

第IV部

プロジェクトの活動内容 (全成果共通)

第IV部 プロジェクトの活動内容(全成果共通)

目 次

第1章	合同調整委員会の開催	1-1
1.1	合同調整委員会 (JCC)	1-1
1.2	第1回合同調整委員会 (2011年8月18日開催)	1-1
1.3	第2回合同調整委員会 (2012年8月7日開催)	1-2
1.4	第3回合同調整委員会 (2013年2月13日開催)	1-3
1.5	第4回合同調整委員会 (2013年10月8日開催)	1-5
1.6	第5回合同調整委員会 (2014年3月20日開催)	1-6
1.7	第6回合同調整委員会 (2014年7月31日開催)	1-7
第2章	ワーキンググループ会議の開催	2-1
2.1	ワーキンググループ会議.....	2-1
2.2	第1回ワーキンググループ会議 (2012年2月21日開催)	2-2
2.3	第2回ワーキンググループ会議 (2012年7月26日開催)	2-3
2.4	第3回ワーキンググループ会議 (2012年8月2日開催)	2-3
2.5	第4回ワーキンググループ会議 (2012年11月29日・30日開催)	2-4
2.6	第5回ワーキンググループ会議 (2014年6月4日・5日開催)	2-5
第3章	ワークショップの開催	3-1
3.1	ワークショップ.....	3-1
3.2	第1回ワークショップの開催 (2012年8月7日開催)	3-1
3.3	第2回ワークショップの開催 (2013年2月12日開催)	3-6
3.4	第3回ワークショップの開催 (2014年3月20日開催)	3-9
第4章	定例週会議の開催	4-1
4.1	定例週会議.....	4-1
第5章	長期派遣専門家および短期派遣専門家との連携	5-1
5.1	長期派遣専門家.....	5-1
5.2	短期派遣専門家.....	5-1
5.2.1	岡積敏雄 短期派遣専門家	5-1
5.2.2	塚原健一 短期派遣専門家	5-4
5.2.3	大井英臣 短期派遣専門家	5-6
5.2.4	大町利勝 短期派遣専門家	5-7
第6章	広報活動	6-1
6.1	ニューズレターの発行.....	6-1
6.2	メディアの活用.....	6-1
6.3	Video 映像の配布	6-2
6.4	動画投稿サイトへのアップロード.....	6-2
6.5	ソーシャル・ネットワーク・サービスによるニュース配信	6-3

図リスト

図 3.2-1	テーマ1「洪水の被害原因についての情報共有と統合化」	3-3
図 3.2-2	CRC (Crisis Response Centre) によって収集される洪水被害額	3-3
図 3.2-3	KMD (Kenya Meteorological Department) によって収集・処理される 気象データと 水早期警報 (Flood Early Warning)	3-4
図 3.2-4	WRMA 地域事務所によって収集・処理される水文データ	3-4
図 3.2-5	洪水に対してレジリエントなコミュニティの構築のための WRUA への支援	3-5
図 3.2-6	既存 SCMP への洪水管理の組み込み	3-5
図 3.3-1	テーマ1 プロジェクトチームからのコミュニティハザードマップ作成 に関する発表資料	3-7
図 3.3-2	テーマ1 FMU からの IFAS に関する発表資料	3-7
図 3.3-3	テーマ2 NEMA からの EIA に関する発表資料	3-8
図 3.3-4	テーマ2 KeHNA からの洪水被害対応に関する発表資料	3-8
図 3.3-5	テーマ3 LOGUMI WRUA の洪水管理に関する発表資料	3-9
図 6.1-1	ニューズレター	6-1
図 6.4-1	引き渡しセレモニーと洪水対策啓発劇の Youtube 動画	6-3
図 6.5-1	Facebook Page “Flood Kenya”	6-3

表リスト

表 1.1-1	合同調整委員会の開催状況.....	1-1
表 1.2-1	第1回 JCC 議事.....	1-2
表 1.3-1	第2回 JCC 議事.....	1-3
表 1.4-1	第3回 JCC 議事.....	1-4
表 1.5-1	第4回 JCC 議事.....	1-5
表 1.6-1	第5回 JCC 議事.....	1-7
表 1.7-1	第6回 JCC 議事.....	1-8
表 1.7-2	本プロジェクト終了後における WRMA の洪水管理にかかる今後の 活動計画 (1)	1-9
表 1.7-3	本プロジェクト終了後における WRMA の洪水管理にかかる今後の 活動計画 (2)	1-10
表 2.1-1	ワーキンググループ会議と開催日.....	2-1
表 3.1-1	ワークショップの開催状況.....	3-1
表 3.2-1	第1回ワークショップ議事.....	3-2
表 3.3-1	第2回ワークショップ議事.....	3-6
表 4.1-1	定例週会議における議事構成 (例)	4-1
表 5.2-1	岡積専門家 現地活動行程表.....	5-2
表 5.2-2	塚原専門家 現地活動行程表.....	5-5
表 5.2-3	コミュニティ早期警報整備計画 (案)	5-7
表 5.2-4	大町専門家 現地活動行程表.....	5-8

写真リスト

写真 6.2-1	ローカルテレビ局の QTV より FEWS についての取材.....	6-1
写真 6.3-1	修了証授与式を収録したビデオ.....	6-2
写真 6.3-2	引き渡しセレモニーを収録したビデオ.....	6-2

第1章 合同調整委員会の開催

合同調整委員会（Joint Coordinating Committee : JCC）は先方政府が主体となり、概ね6ヵ月に1回の頻度でプロジェクトの経過報告と調整を行うものである。JCCにおいては、PDMにおける指標の決定、年間計画の承認、進捗、レビューと評価、意見交換等を実施する。

1.1 合同調整委員会（JCC）

本プロジェクトでは、下表のとおり全部で6回のJCCを開催した。各JCCの開催報告を以下に述べる。

表 1.1-1 合同調整委員会の開催状況

会議名	開催日
第1回合同調整委員会	2011年8月18日
第2回合同調整委員会	2012年8月7日
第3回合同調整委員会	2013年2月13日
第4回合同調整委員会	2013年10月8日
第5回合同調整委員会	2014年3月20日
第6回合同調整委員会	2014年7月31日

1.2 第1回合同調整委員会（2011年8月18日開催）

2011年8月18日に開催された第1回合同調整委員会（JCC）では、本プロジェクト開始まもなく開催された。本プロジェクト目的、取り組む課題とその実施方法、実施体制等について説明を行った。これにより、カウンターパートであるWRMAならびに関係機関とディスカッションを行い意識の共有をはかり、プロジェクトへの理解と協力を要請した。（詳細は「添付資料 7-1 第1回合同調整委員会議事録等」を参照）

表 1.2-1 第1回 JCC 議事

PROGRAMME OF THE FIRST JOINT COORDINATING COMMITTEE OF THE PROJECT ON
CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE
AREAS

Venue: Kenya School of Monetary Studies

Date: 18th August, 2011

TIME	TOPIC	FACILITATOR
08:30-09:00	Registration	TM
09:00-09:20	Introduction and Welcome remarks	Technical Manager WRMA
09:20-09:45	Official opening speech	PS, MWI
09:45-10:15	Speech by JICA chief representative	JICA Chief Representative
10:15-10:45	TEA BREAK	
10:45-11:30	Introduction of the project	CEO WRMA
11:30-12:00	Presentation of the project	Project Chief Advisor
12:00-13:00	Plenary discussion	CEO WRMA
13:00-14:00	LUNCH BREAK	
14:00-14:15	Signing of Minutes of Meeting and official launch	(PS, CEO, JICA and CA)
14:15-14:45	Speech by Representative, Embassy of Japan	Representative, Embassy of Japan
14:45-15:00	Closure of the meeting	Director of WE, MWI

1.3 第2回合同調整委員会（2012年8月7日開催）

2012年8月7日に開催された第2回 JCC では、プロジェクトチームが本 JCC 開催時点までの調査結果に基づく今後の方針を説明した。プロジェクトにおける実施内容とスケジュールを WRMA ならびに各関係機関に示し、合意得を得るとともに協力を要請した。その結果、本プロジェクトで実施するテーマは次の4点に絞られることが確認された。

- ① 洪水に強いコミュニティ作り
コミュニティ強化のためには、洪水対策を SCMP に入れ込むこと、SCMP 作成の際の手本となる WDC マニュアルを洪水管理の項目を追加すること、土木の知識を持つ WRMA 職員を増員すること、洪水に係るステークホルダーをコーディネートするためのシステム作りを目指すことが合意された。
- ② 洪水による犠牲者の軽減
洪水観測システムの構築、簡易型の洪水早期警戒システムの設置、効果的な水位観測所の選定および観測を目指すことが確認された。
- ③ 流域単位での洪水管理計画策定のためのシステム作り
- ④ 効果的な洪水管理のためステークホルダー間の調整を行うシステムの設立

テーマ③、④共通で、洪水に関する情報が関係者間で共有されること、各省庁や関係機関の調整を行うこと、WRMA がケニア国での洪水管理をリードすることを目指すものとした。(詳細は「添付資料 7-2 第 2 回合同調整委員会議事録等」を参照)

表 1.3-1 第 2 回 JCC 議事

2nd Joint Coordinating Committee Meeting on the Project of Capacity Development for Effective Flood Management in Flood Prone Areas (PCDEFM) Agenda	
Date: Tuesday 7 August 2012	
Time: 14:00 – 16:30 (2 h 30 min)	
Venue: KCB Leadership Centre- Karen	
Objectives:	
➤ To authorize PDM indicator within 5 months of the project commencement.	
➤ To approve the annual work plan of the project	
➤ To review and evaluate the general progress of the project.	
➤ To exchange opinions on issues regarding the project.	
➤ To discuss any other issues pertinent to the smooth implementation of the Project	
14:00-14:15	Registration (15 min)
14:15-14:20:	Opening Remarks from MWI (5 min)
14:20-14:25:	Opening Remarks from WRMA (5 min)
14:25-14:30	Opening Remarks from JICA (5 min)
14:30-15:00	Presentation of Progress Report from JICA Project Team (30 min)
15:00-15:45	Discussion (45 min)
15:45-16:00:	Break (15 min)
16:00- 16:30:	Wrap up and Closing Remarks (30 min)

1.4 第 3 回合同調整委員会 (2013 年 2 月 13 日開催)

2013 年 2 月 13 日に開催された第 3 回 JCC では、JICA 中間評価団によって実施された評価結果の承認、プロジェクトの進捗状況の報告、ならびに今後の計画についてのディスカッションがなされた。プロジェクトチームからは PDM に沿った本プロジェクトの現在までの進捗状況を報告し、ケニア国側が確認を行い承認された。

表 1.4-1 第3回 JCC 議事

3rd Joint Coordinating Committee Meeting on the Project of Capacity Development for Effective Flood Management in Flood Prone Areas (PCDEFM) Agenda	
Date: Wednesday 13 February 2013 Time: 9:00 – 13:00 (TBC) Venue: NHIF Auditorium, 2nd floor Wing B, NHIF Building, Nairobi	
Objectives: <ul style="list-style-type: none">➤ To review and evaluate the general progress of the project➤ To approve the annual work plan of the project➤ To exchange opinions on issues regarding the project➤ To discuss any other issues pertinent to the smooth implementation of the Project	
8:30-9:00	Registration (30 min)
9:00 - 9:10:	Opening Remarks from MWI (10 min)
9:10 - 9:15:	Opening Remarks from WRMA (5 min)
9:15 - 9:20	Opening Remarks from JICA (5 min)
9:20 - 9:40	Progress Report from JICA Project Team (20 min)
9:40 - 10:10	Result of the Mid-Term Evaluation of the Project from JICA Study Team (30 min)
10:10 - 11:00	Discussion (50 min)
11:00 - 11:20	Tea Break (20 min)
11:20 - 11:40	Next Steps including Training Programme from Project Team (20 min)
11:40 – 12:00	Recommendations from JICA Study Team (20 min)
12:00- 12:50:	Wrap Up Discussion (50 min)
12:50- 13:00:	Closing Remarks from WRMA (10 min)

第3回 JCC 時において確認されたプロジェクト活動における PDM 上の成果 1 と成果 2 を以下に示す。(詳細は「添付資料 7-3 第3回合同調整委員会議事録等」を参照)

成果 1 流域統合洪水管理の概念の下、引き続き CMS や SCMP、WDC マニュアル等の法的枠組みの中に洪水対策の項目を入れ込むことを目指すことを提言した。また、WRMA の能力強化に関し、今後の研修計画の概要、スケジュール、内容の案を示し承認された。

成果 2 洪水管理計画が Isiolo および Lumi 川流域で現在作成中であること、また、それに関連して両流域の統合洪水管理委員会の開催が準備され実施されていることを説明した。WRMA からはコミュニティレベルでの活動に関し、各パイロット・サブ流域の SCMP への洪水管理計画の組み込みを急ぐべきとの意見が出された。

1.5 第4回合同調整委員会（2013年10月8日開催）

2013年10月8日に開催された第4回JCCでは、PDMに沿って実施されているプロジェクトの進捗状況を報告するとともに、PDMの修正、実施スケジュール、研修計画等について議論しケニア国側の了承を得た。（詳細は「添付資料7-4 第4回合同調整委員会議事録等」を参照）

表 1.5-1 第4回JCC議事

4th Meeting of Joint Coordinating Committee (JCC) on the Project of Capacity Development for Effective Flood Management in Flood Prone Areas (PCDEFM) Agenda		
Date: Tuesday 8 October 2013		
Time: 9:00 – 13:00		
Venue: Utalii College, Nairobi		
Moderator: Eng. Wilfred Matagaro, DTCM (Flood Management), WRMA		
8:30- 9:00	Registration (30 min)	
9:00 - 9:05	Opening Remarks from MEWNR (5 min)	Mr. Nyaoro, Dir. Of Water Resouces, MEWNR
9:05 - 9:10	Opening Remarks from WRMA (5 min)	Eng. Ohm, CEO, WRMA
9:10 - 9:15	Opening Remarks from JICA (5 min)	Mr. Eguchi, Chief Representative, JICA Kenya Office
9:15 - 9:55	Progress in Isiolo River Basin (Presentation: 30 min; discussion: 10min)	Mr. Kinyunjui, MEN SRM, WRMA
9:55 - 10:35	Progress in Lumi River Basin (Presentation 30 min; discussion: 10 min)	Mr. Musau, NTL SRM, WRMA
10:35- 11:05	Progress in Gucha Migori River Basin (Presentation 20 min; discussion: 10min)	Mr. Maturwe, SSGM SRM, WRMA
11:05 – 11:20	Tea break (15 min)	
11:20 – 11:45	WRMA Flood Management Training Course in Kenya and in Japan (Presentation: 15 min; discussion: 10 min)	Eng. Kondo, JICA Project Team
11:45 – 12:00	Project Design Matrix and Work Plan (15 min)	Mr. Sawa, JICA Project Team
12:00 – 12:15	Non-structural measures in cooperation with KRCS in the target areas (15 min)	Kenya Red Cross Society
12:15 - 12:50	Wrap up Discussion (35 min)	
12:50 - 12:55	Closing Remarks from MEWNR (5 min)	Dir. Nyaoro, MEWNR
12:55 - 13:00	Closing Remarks from WRMA (5 min)	Eng. Ohm, WRMA

第4回合同調整委員会（JCC）における議論のポイントを以下に示す。

- ① PDM の指標（2つの指標の確定）について了承された。
 - ・ 研修の参加者の割合（数）：(1-4) More than 40 persons of WRMA staffs attend training course by the end of this Project.
 - ・ コミュニティ防災活動の従事者数：(2-3) More than 25 number of WRMA staffs have experience of community based flood management activities in the Project target areas.
- ② 実施スケジュールについて了解された。
- ③ 3つのパイロット・サブ流域におけるプロジェクトの進捗について説明し、了承された。
- ④ 研修計画について了承された。
- ⑤ Lumi 川流域において、Taita Taveta County 知事から洪水制御のための堤防や排水路などの構造物対策を早期に実施するための技術的支援の要望があったことの報告を行った。

1.6 第5回合同調整委員会（2014年3月20日開催）

2014年3月20日に開催された第5回JCCでは、JICA終了時評価団によって実施された評価結果の承認、プロジェクトの進捗状況の報告、ならびに今後の計画についてのディスカッションがなされた。プロジェクトチームからはPDMに沿った本プロジェクトの現在までの進捗状況を報告し、ケニア国側が確認を行い承認された。（詳細は「添付資料7-5 第5回合同調整委員会議事録等」を参照）

表 1.6-1 第5回 JCC 議事

*in the Republic of Kenya***Workshop and 5th Joint Coordinating Committee (JCC) Meeting
Agenda**Date: 20th March 2014 Thursday

Venue: Utalii College, Nairobi

(MC: Mr. Alexander Nzyuko, DTCM, WRMA)

8:00- 8:30	30min	Registration
8:30- 8:35	5min	Opening Remarks from MEWNR (Dir. Nyaoro)
8:35- 8:40	5min	Opening Remarks from WRMA (Eng. Olum, CEO)
8:40- 8:45	5min	Opening Remarks from JICA Kenya Office (Mr. Eguchi, Chief Representative)
8:45- 9:00	15min	Opening Remarks from JICA Project Team (Eng. Kondo, Chief Advisor)
9:00- 9:20	20min	Report on activities on Output 1 including Training in Kenya and Japan, Revision of WDC Manual, Establishment of FMD, Revision of NWRMS and CMSs (Eng. Kimanga, WRMA-FMU)
9:20- 9:50	30min	Report on activities on Output 2 from Isiolo Sub Catchment (WRMA-SRM&WRUA&KRCS)
9:50- 10:20	30min	Report on activities on Output 2 from Lower Lumi Sub Catchment (WRMA-SRM&WRUA&KRCS)
10:20- 10:50	30min	Report on activities on Output 2 from Lower Gucha Migori Sub Catchment (WRMA-SRM&WRUA&KRCS)
10:50- 11:05	15min	Tea Break
11:10- 11:40	30min	Discussion on the reports (Facilitator: Eng. Wanyoni, WRMA-DTCM)
11:40- 12:00	20min	Disaster Management Policy, Post-Hyogo Framework for Action (HFA) and World Conference on Disaster Risk Reduction (WCDRR) (Mr. Gordon Otieno Muga, Ministry of Interior and Coordination of National Government)
12:00- 13:00	60min	Discussion on “Devolution and Flood Management” (Facilitator: Eng. Wanyoni)
13:00- 13:50	50min	Lunch Break
14:00- 14:30	30min	Result of the Terminal Evaluation of the Project (JICA Terminal Evaluation Study Team)
14:30- 15:00	30min	Discussion on the result of the Terminal Evaluation (Facilitator: Eng. Wanyoni)
15:00- 15:15	15min	Tea Break
15:15- 15:35	20min	Future development of flood management after the Project (Eng. Kimanga)
15:35- 15:55	20min	Discussion on the Future development of flood management after the Project (Facilitator: Eng. Wanyoni)
15:55- 16:00	5min	Closing Remarks from JICA Terminal Evaluation Study Team (Mr. Miyata, Director of Disaster Management Division 1, Global Environment Department, JICA)

1.7 第6回合同調整委員会（2014年7月31日開催）

2014年7月31日に開催された第6回 JCC では、プロジェクト活動の終了に伴い、PDM に沿った本プロジェクトの成果を報告するとともにケニア国側がディスカッションと確認を行い報告内容が承認された。ケニア国側より今後の活動についての計画が発表された。（詳細は「添付資料 7-6 第6回合同調整委員会議事録等」を参照）

表 1.7-1 第6回 JCC 議事

Project on Capacity Development for Effective Flood Management in Flood Prone Area in the Republic of Kenya

**6th Joint Coordinating Committee (JCC) Meeting
Agenda**

Date: 31st July 2014 Thursday
Venue: Utalii, Nairobi
(MC: Eng. Matagaro, DTCM -FM, WRMA)

8:30- 9:00	30 min	Registration
9:00- 9:05	5 min	Opening Remarks from MEWNR (Dir. Nyaoro MEWNR)
9:05- 9:10	5 min	Opening Remarks from WRMA (Eng. Olum, CEO WRMA)
9:10- 9:15	5 min	Opening Remarks from JICA (Mr. Hanaj Senior Representative, JICA Kenya Office)
9:15- 9:25	10 min	Background and Outline of the Project (Mr. Sawa, JICA Project Team)
9:25- 9:55	30 min	Report on Output 1 (Mr. Simon Mwangi, WRMA-FMU)
9:55- 10:15	20 min	Discussion
10:15- 10:45	30min	Report on Output 2 (Ms. Elizabeth Diego, WRMA FMU)
10:45- 11:05	20 min	Discussion
11:05- 11:20	15 min	Tea Break
11:20- 11:50	30 min	Report of capacity development on flood management in WRMA (Mr. Alexander Nzyuko, WRMA-FMU)
11:50- 12:10	20 min	Discussion
12:10- 12:30	20 min	Presentation on the Next step on flood management in WRMA (Eng. Kinyua, TCM)
12:30- 12:55	25 min	Wrap-up discussion/ Handing Over of Instruction manuals
12:55- 13:00	5 min	Closing Remarks (Dir. Nyaoro, MEWNR)
13:00- 13:10	5 min	Vote of thanks (Mr. James Ambuso FAM)

