

Country Name	Project on Capacity Development for Effective Flood Management in Flood Prone Areas
Republic of Kenya	

I. Project Outline

Background	<p>In 2003, the southern part of Lake Victoria Basin including Nyando River experienced serious flooding that affected approximately 22,000 people. In 2007, Garissa town, located in the middle of the Tana River Basin, was hit by flood and suffered from consequent financial losses of approximately 8.5 million USD. In order to address and take measures against such flood risks, JICA carried out “the Study on Integrated Flood Management for Nyando River Basin” (2006-2009) and the grant aid project, “Programme for Community-Based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin” (2009-2011) for support the Integrated Flood Management (IFM). In addition, the Government of Kenya had institutionalized the Water Resource Users Associations (WRUAs) in local communities for promoting community-based flood management based on the WRUA Development Cycle (WDC), a method supported by the Water Resource Authority (WRA). However, WRUAs did not have the capacity to implement community-based flood management activities.</p>												
Objectives of the Project	<p>Through the establishment of a training system for WRA staff in Nairobi, and three Sub-Catchment Areas, and a coordination mechanism as well as preparation and implementation of community-based flood management activities in the pilot sites, the project aimed at establishing a flood management institutional framework, thereby to contribute the effective and sustainable implementation of community-based flood management activities in all the six catchments in Kenya.</p> <ol style="list-style-type: none"> Overall Goal: The institutional framework of flood management in the context of integrated water resource management is expanded to all six catchments. Project Purpose: The institutional framework of flood management in the context of integrated water resource management is established for the effective and sustainable implementation of community-based activities in the project target areas. 												
Activities of the Project	<ol style="list-style-type: none"> Pilot Site: Nairobi, and three Sub-Catchment Areas (Lower Gucha Migori, Lower Lumi, and Isiolo)¹ Main Activities: <ul style="list-style-type: none"> (1) Planning, staffing, and budgeting by WRA for flood management activities, establishment of a training system for WRA staff, institutionalization of knowledge management system at regional and sub-regional level, (2) Establishment of “flood management forum” for coordinating stakeholder, and preparation and implementation of community-based flood management activities Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Kenyan Side</td> </tr> <tr> <td>1) Experts: 7 persons</td> <td>1. Staff Allocated: 59 persons</td> </tr> <tr> <td>2) Trainees Received: 22 persons</td> <td>2. Land and facilities: Project offices in WRA Headquarters (HQ) and 3 Sub-Regional Offices (SRO)</td> </tr> <tr> <td>3) Equipment: vehicle, PCs, printer, photocopier, digital planimeter, etc.</td> <td>3. Local expenses: business trip of C/Ps, operation, and maintenance of the project offices, etc.</td> </tr> <tr> <td>4) Local expenses: local consultants, equipment for community disaster prevention activities, etc.</td> <td></td> </tr> </table> 			Japanese Side	Kenyan Side	1) Experts: 7 persons	1. Staff Allocated: 59 persons	2) Trainees Received: 22 persons	2. Land and facilities: Project offices in WRA Headquarters (HQ) and 3 Sub-Regional Offices (SRO)	3) Equipment: vehicle, PCs, printer, photocopier, digital planimeter, etc.	3. Local expenses: business trip of C/Ps, operation, and maintenance of the project offices, etc.	4) Local expenses: local consultants, equipment for community disaster prevention activities, etc.	
Japanese Side	Kenyan Side												
1) Experts: 7 persons	1. Staff Allocated: 59 persons												
2) Trainees Received: 22 persons	2. Land and facilities: Project offices in WRA Headquarters (HQ) and 3 Sub-Regional Offices (SRO)												
3) Equipment: vehicle, PCs, printer, photocopier, digital planimeter, etc.	3. Local expenses: business trip of C/Ps, operation, and maintenance of the project offices, etc.												
4) Local expenses: local consultants, equipment for community disaster prevention activities, etc.													
Project Period	June 2011 – June 2014	Project Cost	(ex-ante) 320 million yen, (actual) 314 million yen										
Implementing Agency	Ministry of Water & Sanitation and Irrigation (MWSI: formerly known as the Ministry of Water and Sanitation (MWS), the Ministry of Water and Irrigation (MWI) or the Ministry of Environment, Water and Natural Resources (MEWNR) by federal ministerial restructuring during (2013) and after the project period (2015, 2018)) Water Resources Authority (WRA: formerly known as the Water Resources Management Authority (WRMA) by federal ministerial restructuring after the project period (2017))												
Cooperation Agency in Japan	Ministry of Land, Infrastructure, Transport, and Tourism												

II. Result of the Evaluation

<Constraints on Evaluation>

It was not possible to survey some of the sub-regional offices either due to security restrictions e.g. Coastal Athi, Lower Tana, and Mt. Elgon Cheragany, or budgetary constraints e.g. Lower Tukwel, Lakes Baringo and Bogoria, etc.

