Summary of Terminal Evaluation

I. Outline of the Project	
Country: Republic of Kenya	Project Title: Project for Improvement of Environmental Management Capacity in Nakuru Municipality and Surrounding Areas
Sector: Environmental Management/Natural Environment	Cooperation Scheme: Technical Cooperation Project
Division in Charge: JICA Kenya Office	Total Cost (at the time of evaluation): 332 million yen
Period of Cooperation: February 2005 to February 2009 (Conclusion of R/D: 10th February 2005)	Partner Country's Implementation Agency: Municipal Council of Nakuru (MCN)
	Supporting Organization in Japan: N/A
	Related Cooperation:

1 Background of the Project

Nakuru Municipality or Nakuru town is the fourth largest city in Kenya with an estimated population of more than 400,000. The town is located about 160km northwest of the capital, Nairobi. Since Kenya's independence in 1963, the town has been experiencing rapid population growth and expansion of economic activities. The urban and peri-urban area in the town has expanded from 89km^2 to 290km^2 over the last 30 years and a number of factories are now in operation. As a result, the deterioration of the water-related environment has become one of the major concerns in the town.

The town is situated in the Lake Nakuru watershed which covers 1600 km^2. Lake Nakuru is famous worldwide for its flamingos and the area around the lake provide diverse habitats for a number of fowls and wild animals. Part of the watershed is a designated Ramsar site. Located at the bottom of a basin with no out-flowing river, the lake receives considerable amounts of water flowing from the catchment and all pollutants are likely to accumulate there. The wastewater discharged in the town is now posing a serious threat to the ecosystem of the watershed.

In cognizant of the problems above, the Municipal Council of Nakuru (MCN) created the Department of Environment (DOE) in 2001 and subsequently, requested the Government of Japan through the Government of Kenya to capacitate the newly created DOE to deal with various environmental issues in the town effectively.

The "Project for Improvement of Environmental Management Capacity in Nakuru Municipality and the Surrounding Area" was launched in February 2005 as a four-year technical cooperation project upon the signing of the Record of Discussion (R/D) between JICA and MOLG on February 10, 2005. In the R/D, MCN was designated as the implementing agency of the Project, while the Nakuru Water and Sanitation Services Co. Ltd. (NAWASSCO) and the Kenya Wildlife Services (KWS) were assigned as collaborating agencies. In February 2007, the Mid-term Evaluation was conducted to assess the progress of the Project and to make the recommendations to achieve the Project Purpose in the remaining project period.

2 Project Overview

Project Summary

In order to improve the water-related environmental management capacity of the Nakuru Municipal Council, 1) credible quality with effective coverage in monitoring , 2) Effective environmental management tools will be developed. Further more, cooperation among stakeholders and environmental education will be promoted.

(1) Overall Goal

To improve environmental management in the Lake Nakuru Watershed Region

(2) Project Purpose

To improve the water-related environmental management capacity of the Nakuru Municipal Council

(3) Outputs

1. Credible quality with effective coverage in monitoring is attained.

2. Effective environmental management tools and mechanism for enforcement are developed and utilized.

3. Cooperation is established among lead organizations and stakeholders for the study and actions in the watershed for its better management.

4. Public and private participation in local environment management is enhanced. (1) Overall Goal

(4) Inputs (At the time of evaluation)

Japanese Side

(a) Experts

Three (3) Long-term Experts in Total

Ten (10) Short-term Experts in Total

(b) Training of Kenyan Counterpart Personnel in Japan

Five (5) Counterpart Personnel

(c) Provision of Equipment

In total Ksh 18,132,344 (equivalent to USD 241,099 as of November 2008)

(e) Local Cost

In Total Ksh 9,087,993 (equivalent to USD 120,836.5 as of November 2008)

Kenyan Side

(a) Counterpart Personnel

Thirty One (31) Counterpart Personnel in Total

(b) Land and Facilities

Land, office space and necessary facilities for the Project's head office in MCN

Meeting rooms in KWS, Nakuru

Facilities necessary to conduct water quality monitoring analysis in WQTL

Electricity, water supply and telecommunication services in MCN and WQTL

(c) Local Cost

The Kenyan side provided part of the operational expenses from the budget allocated to DOE of MCN and KWS/Lake Nakuru National Park (LNNP). No detailed figure is available.

