. By November 2014 this ineligible expenditure had been refunded.

There were some problems with delays in accounting for advances by districts and communities in Uganda, partly because they were less familiar with the required procedures but also because of weak capacity. However, all issues related to advances were resolved satisfactorily.

In Tanzania and Kenya, financial management was generally satisfactory.

At the regional level, for the Lake Victoria Basin Commission, audits were generally clean. However, there were some concerns regarding payments to the Kenya National Cleaner Production Center where funds were accounted for but where there had not been an appropriate workplan or budget as a basis for some advances. This was resolved.

At the regional level, project management operated under the existing arrangements and frameworks of the partner states' governments and the East African Community.





At the national level, implementation and financial management were handled by the selected focal point ministries with implementation support coming from other line ministries, agencies, and institutions including local government.

Procurement was challenging in the early years with weak capacity and limited familiarity with World Bank procurement procedures despite the experience of prior Lake Victoria Basin programs and projects supported by the World Bank. It appears that procurement skills lie often within particular agencies and dissipate quickly. However, by the end of the project, procurement capacity had improved considerably and during the last implementation support mission in May 2017 no procurement related complaints had been submitted. There was however, one dispute in Kenya over the water hyacinth harvesting equipment contract which could not be concluded following a disagreement between the parties on the performance of the equipment. The dispute continues and will likely be settled by arbitration in accordance with the provision of the contract. The Project Team reported that the disagreement was over performance in lifting the plants out of the water but the company had not been paid the final payment so there was a dispute and a stalemate.

#### c. Unintended impacts (Positive or Negative)

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#### d. Other

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### 11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Quality of M&E	Modest	Negligible	Particularly after a series of two projects, M&E implementation was very weak which presents a handicap for any longer term program.
Quality of ICR		Substantial	---

### 12. Lessons



The ICR has nine quite useful lessons, the first four are derived from the most important of them but with adjustments of language, the fifth is an IEG added lesson.

- 1 . The level of ambition stated in project development objectives needs to be realistic and attributable, even if the objectives are nested within a more ambitious longer-term vision, while measurable indicators need to be consistent with those objectives and not inconsistent with a counterfactual. In this case, the expectation of water quality improvement in the lake was unrealistic against a deteriorating trend and some of the fishery improvement expectations were also unrealistic for similar reasons.
- 2 . Collaboration should be measured not only through agreed end products such as frameworks, policies, and plans but as improvements at an intermediate outcome level in the following areas: institutional collaborative processes; modalities and pathways of communication; qualities of collaborative interactions; nodes of responsibilities; and extent and quality of sharing of data. In this case, the deliverable frameworks and policies were originally covenanted as outcomes but were not necessarily useful indicators of changed processes and capacities.
- 3 . In a regional partnership program, it is important for realistic planning to understand the political economies and the incentives for individual partners' within each sector to support the proposed reforms and investments. In this case, there were some unrealistic expectations related to partner incentives for collaborative action, for example the water release protocol.
- 4 . In a long-term lake basin partnership program aimed at enhanced collaboration between partners and agencies, and involving many national players, it is important to ensure ownership of investments at the level of national and local authorities, sanitation companies, asset operators, and community groups. In this case, more could have been done in requiring formal agreements and operating budget commitments, particularly in the case of the Resource Efficient and Cleaner Production (RECP) activities, and more attention could have been paid to performance incentives.
- 5 . In a long-term program aimed at environmental improvement over a series of projects, it is important to treat any one project as a phase in the pursuit of the larger vision and to ensure continuity of funding, staffing, strategy, and institutions. In this case, there were a number of discontinuities including, several years hiatus between the first and second project, and now, it appears again, between the second and a possible third. There was a lack of consistency in partner agencies with all three of the first project national agencies changing before the second project. Similarly, there was a lack of continuity in the M&E system from the prior project, probably partly due to the hiatus between the two projects. Bank planning of long-term programs needs particular focus on sustained support to allow each project to build on the prior project and to ensure cumulative learning.

### 13. Assessment Recommended?

Yes



Please explain

There are uncertainties, not fully answered in the ICR, about how well the collaboration objective was achieved beyond merely the delivering of frameworks, policies and plans. It is unclear how the multiple layers of institutions and their modus operandi changed over time from the start of the first project to the end of this one. This is as much a political economy question as an institutional capacity question. There are uncertainties about the efficacy and efficiency of the sustainable land management activities and uncertainties about longer term sustainability and the potential for scaling up. Given the limited intermediate outcome and outcome evidence from M&E there are uncertainties on ratings.

#### **14. Comments on Quality of ICR**

The ICR was satisfactory in most respects, covering an extremely complex project with a wide range of activities and objectives that was difficult to assess due to poor M&E. More field work by the team could have supplemented some of this lack of data, especially on sustainable land management; the fact that the Efficiency analysis had to fall back on evidence from another watershed study outside the basin suggests that additional ICR field work might have contributed. The ICR could have explored more the changes in collaboration processes beyond simply the documentary deliverables agreed. The ICR was candid about issues and the lessons were thoughtfully formulated.

The ICR could also have explored what type of instrument is best in such a regional program, whether it is best to have a packaged APL covering three countries (or five) like this project did, or whether separate projects covering similar lake basin sectoral interventions with support for the regional agency, in this case LVBC, would have been better.

The ICR lessons are useful and generally well-formulated.

##### **a. Quality of ICR Rating**

Substantial