1 Relevance

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

The project was consistent with Kenya’s development policies such as the “First Medium Term Plan (2008-2012)” of the “Kenya Vision 2030” issued in 2008, that prioritized sustainable economic growth and poverty reduction and set flood management in the Nyando River Basin as a priority project. Consequently, the “Second Medium Term Plan (2013-2017)” positioned management of climate-induced natural disasters as a cross-cutting issue that required collaborative action by public and private sector agencies at national, county, and community levels.

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

The project was consistent with Kenya’s development needs of reducing not only flood risk and hazard magnitudes but also the

¹ There are six Catchment Areas (CAs) in Kenya and under each of the CAs had a three-layered structure namely, Sub-Regions, River Basins, and Sub-Catchments. By selection of the three project sites, the project targeted three CAs: Lake Victoria South, Athi, Ewaso Ng’iro North. The rest are non-target CAs but subject to Overall Goal: Tana, Rift Valley, and Lake Victoria North.

vulnerability of flood-affected people in flood-prone areas in Kenya. There was no change in the needs by the time of project completion.
<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan’s ODA policy towards Kenya. One of the six priority areas of Japan’s assistance for Kenya confirmed in the economic cooperation policy dialogue in 2000 was environmental conservation including flood management².

<Appropriateness of Project Design/Approach>

As the project design was based on and incorporated key elements of previous flood management projects implemented with JICA support that is, structural and non-structural measures for flood management especially at the community level, it is generally deemed as an appropriate approach. However, in terms of the process of attaining the Overall Goal after the project, its design had not been able to entirely cover challenges in project sustainability that might arise in the field such as leadership and budgetary constraints.

<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 partially achieved by the time of project completion. Participating counterpart personnel were trained and it is perceived that they learnt flood management through the project in order to implement community-based activities (Indicator 1). The process to incorporate integrated flood management into catchment management was ongoing. All the Catchment Management Strategies (CMSs) of target areas were in the final stage of preparation at the time of project completion. As for the Sub-Catchment Management Plans (SCMPs), IFM Plans of two sub-catchments had been completed and duly incorporated into the SCMPs, and the IFM Plan of one sub-catchment was in the process of finalization (Indicator 2). Regarding the knowledge management mechanism³ and training system, it laid the foundation for aggregation of data gathered at the community level and preparation of the internal training program (Indicator 3). Alongside the IFM Expansion Plan for the 12 target rivers, WRA finalized its Corporate Work Plan underpinned by the budget (Indicator 4).

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

The project effects have partially continued after project completion. All the target catchment areas have revised their CMS and included flood management. On the other hand, the sub-catchment areas were not able to incorporate IFM into SCMPs especially due to financial constraints since the revision of SCMPs is a lengthy and consultative process. According to the field survey, as a result of training counterpart personnel by the project, community-based activities have been implemented in the three target sub-catchment areas although in varying degrees. Furthermore, in spite of budgetary limitations, flood management officers and community development officers tried as much as possible to accommodate flood-related activities within the budget for their daily work.

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

The Overall Goal had been partially achieved at the time of ex-post evaluation. Although they experienced some delays, WRA prepared the final draft of their Strategic Plan 2018 – 2022 and included flood management in it. Flood management is one of the activities that is considered to be an incentive for communities to engage in catchment conservation activities in order to contribute towards sub-article 2.3.4 (b) “Securing water resources in order to provide sustainable water in good quality and quantity”. Additionally, under Article 4.2.8 (pg. 51) Flood and Drought Mitigation Measures, WRA notes that based on its plans to mitigate against floods, effective flood early warning systems, the establishment of evacuation centres, development and review of integrated flood Management plans should be enhanced, and there is need to develop and implement all IFMPs (Indicator 1). Among six sub-regions of the catchment areas, 5 WRA staffs, including ex-counterpart personnel in the three non-project catchment areas and personnel of the six sub-regions, have the capacity to implement community-based flood management activities and have been conducting the same (Indicator 2). CMSs have been revised in all three non-target catchment areas and a total of 9 out of 43 WRUAs in three sub-regions have incorporated flood management in their SCMPs (Indicator 3). On the other hand, a knowledge management system or training system of WRA to cover the six catchments have not been implemented (Indicator 4). Although there is no information on specific budget allocation or distribution in the three non-target catchment areas after the project completion efforts, GoK disbursed a total of Ksh. 25 million and about Kshs. 20 million for two kinds of flood projects which target all six catchments respectively in 2016/2017 and 2017/2018. (Indicator 5).