II. Evaluation Team

Member of Evaluation Team:

(1) Japanese Members

Mr. Yoshiyuki Takahashi (Leader), Chief Representative, JICA Kenya office

Ms. Yoko Hadada (Evaluation Analysis), Researcher, Global Link Management Inc.

Mr. Yoichi Inoue (Evaluation Planning), Representative, JICA Kenya Office

Mr. John N. Ngugi (Evaluation Analysis (Assistant)), Senior Program Officer, JICA Kenya Office

(2) Kenyan Members

Eng.Julius Mungai(Leader), Municipal Engineer, Municipal Council of Nakuru

Eng.Ephantus Kamau, Engineer, Department of Urban Development, Office of the Duputy Prime Minister and Ministry of Local Government

Period of Evaluation: 11/11/2008 - 27/11/2008	Type of Evaluation：Terminal Evaluation

III. Results of Evaluation

1 Achievement

(1) Achievement of the Project Purpose

Indicator 1: Utilization of monitoring data

The monitoring data analyzed by WQTL is reported back to the PCS and KWS. The three organizations, namely PCS, NAWASSCO and KWS, have been effectively utilizing the analyzed data for the execution of their duties. NAWASSCO which is responsible for the sewerage and potable water of the town has been using the data to maintain acceptable water quality for drinking as well as to assess the effectiveness of the sewerage treatment process. KWS is accumulating the data to maintain the standards for acceptable habitat for wildlife and PCS uses it to enforce regulations on polluters. It is expected that the accreditation of WQTL will facilitate the enforcement process undertaken by PCS and the monitoring data will be more widely used for such purposes.

Indicator 2: Degree of improvement and enhancement of GIS database contents

The GIS DB was created with a wide range of information collected from different organizations. It is the most comprehensive GIS DB available for the Lake Nakuru Catchment. The DB has been distributed by MCN to KWS, NAWASSCO, Egerton University and NEMA.

Indicator 3: Utilization of environmental management tools (manuals, reports, etc.)

The "Factory Inspection Manual" and the "Guideline for Industrial Effluent Treatment" were prepared as the environmental management tools to be utilized by PCS in effluent monitoring. Although 25 factory inspections were conducted, referring to the "Factory Inspection Manual" between October 2007 and July 2008, due to the lack of the personnel available, both tools have not been fully utilized. In addition, the preparation of the "State of Environment" and "EIA Review Guideline" has been delayed. Since new personnel have been assigned to PCS from October 2008, the Project needs some more time to train them to properly utilize the tools including those that will be prepared in the coming months.

Indicator 4: Degree of dissemination of materials developed for environmental awareness

2000 copies of the booklet on water environment targeting school children have been distributed to primary schools, the Nakuru Environmental Resource Center attached to the Nakuru branch of the National Library, KWS, NAWASSCO and other relevant organizations.

(2) Achievement of the Outputs

Output 1: Credible quality with effective coverage in monitoring is attained.

The target indicators have been attained. The Water Quality Testing Laboratory (WQTL) under NAWASSCO developed the regular and special-purpose monitoring programmes in collaboration with MCN and KWS, and finalized them in March 2006. Although the post-election unrest as well as some disagreement between NAWASSCO and KWS suspended the WQTL's monitoring activities for some time, as of August 2008 more than 4,300 samples had been collected and analyzed after the commencement of the Project. This is an average of 100 samples per month. WQTL is now able to analyze the parameters of heavy metal in addition to the physio-chemical and biological parameters. A total of 45 parameters are analyzed as indicated in Annex 3-1. The samples are collected at water sources and tap water, storm water drains, sewerage, factories, lakes and rivers throughout the town as well as inside and outside the LNNP. The regular monitoring program prepared in March 2006 was recently revised, reflecting the actual needs on the ground and the available budget.

The accreditation of WQTL was approved in September 2008 and is listed for the gasettement by the National Environment Management Authority (NEMA). The accreditation of WQTL will facilitate the enforcement process undertaken by PCS.

Output 2: Effective environmental management tools and mechanism for enforcement are developed and utilized.

