

Country Name	The Project for the Strengthening of Capacity on Roads Maintenance Management through Contracting (Phase 2)		
Republic of Kenya			

I. Project Outline

Background	The Government of Kenya had actively engaged in private contractors in road maintenance works, using traditional contract methods where road agencies instruct the details of maintenance work in tender documents and supervise the actual work through various processes. Contracting out road maintenance work to the private sector with a degree of authority within long time frame was one of the ways for road agencies to deliver efficient road services. Performance Based Contract (PBC) is one of such contracts in which a contractor is required to meet road maintenance service levels and payment is contingent on their successful achievements. Pilot projects using PBCs started in 2010 and JICA implemented a technical cooperation project (the Phase 1 project) to assist in various activities to introduce PBC for road maintenance works. In November 2013, the Phase 2 of the project was commenced to further strengthen capacity of road maintenance work with much focus on PBC.										
Objectives of the Project	<p>Through (i) developing guideline and manuals, (ii) strengthening capacity to monitor and analyze road conditions by using DRIMs (Dynamic Response Intelligent Monitoring System) and ARICS (Annual Road Inventory and Condition Survey), and (iii) conducting training on PBC and DRIMS, the project aimed at strengthening capacity of implementing agencies on management of road maintenance through contracting, thereby contributing to improvement in performance level of roads maintenance operation by PBC and improvement in road conditions.</p> <p>1. Overall Goal: (1) Performance level of roads maintenance operation contracts by performance based contracts (PBC) is improved (Concept of PBC is understood widely both in RAs and in the related industry) (2) Existing roads network maintained in good condition (Appropriate maintenance of roads network is implemented through PBC).</p> <p>2. Project Purpose: The capacity of implementing agencies is strengthened on management of road maintenance through contracting out.</p>										
Activities of the project	<p>1. Project site: Nairobi 2. Main activities: (i) developing guideline and manuals, (ii) strengthening capacity to monitor and analyze road conditions by using DRIMs in ARICS, and (iii) conducting training on PBC and DRIMS 3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Kenyan Side</td> </tr> <tr> <td>1) Experts: 11 persons</td> <td>1) Staff allocated: 19 persons</td> </tr> <tr> <td>2) Training in third countries: 10 persons</td> <td>2) Facilities: Office space</td> </tr> <tr> <td>3) Operation cost: project office management, drivers, travel in-country training and seminars.</td> <td></td> </tr> </table>			Japanese Side	Kenyan Side	1) Experts: 11 persons	1) Staff allocated: 19 persons	2) Training in third countries: 10 persons	2) Facilities: Office space	3) Operation cost: project office management, drivers, travel in-country training and seminars.	
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Project Period	November 2013-May 2016 (Extended period: November 2015-May 2016)	Project Cost	(ex-ante) approx.200 million yen, (actual) 284million yen								
Implementing Agency	Ministry of Transport and Infrastructure (Currently, Ministry of Transport, Infrastructure and Urban Development: MOTIHUD), Kenya National Highways Authority (KeNHA), Kenya Rural Roads Authority (KeRRA), Kenya Urban Roads Authority (KURA), Kenya Wildlife Services (KWS)										
Cooperation Agency in Japan	Hanshin Expressway Co., Ltd., Honshu Shikoku Bridge Expressway Co., Ltd., CTI Engineering International Co., Ltd.										

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 pandemic situation, it was not possible to do face to face interviews. Information was collected through e-mail/telephone interviews.

< Special Perspectives Considered in the Ex-Post Evaluation >

- Continuation of the project effects was analyzed as factors to achieve the Overall Goal.

I Relevance

<Consistency with the Development Policy of Kenya at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Kenya. "Vision 2030" (2008-2030) prioritizes the economic development and poverty alleviation through infrastructure development. "First Medium Term Plan 2008-2012" in the Vision 2030 stipulated the expansion of roads, capacity development of road maintenance as priority issues in road sector.

<Consistency with the Development Needs of Kenya at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Kenya for road maintenance. In Kenya, about 90% of all domestic transport relied on road transport. Road construction and maintenance was a key enabler for sustainable development, facilitating cross border and domestic trade as well as providing people with access to market, social services. Also, as described above ("Background"), contracting out road maintenance work to the private sector within long time frame was one of the ways for road agencies to deliver efficient road services.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with the Japan's ODA policy to Kenya. Infrastructure development was one of the priority areas in the "Country Assistance Policy to Kenya" (April 2012), with the strong focus on accurate planning, construction, improvement and maintenance of transportation.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was achieved at the project completion.