表 1.7-2 本プロジェクト終了後における WRMA の洪水管理にかかる今後の活動計画(1)

ANNUAL CORPORATE WORK PLAN FOR FY 2014/15															
INDICATOR	OBJECTIVES	STRATEGIES	ACTIVITIES/PROJECTS	ANNUAL TARGETS	UNIT OF MEASURE	LEAD ACTOR	REGIONAL QUARTERLY TARGETS				Budget (Ksh. M)	Remarks			
							Q1	Q2	Q3	Q4					
SERVICE DELIVERY	2. To maintain efficiency and effectiveness in water resource planning and management	Modernize water resource monitoring networks	Mapping out all the flood prone areas within the 15No flood prone areas	1	Reports	DTCM(FM)					0.10	<i>Real-Time Forecasting and Decision Support System (6 RGS and 12 Rnfall stations)</i>			
			Identify, map and monitor the monitoring stations for flood monitoring and prediction (weather and river monitoring stations)	2	No.	DTCM(FM)							-		
			Establish/Rehabilitate/Upgrade targeted flood monitoring networks into realtime	18	No.	DTCM(FM)							5.00		
		Improve water resource management tools	Mainstream flood management in RVCA Catchment Management Strategy	1	No.	DTCM(FM)							0.05	<i>RVCA CMS to be revised</i>	
			Develop integrated River Basin Flood Management Plans for Awach Kano, Perkerra and Engare Narok(Rumuruti)	6	Draft IFMPs	DTCM(FM)							Below	<i>PC requirement</i>	
			+ Execution of training for WRMA	6	No.	DTCM(FM)							2.00	<i>6 ATCM-FM trained on modelling and 6 RO trainings of gauge readers</i>	
			+ Execution of training for WRUA (2 Weeks) (Including drawing Community based hazard map)	6	No.	DTCM(FM)							-	<i>WRUA trained on FM</i>	
			+ Reflecting IFM to SCMP (1 weeks)	9	No.	DTCM(FM)							Budget with CD	<i>CD to take the lead on 6 selected RO and 3 pilot project areas</i>	
			+ Formulating and holding of IFMC	18	No.	DTCM(FM)							7.25	<i>3 FMCs for each of the 6 River basins</i>	
			+ Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)	6	Reports	DTCM(FM)							0.60	<i>6No draft IFMC done</i>	
			+ Drafting IFMP (Including plan of flood counter measures)	6	Reports	DTCM(FM)							0.60	<i>For 6No River Basins</i>	
			+ Site survey for flood damage data and Analysis of flood characteristics(after every flood for all 15No SRs)	6	reports	DTCM(FM)							3.00	<i>All SROs</i>	
			+ Fabrication and installation of FEWS for all SRs	18	No.	DTCM(FM)							0.60	<i>All SROs</i>	
		Carryout water resources assessment	Service Delivery System	Implement integrated River Basin Flood Management Plans for Isiolo, Taveta, Lower Lumi and Nyando	3	No.	DTCM(FM)							8.00	<i>All the 4No previous pilot areas</i>
				Undertake flood impact studies for 6No among the 15No flood prone areas	6	reports	DTCM(FM)							0.60	<i>Detailed surveys</i>
					Improve access to information by:	100	%	DTCM(FM)							
					Prepare periodicals on flood management activities taking place in the flood prone areas	1	report	DTCM(FM)						0.05	<i>Customer Service Charter</i>
			Operationalization of innovation (Convinient rain and water gauge)	1	No.	DTCM(FM)					0.30	<i>Community based Flood Early Warning System(CBFEWS)</i>			
			Implementation of the Constitution	1	No.	DTCM(FM)					0.30	<i>Constitutional requirement</i>			
			Enhance Institutional automation	1	No.	DTCM(FM)					-	<i>Hydromet IT equipment</i>			

表 1.7-3 本プロジェクト終了後における WRMA の洪水管理にかかる今後の活動計画(2)

DYNAMIC/ QUALITATIVE	5. To promote partnerships, build institutional capacity and improve work environment	Promote Partnerships	Partner with other institutions on:										
			Carry out joint studies of flood prone areas (Modelling)	1	Report	DTCM(FM)						0.10	Detailed Surveys
			Engage with County governments on legislation and planning (Pilot 6No Counties on capacity building of IFM) . Prepare project proposals	1	Report	DTCM(FM)						above	Constitutional requirement
		Repairs: equip. and machinery	Implement repair schedule of key Flood monitoring stations.	1	Report	DTCM(FM)						0.20	After installations
		Maintenance: Machinery, Building and equipment	Implement maintenance schedule of key Flood monitoring stations.	1	Report	DTCM(FM)						above	After installations
		Research and development	Research, development and capacity building(Capacity build 6No Hydrologist(ATCM FM) on Flood prediction using Crest and IFAS models) and Flood Risk Modeling)	1	Report	DTCM(FM)						0.30	Detailed Surveys
	Develop institutional competency	Identify skills gaps for training of ATCM-FM & FMOs	1	policy doc	DTCM(FM)						-		
		Total									28.95		

第2章 ワーキンググループ会議の開催

本プロジェクトでは、地元コミュニティとの連携のもとに活動を進めていくため、WRMA 本局、地方事務所のメンバーで構成されるワーキンググループを形成し、このグループで共同作業や協議を行うための会議を実施した。

2.1 ワーキンググループ会議

ワーキンググループ（WG）は、長期派遣専門家、短期派遣専門家およびコンサルタントから構成されるプロジェクトチームのカウンターパートになるメンバーのことである。

WG トップとして、WRMA 本局のテクニカルコーディネーションマネージャーが配置されている。WRMA 本局から、洪水管理ユニット（Flood Management Unit: FMU）が配置されている。プロジェクト対象地域の WRMA 地域事務所、サブ地域事務所から、地域事務所長、サブ地域事務所長、流域管理オフィサー、表流水オフィサー、コミュニティ開発オフィサー、そして、新設された洪水管理オフィサーが WG のメンバーとして配置されている。

本プロジェクトにおいて、地方にパイロットとして設定した河川流域が3つあり、それぞれを WRMA の地方出先機関である RO(Regional Office)とそれに所属する SRO が管轄している。

プロジェクトチームがパイロット流域での活動を推進するには、地元コミュニティとの協力が不可欠である。したがって、FMU とプロジェクトチームは、地元コミュニティとより緊密な連携をはかるため、また、活動によって得られる知見や教訓などを共有し、現地に浸透することを狙い、FMU、RO、SRO、プロジェクトチームのメンバーが一同に会するワーキンググループ会議を開催した。ワーキンググループの開催状況を以下に示す。

表 2.1-1 ワーキンググループ会議と開催日

会議名	開催日
第1回ワーキンググループ会議	2012年2月21日
第2回ワーキンググループ会議	2012年7月26日
第3回ワーキンググループ会議	2012年8月2日
第4回ワーキンググループ会議	2012年11月29～30日
第5回ワーキンググループ会議	2014年6月4～5日

2.2 第1回ワーキンググループ会議（2012年2月21日開催）

第1回ワーキンググループ会議における主な協議内容は、以下のとおりである。同会議の議事録等を付属資料 4-1 に示す。

(1) ベースライン調査の結果報告

ローカルコンサルタントの Environ Check Ltd.に委託して実施した、ベースライン調査について結果報告と質疑応答を行った。ローカルコンサルタントからは、720件を対象に実施した調査結果や調査過程で作成した GIS データ等が提供され、疑義のあるものについてはワーキンググループメンバーから後日出されるコメントによって修正されることになった。

(2) Flood Management Forum の設立にむけたプロジェクト対象エリアに関するレポート

3つの Sub-catchment から各々のフォーラムメンバーの人選についての状況や候補者についての報告がなされ、2月24日までに WRMA 本局へプロポーザルを送ることになった。

(3) SCMP に取り込まれるべき統合洪水管理について

統合洪水管理の考え方が SCMP に取り込まれることが決まり、これについて必要な情報を WRMA 本局、RO、SRO から WRUA へ提供することになった。また、SCMP への洪水管理がとりこまれることについて FMU が WSTF との調整を行うことになった。

(4) プロジェクトからの進捗報告

プロジェクトチームから、PDM にそって活動状況について報告がなされた。

(5) ケニア国における洪水管理の枠組みについての提案

プロジェクトチームから、検討した洪水管理の枠組みについて説明がなされ、そのドキュメントをラミネート加工してワーキンググループのメンバーに配布することになった。

(6) JICA チーフアドバイザーのワークプラン

小林チーフアドバイザーよりワークプランの説明がなされ、研修のプランをもう少し前倒ししてほしいとの意見が出た。

(7) プロジェクトチームのワークプラン

プロジェクトチームよりワークプランの説明がなされ、直近の JCC の Agenda についての質疑を行った。

2.3 第2回ワーキンググループ会議(2012年7月26日開催)

第2回ワーキンググループ会議における主な協議内容は、以下のとおりである。同会議の議事録等を付属資料4-2に示す。

(1) 情報収集状況の報告

3つのプロジェクトサイト毎に、Sub Regional Manager と Flood Management Activity Supervisor から情報収集状況について説明と報告がなされた。一部の未入手のデータについては、以下のメンバーからデータが提供されることを確認した。

- 地形図 Mwakamba 氏 (Ath Regional Manager)
- DH ファイル Nzyuko 氏 (WRMA FMU)
- 洪水被害方法 各 Sub Regional Manager

(2) Effective Flood Management Workshop の開催準備

Technical Coordination Manager である Kinyua 氏より、コンセプトノートが説明され、2012年8月7日に Nairobi で Effective Flood Management Workshop を実施する旨の案内があった。また、当日実施するプレゼンテーションの内容と発表者についての調整を行い、各プロジェクトエリアの Sub Regional Manager が行うことで合意された。このほか、KRCS とスペシャルプログラム省からもプレゼンテーションを行うことで合意された。

2.4 第3回ワーキンググループ会議(2012年8月2日開催)

第3回ワーキンググループ会議における主な協議内容は、以下のとおりである。同会議の議事録等を付属資料4-3に示す。

(1) 情報収集状況の報告

3つのプロジェクトサイト毎に、Sub Regional Manager と Flood Management Activity Supervisor から情報収集状況について説明と報告がなされた。一部の未入手のデータについて、チェックリストを確認した。主な未入手のデータは以下のとおりであり、収集責任者と提出期日について確認した。

- Isiolo エリアにおける人口の増減
- 農工商業統計データ
- Gucha Migori における High Discharge Equation
- Isiolo における過去の洪水記録

(2) Effective Flood Management Workshop の開催準備

プロジェクトチームより、タイムスケジュールおよび担当者と作業割り当てについて説明した。ワークショップの Chair Person は MWI から、セレモニーマスターは WRMA Technical Manager の Kinyua 氏が、ファシリテーターは Nairobi 大学の Khroda 教授が務めることで合意された。

プレゼンテーションは、Nyatike District のコミッショナーと各プロジェクトエリアの Sub Regional Manager が行うことで合意された。

(3) Joint Coordinating Committee Meeting

Chair Person は MWI の Permanent Secretary か水資源局長の Nyaoro 氏が務めることで合意された。

2.5 第4回ワーキンググループ会議（2012年11月29日・30日開催）

第4回ワーキンググループ会議における主な協議内容は、以下のとおりである。同会議の議事録等を付属資料4-4に示す。

(1) WRMA 職員のキャパシティアセスメント

プロジェクトチームより、WRMA 職員に対するキャパシティアセスメントの概要を説明し、プロジェクトを通して進められるキャパシティ・ディベロプメントとその計画について説明した。

(2) WRUA メンバーとコミュニティのキャパシティアセスメント

プロジェクトチームより、WRUA とコミュニティを対象としたキャパシティアセスメントの概要を説明し、プロジェクトを通して WRMA が WRUA に対して進めるキャパシティ・ディベロプメントとその計画について説明した。

(3) KRCS による洪水リスクの軽減活動

KRCS メンバーより、Nyando および他のエリアにおける洪水リスクを軽減するために実施した活動事例とその成果について報告を行った。また、WRMA と KRCS が洪水の問題について協力することの利点についてディスカッションした。

(4) 河川統合流域洪水管理委員会

KRCS メンバーより、Nyando および他のエリアにおける洪水リスクを軽減するために実施した活動事例とその成果について報告を行った。また、WRMA と KRCS が洪水の問題について協力することの利点についてディスカッションした。

(5) SCMP ならびに WDC マニュアルに取り込まれるコミュニティ洪水管理モジュール

プロジェクトメンバーより、パイロット河川流域における洪水の特性と現象について、原因分析表や浸水域を示した地図を用いて解説した。洪水による被害と影響について、ならびに被害の深刻度によるランク付けについて説明した。また、洪水に対する対策を提案した。

2.6 第5回ワーキンググループ会議（2014年6月4日・5日開催）

第5回ワーキンググループ会議における主な協議内容は、以下のとおりである。同会議の議事録等を付属資料4-5に示す。

(1) WRMA 職員のキャパシティアセスメント(事後のアセスメント)

プロジェクトチームより、キャパシティアセスメントの概要を説明し、プロジェクトの事後における改善状況についての評価に取り組んだ。この評価のプロセスで、評価結果を結論付けた理由を議論し、そこから残された課題と対応策を協議した。

(2) ナレッジ・マネジメントについての説明と議論

ナレッジ・マネジメントとして、資料のインデックス付けによる体系的管理と洪水調査をルーチン化した業務モデルの導入について提案を行うとともに実施にむけての議論を行った。ナレッジ・マネジメントの仕組みの最終化はFMUのSimon氏と詰めることとなり、実施が合意された。

(3) 統合洪水管理の全国展開

プロジェクトチームより、統合洪水管理を全国展開するためのタイムフレームと予算配分の構想を説明した。12河川流域のうち、1年半で6河川流域を対象に各流域を並行して導入のための活動を実施し、その後の1年半で残りの6河川流域を対象に活動を実施すること、すなわち3年間で全国展開を終えることで合意がなされた。

(4) 洪水フォーラム実施にむけての調整

大統領の来訪と日程が重なるため、当初の6月18、19日から同月24日、25日に変更することで調整を行った。プロジェクトチームより、参加メンバーならびに議題について説明があり、内容について合意がなされた。

第3章 ワークショップの開催

ケニア国における洪水管理において、行政側には WRMA 以外のステークホルダーも存在し、各々の関係省庁間での協力関係の構築が重要である。本プロジェクトでは、このような協力関係を鑑みプロジェクトの活動成果を報告し、議論をする場としてワークショップを実施し広く意見を求めプロジェクトの活動にフィードバックした。

3.1 ワークショップ

洪水管理に関する情報を関連する各セクターと関係省庁と共有し、ネットワークを構築することを目的として、前述した JCC の開催に合わせて下表に示す日程でワークショップを開催した。

表 3.1-1 ワークショップの開催状況

会議名	開催日
第1回 ワークショップ	2012年8月7日
第2回 ワークショップ	2013年2月12日
第3回 ワークショップ	2014年3月20日

ワークショップの主要参加者は、WRMA 各層および MEWNR の職員、WRUA メンバーを始め、各パイロット地域がある3地域の district commissioner、ケニア気象局 (KMD)、ケニア高速道路公社 (KeNHA)、ケニア都市道路公社 (KURA)、国家環境管理庁 (NEMA)、土地省等の省庁関係者およびケニア赤十字などの NGO である。

プロジェクトの進捗報告のほか、各機関の視点での洪水管理の状況の発表を行うことによって、WRMA と参加者の間での情報共有が行われた。水・灌漑省の元事務次官で現在 Nairobi 大学の教授がファシリテーターとなり、参加者全員でのディスカッションも活発に行われ、各パイロット地域の WRUA の活動報告や現状報告によつての WRUA 間の情報共有の場にもなっている。

3.2 第1回ワークショップの開催 (2012年8月7日開催)

第1回ワークショップが2012年8月7日に開催された。参加者は、ケニア国側から MWI 局長、WRMA 本部の TM、FMU メンバー、地域事務所、サブ地域事務所の職員であり、日本側から JICA ケニア事務所職員、プロジェクトチームのメンバーが参加した。本ワークショップの議事を以下に示す。

表 3.2-1 第1回ワークショップ議事

7 th August, 2012
Workshop on Effective Flood Management
Agenda
Date: Tuesday 7 August 2012
Time: 8:30 – 13:30
Venue: KCB Leadership Centre- Karen
Objectives:
<ul style="list-style-type: none">➢ To share the current information related to flood management in various actors➢ To exchange opinions for better flood management➢ To establish a network for flood related information gathering and sharing➢ To share the current situation of community and see the future possibilities of community based flood management activities.
The result of project activities in the last 1 year
<ul style="list-style-type: none">➢ From the analysis by the project, the importance of the integration of information related to floods and the implementation of community based activities is declared. Therefore, those 2 matters will be emphasized in this workshop. In theme 2, the project will focus in 3 pilot areas to develop the matter in the future project activities.
8:30-9:00 Registration (30 min)
9:00-9:05: Opening Remarks from MWI (5 min)
9:05-11:00 Presentation and discussion on theme 1 (115 min)
Theme 1: Information sharing and integration on flood cause and effect
<ul style="list-style-type: none">➢ Flood damage cost collected by the Cabinet (OPM, Crisis Response Centre) (15 min)➢ Meteorological data and early warning on floods (MEMR, Kenya Meteorological Department) (15 min)➢ Hydrological data (WRMA Sub Regional Manager) (15 min)➢ Flood situation of last rainy season in project area (Nyatike District Commissioner) (15 min)➢ Group Discussion (20 min)➢ Plenary Discussion and Presentation from Groups (5 min x 5 groups +10 min = 35 min)
11:00-11:20: Break
11:20-12:50: Presentation and discussion on theme 2 (90 min)
Theme 2: Community Based Flood Management Activities
<ul style="list-style-type: none">➢ CBDM approaches in Kenya (Ministry of State for Special Programmes) (15 min)➢ Current Sub Catchment Management Plan (SCMP) (Chairman WRUAs) (15 min)➢ Group Discussion (10 min)➢ Plenary Discussion and Presentation from Groups (5 min x 5 groups +20 min = 50 min)
12:50- 13:40: Wrap up and Closing Remarks (40 min)
1

本ワークショップでは、テーマ1「洪水の被害とその原因についての情報共有と統合化」、テーマ2「コミュニティ防災活動」にわけて議論した。

テーマ1「洪水の被害とその原因についての情報共有と統合化」では、CRC (Crisis Response Centre) によって収集される洪水被害額、KMD (Kenya Meteorological Department) によって収集・処理される気象データと水早期警報 (Flood Early Warning)、WRMA 地域事務所によって収集・処理される水文データの3点に焦点をあて議論がなされた。各テーマの発表資料の一部を以下に示す。