Both OJT and off-JT have been organized for the development and operation of database, water quality standards, factory inspection, lake management, etc. As of October 2008 a total of 78 staff from MCN, NAWASSCO and KWS participated in 12 training programmes (See Annex 3-2). Along with the technical development of the staff, the environmental management tools have been prepared; the "Factory Inspection Manual" and the "Guideline for Industrial Effluent Treatment". Between October 2007, when the draft "Factory Inspection Manual" was prepared, and July 2008, a total of 25 compliance sampling inspections were undertaken by PCS referring to the draft manual. However, due to the lack of personnel, these tools have not been fully utilized. In addition, the preparation of the "State of Environment" and the "EIA Review Guideline" has been delayed.

The total number of the factory inspections conducted by PCS in 2007 was approximately 130. In 2008 the post-election unrest and the limited number of PCS staff has negatively affected its frequency and this number dropped to 36 as of August 2008. The major factories operating in Nakuru is 18 and their compliance rate between 2005 and 2008 was 0%, 69.2%, 38.5% and 15.4% respectively (Annex 3-3). The reasons for the lower compliance rates in 2007 and 2008 are most likely to be attributed to the better detection capacity of PCS and WQTL among other reasons. Since the Project commenced, the average number of notices issued to those factories which fail to

comply with criteria set by NEMA is ten per month. MCN took legal action against seven factories in 2007 and three in 2008 for failure to improve their performance within a reasonable period of time after the notices were issued.

With regard to the Output 2, the progress of the activities has been delayed. In response to JICA's strong recommendation to increase the number of CP in PCS, MOLG and MCN confirmed in October 2008 that some new staff will be deployed to PCS. Since the planned termination of the Project is only three months away, it is unlikely for the Project to train them adequately before then.

Output 3: Cooperation is established among lead organizations and stakeholders for the study and actions in the watershed for its better management.

The Project has been actively working to build the partnership for Lake Nakuru watershed management. Under the leadership of the Project, relevant data was collected from MCN/DOE (Nakuru Local Urban Observatory Project: LUO Project funded by Switzerland), NAWASSCO, KWS and the Egerton University (Sustainable Management of Watershed (SUMAWA) Project funded by USAID) with the aim of developing a comprehensive GIS database covering the whole Lake Nakuru Catchment. The collected data included rainfall, land use, altitude, river position and its water volume, geological map and road network as well as the results of water quality monitoring data collected and analyzed in the Project and satellite imageries. The creation of database was completed in July 2008. In addition, the hydrological and water pollution analysis module was prepared for formulation of an action plan for the environmental management of Lake Nakuru Catchment.

In the creation of the GIS database above, a series of meetings/seminars were organized, inviting MCN, NAWASSCO, KWS, the Egerton University and NGO, to exchange information as well as to facilitate the cooperation among the stakeholders. In February 2007 and June 2008 seminars on environmental management of Lake Nakuru Catchment were organized to facilitate cooperation in pollution control in the catchment. In October 2008 the workshop on Mau Spatial Data Infrastructure was co-funded by the Project and other funding agencies such as ERMIS Africa to create mutual understanding to establish the Mau Spatial Data Infrastructure and Data Clearing House with stakeholders. Further to that, the Project is planning to organize another seminar in February 2009 to formulate a road map for a comprehensive approach for environmental management of the catchment.

Output 4: Public and private participation in local environment management is enhanced.

A number of initiatives have been made by the Project to create a linkage between public and private sectors for environmental management. An information center was established at the Nakuru branch of the Kenya National Library Services in collaboration with the library, MCN and NGOs for the dissemination of environmental information. Six workshops were held with the participation of approximately 600 residents and their proceedings were compiled into two publications. 206 children and 207 school management committee members from 78 primary schools in the municipality participated in a series of workshops on raising environmental awareness while 47 children and 26 teachers from 22 primary schools attended the water quality

testing program. Both activities were organized by the Project. In addition, primary school teachers from different schools in the municipality were involved in the preparation of a booklet on water and the Project produced other educational materials as well as indicated in Annex 3-4.

2 Summary of Evaluation Results

(1) Relevance

The Project objectives are still consistent with the environment and development policies of Kenya. The Environmental Management and Coordination Act (EMCA) enacted in 1999 and in line with the EMCA, MCN announced the enactment of the Environmental Management By-laws in April 2007 with the aim of facilitating the effective environmental management within the municipality. Furthermore, the Project objectives are consistent with the JICA Kenya's Country Strategy, which regards the environmental conservation as one of the five pillars of assistance to Kenya.