“Procurement and monitoring process of PBC in RAs are in line with the guideline and manuals developed by the project” (Indicator 1) was achieved. This was confirmed by the number of PBC projects and Kilometers coverage put under PBC process by the RAs. The increase in PBC concept utilization among the RAs would be attributed to the following factors: (a) There was extensive staff training and sensitization to promote PBC in all RAs. (b) There was successful piloting allowing testing and proof of concept, which led to better acceptance by the RAs and the industry players too.

“Roads conditions are monitored by DRIMS and the monitoring data (IRI) is analyzed by related RAs on their own (Indicator 2)” was achieved. Introduction of DRIMS into RAs system, through the project, was expected to support planning and implementation of PBC projects. KeNHA fully applied DRIMS to calculate IRI in their entire road network while its application for the KURA network was rapidly growing. On the other hand, KeRRA and KWS who had most of their road network largely unpaved had started applying DRIMS to all newly paved road networks. It can be deduced from the report under the project that staff training and acquisition of DRIMS equipment were attributable to the achievement of this indicator.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have partially continued, as the manual and guideline has been continuously utilized, and DRIMS monitoring has been conducted mainly at KeNHA As mentioned above, the status of continuation of the project effects at the time of ex-post evaluation were taken as the part of the verifiable indicators of the Overall Goal and the factors affecting the achievement levels of the verifiable indicators of the Overall Goal.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. “Concept of PBC is understood widely both in RAs and in the roads industry” (Indicator 1) has been achieved, as explained in the Project Purpose above. All RAs have trained some of their staff on the PBC concept. The PBC concept has been well understood and applied in KeNHA and KURA. At the time of ex-post evaluation, the awareness levels among board members in KeNHA and KURA was found to be high inferring from the board approved projects under PBC. KERRA has been however, yet to impress the concept. KWS has included PBC component in the rehabilitation contracts to begin after project completion.

As for “Over 80% of the proportion of total length of the DRIMS monitoring roads is either in excellent condition or in good condition” (Indicator 2), 68% of the DRIMS monitoring paved roads under PBC contracts was in good condition. KeNHA has applied DRIMS monitoring across its entire network including the unpaved roads. As for the unpaved roads, as DRIMS is a diagnostics tool to show the level of road deterioration, IRI has shown a different intervention beyond maintenance is needed in half the KeNHA network i.e. rebuilding. It is evident that more development budget is needed to improve the network to improve IRI.

The guidelines developed under the project have been continuously utilized and have been distributed to the regional staff for knowledge, and reference has been made during development of PBC work plans. The manuals have been distributed to the RAs and uploaded to the KRB website. There is evidence of the downloads from KRB website. However, no updates have been made to the developed manuals.

In addition to this project, a succeeding technical cooperation has contributed to the above situation.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on the natural environment has been observed. There has been no land acquisition and resettlement.

There were positive impacts related to gender inclusion in project implementation. The PBC model was found to provide more women friendly activities that engage them on continuous basis. The women participation in the off-carriageway maintenance activities have increased due to government policy and sensitization. Overall, there is an estimated 33% increase of women participation in PBC projects/contracts for FY 2020-2021.

During project implementation, DRIMS was upgraded into iDRIMS with a positive impact. The DRIMS methodology uses the normal Personal Computer (PC) to compute the IRI algorithms and also requires a small car placement during operation. As part of DRIMS development, the University of Tokyo, the system developer, improved DRIMS and migrated the system into iPhone platform – hence the name iDRIMS (as an App). iDRIMS proved less cumbersome and more efficient equipment for road condition monitoring since it does not require a customized car for its use.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results					
(Project Purpose) The capacity of implementing agencies is strengthened on management of road maintenance through contracting	Indicator 1: Procurement and monitoring process of PBC in RAs are in line with the guideline and manuals developed by the project.	Status of the Achievement: achieved (Project Completion)					
		Length of PBC (PBC KM)					
		RA	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
		KeNHA		0.0	283.8	374.0	553.47
		KeRRA		216.0	371.1	358.3	358.3
		KURA	14.3	73.5	177.7	638.2	714.4
		KWS		39.4	39.4	362.0	53.0
	Total	14.3	328.9	872.0	1,732.5	1,679.1	
		(Ex-post Evaluation) Refer to the Overall Goal.					