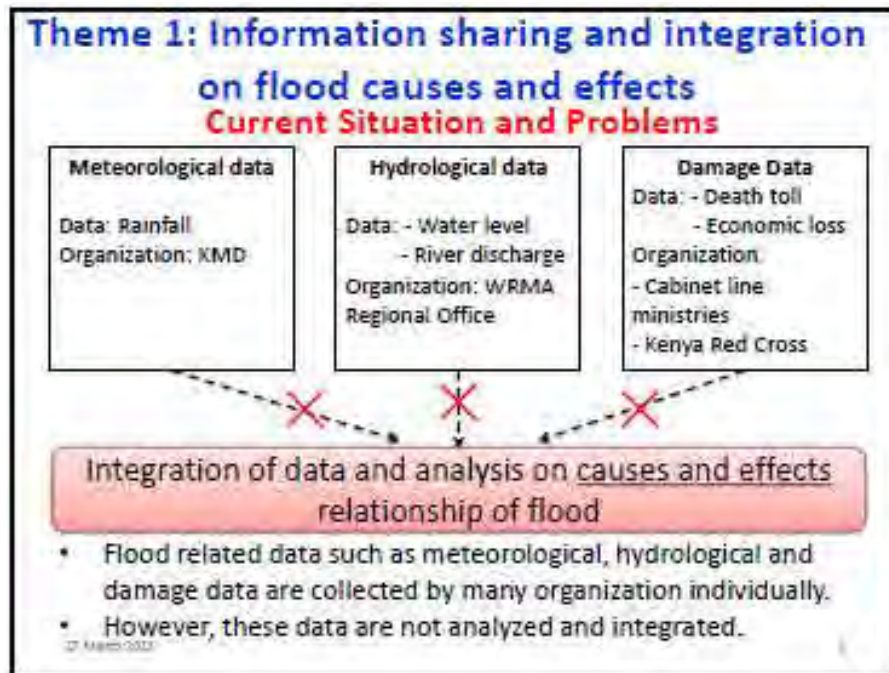


図 3.2-1 テーマ 1「洪水の被害原因についての情報共有と統合化」

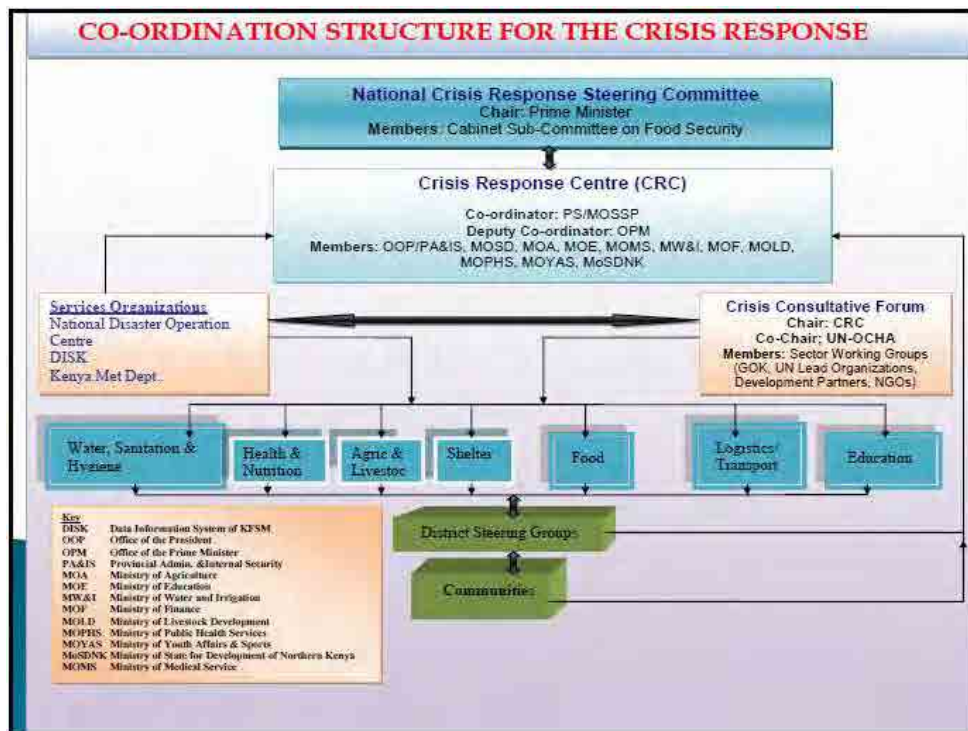


図 3.2-2 CRC(Crisis Response Centre)によって収集される洪水被害額

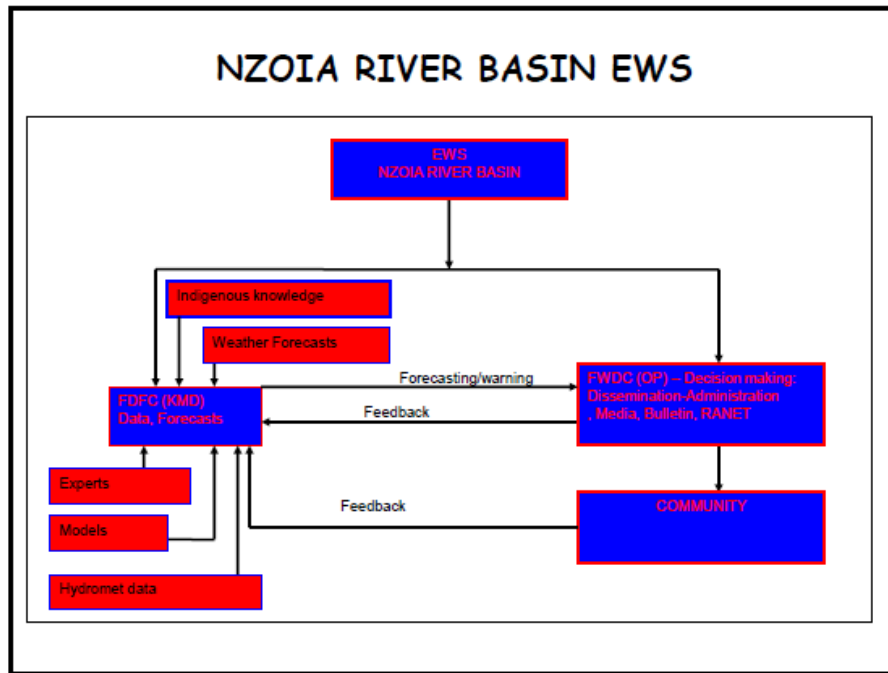


図 3.2-3 KMD(Kenya Meteorological Department)によって収集・処理される気象データと水早期警報(Flood Early Warning)

Data Collection methods

- i) Use of honoraria gauge readers
- ii) By WRMA staff during monthly monitoring.
- iii) Collaboration with other stakeholders e.g KMD, Agriculture

Challenges in data collection:

- i) Inconsistencies in reading i.e. unreliable observers.
- ii) Manual reading may not be possible during flood season.
- iii) Vandalism of the hydrological stations by floods and scrap metal dealers.
- iv) Low wage payment of observers i.e. Kshs. 1000/- per month.
- v) Inadequate hydrological network.
- vi) Inadequate or lack of field equipments
- vii) Inadequate transport.

Gucha-Migori at WAthongeri

図 3.2-4 WRMA 地域事務所によって収集・処理される水文データ

テーマ2「コミュニティ防災活動」では、洪水に強い（レジリエントな）コミュニティとは何かを、災害発生時のタイムラインの中のどの部分を強化すべきなのかを議論した。

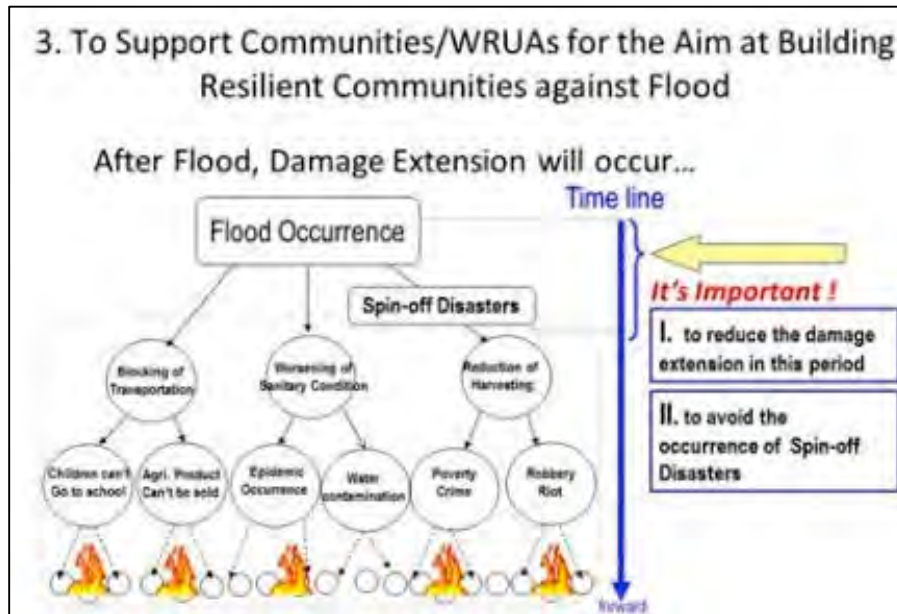


図 3.2-5 洪水に対してレジリエントなコミュニティの構築のための WRUA への支援

また、洪水管理を既存の SCMP へ組み込むことが必要であること、そのためには SCMP 作成のガイドラインである WDC マニュアルに洪水管理を組み込む必要があることをプロジェクトチームから提案した。以下に発表資料の一部を示す。

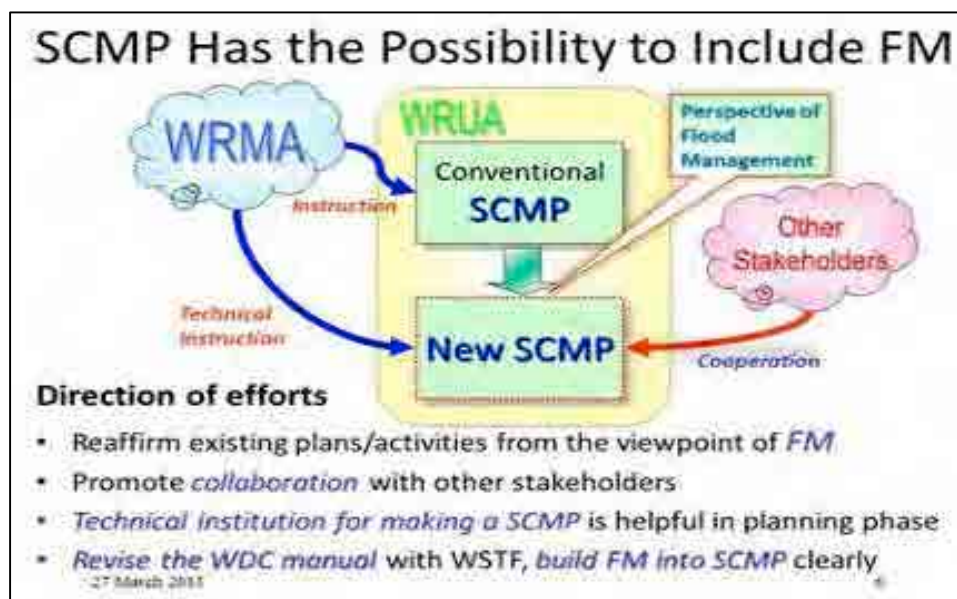


図 3.2-6 既存 SCMP への洪水管理の組み込み

3.3 第2回ワークショップの開催（2013年2月12日開催）

第2回ワークショップ（WS）が2013年2月12日に開催された。参加者はケニア国側から MWI 局長、WRMA 本部から TM、FMU メンバー、地域事務所、サブ地域事務所の職員ならびにその他関連機関の構成員であり、日本側から JICA ケニア事務所職員、プロジェクトチームのメンバーが参加した。本ワークショップの議事を以下に示す。

表 3.3-1 第2回ワークショップ議事

<p style="text-align: center;">Workshop on Effective Flood Management</p> <p style="text-align: center;">Agenda</p> <ol style="list-style-type: none">1. Opening Remarks from Ministry of Water and Irrigation2. Presentation and discussion on theme 1 Flood Hazard mapping3. Presentation and discussion on theme 2 Roads and Flood, NEMA EIA and floods in Kenya context, IFMC in Isiolo, Flood early warning in Isiolo4. Presentation and discussion on theme 3 Community flood hazard maps, Community based flood early warning in Lower Gucha Migori, Community based flood management activities5. Wrap and closing remarks
--

テーマは3つに分けられ、テーマ毎にプレゼンテーションとディスカッションが行われた。テーマ1では、ハザードマップの作成について議論が交わされ、作成に必要な情報やデータの重要性が説かれた。テーマ2では、道路、環境分野と洪水管理の関係についての議論、統合流域洪水管理計画についての議論、ならびに早期洪水警戒システムについての議論が交わされた。テーマ3では、コミュニティにおける洪水管理の実際について、Lower Gucha Migori WRUA での取組みの事例を中心に報告がなされ、それについての議論がなされた。各テーマの発表資料の一部を下記に示す。

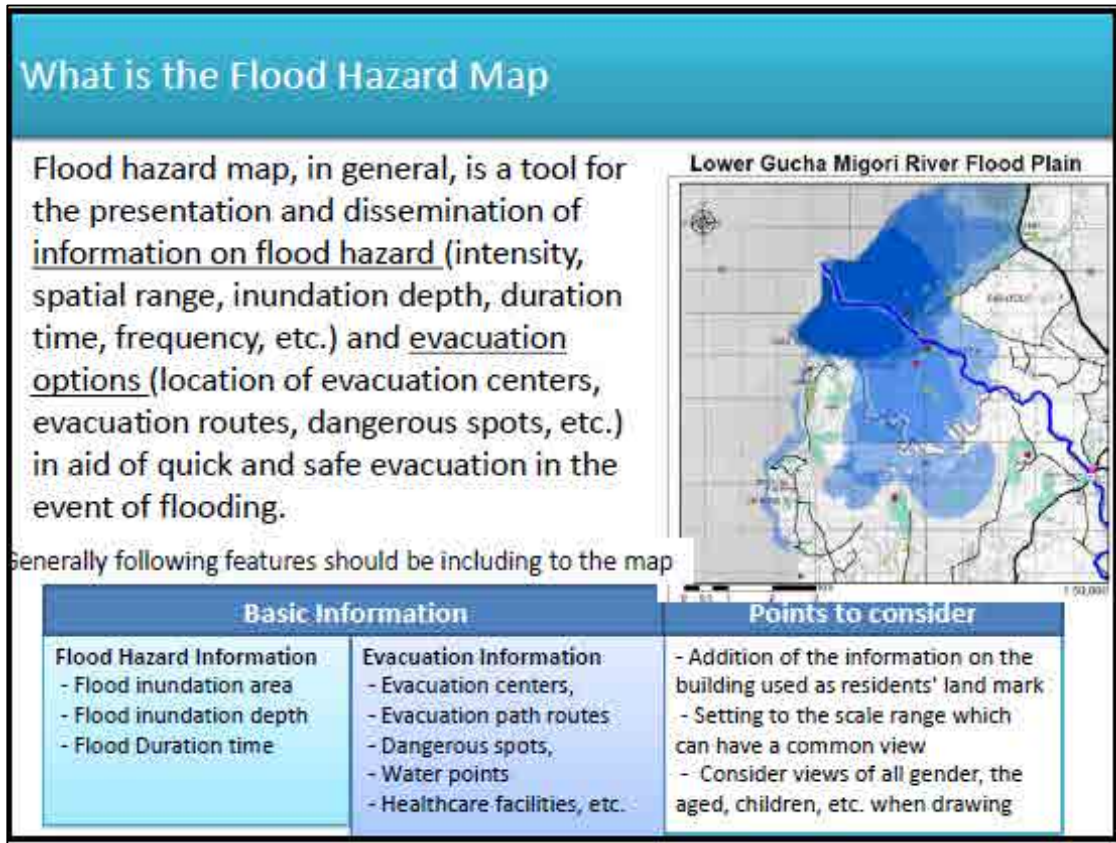


図 3.3-1 テーマ1 プロジェクトチームからのコミュニティハザードマップ作成に関する発表資料

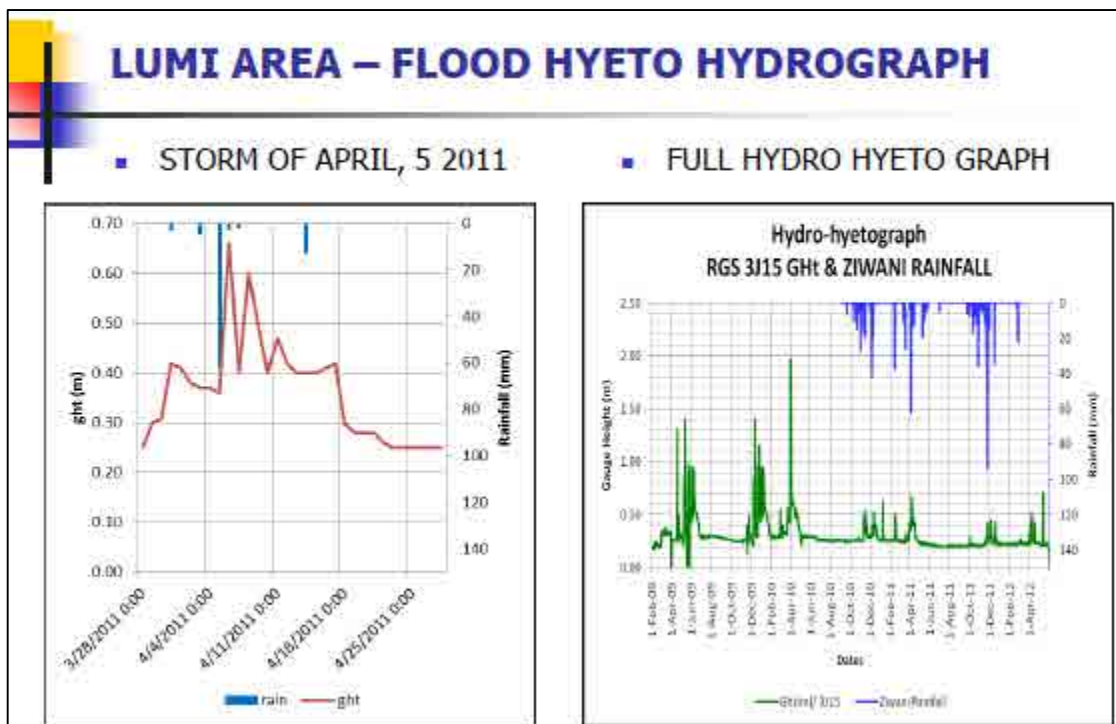


図 3.3-2 テーマ1 FMUからのIFASに関する発表資料

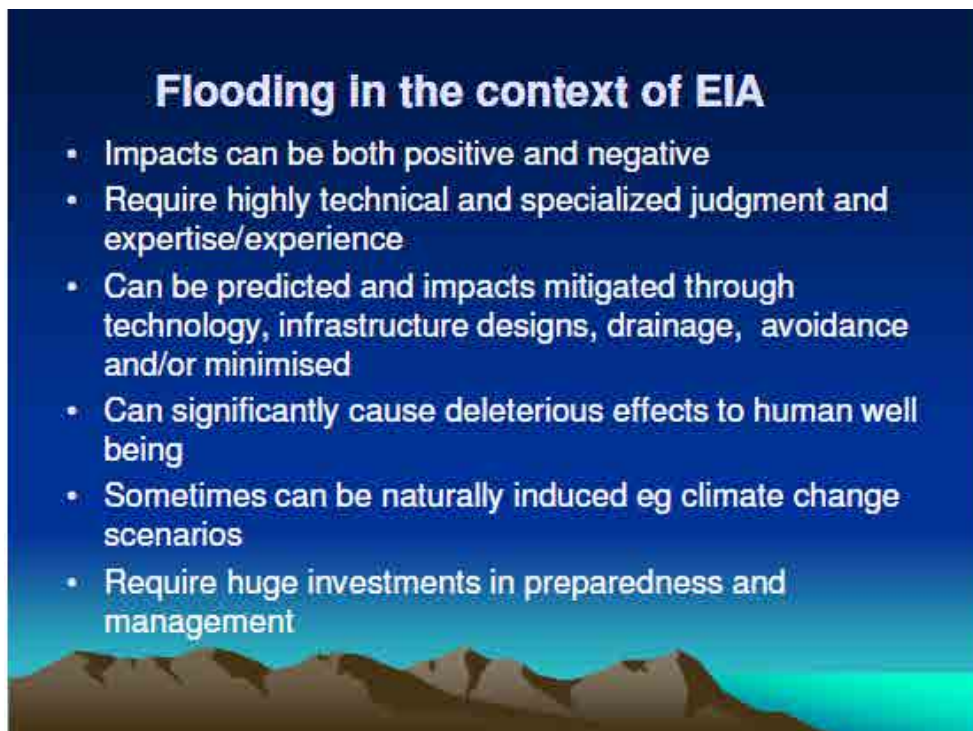


図 3.3-3 テーマ 2 NEMA からの EIA に関する発表資料

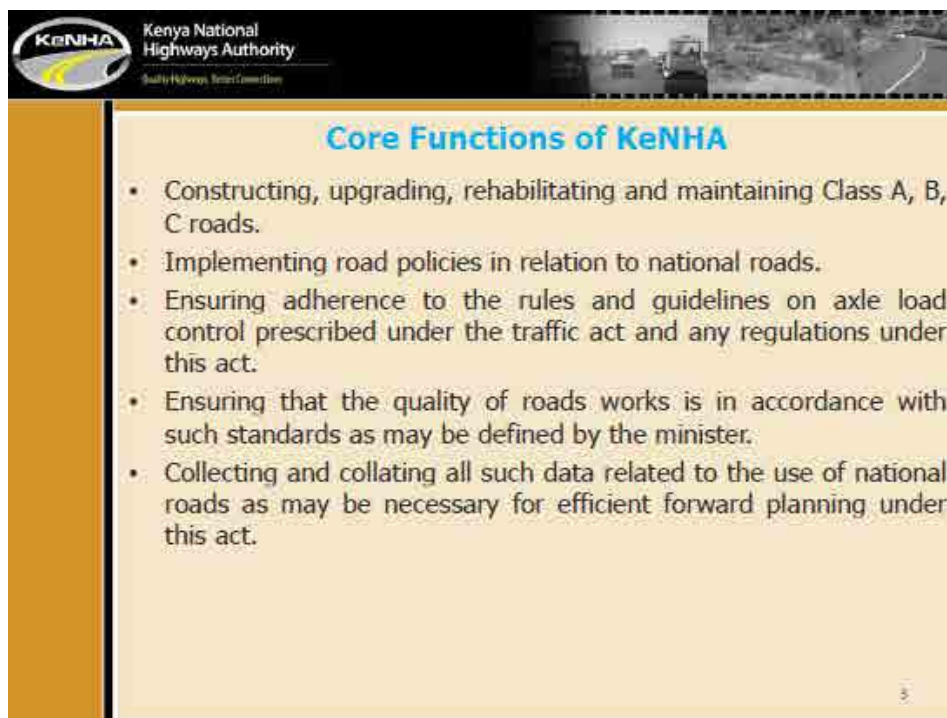



図 3.3-4 テーマ 2 KeHNA からの洪水被害対応に関する発表資料

The community developed hydrograph for flood early warning

Processes involved during the development of the hydrograph:

- LOGUMI WRUA established a proactive flood management committee;
- LOGUMI WRUA established a working rapport with the WRMA assigned RGS metre reader;
- LOGUMI WRUA established a coordination mechanism between various flood management committee members;
- LOGUMI WRUA assigned one of its member to regularly monitor the river levels by reading and recording the levels at RGS;



WRUA flood management committee members during flood assessment patrols

図 3.3-5 テーマ3 LOGUMI WRUA の洪水管理に関する発表資料

3.4 第3回ワークショップの開催（2014年3月20日開催）

第3回ワークショップ（WS）は2014年3月20日に、第4回JCCの中に含まれる形で開催された。当日、会議は午前の部と午後の部に分かれており、午前にはWSを、午後はそれに引き続きJCCを実施するという形態をとった。参加者と議事次第は、前述の第4回JCCでの午前の部と共通である。

第4章 定例週会議の開催

WRMA 本局の FMU メンバーとプロジェクトチームとが、情報共有・議論をする機会を作り、互いのコミュニケーションを円滑にするために開催した定例の週会議について概説する。

4.1 定例週会議

WRMA 本局の FMU メンバーとプロジェクトチームとのコミュニケーションを円滑にするため、定例の週会議を実施した。この背景には、FMU は職務上出張が多く、議論や情報を共有する機会を積極的に持つ必要があった。

会議内容は多岐にわたるが、概ね以下のような議事構成で行われ、プロジェクトチームからの提案について議論と意見交換を行うスタイルで実施した。また、FMU とプロジェクトチームとで共同で取り組む事項と担当者を明確に設定し、毎回その進捗と成果について報告と確認を行った。

表 4.1-1 定例週会議における議事構成(例)

議事構成		
No.	協議事項	内 容
1.	前回ミーティングのレビュー	前回ミーティングで決定したこと、設定した課題等について確認。
2.	トピックス	プロジェクトで実施した活動報告やケニア側で関連法規等の改編など種々の情報について協議し、対処方針等を議論する。トピックス数はケースバイケース。
3.	トピックス	
4.	トピックス	
5.	Action Item の進捗報告と確認	設定した Action Item の進捗状況や得られた成果を報告するとともに、次のステップのために新たな Item を設定する。
6.	A.O.B (Any Other Business)	その他、協議すべきと考えられる事項を臨機応変に提示し、議論する。

(注)トピックスの数と内容は会議毎に異なる。

会議は、2011年11月1日に開始した初回会議から2014年6月3日の最終回まで、約3年半で合計116回の会議が開催された。

第5章 長期派遣専門家および短期派遣専門家との連携

本プロジェクトでは、長期派遣専門家、短期派遣専門家を投入しており、コンサルタントは各専門家と連携して活動を実施した。

5.1 長期派遣専門家

長期派遣専門家は、チーフアドバイザー／洪水管理行政を指導科目としており、本プロジェクト期間中に2名の長期専門家が派遣された。各専門家の派遣期間は次のとおりである。

小林 肇	長期派遣専門家	派遣期間：2011年 7月から2012年12月
近藤克郎	長期派遣専門家	派遣期間：2012年11月から2014年 6月

長期派遣専門家の業務内容は、WRMA CEO に対する政策アドバイザーとしての役割、ならびに洪水管理の実務機関である WRMA 本部の政策・方向性に係る業務に対して、助言・提言を行うことである。長期派遣専門家とコンサルタントとの活動は、プロジェクトチームとして一体となっているため、ここでは長期派遣専門家の具体的な業務を以下に列挙する。

- WRMA が策定する洪水管理に係る将来計画策定に対する助言
- WRMA が策定する流域管理戦略（CMS）に対する助言
- WRMA が国家水資源管理戦略（NWRMS）に洪水管理に係る内容が含まれるように助言を行う際の助言
- WRMA 職員および関連機関職員を対象に実施する研修システム構築に向けた提言
- WRMA 本局で実施すべき WRMA 地域事務所およびサブ地域事務所で築盛された知識を管理する仕組み（ナレッジ・マネジメント）の制度化に向けた作業への助言・提言
- WRMA が定着させるべき制度（組織、人員、予算、活動資金の手当て）に対する助言

5.2 短期派遣専門家

5.2.1 岡積敏雄 短期派遣専門家

(1) 目的

本プロジェクトの活動を促進するに当たり、以下の事項について議論を進めることを目的とする。

- ① ケニア国における持続可能な洪水管理についてのコンセプト

- ② 実施機関である WRMA（水資源管理庁）が担うべき役割の整理
- ③ 実施機関である WRMA が現段階で有している洪水管理能力の把握
- ④ 実施機関である WRMA が担うべき役割を果たすために習得すべき能力の整理
- ⑤ ケニアで構築される WDC による洪水管理の持続発展性の検討（法体系・組織体系・予算根拠）

(2) 派遣時期

派遣期間：2012年05月27日から6月2日

岡積専門家の現地活動の行程を以下に示す。

表 5.2-1 岡積専門家 現地活動行程表

ケニア国「洪水に脆弱な地域における効果的な洪水管理のための能力開発プロジェクト」 運営管理調査団(第1陣; 岡積敏雄土研ICHARM, 2012年5月27日～6月2日) 行程表				
日	時	面会者		組織
27日	12:00	Prof. Japheth O. Onyando	Technical Advisor	GIZ
	宿泊	Silver Springs Hotel		
28日	9:00	John P. Olum	Chief Executive Officer	WRMA
	10:30	Alexandar M. Nzyuko	Deputy Technical Coordinating Manager	FMU, WRMA
	14:00	Patrick Nduati Mwangi	Senior Water and Sanitation Specialist	World Bank
	15:30	花井淳一、深井芽里	次長、企画調査員	JICAOffice
	宿泊	Silver Springs Hotel		
29日	9:00	Jaco Mebius	First Secretary/Senior Policy Advisor Water and Sanitation	Embassy of the Kingdom of the Netherlands
	11:00	Eng. Patrick L. Ombogo	Director Water Sector Reform Secretariat	MWI
	16:30	Eng. Joseph M. Kinyua	Technical Manager	WRMA
	17:10	仲島 涼子	WRMA JOCV for WRUAs' activities	JOCV
	宿泊	Silver Springs Hotel		
30日	9:00	Eng. W.O. Onchoke	Deputy Director of Irrigation, Drainage and Water Storage	MWI
	11:00	Elijah Omusina Bukachi, others	Assistant Director	KMD
	14:30	Col Nathan M. Kigotho	Director	National Disaster Operation Centre, Office of the president
	16:00	岡村 毅	Deputy General Manager, Water&Energy Dept.	日本工営
	宿泊	Silver Springs Hotel		
31日	9:30	Jacqueline K. Musyoki Maria Notley, Ann Nabangala Obae	Chief Executive Officer, Technical Advisor, Programme Officer, Environement	WSTF
	10:45	花井淳一、深井芽里	次長、企画調査員	JICA Office
	14:05	John P. Olum	Chief Executive Officer	WRMA
	15:00	John Rao Nyaoro	Director of Water Resources	MWI
	PM	Kitangera	Field Survey	
	宿泊	Kibo Slopes Cottages Limited		Loitokitok
1日		Loitokitok, Taveta, Lake Jipe	Field Survey	
	宿泊	Silver Springs Hotel		
2日	22:45	AF 8003	Departure to France	

出典：岡積敏雄,「ケニア国洪水に脆弱な地域における効果的な洪水管理のための能力開発プロジェクト運営指導調査団報告書」,2012年6月4日

(3) 活動概要

岡積専門家の活動は、WRMA におけるデータの取得保有状況、予警報避難情報ならびにケニア国における水セクターのリフォームに関連して情報収集による現状把握と分析である。以下に、各々の活動についての調査結果を示す。

1) データの取得、精査、保有状況の調査

ケニア国では、気象、雨量データは KMD が、水位、流量データは WRMA が管轄している。

これに関連して、WRMA は管理している約 500 水位観測所のうち、200 が直営で運用しており、残りの 300 は 1000 シリング/月で観測員に計測作業を委託している。水位観測は、基本的に 2 回/日となっており、時間観測ではない。そのため、勾配がある河川の洪水予報には使用できない。

また、精度管理については情報が入手できず不明であり、特に観測員による計測データは使えない可能性がある。今後 WRMA では、自動観測所を 15 箇所ほど設置する予定となっている。Water Data Book も年末までに作成予定となっている。

2) 予警報避難情報の現状

ケニア国では、天気予報は、当日、3 日後、1 週間後、1 ヶ月後、季節の単位で行っている。予報の基礎となっているのは、衛星情報および気象観測からの予報である。ケニア国では、気象レーダーもなく見込みを示すのみとなっている。定量的降雨予報はできていない。

洪水予報は基本的には行われていない。そもそも、水位の観測が 2 回/日程度となっていることも行われないことの主要因である。

ただし、地方のコミュニティラジオステーションからの放送がカバーされている地域においては気象情報が機能している。現時点では一部の地域のみで、まだ全国的に普及しているわけではない。

防災情報は、KMD からのルートとは別に Office of the President から Provincial, District を通じて同時並行に流されている。避難の判断責任は Governor にあるが、大規模災害の場合について、判断は President が行い District Commissioner を通じて Governor に指示がいく仕組みになっている。

Nzoia 川についてのみ、世銀の支援で堤防、ダムとあわせて自動観測所が設置されており、Flood Management Committee から洪水予警報を実施している。Flood Management

Committee は、WRMA と KMD の共同で Office of the President, Ministry of State for Special Programme が中心となって設置されたものである。

赤十字が支援しているプロジェクトにおいて、Ewaso Nyiro の既存の予警報システムがある。このシステムは行政によるものではなく、主にコミュニティレベルで洪水発生時にインフォーマルな住民間情報を伝達するシステムとして稼働しているのが現状である。ただし、洪水の継続時間が長い場合であれば、全くないよりは有効である。

3) 水セクターリフォーム

ケニア国では、水セクターがリフォームされる予定であり、基本的に9月承認、2月の大統領選挙の後に施行されるものであると認識されている。しかしながら、諸外国のドナー等では、過去の大統領選挙に際にあった政治的混乱の可能性も排除することはできず、その施行については懐疑的な見方をしている。

水セクターリフォームは、憲法(Constitution)の流れを受けての改組であり、国内には基本的に反対する意見はないとされる。プロジェクト側からの Flood Management の部分における脆弱性の指摘に対し、WRMA 側からは、ケニア国側では問題ないとの認識である。理由として、政権が変わっても国が引き続き政策、戦略立案をすすめることがあげられている。

流域に Management の権限が委譲されることとなるが、実質的には WRMA Regional Office の職員が行うことになり実質的な変更は生じない。WRMA-CEO から、「Bill が変更され、Autonomous Board を乱立させることに対して議会からの訂正意見があり、WRMA がそのまま Basin Level でも Regional Office が担当することが決まった」との説明があった。

世銀の水供給衛生担当者は、水セクターリフォームを歓迎しており、必要な改組であると認めている。水ドナー会議前議長も基本的には同様の意向を示している。

5.2.2 塚原健一 短期派遣専門家

(1) 目的

洪水管理の原点となる洪水の実態を把握し、そしてその実態から洪水の原因と被害を明らかにするために必要なアプローチや考え方を指導すること、また、プロジェクトが取り組むべき今後の対策の検討について指導することを目的とする。

(2) 派遣時期

派遣期間：2012年8月12日から8月17日
現地における活動行程を以下に示す。

表 5.2-2 塚原専門家 現地活動行程表

日付	実施内容		備考
	午前	午後	
8月12日(日)		14:45 Nairobi 国際空港着 18:00 打合せ (行動計画の調整)	
8月13日(月)	8:30or 9:00 MWI 表敬 10:00-13:00 WRMA の Technical Manager および FMU と Weekly Meeting 参加	14:00-15:30 JAXA 専門家高橋氏講演会「ALOS 画像を利用した地形図作成、その他活用展開の可能性」 15:45 (JICA ケニア事務所長表敬)	-MWI (Nyaoro 局長) -WRMA (オルム長官) は不在 (当該週)
8月14日(火)	- Action Plan のアップデートの協議	- WS の実施計画案の協議	
8月15日(水)	* 地方出張 Taveta		
8月16日(木)			
8月17日(金)	-調査結果のまとめ -JICA ケニア事務所報告	16:40Nairobi 国際空港発	

(3) 活動概要

塚原専門家の活動は、地図や水文情報をはじめとする洪水関連資料の有効活用の方向性を示し、流域の現地調査を通して、当該地での WRMA の洪水管理の現状と地域の被害実情等に基づく方向性の指導である。

1) MWI 局長との会談

MWI 局長に、日本における豪雨による被災地図や水文データを入れた地図を示し、水文資料、被災資料活用の一つの方向性を説明した。MWI 局長は、洪水対策の推進には解りやすい資料で一般に説明することが重要であることを認識し、水文資料、被災資料利活用の方向性について認識を共有した。

2) Lumi 川流域現地調査

Lumi 川流域現地調査においては、WRMA サブ地域事務所 (WRMA-SRO) の技術責任者である Maina 氏に同行してもらい流域内の調査を実施した。Maina 氏は低水流観、高水流観、観測所の実態、地域の具体的な洪水問題等的確に把握し、また地域の要である District Commissioner (DC) Office と連携をとっており、洪水管理、河川管理は机上の論では機能しないところに現場での知見もある人材が WRMA に所属していることを確認した。

洪水管理で最も重要な作業である高水流観については、WRMA においても実施していることが確認できた。しかし、実際には WRMA 地域事務所 (WRMA-RO) のある

Machakosに機材が1つあるだけで、常時実施することが困難であることがわかった。今後は、高水流観の実施実績や必要機材について確認していく必要があることを提案した。

現地調査の際に、Maina氏からLumi川流域の被害実態について地図が提出された。これは、現地では地図、地形図が存在せず、そのような中で洪水の特徴を説明したものである。もし、十分な地図、地形図があれば、より適切な洪水管理に大きく資するとの考えを説明した。

3) Taveta District Commissioner との会談

TavetaのDistrict Commissionerから洪水管理の重要性を指摘され、本プロジェクトによる協力について謝意があった。一方、「Lumi川流域では予警報は不要で、問題は下流域の排水不良である。避難しても浸水は長期にわたっているし人的被害はないので意味はない、それよりもこの流域では適切な洪水管理とは排水対策である。」との指摘があった。Lumi川下流域は、地形的にも流速の遅い浸水が長期化する傾向にあり、District Commissionerの指摘は適切であった。プロジェクトの対象流域は3河川流域であるが、河川流域毎に洪水問題は様々であり、中央レベルで一括して対策を考えるのではなく、地域実情に適合した方策を考える必要があることを提案した。

5.2.3 大井英臣 短期派遣専門家

(1) 目的

洪水の予警報に関連して、簡易雨量計ならびに簡易水位計を利用してリードタイムによる警戒・避難の考え方、また、それに伴う運用に関する指導を目的とする。

(2) 派遣時期

派遣期間（第1回派遣）：2013年 8月12日から20日

派遣期間（第2回派遣）：2013年10月14日から29日

(3) 活動概要

第1回派遣： Isiolo 及び Lumi 川の「流域会議 (Integrated Flood Management River Basin Committee)」に出席するとともに、両河川流域の現地調査を行った。また、現地調査や関係者との意見交換を踏まえコミュニティ早期警報の整備について提案をとりまとめた。提案したコミュニティ早期警報整備計画案を以下に示す。

表 5.2-3 コミュニティ早期警報整備計画(案)

2013		2014		2015～2020		2020～2045	
プロジェクト実施期間				プロジェクト終了後			
■ 機器の製作・修理・改善のための技術チームの編成	■ 技術チームに対する技術移転(ワークショップ)	■ Isiolo, Lumiでの機器の設置・運用・改善	■ 全国展開のための準備	■ 残りの4流域でのパイロット事業の実施(プロジェクト上位目標「プロジェクト終了後3年～5年で統合洪水管理計画に基づく洪水管理が全国6流域に適用される」に対応) - Nyando river/Lake Victoria South CA - Rift Valley CA - Lake Victoria North CA - Tana CA		■ 全6流域について、パイロット河川以外の河川に拡大(2015年の防災世界会議で決定される「Post 2015 Framework for DRR (2015-2045)」に対応)	

出典：大井英臣，短期派遣専門家第1回派遣 出張報告書

第2回派遣： Nairobi で実施した第1ステージ研修において、警戒・避難についての考え方と適用事例について解説した。また、警戒・避難を成功に導くために必要な手立てや普段の備え、ならびに防災意識の醸成の必要性について説明した。

本プロジェクトでパイロット・サブ流域となっている Isiolo サブ流域ならびに Lower Lumi サブ流域において、大町専門家とともに設置とその後の運用についての指導を行った。

5.2.4 大町利勝 短期派遣専門家

(1) 目的

洪水の予警報に役立つ簡易雨量計ならびに簡易水位計の製作と野外設置に関する指導を目的とする。

(2) 派遣時期

派遣期間：2013年10月14日から29日

表 5.2-4 大町専門家 現地活動行程表

2013年10月14日(月)	成田発 21:20>(EY871)>>	
10月15日(火)	04:35 Abdabi 09:40>>>(EY641)>>> >13:25 Nairobi (ケニア) 着	
	午後 Workshop 会場確認、工具部品など確認と購入	(Nairobi 泊)
10月16日(水)	Workshop 1 日目(モニターと雨量計製作)	(Nairobi 泊)
10月17日(木)	Workshop 2 日目(雨量計完成と水位計製作)	(Nairobi 泊)
10月18日(金)	Workshop 3 日目(セミナー本体に合流) 現地調査団、専門家との意見交換	(Nairobi 泊)
10月19日(土)	現地調査準備	(Nairobi 泊)
10月20日(日)	Isiolo に移動、設置候補地点調査(水位監視計1、雨量監視計2)	(Meru 泊)
10月21日(月)	雨量監視計2設置、既設雨量監視計1確認、Nairobi に帰着	(Nairobi 泊)
10月22日(火)	報告書作成、Lumi 地区向け資機材整理、団内打合せ	(Nairobi 泊)
10月23日(水)	Lumi(Tabeta)に移動、水位監視計設置予定地点調査、資材調達	(Tabeta 泊)
10月24日(木)	設置候補地点調査、資材調達、水位監視計1、雨量監視計1設置	(Tabeta 泊)
10月25日(金)	雨量監視計1設置、下流受益地区視察、	(Loitokitok 泊)
10月26日(土)	Nairobi に帰着、調査団と意見交換	(Nairobi 泊)
10月27日(日)	報告書作成	(Nairobi 泊)
10月28日(月)	JICA Nairobi Office 報告、ケニア赤十字表敬 Nairobi (ケニア) 14:35>(EY642)>> >20:25 Abdabi 22:10>(EY878)>>	
10月29日(火)	>>13:05 成田	

(3) 活動概要

大町専門家は上記の行動予定表のとおり、まず Nairobi で雨量計ならびに水位計の製作ワークショップを行った。ワークショップでは、部品の調達を始め、設計図を参照しながら原理や仕組みについて学習する講義が行われた。講義は実習の中で同時並行に行われ、随時質疑応答を行いながら着実に機器製作を行うことができた。ワークショップの中では、今後の機器製作の持続可能性を考慮し、3人1組3班構成の中で中核となるリーダーを設定し、地元ノウハウを持ち帰り他の WRUA メンバーに伝授することができることも目標の1つとして周知徹底した。なお、リーダー3人のうち2人は KRCS ボランティアであり、ファシリテーターとして活躍することが期待される。

機器製作ワークショップの後、実際に現地へ行き設置のためのガイダンスを行った。手順としては、まず、機器の設置候補地として地元から推薦のあった場所を中心に現地調査を行い、大町専門家の判断のもとでいくつかの機器の設置を行った。残りの機器については、地元で KRCS ボランティアのファシリテートのもとに設置が進むように手配を行った。この流れを、WRMA、WRUA、KRCS および地元住民有志に対して、本プロジェクトのパイロット・サブ流域である Isiolo サブ流域、Lower Lumi サブ流域において実施した。

第6章 広報活動

ケニア国において、本プロジェクトの活動を広く知ってもらい、洪水管理への意識を高めてもらうのと同時に、活動をよりよいものへとするための意見や助言を獲得することを狙って各種の手段を用いて広報活動を行った。

6.1 ニュースレターの発行

プロジェクトチームは、パイロット・サブ流域におけるプロジェクトチーム、WRMA および WRUA の活動に関する情報を発信することを目的として、ニュースレターを発行した。このニュースレターは、WRMA 本局内に掲示するとともに、JCC やワークショップ、IFMC 会議等のあらゆる機会を通じ、関係者に印刷物として配布した。本プロジェクト期間中に発行したニュースレターを付属資料 4-9 に示す。

6.2 メディアの活用

2014年5月4日に地元TV局である「QTV」から、プロジェクトチームにFEWSの件で取材があった。これにより、Kabalanet 地区での雨量計ならびに水位計の設置の様子がテレビ放映された。