(2) Effectiveness

The Project Purpose is likely to be achieved provided that the Project is extended by five months. The post-election turmoil and the lack of personnel in PCS hampered the smooth implementation of the Project to some extent.

(3) Efficiency

The Project spent a considerable period of time for the physical establishment of PCS and the coordination among three organizations although these were not specifically identified as "activities" in the PDM. Other than that, the planned activities were sufficient to produce the outputs. With regard to the inputs, these were generally adequate to realize the Outputs, except for the fewer number of C/P in PCS than that agreed in R/D.

(4) Impact

The prospect to achieve the overall goal is positive. A number of projects and activities on the environmental management have been taking place in the Lake Nakuru Catchment. Those organizations and agencies that are working for environmental issues in Nakuru and the surrounding areas have come together and formed the forums to share information and to discuss issues and problems related to their activities. The Project has made some contributions to the strengthening of the linkages among these stakeholders through the organization of seminars and the creation of the GIS DB.

(5) Sustainability

(Organizational/Institutional Aspects)

MCN established the DOE and enacted the Environmental Management By-laws to effectively implement their duties with regard to the environmental management. It is therefore highly likely that MCN will continue to work for the preservation and rehabilitation of the environment within the municipality in collaboration with other stakeholders. NAWASSCO is now highly aware of the importance of WQTL in the execution of their mandate. In addition, the accreditation of WQTL will enhance its credibility as a laboratory. It is, therefore, highly likely that WQTL will continue with or even expand its present operations. The cooperation among MCN, NAWASSCO and KWS is likely to be sustained because they are now highly aware of the importance of regular water quality monitoring as well as the need for collaboration among themselves.

(Financial Aspects)

The MOU signed in April 2007 explicitly stipulates the financial responsibilities of the three

organizations with regard to water quality monitoring. In line with this, MCN, NAWASSCO and KWS have already allocated budgets for such purposes. However, up to November 2008, the actual budget disbursed was nominal. The monitoring activity of MCN and KWS may be seriously affected unless each organization honours its responsibilities as agreed upon in the MOU. The outreach programmes organized under Output 4 have been exclusively financed by the Project. Some arrangement is required for the programmes to be duly continued.

(Technical Aspects)

The level of knowledge and skills of the WQTL staff members is now sufficient to continuously undertake the present activities. However, in case of transfer or turn-over of one of the two technologists, the WQTL activities may be seriously affected. The PCS staff have considerably improved their technical capacity, but further training is required for them to be fully capacitated to undertake their assignments. Furthermore, the training of the new staff, who have been joining in PCS since October 2008, should be duly conducted to enable PCS to properly undertake their duties.

3 Factors Promoting the Achievements

(1) Factors Concerning to Planning

All the WQTL staffs have remained in the Project throughout the Project period and their technical capability has been notably enhanced. This significantly contributes to the realization of not only Output 1 but also the other Outputs through the provision of reliable data for the other organizations.

(2) Factors Concerning to the Implementation Process

In April 2007, MCN, NAWASSCO and KWS concluded the MOU, which stipulates the roles and responsibilities of three organizations in water quality monitoring both within the framework of the Project and after the Project completion. It successfully streamlined the monitoring activities that used to be undertaken by each organization with little coordination.

4 Factors Inhibiting the Achievement

(1) Factors Concerning to Planning

At the inception period, the Project spent a substantial period of time for the physical establishment of PCS since it was a newly created section with all staff seconded from the other ministry. In addition, it took more than one and half years before proper office was allocated to the Project.

(2) Factors Concerning to the Implementation Process

There were two major factors which had substantial negative impacts on the Project progress. One was the post-election turmoil. No Japanese expert was allowed to visit Nakuru for five months due to security considerations. The other was the insufficient number of PCS staff. Because the number of staff was never adequate to carry out the planned activities, especially since November 2007 when two core staff were returned to the Ministry of Health, a significant delay in the activities have been observed.