	Indicator 2: Roads conditions are monitored by DRIMS and the monitoring data (IRI) is analyzed by related RAs on their own.	Status of the Achievement: achieved (Project Completion) - KeNHA fully applied DRIMS to calculate IRI in their entire network. - Application for the KURA's network was rapidly growing. - KeRRA and KWS, who had most of their road network unpaved had started applying DRIMS. (Ex-post Evaluation) Refer to the Overall Goal.																																				
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Source : (1) KRB, Annual Public Roads Program (APRP), (2) KeNHA ARICS Report 2020 Summary for all regions/corridors, (3) RA databases, (4) Questionnaires and interviews with RAs

3 Efficiency

Both the project cost and project period exceeded the plan (the ratio against the plan: 142%, 124%). Outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

There has been policy support for promoting PBC. For example, the Public Procurement Authority (PPRA) has drafted and adopted PBC standard Tender Documents– awaiting official adoption. Kazi Mtaani (Work Estate), initiatives to help youth in the Estates (Areas where we live) to acquire job opportunities in the area in order to empower them economically, under the COVID-19 economic stimulus has prompted more off-carriage PBC work items. Contracts for road maintenance jobs within the estate will be given under PBC to the residents. The Circular was issued in July 2020.

< Institutional/Organizational Aspect>

A circular from MOTIHUD has been sent requiring RAs to establish Cost Estimation Units under the Maintenance Division. The Units have been, however, yet to be formally established and staffing due to the COVID-19 pandemic.

KeNHA noted that there is limitation due to staff/members not only for PBC but institution wide while for KeRRA they assessed that they have enough staff to promote PBC model and activities. The main reason for the above is due the government cap on new employment in all departments. Since for KeRRA, they have not started lots of PBC in most road works, no staff constraints is generally expected.

<Technical Aspect>

At all RAs, there has been established technical skills level to sustain project outputs: (i) The staff has sustained skills on the PBC model through On-the-Job Training (OJT). This has been through process of preparing project specifications for PBC components of projects. (ii) All new staff members have been given the requisite manuals/guidelines etc, to be able to prepare PBC contracts. (iii) The PBC Guideline, developed under the project, has been the most referred to since it has been indicated in pre-commencement meetings for PBC as a critical reference manual for procurement works.

<Financial Aspect>

There has been no drop of budget for maintenance works. The level of maintenance budget supportive of PBC has fairly remained the same through the Kenya Roads Board (KRB) Road maintenance levy fund.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational aspect of the implementing agencies. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose at the project completion, as the procurement and monitoring process of PBC were in line with

¹Among all the counterparts, the primary focus of the project were KeNHA and KURA. It is evident from the country assistance policy, indicating to provide the assistance in combination with soft and hard component. Historically, hard or grant/loan assistance is targeted to KeNHA (i.e. Mombasa Port Area Road Development Project) and KURA (Western Ring Road, Ngong Road (I and II)) and there is no history of providing “hard” assistance to KeRRA and KWS. Considering all the context above, the evaluation judgement was made with the strong focus on the result of the KeNHA and KURA.

the guideline and manuals developed under the project, and roads conditions were monitored by DRIMs. The Overall Goal has been partially achieved, as the concept of the PBC has been understood widely, and the road conditions monitored by the DRIMS have improved, however, have not reached the target.. As for the sustainability, slight problems have been observed in terms of the institutional/organizational aspect; however, no problem has been observed in terms of policy, technical and financial aspects. As for the efficiency, both project cost and project period exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

1. There is need for the RAs to secure enough budget and staff for the wider spread of PBC contracts.
2. The Annual Road Inventory Conditions Survey (ARICS) should be mainstreamed in all RAs, on the basis of which road maintenance works should be planned.

Lessons Learned for JICA:

Although road maintenance under PBC contracts has progressed, there has been no clear data on the actual cost reduction as a result of the PBC contracts. Therefore:

1. Detailed baseline survey with data to measure effect and cost of introduction of PBC concepts in Kenya is critical to further demonstrate project outcomes.
2. As Kenya's intention is to promote PBC for road maintenance, JICA should consider doing an impact or cost effectiveness evaluation of the road maintenance program.



TC experts with counterpart training/technology transfer



Two counterparts showing off carriage way PBC activities – outcomes.