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

Some positive impacts were confirmed at the time of the ex-post evaluation. In two non-target catchment areas, namely Lake Victoria North and Rift Valley, the World Bank-funded Kenya Water Security & Climate Resilience Project and the Water Services Trust Fund (WSTF) supported the setting up of community-based flood early warning system. Some of the WRA staff, in charge of the implementation of the system, were trained under the project. Furthermore, Isiolo, Taita Taveta, Kisumu, Narok, and Migori County Governments have incorporated flood management in their Country Integrated Development Plans (CIDPs) and it is expected that this will eventually result in greater involvement and budgetary allocation by the county governments. In the meantime, no negative impact was confirmed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) The institutional framework of flood management in the context of integrated water resource management is	Indicator 1: Staff of WRA in charge of flood management in the project target areas has the capacity to implement community-based activities.	Status of the Achievement: Achieved (Continued) (Project Completion) Almost all the counterpart personnel could deepen understanding of flood management through the training. According to the capacity assessment, 23% of elements of capacity development were very much improved and 55% were partially improved. (Ex-post Evaluation)

² Ministry of Foreign Affairs, “ODA Databook 2011”

³ It was defined by JICA Project Team as a built-in mechanism in WRA that institutionally accumulates the experiences and lessons learned from the disaster management activities at community level.

<p>established for the effective and sustainable implementation of community-based activities in the project target areas.</p>		<p>As a result of training staff by the project, community-based activities have been implemented in target sub-catchment areas.</p> <ul style="list-style-type: none"> • Lower Gucha Migori: 1) Training WRUAs on SCMP development, flood management, integrity and governance, climate change adaptation, data collection, 2) Construction of a small section of road using donou technology, 3) Evacuation drill at Kabuto and Nyora in 2015, 4) Creation of awareness, 5) Flood monitoring. • Lower Lumi: 1) Flood monitoring through rain gauges, Flood monitoring through river gauge, 3) Flood early warning in liaison with WRUAs • Isiolo: Flood monitoring through river gauge
	<p>Indicator 2: Flood management is incorporated in the CMS and SCMP of flood-prone areas in the Project target areas.</p>	<p>Status of the Achievement: Partially achieved (Partially continued) (Project Completion)</p> <p>CMSs: The concept of Integrated Flood Management (IFM) was incorporated in the draft final CMSs</p> <p>SCMPs: IFMPs for Isiolo River and Lumi River were completed and are to be duly incorporated into the SCMP. IFMP for Gucha Migori River was in the process of finalizing.</p> <p>(Ex-post Evaluation)</p> <p>CMSs: In all the three catchment areas (Lake Victoria South / Athi / Ewaso Ng'iro North), Lake Victoria South CMS (2015-2022), Athi (2015-2022) CMS and Ewaso Ng'iro North CMS (2015-2022) included flood management in line with the revised WDC manual.</p> <p>SCMPs: Due to budgetary constraints, however, SCMPs have not been revised to incorporate IFMP since the project completion in all three sub-catchment areas (Lower Gucha Migori / Lower Lumi/ Isiolo).</p>
	<p>Indicator 3: WRA's knowledge management mechanism and training system function covering the project target areas are established.</p>	<p>Status of the Achievement: Partially achieved (Not continued) (Project Completion)</p> <p>Knowledge management mechanism: The procedure for flood survey and the survey form was prepared and was planned to be used in the next rainy season.</p> <p>Training system: Training plan and training materials were prepared, and master trainers and trainers were fostered. The budget for expansion of the second stage training had been included in the Annual Corporate Work Plan</p> <p>(Ex-post Evaluation)</p> <p>Knowledge management mechanism and training system may not have been fully institutionalized considering its low profile within WRA and elsewhere. The training was not systematically conducted after the project in the target catchment areas. However trained personnel in each catchment retained the capacity for flood monitoring.</p>
	<p>Indicator 4: The budget for flood management is secured in the project target areas.</p>	<p>Status of the Achievement: Achieved (Not continued) (Project Completion)</p> <p>WRA prepared the IFM Expansion plan for 12 target river basins and the Annual Corporate Work Plan with its budget. In the Annual Plan, activities and budget for three project target areas and the Nyando River were included.</p> <p>(Ex-post Evaluation)</p> <p>Though WRA managed to implement some flood management activities for the target catchments by using their overall budget, the specific budget was not additionally allocated or disbursed after the project.</p>
<p>(Overall Goal) the institutional framework of flood management in the context of integrated water resource management is expanded to all six catchments.</p>	<p>Indicator 1: WRA's Strategic Plan properly addresses flood management</p>	<p>(Ex-post Evaluation) Partially achieved</p> <p>The final draft of WRA's Strategic Plan (2018-2023) was prepared and it includes flood management in line with WRA's mandate as per the Water Act 2016 and the revised WDC but it had not yet been finalized since WRA was still consulting stakeholders.</p>
	<p>Indicator 2: WRA staff in charge of flood management has the capacity to implement community-based activities in the six catchments</p>	<p>(Ex-post Evaluation) Partially achieved</p> <ul style="list-style-type: none"> • Among three catchment areas for extension of project activities (Tana/Raft Valley/Lake Victoria North), two counterpart personnel each for Rift Valley and Lake Victoria North have been engaged in the implementation of community-based activities for flood management. • Among six sub-regions under the catchment areas above, one personnel each for South Rift and Lower Nzoia has been supporting community-based activities for flood management.
	<p>Indicator 3: Flood management is incorporated in CMS and SCMP of flood-prone areas in the six catchments</p>	<p>(Ex-post Evaluation) Partially achieved</p> <ul style="list-style-type: none"> • CMSs have been revised in all three non-target catchment areas. • Whereas, 4 WRUAs out of 12 in South Rift sub-region have incorporated flood management in their SCMPs, as well as 2 WRUAs out of 20 in Lakes Baringo and Bogoria and 3 WRUAs out of 11 in Lower Tukwel.
	<p>Indicator 4: WRA's knowledge management mechanism (knowledge management) and training system function covering the six catchments are established</p>	<p>(Ex-post Evaluation) not achieved</p> <p>No follow-up was done to institutionalize the system after the project in all three non-target catchment areas.</p>