写真 6.2-1 ローカルテレビ局の QTV より FEWS についての取材



図 6.1-1 ニュースレター

6.3 VIDEO 映像の配布

2013年11月時に実施した本邦研修終了時における研修修了証授与式の模様をビデオに収録した。また、2014年3月時において、Isiolo サブ流域と Lumi サブ流域でのパイロットプロジェクトの一環で実施した構造物対策で建設した物件の引き渡しセレモニーをビデオに収録した。これらのビデオを DVD にして、WRMA、WRUA および地元住民等の関係者へ配布した。

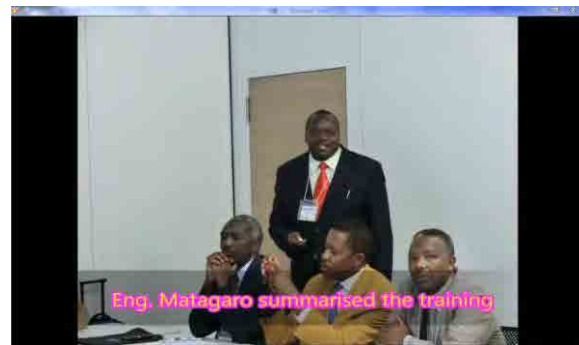


写真 6.3-1 修了証授与式を収録したビデオ



写真 6.3-2 引き渡しセレモニーを収録したビデオ

6.4 動画投稿サイトへのアップロード

2014年3月時において、本プロジェクトでは Lumi 川流域の Taveta 地区で構造物対策工事を竣工した。その引き渡しセレモニーならびにその一環で実施した Eldoro Primary School での洪水対策啓発劇をインターネット上の動画投稿サイトにアップロードし、事業の PR を行った。



図 6.4-1 引き渡しセレモニーと洪水対策啓発劇の YouTube 動画

6.5 ソーシャル・ネットワーク・サービスによるニュース配信

2013 年 1 月時にプロジェクトチームが行った洪水現地調査を題材にソーシャル・ネットワーク・サービス上に“Flood Kenya” ページを作成し、その後発生した洪水や WRMA での洪水管理イベントについて情報や提言を掲示した。



図 6.5-1 Facebook Page “Flood Kenya”

ケニア共和国
洪水に脆弱な地域における効果的な
洪水管理のための能力開発プロジェクト
プロジェクト業務完了報告書
添付資料

添付資料 リスト

1. PDM
2. 業務フローチャート
3. 詳細活動計画
4. 専門家派遣実績（要員計画）
5. 研修員受入れ実績（著作物利用条件を含む）
6. 供与機材・携行機材実績（引渡リストを含む）
7. 合同調整委員会議事録等
 - 7.1 第1回合同調整委員会議事録等
 - 7.2 第2回合同調整委員会議事録等
 - 7.3 第3回合同調整委員会議事録等
 - 7.4 第4回合同調整委員会議事録等
 - 7.5 第5回合同調整委員会議事録等
 - 7.6 第6回合同調整委員会議事録等

1. PDM

Project Design Matrix Version 2

Creation date: 8 October 2013

Project Name: The Project on Capacity Development for Effective Flood Management in Flood Prone Area

Duration: July 2011 – June 2014 (3 years)

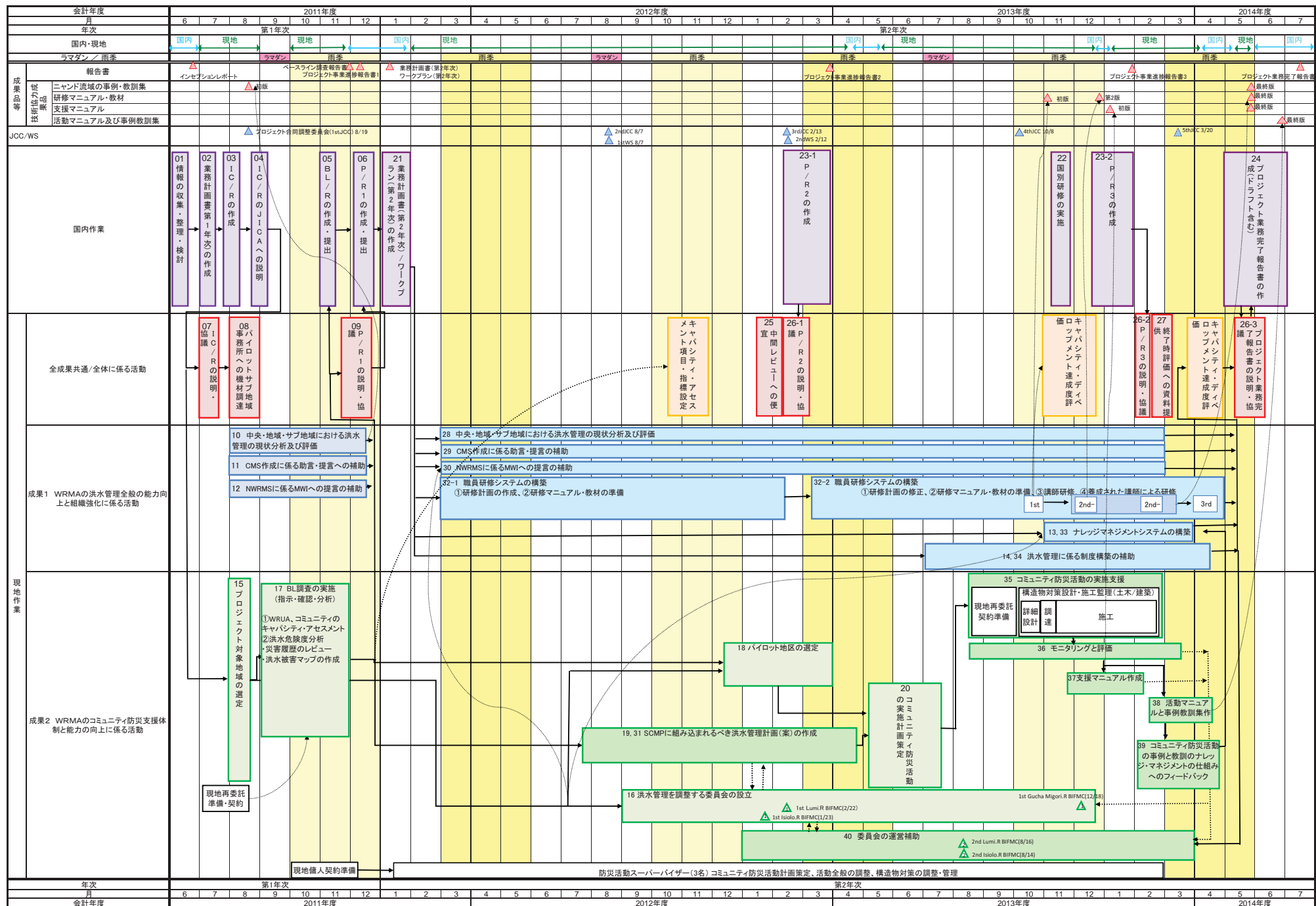
Target Group: Working Group in WRMA

	Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal	Institutional framework of flood management in the context of integrated water resource management is expanded to all of the six catchments.	<ul style="list-style-type: none"> WRMA’s Strategic Plan properly addresses flood management. WRMA staff in charge of flood management has capacity to implement community based activities in the six catchments. Flood management is incorporated in CMS and SCMP of flood prone areas in the six catchments WRMA’s knowledge management mechanism (knowledge management) and training system function covering the six catchments are established. Budget for flood management is secured in the six catchments. 	<ul style="list-style-type: none"> Strategic Plan of WRMA Training records and performance appraisal records CMS and SCMP WRMA’s activity records and training records Financial records 	GOK maintains its strategy to promote flood management.
Project Purpose	In the Project target areas, institutional framework of flood management in the context of integrated water resource management is established for effective and sustainable implementation of community based activities.	<ul style="list-style-type: none"> Staff of WRMA in charge of flood management in the project target areas has capacity to implement community based activities. Flood management is incorporated in CMS and SCMP of flood prone areas in the project target areas. WRMA’s knowledge management mechanism (knowledge management) and triaging system function covering the project target areas are established. Budget for flood management is secured in the project target areas. 	<ul style="list-style-type: none"> Training records, project records and performance appraisal records. Strategies and plans in the project target areas. WRMS’s activity records and training records Financial records 	Budget and personnel for flood management is allocated as planned.
Outputs	1) At each level of WRMA (headquarters, regional offices and sub-regional offices), sustainable organizations in charge of flood management are strengthened.	1-1 A future plan of WRMA on flood management covering personnel, budget and function is prepared. 1-2 Catchment Management Strategies (CMSs) in the Project target areas properly integrate flood management. 1-3 Training plan, training material and trainers are prepared. 1-4 More than <u>12 % (40 numbers out of 319 technical staffs) of WRMA technical staffs</u> attend training course by the end of this Project. 1-5 WRMA’s institutional setup and budgetary systems for flood management are clearly defined and operated in the Project target areas.	1.1 Project records 1.2 CMS 1.3 Project records 1.4 Project records 1.5 Project records and financial records	<ul style="list-style-type: none"> Trained staff continue working for WRMA Residents in the pilot areas cooperate to the Project.
	2) For promoting community based activities of flood management, capacity of WRMA to support WRUAs and communities is strengthened.	2-1 Flood management plans in the pilot areas are prepared. 2-2 Materials describing the cases and lessons of the community based flood management activities are prepared. 2-3 More than <u>25</u> number of WRMA staffs have experience of community based flood management activities in the Project target areas.	2.1 Project records 2.2 Project records 2.3 Project records	

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Activities</p>	<p>(1-1) Working Group (WG) analyzes the actual state of flood management at national, regional and sub-regional level respectively.</p> <p>(1-1-1) Institutional framework</p> <p>(1-1-2) Budget arrangement</p> <p>(1-1-3) Personnel allocation</p> <p>(1-1-4) Good practices</p> <p>(1-2) WRMA formulates a future plan of WRMA on flood management including personnel, budget and strategy.</p> <p>(1-3) WRMA elaborates Catchment Management Strategy (CMS) including flood management.</p> <p>(1-4) WRMA advises MWI to include a chapter of flood management in the National Water Resource Management Strategy</p> <p>(1-5) WRMA establishes a training system for WRMA staff.</p> <p>(1-5-1) Formulation of a training plan</p> <p>(1-5-2) Preparation of training manuals</p> <p>(1-5-3) Implementation of training courses for trainers</p> <p>(1-5-4) Implementation of training courses by the trainers</p> <p>(1-5-5) Evaluation and feedback of the outcomes from the training courses</p> <p>(1-5-6) Contribution to the relevant organization in terms of implementation of training courses</p> <p>(1-6) WRMA institutionalizes knowledge management mechanism at regional level and sub- regional level respectively</p> <p>(1-7) WRMA establishes institution and budgetary systems to address flood issues.</p>	<p>Inputs</p> <p><u>Japan side</u></p> <ol style="list-style-type: none"> 1. Experts <ol style="list-style-type: none"> a) Chief Advisor / Flood management administration b) Flood management technology c) Community based disaster management d) Promotion of disaster management activity e) Institution / Training <p>The other field will be considered when necessity arises</p> <ol style="list-style-type: none"> 2. Equipment <ol style="list-style-type: none"> a) Office equipment (Personal computer and printer etc.) b) Project vehicles 3. C/P training in Japan 4. Facilities and equipment for community based activities <ol style="list-style-type: none"> a) sub-contracting cost for local consultant b) material and equipment cost for community based activities 	<p><u>Kenya side</u></p> <ol style="list-style-type: none"> 1. Personnel allocation from Counter Part (C/P) <ol style="list-style-type: none"> a) Joint Coordinating Committee (JCC) b) Working Group (WG) 2. Budget allocation 3. Office Space and Facilities <ol style="list-style-type: none"> a) Office space b) Depot space for construction materials, vehicles and other necessary equipment 4. Local cost 	<p>Flood management Unit is established.</p>
---	---	---	---	--

<p>(2-1) WRMA determines pilot sub-catchments.</p> <p>(2-2) WG establishes a coordinating function among relevant stakeholders such as flood management forum.</p> <p>(2-3) WRMA analyzes the current situations of communities.(Baseline survey)</p> <p> (2-3-1) Capacity assessment of community on flood management</p> <p> (2-3-2) Risk analysis including flood disaster map</p> <p>(2-4) JCC determines pilot areas based on a baseline survey.</p> <p>(2-5) WG facilitates communities to prepare flood management plans in the pilot areas to be integrated in Sub-Catchment Management Plan (SCMP)</p> <p> (2-5-1) Study on good practices</p> <p> (2-5-2) Participatory planning</p> <p>(2-6) WG supports the implementation of community based activities based on the flood management plans.</p> <p>(2-7) WG monitors and evaluates the community based activities.</p> <p>(2-8) WG prepares materials describing the cases and the lessons based on the community based activities.</p> <p>(2-9) WG contributes the cases and the lessons of the community based activities to the knowledge management mechanism.</p>			
--	--	--	--

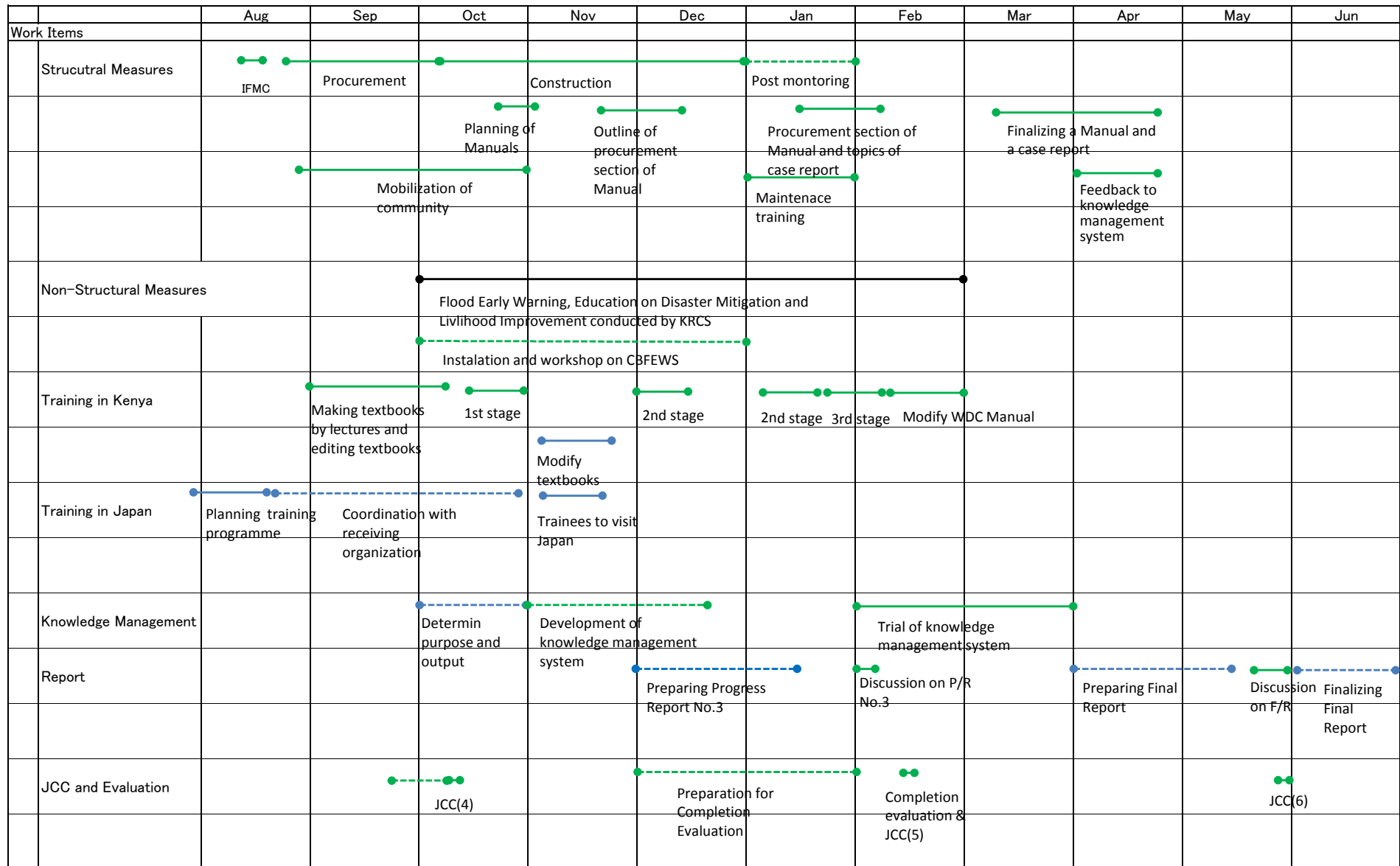
2. 業務フローチャート



3. 詳細活動計画

Work Plan
 Project Name: The Project on Capacity Development for Effective Flood Management in Flood Prone Area

8 October 2013



4. 専門家派遣実績（要員計画）

Dispatching Schedule

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

Name (Assignment)	Trip	FY 2011												FY 2012												FY 2013												FY 2014												Days	M/M	Days	M/M
		1st Contract						2nd Contract						1st Contract						2nd Contract						1st Contract						2nd Contract																					
		6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8				
Hajime KOBAYASHI (Chief Advisor)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												540	18.00		
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												540	18.00		
Katsro KONDO (Chief Advisor)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]														570	19.00
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]														570	19.00
				Works in Kenya, Total		Plan		540		18.00		570		19.00		Actual		540		18.00		570		19.00																													

Name (Assignment)	Trip	FY 2011												FY 2012												FY 2013												FY 2014												Days	MM	Days	MM
		1st Contract						2nd Contract						1st Contract						2nd Contract						1st Contract						2nd Contract																					
		6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8				
Hideki SAWA (Team Leader / Disaster Management Activity Promotion Expert)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												97	3.23	368	12.27
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												97	3.23	368	12.27
Masaru ARAKIDA (Community Based Disaster Management Expert)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												60	2.00	239	7.97
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												60	2.00	239	7.97
Msayuki INOUE (Institution/ Training Expert)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												75	2.50	160	5.33
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												75	2.50	160	5.33
Taketoshi MATSUNAGA (Institution/ Training Expert 2)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												0	0.00	21	0.70
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												0	0.00	21	0.70
Yukihiro MIKUMO (Disaster Management Activity Promotion /Community Based Disaster Management Assistant)	Plan	[Blue bar]												[Blue bar]												[Blue bar]												[Blue bar]												0	0.00	312	10.40
	Actual	[Black bar]												[Black bar]												[Black bar]												[Black bar]												0	0.00	312	10.40
				Works in Kenya, Total		Plan		232		7.73		1100		36.67		Actual		232		7.73		1100		36.67																													

Legend: [Black bar] Actual, [Blue bar] Plan, [Rainbow bar] Additional Work

5. 研修員受入れ実績 (著作物利用条件を含む)



Japan International Cooperation Agency
(JICA) Kenya Office
P.O. Box 50572-00200 Nairobi, Kenya
TEL: +254-20-2775000
FAX: +254-20-2724878 / 2718202

Ref. No. TA-25-219 (IG)

Date: 26 September 2013

Principal Administrative Secretary
Directorate of Public Service Management
Ministry of Devolution & Planning
P.O. Box 30050
NAIROBI
ATTN: MS. JUSTER NKOROI

Dear Madam

**COUNTERPART TRAINING COURSE - EFFECTIVE COMMUNITY BASED
FLOOD MANAGEMENT**

With regard to training in Japan for foreign participants, I am pleased to inform you that **fifteen (15) nominees (see attached list) from institutions under the Ministry of Environment, Water and Natural Resources** will be considered for the below course to be held in Japan:

EFFECTIVE COMMUNITY BASED FLOOD MANAGEMENT

The training is scheduled to take place from **9 November 2013 to 27 November 2013**. More information regarding the course information and proposed applicants are attached to this letter

Application Forms for the JICA Training & Dialogue Program should be completed and returned to this office through the Directorate of Public Service Management (DPSM) not later than:

11 OCTOBER, 2013

Yours faithfully

Koji NODA
Senior Representative
JICA Kenya Office

Enc.

Principal Administrative Secretary
Directorate of Public Service Management
Ministry of Devolution & Planning
NAIROBI
ATTN: MS. JUSTER NKOROI

**COUNTERPART TRAINING COURSE - EFFECTIVE COMMUNITY BASED
FLOOD MANAGEMENT**

c.c. Principal Secretary
Ministry of Finance
P.O. Box 30007
NAIROBI
ATTENTION: MRS. D. KIMEU

Principal Secretary
Ministry of Environment, Water and Natural Resources
NAIROBI

Director
Water Resource Management Authority (WRMA)
NAIROBI

Head
Lower Gucha Migori Water Resource Users Association
MIGORI

Head
Isiolo Water Resource Users Association
ISIOLO



WATER RESOURCES MANAGEMENT AUTHORITY

NHIF Building, 9th Floor, Wing B
P.O. Box 45250 - 00100, Ngong Road
Nairobi - Kenya

Tel: +254-020-2732291/2729048/9
Fax: +254-020-2729950
Email: wrma@wrma.or.ke
Website: www.wrma.or.ke

Ref: WRMA/HQ/1/5/3/Vol.27/109

Date: October 3, 2013

The Principal Secretary
Ministry of Environment, Water &
Natural Resources
NAIROBI

RE: TRAINING COURSE IN JAPAN

The following officers have been identified to attend a training course in Japan titled "Effective Community Based Flood Management".