5 Conclusion

The Project successfully contributed to not only the enhancement of the technical capacity of the assigned staff but also the physical establishment of PCS and the development of a partnership between the three organizations. Although the technical capacity of individual staff members has been greatly enhanced, there is a lot of room for improvement with regard to institutional establishment and sustainability aspects. The budget allocation and disbursement, assignment of sufficient number of qualified staff, the establishment of the mechanism for cooperation in environmental education, information sharing, and collective action are some of the issues that need to be seriously examined by each organization. Taking into consideration the outcomes of the Terminal Evaluation Study, the Joint Evaluation Team concludes that the Project Purpose is likely to be achieved provided that the Project period is extended by five months.

6 Recommendation

Before the Completion of the Project

(1) Extension of the Project period

The Project period should be extended by 5 months for the activities under Output2 to be completed.

(2) Immediate deployment of PCS staff

As agreed, MOLG and MCN should take immediate action to deploy two more staff so that they will have a sufficient time to be trained.

(3) Financial arrangement regarding monitoring activities

MCN and KWS should start disbursement of their allocated budgets from January, 2009. In this regard, by the end of December, 2008, the three organizations should agree on the preferential rate for water quality monitoring and analysis services rendered by NAWASSCO.

(4) Allocation of budget sufficient for the maintenance of the provided equipment

NAWASSCO should undertake proper maintenance for the provided equipment.

(5) Confirmation of service agencies

NAWASSCO and JAT should confirm where to procure spare parts and consumables for the provided equipment by February 2009.

(6) Utilization of GIS DB

The data accumulated by each organization should be disseminated to their management so that the management is aware of its importance and hence allocates the necessary budget for the effective utilization of the GIS DB. The MCN/Town Clerk's Department in collaboration with PCS should be a custodian of the GIS DB and work with the other stakeholders including NEMA in its effective utilization. MCN, NAWASSCO and KWS should update the information and share it among themselves as well as other organizations engaged in the environmental management of the watershed.

(7) Technical sustainability

Since there will always be concern regarding the possibility of transfer or turn-over of the trained and experienced staff, the prepared manuals and guidelines should be in use so that new staff members will be properly guided should any core staff leave. MCN/PCS, NAWASSCO/WQTL and KWS should confirm the adequate number of qualified staff that should be assigned.

(8) Focal point for the environmental management of Lake Nakuru Catchment

MCN as an implementing agency of the Project should seek the collaboration with NEMA in the effective environmental management of the Catchment.

(9) Formulation of a workable strategy for the continuation of outreach programmes

PCS should identify the way forward by February, 2009 and take the lead to organize the programme in close collaboration with KWS, Department of Education/MCN and NGOs.

<u>After the Completion of the Project</u>

(1) Assignment of adequate number of qualified permanent staff to PCS

Since the commencement of the Project, most staff assigned to PCS were seconded from another ministry. There is therefore always a concern that the experienced staff may be transferred back to this ministry at any time. MOLG and MCN should try to recruit six qualified permanent staff in total for PCS so that the experience and expertise will be retained in PCS. In line with this, MCN should formulate an organizational structure of PCS indicating the staff requirements and the current and future job descriptions.

(2) Continuation of monthly tripartite meeting

The monthly tripartite meeting has been offering a good avenue for the organizations to arrive at a mutual understanding and to address problems in a collective manner. This should therefore be continued after the completion of the Project.

7 Lessons Learned

(1) Importance of conclusion of a formal agreement

Each organization has its own mandate and working modalities. Therefore, in any project requiring the involvement of more than one organization, it is recommended that a formal agreement be concluded to clarify the roles and responsibilities of each organization in the project before it commences. Such agreement will assure the commitment and the involvement of the organizations. A memorandum of understanding concluded by three organizations of MCN, NAWASSCO and KWS stipulates their roles and responsibilities within the framework of the Project as well as after the completion of the Project. In addition, their respective commitment towards the Project's activities is reiterated.

(2) Time for Physical Set-up of the CP organization

The Project started with the physical establishment of PCS. No proper office was allocated to the Project for a period of more than one and half years after commencement. At the same time, most staff were seconded from another ministry. Although no activity was indicated in PDM for the office set-up of PCS, it is obvious that the Project spent a substantial period of time to this purpose and the time for the activities indicated in the PDM was consequently squeezed. It is therefore important to allocate enough time for the physical set-up of the CP organization before the commencement of the project.