	Indicator 5: Budget for flood management is secured in the six catchments	(Ex-post Evaluation) Partially achieved Some budget specifically for flood management was secured for Loitokitok Sub-regional Office. Rift Valley Regional Office was also allocated the budget for three years in a row although the final disbursement was challenging. However, GoK disbursed over Ksh. 45 million for two kinds of flood management programmes which targeted all six catchments.
Source : Field survey interviews with WRA staff at Regional and Sub-Regional Offices in Ewaso Ng'iro North, Athi, Lake Victoria South project target catchments and staff at Rift Valley and Lake Victoria North non-project catchments.		
3 Efficiency		
Both the project period and cost were within the plan (ratio against the plan: 100% and 98%, respectively). The outputs were produced as planned. Therefore, the efficiency of the project is high.		
4 Sustainability		
<Policy Aspect>		
In Kenya Vision 2030's "Third Medium-Term Plan (2018-2022)", the section on environment, water, sanitation, and regional development has positioned the development and implementation of Sub-catchment Management Plans (SCMPs) as a flagship project under the Water Resource Management Programme specifically focusing on rehabilitation of monitoring stations and upgrading telemetry equipment and facilities for flood management.		
<Institutional Aspect>		
Following the creation of 47 county governments in 2013 as prescribed in the Constitution of Kenya (COK) 2010, all policies and legislation in Kenya have been revised to align with this system of government. However, although the "Water Act (2002)" was amended to become the "Water Act (2016)" which created new institutions including replacing the Water Resources Management Authority (WRMA) with WRA, the mandate of WRA with regard to flood management remains basically the same as that of WRMA.		
WRA has assigned 1 flood management officer at each of their regional and sub-regional offices in the target catchment areas. The number of flood management staff is therefore perceived as being sufficient since floods occur only during the rainy season and are prone to specific areas. However, it was considered problematic at the sub-catchment level since for one, at the Kisii Subregional Office, the Flood Management Officer retired and had not been replaced. Secondly, the staff responsible for flood management at the Loitokitok and Isiolo Subregional Offices were each doubling up as the Flood Management Officer and Community Development Officer which means that in the event that either of them was not available for one reason or another especially during the rainy season, it is likely that the respective Subregional Office would experience some challenges in efficiently and effectively implementing flood management activities.		
<Technical Aspect>		
Although not so much effort was made for further training after the project, ex-counterpart personnel in the regional offices in the catchment areas have retained a certain type of capacity such as for flood monitoring. In this regard, they have acquired considerable know-how to the extent of being able to carry out regular monitoring without any reference to the manuals produced under the project. Such manuals, however, were not distributed to any of the offices in project non-target areas during or after the project since there was no clear procedure on how to distribute the documents. With regard to the status of each sub-regional office, capacity for flood management depended on the presence and availability of trained personnel who play a key role in flood management. In the case of Kisii, the sub-regional office has been active in mobilizing communities to form WRUAs through training and supporting the development of SCMPs, however, the pivotal FMO was transferred and has not yet been replaced. In Loitokitok though, the incumbent FMO has vast and varied experience in and deep understanding of flood management. In the case of Isiolo, WRA transferred an officer to take over from and be inducted by the retiring Flood Management Officer. Although the officer transferred is a Community Development Officer, she can competently and comfortably handle both community development and flood management activities.		
<Financial Aspect>		
In the target areas, the budget has not been allocated for regional offices and in the case of the sub-regional offices, only Loitokitok was allocated Kshs. 56,400 for flood management in 2017 though it was not adequate since there was major flooding in Lower Lumi and the actual expenditure amount turned out to be Ksh. 266,400. All those offices, therefore, had to incorporate flood management within community development works at the expense of other daily activities. The Government, however, disbursed Ksh. 25 million in 2016/17 and Kshs. 20 million in 2017/18 for two kinds of flood management programmes targeting all the six catchments.		
<Evaluation Result>		
In light of the above, the implementing agency has faced some difficulties from the institutional aspect. In addition, in terms of technical and financial aspects, there have been some major problems experienced. Therefore, the sustainability of the effects through the project is low.		
5 Summary of the Evaluation		
The project partially achieved the Project Purpose and Overall Goal. All the target catchment areas have revised their CMS and included flood management. Although in varying degrees, community-based activities have also been implemented in three target sub-catchment areas. As for sustainability, WRA has not yet established a coherent mechanism for flood management at every level and has experienced some challenges in providing technical support to sub-catchment areas. With regard to the financial aspects, although the national budget has been allocated for flood management activities from 2016 to 2018, it has been very inadequate thus sustainability is not assured.		
Considering all of the above points, this project is evaluated to be partially satisfactory.		