S/No.	Name Of Officer	Position	Institution
1.	Eng. Wilfred Ochenge Matagaro	Dep. Tech. Cord. Manager	Water Resources Management Authority
2.	Mr. Alexander Nzyuko	Dep. Tech. Cord. Manager	Water Resources Management Authority
3.	Mr. Peterson Njiru	Ass. Tech. Cord. Manager	Water Resources Management Authority
4.	Ms. Elizabeth Akinyi Diego	Ass. Tech. Cord. Manager	Water Resources Management Authority
5.	Ms. Rose Akinyi Nyamori	Ass. Tech. Cord. Manager	Water Resources Management Authority
6.	Mr. Stephen Ngao	Ass. Tech. Cord. Manager	Water Resources Management Authority
7.	Mr. Timothy Mutie	Ass. Tech. Cord. Manager	Water Resources Management Authority
8.	Mr. Joseph Boit	Catchment Management Officer	Water Resources Management Authority
9.	Mr. Joseph Maina	Catchment Management Officer	Water Resources Management Authority

10.	Mr. Abraham Gitonga	Catchment Management Officer	Water Resources Management Authority
11.	Mr. Samuel Njihia	Catchment Management Officer	Water Resources Management Authority
12.	Ms. Nancy Cherono Koech	Hydrologist	Ministry of Environment, Water and Natural Resources
13.	Mr. Joshua Ouma Ojwang	Secretary	Lower Gucha Migori Water Resource Users Association
14.	Mr. Fredy Emanuel Reuna	Secretary	Lower Lumi Water Resource Users Association
15.	Mr. David Nabea Mwita	Secretary	Isiolo Water Resource Users Association

The training is for nineteen (19) days commencing from 9th to 27th November 2013. The participants include eleven WRMA staff, one MEWRN staff and three WRUA officials. Enclosed herewith please find the participants' duly complete forms for your necessary action.

Eng. Philip J. Olum, HSC
CHIEF EXECUTIVE OFFICER

REPUBLIC OF KENYA
PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREA
Training course in Japan

1. Title

Effective Community Based Flood Management

2. Purpose

- (1) To understand the background and outline of administrative system of flood management in Japan
- (2) To understand the background and outline of community based flood management in Japan
- (3) To understand roles and efforts of governmental organizations/institutions to support communities to conduct community based flood management activities
- (4) To understand roles and efforts of community leaders for conducting community based flood management activities

3. Main Visiting Organization/ Institution

Kouhu River and Road Office, Kanto Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Yodo River Office, Kinki Regional Development Bureau, MLIT

Yodo River Integrated Dam Group Operation Office, Kinki Regional Development Bureau, MLIT

Biwako Office, Kinki Regional Development Bureau, MLIT

Yamato River Office, Kinki Regional Development Bureau, MLIT

4. Time and Duration

19 days from 9 November 2013 to 27 November 2013.

5. Prospective Candidates

	Name of Officer	Position	Institution
1	Mr. Wilfred Ochenge Matagaro	Dep. Tech. Cord. Manager	Water Resources Management Authority
2	Mr. Alexander Nzyuko	Dep. Tech. Cord. Manager	Water Resources Management Authority
3	Mr. Peterson Njiru	Ass. Tech. Cord. Manager	Water Resources Management Authority
4	Ms. Elizabeth Akinyi Diego	Ass. Tech. Cord. Manager	Water Resources Management Authority
5	Ms. Rose Akinyi Nyamori	Ass. Tech. Cord. Manager	Water Resources Management Authority
6	Mr. Stephen Ngao	Ass. Tech. Cord. Manager	Water Resources Management Authority
7	Mr. Timothy Mutie	Ass. Tech. Cord. Manager	Water Resources Management Authority
8	Mr. Joseph Boit	Catchment Man. Officer	Water Resources Management Authority

9	Mr. Joseph Maina	Catchment Man. Officer	Water Resources Management Authority
10	Mr. Abraham Gitonga	Catchment Man. Officer	Water Resources Management Authority
11	Mr. Samuel Njihia	Catchment Man. Officer	Water Resources Management Authority
12	Ms. Nancy Cherono Koech	Hydrologist	Ministry of Environment, Water and Natural Resources
13	Mr. Joshua Ouma Ojwang	Secretary	Lower Gucha Migori Water Resource Users Association
14	Mr. Fredy Emanuel Reuna	Secretary	Lower Lumi Water Resource Users Association
15	Mr. David Nabea Mwita	Secretary	Isiolo Water Resource Users Association

6. Scheme

Under County-Specific Training by JICA

Table1 Schedule

No.	Date	Day	Activities	Venue	Accommodation
-	2013/11/9	Sat	Move from Nairobi to Dubai (by Air) Move from Dubai to Narita (by Air)	-	Flying Overnight
-	2013/11/10	Sun	Arrival to Narita Move to JICA Tokyo	JICA Tokyo	JICA Tokyo
1	2013/11/11	Mon	Briefing & Orientation (AM) Training Session (PM)	JICA Tokyo/ NEWJEC Tokyo	JICA Tokyo
2	2013/11/12	Tue	Training Session (All day)	NEWJEC Tokyo	JICA Tokyo
3	2013/11/13	Wed	Training Session (All day)	NEWJEC Tokyo	JICA Tokyo
4	2013/11/14	Thu	Training Session (All day)	NEWJEC Tokyo	JICA Tokyo
5	2013/11/15	Fri	Move from Tokyo to Yamanashi (by Bus) Site Visit Move from Yamanashi to Tokyo (by Bus)	Fuji River (Yamanashi Pref.)	JICA Tokyo
6	2013/11/16	Sat	Holiday	-	JICA Tokyo
7	2013/11/17	Sun	Holiday	-	JICA Tokyo
8	2013/11/18	Mon	Move from Tokyo to Osaka (by Train) Training Session (PM)	NEWJEC Osaka	Osaka City
9	2013/11/19	Tue	Site Visit	Yodo River (Osaka Pref.)	Osaka City
10	2013/11/20	Wed	Site Visit	Yodo River (Osaka Pref.)	Osaka City
11	2013/11/21	Thu	Site Visit	Yamato River (Osaka Pref.)	Osaka City
12	2013/11/22	Fri	Training Session (All day)	NEWJEC Osaka	Osaka City
13	2013/11/23	Sat	Holyday Move from Osaka to Tokyo (by Train)	-	JICA Tokyo
14	2013/11/24	Sun	Holyday	-	JICA Tokyo
15	2013/11/25	Mon	Training Session (All day)	NEWJEC Tokyo	JICA Tokyo
16	2013/11/26	Tue	Presentation of APR (AM) Certificate Hand-over Ceremony (AM) Move from Narita to Dubai (by Air)(PM)	JICA Head office	Flying Overnight
-	2013/11/27	Wed	Move from Dubai to Nairobi (by Air)	-	-

著作物の利用条件一覧

様式 6-2

テキストリスト (今年度新規作成・購入分)

コース名：ケニア「洪水管理」 / Counterpart training course - Effective community based flood management -					
No.	テキスト名	講義名	講師名	使用日	利用許諾内容
1	自助・共助を活発化するための地域防災向上方策について	同左	朝位 孝二	2013/11/12	(1)-a), b), c) (2)-a), b), c) (3)-a), b)
2	コミュニティ防災活動の事例と教訓	同左	荒木田 勝	2013/11/12	(1)-a), b), c)
3	途上国での防災教育実施の経験に基づく実施・支援のノウハウの伝授	同左	永田 宏和	2013/11/13	(1)-a), b), c) (3)-a)

独立行政法人 国際協力機構 殿

住所 宇部市宇部 2-16-1 山口大学工学部
 氏名 朝位 孝二
 署名 朝位 孝二

研修著作物（教材）利用許諾書

コース名称:ケニア洪水管理研修

標記の研修事業について、下記のとおり講義および教材の作成をおこない、同著作物の当該研修での利用を許諾します。また、当該研修以外での利用については、下記Ⅲ. 2. の通りとします。

記

I. 講義内容:

- 1. 講師 氏名: 朝位 孝二 所属: 山口大学大学院・理工学研究科システム設計工学専攻 / 准教授
- 2. 講義名 「自助・共助を活発化するための地域防災向上方策について」
- 3. 日時 平成 25 年 11 月 12 日 (火) 13:00~15:00
- 4. 場所

※ 該当する内容に✓印をお付け下さい。

5.

講義方法	使用言語	<input type="checkbox"/> 日本語 <input checked="" type="checkbox"/> 英語 <input type="checkbox"/> その他
------	------	--

II. 教材（テキスト・配布資料）内容:

- 1. 教材テーマ 「自助・共助を活発化するための地域防災向上方策について」
- 2. 配布部数 16 部
- 3. 原稿提出 ✓ 切 平成 25 年 11 月 11 日 (金) ✓ 切

※ 該当する内容に✓印をお付け下さい。また、() 内に具体的な名称や内容をご記入下さい。

4.

教材の種類・要素		
テキスト (パワーポイント 含む)	(1) 新規・改訂の別	<input type="checkbox"/> 増刷 <input type="checkbox"/> 改訂 <input checked="" type="checkbox"/> 新規
	(2) 使用言語	<input type="checkbox"/> 日本語 (要 翻訳) <input checked="" type="checkbox"/> 英語 <input type="checkbox"/> その他 ()
	(3) 翻訳後原稿チェック	※ご自身での校正 <input type="checkbox"/> 要 <input checked="" type="checkbox"/> 不要
	(4) 予定原稿枚数	(47) 枚
	(5) 原稿の構成要素	<input checked="" type="checkbox"/> a) すべて創作 <input type="checkbox"/> b) 第三者の著作物の利用を含む <input type="checkbox"/> c) 第三者の著作物を利用 (引用を超える) (文書, 複製, 写真, イラスト, 地図, 図版等) <input type="checkbox"/> 許諾済み <input type="checkbox"/> 許諾なし (許諾済みの場合は、第三者からの利用許諾書を添付のこと)
その他		<input type="checkbox"/> あり () <input type="checkbox"/> なし

Ⅲ. 上記著作物に関する利用許諾

1. 当該研修（注※）での利用許諾内容

講義実施に必要と考えられる以下の利用を許諾します。

- (1) 複製／配布（研修員、研修監理員、研修業務受託機関関係者、JICA 関係者、講義の聴講を認められた者、その他講義を実施するに際し、配布が必要と思われる者の人数分及び保管資料用）
- (2) 翻訳（英語その他当該研修で必要とする言語）
- (3) (1) (2) に伴う、教材（著作物）又は二次的著作物（翻訳）における必要最低限と認められる変更（誤字脱字修正、年月日、研修コース名、データ形態）

※注：通常 3 年間継続しますが、同一目的・内容である限り、更新された研修案件においても有効と致します。

2. 当該研修以外での利用許諾内容

本研修では、研修員が帰国後に研修成果を活用し、自国の組織において具体的なアクション（行動）を実施することを義務付けております。研修中の教材、資料等は大変参考になりますので、研修員による帰国後の利用について承諾頂きますと幸甚です。

許諾いただけない内容に チェックをお付けください。

(1) 研修員による帰国後の利用
<input type="checkbox"/> a) 複製（翻訳物を含む）／配布（研修員の自国内関連機関）
<input type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input type="checkbox"/> c) 研修員が作成する報告書等への一部利用
(2) 他の研修コースなど、JICA 事業での利用
<input type="checkbox"/> a) 複製（翻訳物を含む）／配布（JICA 事業関係者）
<input type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input type="checkbox"/> c) 改変、要約、抜粋（含む翻訳・翻案）
(3) 一般への公開
<input type="checkbox"/> a) JICA 図書館（開発研究所（仮称）内）での閲覧
<input type="checkbox"/> b) 外部団体・個人からの求めによる複製の配布
(4) 特記事項

（注）教材を複数作成される場合は、様式 3-2 を利用し、教材内容と利用許諾範囲を教材毎にご記入下さい。

【備考：利用許諾の条件】

1. 作成された教材（著作物）の著作権は、講師（著作者）に帰属する。JICA 費用負担にて翻訳した教材の著作権は、翻訳機関等（二次的著作物の著作者）に帰属する。
2. 講師（著作者）は、JICA から個別の承諾を得ることなく、教材（著作物）を利用できる。
3. 講師（著作者）は、教材（著作物）から JICA が作成する二次的著作物（翻訳）がある場合、非営利目的に限り、上記「2. 当該研修以外での利用許諾内容」と同等の範囲で利用を行うことができる。
4. JICA は、上記「1. 当該研修での利用内容」、及び「2. 当該研修以外での利用許諾内容」のうち講師（著作者）及び第三者の著作物（原著物）を利用している場合には、第三者（原著作者）が認めた範囲において、教材（著作物）及びその二次的著作物を利用することができる。
5. JICA は、教材の利用にあたって、講義録、講義要旨およびこれらの翻訳、講義用教材の編集・加工を行うときには、あらかじめ講師（著作者）に対して内容確認の機会を与えなければならない。
6. JICA は、教材の利用にあたって、講師（著作者）が著作権者である旨の著作権表示をおこなう。また、編集著作物を作成する際は、JICA が編集者又は監修者である旨の編集著作権表示を加えて併記する。

独立行政法人 国際協力機構 殿

住所 東京都杉並区桃井 3-11-1-605

氏名 荒木田 勝

署名 

研修著作物（教材）利用許諾書

コース名称:ケニア洪水管理研修

標記の研修事業について、下記のとおり講義および教材の作成をおこない、同著作物の当該研修での利用を許諾します。また、当該研修以外での利用については、下記Ⅲ. 2. の通りとします。

記

I. 講義内容:

1. 講師 氏名：荒木田 勝 所属：一般財団法人都市防災研究所 アジア防災センター /主任研究員
2. 講義名 「コミュニティ防災活動の事例と教訓」
3. 日時 平成 25 年 11 月 12 日（火） 15：00～17：00
4. 場所

※ 該当する内容に✓印をお付け下さい。

5.

講義方法	使用言語	<input type="checkbox"/> 日本語 <input checked="" type="checkbox"/> 英語 <input type="checkbox"/> その他
------	------	--

II. 教材（テキスト・配布資料）内容：

1. 教材テーマ 「コミュニティ防災活動の事例と教訓」
2. 配布部数 16 部
3. 原稿提出〆切 平成 25 年 11 月 11 日（金）〆切

※ 該当する内容に✓印をお付け下さい。また、（）内に具体的な名称や内容をご記入下さい。

4.

教材の種類・要素		
テキスト (パワーポイント 含む)	(1) 新規・改訂の別	<input type="checkbox"/> 増刷 <input type="checkbox"/> 改訂 <input checked="" type="checkbox"/> 新規
	(2) 使用言語	<input type="checkbox"/> 日本語(要 翻訳) <input checked="" type="checkbox"/> 英語 <input type="checkbox"/> その他()
	(3) 翻訳後原稿チェック	※ご自身での校正 <input type="checkbox"/> 要 <input type="checkbox"/> 不要
	(4) 予定原稿枚数	(18) 枚
	(5) 原稿の構成要素	<input checked="" type="checkbox"/> a) すべて創作 <input type="checkbox"/> b) 第三者の著作物の利用を含む <input type="checkbox"/> c) 第三者の著作物を利用(引用を超える) (文書, 複製, 写真, イラスト, 地図, 図版等) <input type="checkbox"/> 許諾済み <input type="checkbox"/> 許諾なし (許諾済みの場合は、第三者からの利用許諾書を添付のこと)
その他		<input type="checkbox"/> あり () <input type="checkbox"/> なし

Ⅲ. 上記著作物に関する利用許諾

1. 当該研修（注※）での利用許諾内容

講義実施に必要と考えられる以下の利用を許諾します。

- (1) 複製／配布（研修員、研修監理員、研修業務受託機関関係者、JICA 関係者、講義の聴講を認められた者、その他講義を実施するに際し、配布が必要と思われる者の人数分及び保管資料用）
- (2) 翻訳（英語その他当該研修で必要とする言語）
- (3) (1) (2) に伴う、教材（著作物）又は二次的著作物（翻訳）における必要最低限と認められる変更（誤字脱字修正、年月日、研修コース名、データ形態）

※注：通常 3 年間継続しますが、同一目的・内容である限り、更新された研修案件においても有効と致します。

2. 当該研修以外での利用許諾内容

本研修では、研修員が帰国後に研修成果を活用し、自国の組織において具体的なアクション（行動）を実施することを義務付けております。研修中の教材、資料等は大変参考になりますので、研修員による帰国後の利用について承諾頂けると幸甚です。

許諾いただけない内容に チェックをお付けください。

(1) 研修員による帰国後の利用
<input type="checkbox"/> a) 複製（翻訳物を含む）／配布（研修員の自国内関連機関）
<input type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input type="checkbox"/> c) 研修員が作成する報告書等への一部利用
(2) 他の研修コースなど、JICA 事業での利用
<input checked="" type="checkbox"/> a) 複製（翻訳物を含む）／配布（JICA 事業関係者）
<input checked="" type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input checked="" type="checkbox"/> c) 改変、要約、抜粋（含む翻訳・翻案）
(3) 一般への公開
<input checked="" type="checkbox"/> a) JICA 図書館（開発研究所（仮称）内）での閲覧
<input checked="" type="checkbox"/> b) 外部団体・個人からの求めによる複製の配布
(4) 特記事項
(1) についてハードコピーの配布は許諾します。ソフトデータ利用希望があれば個別に相談とします。

（注）教材を複数作成される場合は、様式 3-2 を利用し、教材内容と利用許諾範囲を教材毎にご記入下さい。

【備考：利用許諾の条件】

1. 作成された教材（著作物）の著作権は、講師（著作者）に帰属する。JICA 費用負担にて翻訳した教材の著作権は、翻訳機関等（二次的著作物の著作者）に帰属する。
2. 講師（著作者）は、JICA から個別の承諾を得ることなく、教材（著作物）を利用できる。
3. 講師（著作者）は、教材（著作物）から JICA が作成する二次的著作物（翻訳）がある場合、非営利目的に限り、上記「2. 当該研修以外での利用許諾内容」と同等の範囲で利用を行うことができる。
4. JICA は、上記「1. 当該研修での利用内容」、及び「2. 当該研修以外での利用許諾内容」のうち講師（著作者）及び第三者の著作物（原著物）を利用している場合には、第三者（原著作者）が認めた範囲において、教材（著作物）及びその二次的著作物を利用することができる。
5. JICA は、教材の利用にあたって、講義録、講義要旨およびこれらの翻訳、講義用教材の編集・加工を行うときには、あらかじめ講師（著作者）に対して内容確認の機会を与えなければならない。
6. JICA は、教材の利用にあたって、講師（著作者）が著作権者である旨の著作権表示をおこなう。また、編集著作物を作成する際は、JICA が編集者又は監修者である旨の編集著作権表示を加えて併記する。

独立行政法人 国際協力機構 殿

住所 大阪府高石市東羽根3-10-5-402
 氏名 永田 宏和
 署名 永田 宏和

研修著作物（教材）利用許諾書

コース名称:ケニア洪水管理研修

標記の研修事業について、下記のとおり講義および教材の作成をおこない、同著作物の当該研修での利用を許諾します。また、当該研修以外での利用については、下記Ⅲ. 2. の通りとします。

記

I. 講義内容:

- 1. 講師 氏名:永田 宏和 所属:NPO 法人プラス・アーツ / 理事長
- 2. 講義名 「自助・共助を活性化するための地域防災向上方策について」
- 3. 日時 平成25年11月13日(水) 10:00~17:00
- 4. 場所

※ 該当する内容に✓印をお付け下さい。

5.

講義方法	使用言語	<input checked="" type="checkbox"/> 日本語 <input type="checkbox"/> 英語 <input type="checkbox"/> その他
------	------	--

II. 教材（テキスト・配布資料）内容:

- 1. 教材テーマ 「自助・共助を活性化するための地域防災向上方策について」
- 2. 配布部数 16部
- 3. 原稿提出〆切 平成25年11月9日(金)〆切

※ 該当する内容に✓印をお付け下さい。また、() 内に具体的な名称や内容をご記入下さい。

4.