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

The field survey revealed that WRA Strategic Plan 2012 – 2017 has not been finalized and many SCMPs including for the project target areas needed to be updated. Since the Strategic Plan is the basic foundation for the formulation of all other strategies and plans, WRA should highly prioritize revision of the Strategic Plan and seek and set aside a budget for this purpose. Considering that the devolved system of government started just before the end of the project, the Strategic Plan should be aligned with this system in order to enhance collaboration with county governments and joint implementation of activities. At the same time, besides flood management, the revised

Strategic Plan should also include other elements of the project such as knowledge management, training, and succession issues.

Lessons Learned for JICA:

- Although the project supported preparation of a specific budget for flood management activities, its allocation was not highly prioritized since there were other activities competing for WRA's limited financial resources. Consequently, flood management activities were not highly prioritized especially due to the unpredictability of flood incidences and as a result, the budget was not regularly allocated. At the same time, in the case of flood management through community-based activities, the budget allocation structure may not include affected small community units. It is therefore extremely important for JICA to carefully consider the actual situation with regards to flood management in the country from the outset and effectively link it with higher medium and long-term priorities such as "Catchment Management," and the social and environmental aspects of climate change in order to ensure continuous availability of budget.
- The establishment of the institutional framework for flood management envisaged in the project was deemed to be quite ambitious as it was supposed to be applied to all catchment areas in the country. Sustainability, therefore, was subject to the introduction of a wide range of very key actions to be undertaken by the implementing agency on a nationwide scale, right from the policy level to other fundamental aspects such as documentation, human resources development, and provision of budget that are beyond the project's scope of activities. This implies that some level of institutional reforms is inevitably required in order to achieve the Overall Goal. When designing such an institutional framework through a project, it is therefore imperative to deliberately select a set of valid indicators to align with ongoing institutional reforms.



Riverbank protection gabions constructed during the project in Isiolo Sub-catchment.



WRUA explaining operations of functioning Early Warning System equipment in Upper Lumi (Left). Properly functioning Early Warning System equipment in Upper Lumi (Right).