教材の種類・要素		
テキスト (パワーポイント 含む)	(1) 新規・改訂の別	<input type="checkbox"/> 増刷 <input type="checkbox"/> 改訂 <input checked="" type="checkbox"/> 新規
	(2) 使用言語	<input type="checkbox"/> 日本語 (要 翻訳) <input checked="" type="checkbox"/> 英語 <input type="checkbox"/> その他 ()
	(3) 翻訳後原稿チェック	※ご自身での校正 <input type="checkbox"/> 要 <input checked="" type="checkbox"/> 不要
	(4) 予定原稿枚数	(60) 枚
	(5) 原稿の構成要素	<input checked="" type="checkbox"/> a) すべて創作 <input type="checkbox"/> b) 第三者の著作物の利用を含む <input type="checkbox"/> c) 第三者の著作物を利用 (引用を超える) (文書, 複製, 写真, イラスト, 地図, 図版等) <input type="checkbox"/> 許諾済み <input type="checkbox"/> 許諾なし (許諾済みの場合は、第三者からの利用許諾書を添付のこと)
その他		<input type="checkbox"/> あり () <input checked="" type="checkbox"/> なし

III. 上記著作物に関する利用許諾

1. 当該研修（注※）での利用許諾内容

講義実施に必要と考えられる以下の利用を許諾します。

- (1) 複製／配布（研修員、研修監理員、研修業務受託機関関係者、JICA 関係者、講義の聴講を認められた者、その他講義を実施するに際し、配布が必要と思われる者の人数分及び保管資料用）
- (2) 翻訳（英語その他当該研修で必要とする言語）
- (3) (1) (2) に伴う、教材（著作物）又は二次的著作物（翻訳）における必要最低限と認められる変更（誤字脱字修正、年月日、研修コース名、データ形態）

※注：通常 3 年間継続しますが、同一目的・内容である限り、更新された研修案件においても有効と致します。

2. 当該研修以外での利用許諾内容

本研修では、研修員が帰国後に研修成果を活用し、自国の組織において具体的なアクション（行動）を実施することを義務付けております。研修中の教材、資料等は大変参考になりますので、研修員による帰国後の利用について承諾頂けますと幸いです。

許諾いただけない内容にチェックをお付けください。

(1) 研修員による帰国後の利用
<input type="checkbox"/> a) 複製（翻訳物を含む）／配布（研修員の自国内関連機関）
<input type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input type="checkbox"/> c) 研修員が作成する報告書等への一部利用
(2) 他の研修コースなど、JICA 事業での利用
<input checked="" type="checkbox"/> a) 複製（翻訳物を含む）／配布（JICA 事業関係者）
<input checked="" type="checkbox"/> b) 翻訳（現地語或いは他言語）
<input checked="" type="checkbox"/> c) 改変、要約、抜粋（含む翻訳・翻案）
(3) 一般への公開
<input type="checkbox"/> a) JICA 図書館（開発研究所（仮称）内）での閲覧
<input checked="" type="checkbox"/> b) 外部団体・個人からの求めによる複製の配布
(4) 特記事項

（注）教材を複数作成される場合は、様式 3-2 を利用し、教材内容と利用許諾範囲を教材毎にご記入下さい。

【備考：利用許諾の条件】

1. 作成された教材（著作物）の著作権は、講師（著作者）に帰属する。JICA 費用負担にて翻訳した教材の著作権は、翻訳機関等（二次的著作物の著作者）に帰属する。
2. 講師（著作者）は、JICA から個別の承諾を得ることなく、教材（著作物）を利用できる。
3. 講師（著作者）は、教材（著作物）から JICA が作成する二次的著作物（翻訳）がある場合、非営利目的に限り、上記「2. 当該研修以外での利用許諾内容」と同等の範囲で利用を行うことができる。
4. JICA は、上記「1. 当該研修での利用内容」、及び「2. 当該研修以外での利用許諾内容」のうち講師（著作者）及び第三者の著作物（原著物）を利用している場合には、第三者（原著作者）が認めた範囲において、教材（著作物）及びその二次的著作物を利用することができる。
5. JICA は、教材の利用にあたって、講義録、講義要旨およびこれらの翻訳、講義用教材の編集・加工を行うときには、あらかじめ講師（著作者）に対して内容確認の機会を与えなければならない。
6. JICA は、教材の利用にあたって、講師（著作者）が著作権者である旨の著作権表示をおこなう。また、編集著作物を作成する際は、JICA が編集者又は監修者である旨の編集著作権表示を加えて併記する。

6. 供与機材・携行機材実績
(引渡リストを含む)

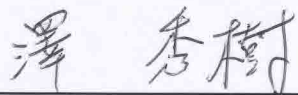
CERTIFICATE OF HANDOVER

PROJECT TITLE: *PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE
FLOOD MANAGEMENT IN FLOOD PRONE AREAS*

This is to certify that the equipments in the list bellow for above-mentioned project have been handed over properly as of February 6, 2012 to Water Resources Management Authority, Republic of Kenya. All equipments shall be used for the purpose of implementing the above mentioned Project's activities only.

List of Equipment

No.	Name of Item	Qty.	Unit	Place of Delivery	Date of Handover
1	Desktop Computer- Dell Optiplex 790 Including APC Back-UPS 650VA	3	Set	- Southern Shoreline- Gucha Migori (Kisii) SRO - Nolturesh-Lumi (Loitokitok) SRO - Middle Ewaso Ng'iro (Isiolo) SRO	November 10, 2011
2	Projector- Dell 1210S (2 Pcs) and Sony VPL EX100 (1 Pcs)	3	Pcs		November 10, 2011
3	Digital Camera- SONY DSC-W530 Including 2 GB Memory	3	Pcs		November 10, 2011
4	A3 Color Printer- HP Officejet K7000 A3 Printer	3	Pcs		November 24, 2011
5	Photo Copy Machine- CANON imageRUNNER ADVANCE C2020L	3	Set		February 6, 2012



Mr. Hideki Sawa
Team Leader, JICA Expert Team
NEWJEC Inc.



Ms. Rebecca K. Mutia
Procurement Officer
WATER RESOURCES
MANAGEMENT AUTHORITY

February 6, 2012

WATER RESOURCES MANAGEMENT AUTHORITY
Republic of Kenya

CERTIFICATE OF HANDOVER

PROJECT TITLE: *PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE
FLOOD MANAGEMENT IN FLOOD PRONE AREAS*

This is to certify that facilities and tools in the list below for above-mentioned project have been handed over properly as of 25 April 2014 to Water Resources Management Authority, Republic of Kenya.

List of Facilities and Tools

No.	Name of Item	Unit	Qty.	Place	Date of Handover
1	Riverbank protection using gabion mattress along the Eastern Marania River at Matunada Full Gospel Church	Set	1	Middle Ewaso Ng'iro (Isiolo) SRO	25 April 2014
2	Mattock complete with handle	Pcs	5	Ditto	Ditto
3	Shovel complete with handle	Pcs	5	Ditto	Ditto
4	Wheelbarrow	Pcs	5	Ditto	Ditto
5	Masons hammer	Pcs	5	Ditto	Ditto
6	Galvanised binding wire	Roll	2	Ditto	Ditto
7	Pliers	Pcs	5	Ditto	Ditto
8	Gabion Basket	Pcs	5	Ditto	Ditto
9	Raised Access Road at Eldoro Primary School	Set	1	Nolturesh-Lumi (Loitokitok) SRO	25 April 2014
10	Raised Evacuation Space at Eldoro Primary School	Set	1	Ditto	Ditto
11	Raised 2 Compartment Toilets at Eldoro Primary School	Set	1	Ditto	Ditto
12	Culvert at Eldoro Primary School	Set	1	Ditto	Ditto
13	Jembe	Pcs	5	Ditto	Ditto
14	Fork Jembe	Pcs	5	Ditto	Ditto

15	Mattock	Pcs	5	Ditto	Ditto
16	Pick Axe	Pcs	5	Ditto	Ditto
17	Spade	Pcs	5	Ditto	Ditto
18	Wheel Barrow	Pcs	5	Ditto	Ditto
19	Wooden Bar	Pcs	2	Ditto	Ditto
20	Claw Hammer	Pcs	3	Ditto	Ditto
21	Sledge Hammer	Pcs	2	Ditto	Ditto
22	Crow Bars	Pcs	2	Ditto	Ditto
23	Panga	Pcs	5	Ditto	Ditto
24	File sharpeners	Pcs	2	Ditto	Ditto
25	Slashers	Pcs	5	Ditto	Ditto
26	Plastic Can(20 Litres)	Pcs	5	Ditto	Ditto
27	Rope (1 Coil)	Coil	2	Ditto	Ditto
28	Nails	Pcs	2	Ditto	Ditto
29	Cotton Rope(1 Coil)	Coil	2	Ditto	Ditto
30	Triangle	Pcs	1	Ditto	Ditto
31	Spirit Level	Pcs	1	Ditto	Ditto
32	Compactor	Pcs	5	Ditto	Ditto



Mr. Hideki Sawa
Team Leader
JICA Project Team



Eng. John P. Olum
Chief Executive Officer
WATER RESOURCES
MANAGEMENT AUTHORITY

25 April 2014

Water Resources Management Authority, Republic Of Kenya

7. 合同調整委員会議事録等

7-1 第1回合同調整委員会議事録等

MINUTES OF MEETING
OF
THE FIRST JOINT COORDINATING COMMITTEE MEETING
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA

AGREED UPON BETWEEN
MINISTRY OF WATER AND IRRIGATION (MWT),
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA EXPERT TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

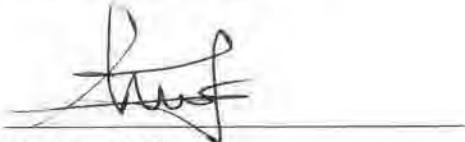
Nairobi, August 19, 2011



Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya



Mr. Mikio Ishiwatari, PhD
Senior Advisor
Japan International Cooperation Agency



Mr. John P. Olum
Chief Executive Officer
Water Resources Management Authority
The Republic of Kenya



Mr. Hajime Kobayashi
Chief Advisor
JICA Expert Team



Mr. Hideki Sawa
Team Leader
JICA Expert Team

The first Joint Coordinating Committee meeting was held on August 18, 2011. As the result of the discussions, JCC members agreed as follows:

1. Inception Report (IC/R) was accepted.
2. Three (3) sites were selected for Project Target Areas based on the criteria as attached.

	Catchment Authority/ Regional Office	Sub Region/ Sub-Regional Office*	River Basin	Related Water Resources Users Associations (WRUAs)
1	Lake Victoria South	Southern Shoreline- Gucha Migori (Kisii)	Gucha Migori	Lower Gucha Migori WRUA
2	Athi	Nolturesh-Lumi (Loitokitok)	Lumi	Lower Lumi WRUA Upper Lumi WRUA
3	Ewaso Ng'iro North	Middle Ewaso Ng'iro (Isiolo)	Ewaso Ng'iro North	Isiolo WRUA, etc

*) Sub-Region/ Sub-Regional Office name in parentheses shows old one.

The Project will cover the formulation and revision of SCMP and CMS and to conduct countermeasures in each of the three (3) Project Target Areas. For Nolturesh-Lumi Sub-Region and Middle Ewaso Ng'iro Sub-Region, JICA will support the funds for construction works.

3. The Project was officially launched.
4. MWI will revise NWRMS to include the activities of the Project.
5. WRMA will revise CMSs to include the activities of the Project.

Criteria for Selecting Pilot Areas

Project on Capacity Development for Effective Flood Management in Flood Prone Areas

Province	Nyanza	Coast	Eastern	
County	Migori	Taita-Taveta	Isiolo	
District	Nyatike	Bomni, Jipe	Samburu	
WRMA Regional Office	Victoria South	Athi	Ewaso Ngi'ro North	
Targeted Catchments	Gucha, Migori	Lumi	Isiolo	
	Riana, Ongoch	Soua, Ruvu	Ewaso Ngi'ro	
Targeted Sub Regional Office	Southern Shoreline - Gucha Migori	Nolturesh-Lumi	Middle Ewaso Ngi'ro North	
Targeted Sub Catchments	Gucha, Migori (Lower Gucha-Migori)	Lumi (Lower Lumi)	Ewaso Ngi'ro North (upper part of Archer's Post)	
Score	Security	3	3	3
	Access in Rainy Season	1	1	3
	Distance from JICA expert office	1	3	3
	Flood Duration	2	3	1
	Affected People by Floods	3	3	1
	Population Density	1	2	3
	Total	11	15	14
Overall Judgement	III	I	II	

Fact Sheet for Selecting Pilot Areas

Project on Capacity Development for Effective Flood Management in Flood Prone Areas

August 18, 2011

Province		Nyanza	Coast	Eastern	---	
County		Migori	Taita-Taveta	Isiolo		
District		Nyatike	Bomni, Jipe	Samburu		
WRMA Regional Office		Victoria South	Athi	Ewaso Ng'iro North		
Targeted Catchments		Gucha, Migori	Lumi	Isiolo		
Targeted Sub Regional Office		Riana, Ongochi	Soua, Ruvu	Ewaso Ng'iro	Remarks	
Targeted Sub Catchments		Southern Shoreline - Gucha Migori	Nolturesh-Lumi	Middle Ewaso Ng'iro North		
Targeted Sub Catchments		Gucha, Migori (Lower Gucha-Migori)	Lumi (Lower Lumi)	Ewaso Ng'iro North (upper part of Archer's Post)	Remarks	
A	Security	good	good	good		
	Access in Rainy Season	bad	bad	good		
	Accommodation	fair	good	good		
B	Annual Amount of Rain	mmi	(Upper) 800-2,200 (Lower) 200-800	400-800	350-750	
	Annal Mean Discharge	m ³ /s	804 ¹⁾	N/A	N/A	¹⁾ max. in '69-'08
	Main Rivers		Gucha River Migori River	Lumi River	(Ewaso Ng'iro R.) ²⁾	²⁾ upper part of Archer's Post
	Type of Floods		Slow	Slow & Flash	Flash	
	Flood Duration	months	3-4	2-6	< 1	
	Affected People by Flood	annual	5,000-10,000	10,000	1,000	
	Fatal Victims in Floods	annual	0	3 ³⁾	10 ⁴⁾	³⁾ annual average ⁴⁾ 2005
C	Target Sub Regional Offices	1	1	1		
	Total Staff	10	9	9		
	Technical Staff	7	5	5		
D	Targeted Sub Catchments	Gucha-Migori	Lumi	(Ewaso Ng'iro) ²⁾	²⁾ upper part of Archer's Post	
	Population	---	---	---		
	Sub Catchments Area	km ²	---	---	---	
	Population Density	/km ²	low	medium	high	
	CMS		existing	existing	existing	
	SCMP		existing	existing	existing	
	Existence of WRUA		existing	existing	existing	
	Activities of NGO		active	very active	N/A	
	Forum of WRUAs		non	non	existing	
	Number of targeted WRUAs		2	2	1	
	Name of related WRUAs		Lower Gucha-Migori	Lower Lumi	Isiolo	
			Middle Gucha-Migori	Upper Lumi		
	Evacuation Centers		5 (no shelters)	none	none	
	Amount of WSTF in '08/'0	Ksh	0	0	0	
Amount of WSTF in '09/'1	Ksh	624,600	521,500	0		
Amount of WSTF in '10/'1	Ksh	0	0	727,100		
E	Mountains	Mau Summit	Mt. Kilimanjaro	Mt. Kenya Aberdares Range		
	Lake	Lake Victoria	Lake Jipe	none		
	Type of Water Body	Int'l Lake	Int'l River & Lake	Domestic River		
Negotiation with Foreign Country		No	Yes	No		
F	Flood Infrastructures	Water Gauges	Water Gauges	Water Gauges		
		Bridges	Bridges	Bridges		
		Culverts	Culverts	Culverts		
		Gabions	Dikes	Gabions		
			Gabions	Evaporation Gauge		
G	Supplements	Involvement of GIZ	Spread of Bilhazia	Airport Construction		
		Similar Circumstances to Nyando Catchment	Road Disconned			

H.K.
H.K.

PROGRAMME OF THE FIRST JOINT COORDINATING COMMITTEE OF THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

Venue: Kenya School of Monetary Studies

Date: 18th August, 2011

TIME	TOPIC	FACILITATOR
08.30 – 09.00	Registration	TM
09.00– 09.20	Introduction and Welcome remarks	Technical Manager, WRMA
09.20– 09.45	Official opening speech	PS, MWI
09.45– 10.15	Speech by JICA chief representative	JICA Chief Representative
10.15 – 10.45	TEA BREAK	
10.45 – 11.30	Introduction of the project	CEO -WRMA
11.30 – 12.00	Presentation of the project	Project Chief Advisor
12.00– 13.00	Plenary discussion	CEO -WRMA
13.00 – 14.00	LUNCH BREAK	
14.00 – 14.15	Signing of Minutes of Meeting and official launch	(PS, CEO, JICA and CA)
14.15 – 14.45	Speech by Representative, Embassy of Japan	Representative, Embassy of Japan
14.45 – 15.00	Closure of the meeting	Director of WR, MWI

**LIST OF PARTICIPANTS OF THE FIRST JOINT COORDINATING COMMITTEE OF THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
– SCHOOL OF MONETARY STUDIES – 18TH AUGUST, 2011**

S/No.	NAME	DESIGNATION	ORGANIZATION
1.	Samuel Gor	Sub Regional Manager – Kisii Sub Region	WRMA
2.	Joseph K. Mutua	Water Resource Project Officer	WRMA
3.	Bilancio Maturwe	Ag. Regional Manager, Athi Catchment Area	WRMA
4.	Janerose W. Maina	Assistant, CMO – Nortulesh-Lumi Sub Region	WRMA
5.	Simon Wang'ombe	Regional Manager Ewaso Ng'iro North Catchment Area	WRMA
6.	John Masila Ngilu	Surface Water Officer Athi Catchment Area	WRMA
7.	John Kinyua Samuel	Catchment Management Officer - Middle Ewaso Ng'iro Sub Region	WRMA
8.	Gideon Mikwa	Catchment Management Officer - Middle Ewaso Ng'iro Sub Region	WRMA
9.	Reuben Ngessa	Ag. Surface Water Officer – Lake Victoria South Catchment Area	WRMA
10.	John Kinyanjui	Surface Water Officer - Ewaso Ng'iro North Catchment Area	WRMA
11.	Jacqueline N. Mboroki	Sub Regional Manager - Middle Ewaso Ng'iro Sub Region	WRMA
12.	Reuben Chepkonga	PO, ENVT	Water Services Trust Fund
13.	Leah Mukiite	WRUA Coordinator	WRMA
14.	James Ambuso	Finance & Administration Manager	WRMA
15.	Elizabeth Luvonga	Public Relations Officer	WRMA
16.	Francis Edalia	Operations Manager	WRMA
17.	Simintei Kooke	DD/SW	Ministry of Water & Irrigation
18.	Kelvin Mutinda	Finance Officer	Ministry of Finance
19.	William O. Ogola	DD/RM	Ministry of Regional Development

20.	Lawrence Thooko	Surface Water Officer	WRMA
21.	Eng. Joseph Kinyua	Technical Manager	WRMA
22.	Taichi Minamitani		JICA
23.	Eng. Peter Waitthaka	Water Conservation Officer	WRMA
24.	Samuel Chege	Catchment Management Officer	WRMA
25.	Joseph Maina	Catchment Management Officer	WRMA
26.	Peter Njiru	CLRO	
27.	Hideki Sawa	JICA Expert	JICA
28.	Peterson Njiru	Database Officer	WRMA
29.	Masayuki Inoue	JICA Expert	JICA
30.	Masaru Arakida	JICA Expert	JICA
31.	Mikio Ishiwatari		JICA
32.	Hajime Kobayashi	JICA Expert	JICA
33.	Kenneth Irungu Mwangi	Driver	Avenue Car Hire
34.	Gerald Mwangi	Driver – Hqs	WRMA
35.	Patrick King'ori	Driver	JICA
36.	Joshia Martin	Driver – Hqs	WRMA
37.	Joshua Owich	Driver	Ministry of Water & Irrigation
38.	Joseph Mutunga	Driver – Athi Catchment Area	WRMA
39.	B. Okwiri	Driver	Ministry of Water & Irrigation
40.	Nancy Kamuri	Driver – Hqs	WRMA
41.	Dida Jillo	Driver – Ewaso Ngiro Catchment Area	WRMA
42.	Elijah Misiani	Driver – Lake Victoria South Catchment Area	WRMA
43.	Waweru Miriam	Executive Secretary	WRMA

7. 合同調整委員会議事録等

7-2 第2回合同調整委員会議事録等



MINISTRY OF WATER AND IRRIGATION (MWI)
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINUTES OF MEETING
OF
2ND JOINT COORDINATION COMMITTEE (2ND JCC)
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA

HELD ON TUESDAY, 7th AUGUST, 2012
AT
KCB LEADERSHIP CENTRE – KAREN, NAIROBI

Signed 27th August, 2012

al

A

11/8/12

MINISTRY OF WATER AND IRRIGATION (MWI)
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINUTES OF MEETING (M/M)
OF
2nd JOINT COORDINATION COMMITTEE (2nd JCC)

THIS MINUTE OF MEETING OF 2nd JOINT COORDINATION COMMITTEE (“2nd JCC”) ON THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS IN THE REPUBLIC OF KENYA (“Project”) is made on the seventh day of August two thousand and twelve. **The Ministry of Water and Irrigation**, (“MWI”), and **The Water Resources Management Authority** (“WRMA”) which expression shall, where the content so admits include its successors and assigns on one hand and **The Japan International Cooperation Agency** (“JICA”) on the other hand which expression shall, where the content so admits includes its successors and assignees.

WHEREAS,

The conclusion and the direction of the Project for coming two years are summarized in four themes as follows.

First, in order to support to establish resilient community to floods, the following actions shall be taken:

- Counter measures to floods shall be incorporated into the Sub Catchment Management Plans, SCMPs;
- The Manual for the Water Resource Users Association Development Cycle, WDC, shall be revised in consideration of flood management;
- The number of officers who have a knowledge and experience in civil engineering shall be increased in WRMA; and
- The system to coordinate multi stakeholder shall be established.

Second, in order to minimize the number of victims by floods, the following actions shall be taken:

- Flood observation system shall be established;
- Affordable flood early warning system shall be established; and
- Effective River Gauging Stations for flood management shall be selected and continuously observed.

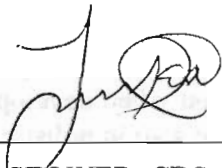
Third, in order to invest in flood management sector effectively, a system of formulating integrated river basin flood management plan shall be established.

Finally, in order to realize effective flood management, coordination system among various actors shall be established and the following actions shall be taken:

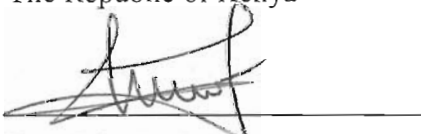
- Flood related information and data shall be shared;
- Various ministries and organizations related to flood management shall be well-coordinated;
- WRMA shall take a lead in flood management in Kenya; and
- WRMA shall participate in the National Platform for Disaster Risk Reduction, NPDRR.

MWI, WRMA and JICA recognizing the conclusion and the direction of the Project above now come to an understanding on collaboration arrangement for supporting through this M/M.

SIGNED AT NAIROBI BY THE DULY AUTHORIZED REPRESENTATIVES OF THE PARTIES ON THE DAY AND YEAR AS WRITTEN ABOVE



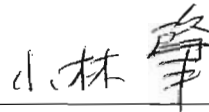
Dr. David STOWER, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya



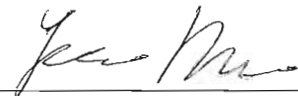
Eng. John P. OLUM
Chief Executive Officer
Water Resources Management Authority
The Republic of Kenya



Mr. Hideo EGUCHI
Chief Representative
JICA Kenya Office



Mr. Hajime KOBAYASHI
Chief Advisor
JICA Project Team



For Mr. Hideki SAWA
Team Leader
JICA Project Team

THE ATTACHED DOCUMENT ON 2nd JCC MEETING

Min-1: Opening Remarks for 2nd JCC from MWI

Mr. Alexander M. Nzyuko, WRMA, is nominated as a facilitator of the 2nd JCC meeting.

Opening remarks by Mr. David K. Bosuben, who was for and on behalf of the Director of Water Resources in MWI:

He stated that Kenya and Japan have a cordial relationship and Japan has assisted Kenya in flood management. JICA is currently assisting Kenya in developing Master Plan for water resources. He pointed out that the data is a key to effective water resources development, and the support from JICA to WRMA will trickle down to communities. Participants of the 2nd JCC meeting were thereafter welcomed to bring objectives of the 2nd JCC meeting to a success. He also thanked Japan for continuous assistance that Kenya has received.

Min-2: Opening Remarks for 2nd JCC from WRMA

Opening Remarks by Eng. Joseph M. Kinyua, Technical Manager of WRMA:

The Technical Manager was representing the CEO of WRMA who was away in Mombasa on official business. He pointed out that flood and drought disaster management was the mandate of WRMA. He explained that when developing basin planning, focus is brought not only in flood management but also in holistic approach covering the entire water resources. The capacity building of WRMA will make the institution proactive that will enable WRMA to develop flood management plan based on river basin. He clarified that the Project was on course and WRMA will have gained meaningful knowledge in flood management at the end of the Project.

Min-3: Opening Remarks for 2nd JCC from JICA

Opening Remark by Mr. Kazumasa Sanui, Senior Representative of JICA Kenya Office:

He explained the objective of the Project and stated that the Project is in three pilot areas and at the end of the Project the knowledge will be replicated in six catchment areas in Kenya. He pointed out the previous projects undertaken by JICA from the Master Plan to the Community-based flood Management that was undertaken in the Nyando River Basin among 24 communities. He clarified that Japan has been affected by floods for many centuries and based on the experiences Japan is ready to share the fruitful outcomes with Kenya. He pointed out that due to climate change Kenya has been witnessing disasters brought about by extremes of the climate, either severe drought or severe floods. He gave cost estimates of climate change related disasters in Kenya. He explained that WRMA is aware that flood disaster affects multi-sectors and hence coordination is essential in building resilience in communities. He thanked the Project Team for organizing the workshop on effective flood management and the 2nd JCC meeting.

Min-4: Presentation of Progress Report No. 1 from Mr. Kobayashi

Mr. Hajime Kobayashi, Chief Advisor of JICA Project Team, gave a brief overview of the Project as follows:

He explained the significance of the Project.

He gave the history of JICA involvement in flood management since 2006.

He explained the three Project areas and pointed out the three main themes for the Project.

He explained the importance of flood observation systems in an integrated manner; that is, meteorological data with the Kenya Meteorological Department, KMD, hydrological data with WRMA and damage data with the other line ministries and the Kenya Red Cross Society, KRCS, which should be analyzed and integrated.

He explained the case example of the Gucha-Migori River Basin, whereby it was noted that there were lots of data missing. He pointed out the urgent need for proper and accurate observation and data storage.

He also clarified the need to disseminate important information to relevant organizations.

He clarified also the need to analyze on cause and effect with respect to meteorological data, hydrological data and damage data. The outcomes of the analysis can help in advising communities by WRMA.

Affordable community based Flood Early Warning System, FEWS, has been conducted in some areas, where communities can use mobile phone in case of flood and convey early warning to communities. He explained that WRMA should support communities in coming up with EFWS based on data in River Gauging Stations, RGSs, among others.

Requisite actions to establish flood observation system were also highlighted. He pointed out the importance of disseminating flood information to the public.

As for formulating a coordinated system for effective flood management, he gave analogy of flood mitigation in an area without considering the whole basin, which will ultimately cause problems to other places in the same basin.

He pointed out that there are various organizations involved in structural measures but there is no proper coordination of the activities among relevant organizations involved.

He painted the picture of sufficient coordination among various actors related to flood management.

He pointed out the necessity of "River Basin Flood Management Plan" in the draft Water Strategy and the draft Water Bill.

He defined the term "resilient community".

He further clarified the benefit of building a resilient community against floods; he pointed out the trickling-down effect of floods that leads to other crisis adding that reducing flooding will automatically reduce spinning out disasters.

Further, he explained how to guide resilient communities. Owing to building resilient community, the poverty spiral effect will be inevitably eliminated.

He further pointed out the present situations on planning flood management at community level. He pointed out that Sub Catchment Management Plans, SCMPs, have possibility to include flood management. He further pointed out the way forward to developing SCMPs.

He explained the importance of learning experiences of KRCS with respect to community participatory approach, which is considered essential to sustainable projects.

He further stated that it was important that WRMA should pass technical knowledge to WRUA.

He pointed out the necessary actions to support communities and/or Water Resources Users Associations, WRUAs, with the aim of building resilient community against floods.

In conclusion of his presentation, he laid out the direction of the Project with four themes as summarized in the Minutes of Meeting (M/M) shown above.

He also highlighted the time frame of the Project.

Min-5: Discussion on the Presentation of Progress Report No. 1 from Mr. Kobayashi

Eng. Kinyua agreed with the direction of the Project and requested that the word 'possess' in slide 30 be changed to be 'have'.

Dr. Abira's comment: she wanted to know why there was case of missing data for WRMA's RGSs in the Gucha-Migori River Basin.

Dr. Abira's another comment: why it is difficult to construct culverts by justifying the Water Service Trust Fund, WSTF?

Question: what does involving community from the beginning means in Slide 27?

Response: the community people know the relevant area more than the outsiders; lack of continuity-oriented activities at the end of the Project is often attributed to lack of involvement when the Project is conducting.

Eng Kinyua: it is important to involve communities from the beginning of the Project, which is fairly new mandate for WRMA.

Question: Lake Victoria shoreline faces flooding time and again. The District Disaster Management Committee, DDMC, and KRCS respond well, while WRMA can do little after flooding. Is WRMA expected to ask communities to evacuate?

Response: the KMD's Early Warning can be done through sensitization, though sometimes difficult for communities to accept evacuating.

Mr. Ngugi: what about the objectives needed to be ratified by Permanent Secretary? The approval of the work plan is important.

Eng. Kinyua pointed out that the 2nd JCC meeting can approve the objective and come up to a conclusion.

Min-6: A.O.B for 2nd JCC

Ms. Meri Fukai, JICA Kenya Office, congratulated the JICA Project Team for the work well done as the workshop and the 2nd JCC meeting was successful. The work

shop was the good opportunity for the different stakeholders to come together to share some of the challenges we are facing for the flood management in this country. Since one of the priority for the Project is to have better coordination between the various stakeholders for effective flood management, today was a first step, and we hope and believe that this collaboration will be strengthened. Though the issue of community based flood management is though fairly new concept, it is now gaining ground.

Mr. Hideki Sawa, Team Leader of the JICA Project Team, thanked various stakeholders that attended the meeting for cooperation towards implementation of the Project.

Mr. David Bosuben, MWI, Technical Manager of WRMA, pointed out that WRMA is developing synergy of network in flood management that will enable data sharing for effective service delivery to Kenya nation. He expressed his appreciation that various stakeholders were able to come together and discussed national matters on flood disaster.

Eng. Joseph Kinyua, WRMA, in his closing remarks, thanked the participants for fruitful workshop and a productive 2nd JCC meeting. He pointed out the new constitution, the draft Water Strategy and the draft Water Bill in essence implies that WRMA is in a transition. He also pointed out that data collection should be WRMA responsibility for the sake of it not for passing the data to the JICA Project Team. Finally, he also appreciated the role of the JICA Project Team was playing in improving and enhancing effective flood management.

LIST OF PARTICIPANTS ON 2nd JCC MEETING

No	Name	Designation / Institution	Station
1	Mr. Kazumasu SANUI	Senior Representative JICA Kenya	JICA Kenya HQ
2	Ms. Meri FUKAI	JICA Kenya	JICA Kenya HQ
3	Mr. John Ngugi	JICA Kenya	JICA Kenya HQ
4	Mr. Hajime KOBAYASHI	PCDEFM Project	Nairobi
5	Mr. Hideki SAWA	PCDEFM Project	Nairobi
6	Mr. Masaru ARAKIDA	PCDEFM Project	Nairobi
7	Mr. Masayuki INOUE	PCDEFM Project	Nairobi
8	Mr. Yukihiko MIKUMO	PCDEFM Project	Nairobi
9	Mr. Clement Ngida	PCDEFM Project	Nairobi
10	Mr. Robert Owaga	PCDEFM Project	Nairobi
11	Mr. Jared Otieno	PCDEFM Project	Nairobi
12	Ms. Alacoque Achieng	PCDEFM Project	Nairobi
13	Eng. Joseph Kinyua	TM-WRMA	WRMA HQ
14	Mr. Alexander Nzyuko	DTCM-WRMA	WRMA HQ
15	Mr. Peterson Njiru	ATCM-WRMA	WRMA HQ
16	Mr. E.O. Bukachi	Assistant Director KMD	KMD HQ
17	Mr. Stephen Munyao	ATCM-WRMA	Machakos
18	Simon W. Wangombe	DTCM-ENNCA	Nanyuki
19	Dr. Margaret Abira	DTCM-LUSCA (WRMA)	Kisumu
20	Mr. Joseph Maina	CMO-WRMA	Loitoktok
21	Mr. Bilancio Maturwe	SRM-WRMA	Kisii
22	Mr. Joseph Boit	CMO-LVSC	Kisii
23	Mr. David K. Bosuben	SNR Water Researcher(MWI)	Nairobi
24	Mr. John Kinyanjui	ATCM-MEN	Isiolo

2nd Joint Coordinating Committee Meeting
on
the Project of Capacity Development for Effective Flood Management
in
Flood Prone Areas (PCDEFM)

Agenda

Date: Tuesday 7 August 2012

Time: 14:00 – 16:30 (2 h 30 min)

Venue: KCB Leadership Centre- Karen

Objectives:

- To authorize PDM indicator within 5 months of the project commencement.
- To approve the annual work plan of the project
- To review and evaluate the general progress of the project
- To exchange opinions on issues regarding the project.
- To discuss any other issues pertinent to the smooth implementation of the Project

14:00-14:15 Registration (15 min)

14:15-14:20: Opening Remarks from MWI (5 min)

14:20-14:25: Opening Remarks from WRMA (5 min)

14:25-14:30 Opening Remarks from JICA (5 min)

14:30-15:00 Presentation of Progress Report from JICA Project Team (30 min)

15:00-15:45 Discussion (45 min)

15:45-16:00: Break (15 min)

16:00- 16:30: Wrap up and Closing Remarks (30 min)

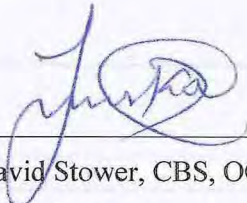
7. 合同調整委員会議事録等

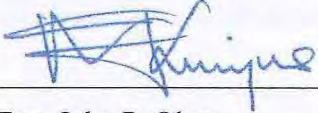
7-3 第3回合同調整委員会議事録等

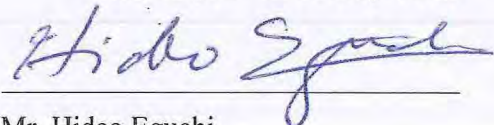
MINUTES OF MEETING
OF
THE 3rd JOINT COORDINATING COMMITTEE (JCC) MEETING
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA


AGREED UPON BETWEEN
MINISTRY OF WATER AND IRRIGATION (MWI),
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA EXPERT TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)


Nairobi, 13th February 2013


Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya


Eng. John P. Olum
Chief Executive Office
Water Resources Management Authority
The Republic of Kenya


Mr. Hideo Eguchi
Chief Representative
JICA Kenya Office


Mr. Katsuro Kondo
Chief Advisor
JICA Expert Team


Mr. Hideki SAWA
Team Leader
JICA Expert Team

The 3rd Joint Coordinating Committee (hereinafter referred to as “JCC”) Meeting on the Project on Capacity Development for Effective Flood Management in Flood Prone Areas in the Republic of Kenya (hereinafter referred to as “the Project”) was held on 13 February 2013. As the result of the discussions, JCC members agreed as follows;

1. Progress of the Project

- 1) Summary of the progress of the Project was presented by the JICA Expert Team and WRMA Flood Management Unit (hereinafter referred to as “FMU”) members.
- 2) With respect to the indicator 1.1 and 1.5 of Project Design Matrix (hereinafter referred to as “PDM”), following JICA Expert Team’s suggestions on the institutional arrangement of WRMA on the process of revising the WRMA Strategic Plan, WRMA Management submitted a proposal of establishment of Flood Management Department at the Headquarters, six (6) Regional Offices and fourteen (14) Sub-Regional Offices, and the WRMA Administrative Board approved it.
- 3) With respect to the indicator 1.2 of PDM, WRMA is currently making an announcement of bidding for contract to procure consulting services to revise CMSs. JICA Expert Team gave some comments to the draft TOR of the services.
- 4) With respect to the indicator 1.3 of PDM, JICA Expert Team made a proposal of draft WRMA Training Plan in cooperation with Human Resources Department of WRMA. But, there were still some parts to be revised.
- 5) With respect to the indicator 2.1 of PDM, Lower Gucha Migori WRUA has already revised Sub Catchment Management Plan (SCMP) that includes Flood Management Plan. Isiolo WRUA is now discussing about Flood Management Plan in Integrated Flood Management Committee (IFMC) of Isiolo River Basin, the first meeting of which was held on 23 January 2013. Regarding to Lower Lumi WRUA, draft Integrated Flood Management Plan is being discussed by Lower Lumi WRUA with WRMA Working Group members and JICA Expert Team. The first meeting of IFMC in Lumi River Basin will be held on 22 February 2013 and the draft Integrated Flood Management Plan will be discussed in it.
- 6) With respect to the indicator 2.2 of PDM, first draft of Nyando Project Case Report was prepared. But, it should be modified to show the good examples and lessons learnt more effectively.

2. Mid-Term Evaluation/Review

- 1) The result of the Mid-Term Review was presented by the JICA Mid-Term Evaluation Team.
- 2) From the five criteria of the evaluation, the relevance of the Project is very high, and the effectiveness and efficiency are relatively low due to the delay in several activities. With regard to the impact, it is difficult to predict the possibility of the achievement of Overall Goal at the moment of Mid-Term Review. However, Integrated Flood Management (IFM) approach and community-based flood management activities are expected to

expand to all the six catchments since WRMA established the Flood Management Department at all six Regional Offices and flood management was incorporated in his draft Strategic Plan. With regard to sustainability, it is premature to mention the prospects of project sustainability at the moment. However, it is expected that flood management activities could be continued by WRMA after completion of the Project, since there has been already positive activities by Government of Kenya (GOK).

- 3) Recommendations by the JICA Mid-Term Evaluation Team are;
 - a) Acceleration of community-based activities;
 - b) Capacity development and assessment;
 - c) Exchange of ideas among WRMA and WRUAs;
 - d) Establishment of Nation-wide system of information sharing and interactive learning;
 - e) Utilization of local resources, and;
 - f) Modification of PDM.
- 4) The Mid-Term Evaluation Team identified and specified pilot sites in target areas for non-structural measures and prioritized community-based flood management activities. These pilot sites were screened by criteria, namely severity of damage by flood, emergency and others with consultation by stakeholders. The proposal of pilot sites and activities as below are agreed;

<Isiolo>

Target area: Isiolo town and Central Division

Activities: Community-based Warning System for Isiolo town

Disaster Management Education in Primary School

<Lumi>

Target area: Rekeke Sub-Location and Kimala Location in Taveta Division

Activities: Community-based Warning System

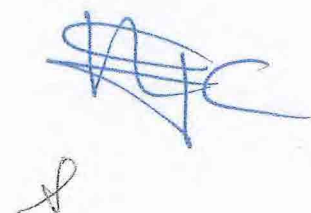
Disaster Management Education in Primary School

Training on livelihood improvement activities

3. Next Step for the Project and Training Programme

- 1) There is going to be change in an administrative structure of the government after the general election and the Project Team will have to adapt to the change to ensure output.
- 2) WRMA's engineering capacity related to flood management should be focused and enhanced after completion of the Project.
- 3) WDC Manual needs to be reviewed in order to allow for funding of flood management activities. Flood management module is going to be incorporated in the WDC Manual by JICA Experts Team and WRMA FMU.
- 4) There is need to accelerate the review of the SCMP to incorporate flood management.

Attachment: Attendance List



Attachment : Attendance List

Attendance List for the 3rd JCC

No	NAME	Designation/Institution	Station
1	Simintei Kooke	DD/SW	Ministry of Water and Irrigation
2	David K. Bosuben	Assistant Director	Ministry of Water and Irrigation
3	F.K. Nyambariga	Principal Land Reclamation Officer	Ministry of Water and Irrigation
4	Joseph M. Kinyua	TM	WRMA HQ
5	P.N. Njiru	ATCM	WRMA HQ
6	Joseph Kimanga Mutua	ATCM	WRMA HQ
7	Lawrence Thooko	ATCM SW	WRMA HQ
8	Elizabeth Diego	ATCM CO	WRMA HQ
9	Francis Edalia	DTCM	WRMA HQ
10	Rose Nyamori	WQO	WRMA HQ
11	Domitilah M Nziola	Senior Secretary	WRMA HQ
12	Margaret Abira	ATCM	WRMA Kisumu RO
13	Joseph Boit	CMO	WRMA Kisumu RO
14	Timothy M. Mutie	ATCM	WRMA Nanyuki RO
15	Canute Mwakamba	DTCM	WRMA Machakos RO
16	Sompe ole Kisira	CMO	WRMA Kisii SRO
17	Joseph G. Maina	CMO	WRMA Loitokitok SRO
18	E. O. Bukachi	Senior Assistant Director	Kenya Meteorological Department
19	Joseph Chirchir	DEO-MORDA	Ministry of Regional Development Authorities
20	Hideu Eguchi	Chief Representative	JICA Kenya
21	Meri Fukai	Project Formulation Advisor	JICA Kenya
22	John Ngugi	Senior Programme officer	JICA Kenya
23	Emmah Wairegi	Admin. Assistant	JICA Kenya
24	Katsuro Kondo	PCDEFM Chief Advisor	WRMA HQ
25	Hideki Sawa	PCDEFM Team Leader	WRMA HQ
26	Masaru Arakida	PCDEFM Expert	WRMA HQ
27	Masayuki Inoue	PCDEFM Expert	WRMA HQ
28	Yukihiro Mikumo	PCDEFM Expert	WEMA HQ

Attachment : Attendance List

No	NAME	Designation/Institution	Station
29	Rumi Kato	PCDEFM Expert	WRMA HQ
30	Alacoque Acheng	PCDEFM Admin. Assist.	WRMA HQ
31	Robert Owaga	PCDEFM Supervisor	WRMA Loitokitok
32	Jared Otieno	PCDEFM Supervisor	WRMA Isiolo
33	Clement Ngida	PCDEFM Supervisor	WRMA Kisii
34	Yuriko Doi	JICA HQ	Mid-term evaluation team
35	Riai Yamashita	mid-term evaluation consultant	Mid-term evaluation team

3rd Joint Coordinating Committee Meeting
on
the Project of Capacity Development for Effective Flood Management
in
Flood Prone Areas (PCDEFM)

Agenda

Date: Wednesday 13 February 2013

Time: 9:00 – 13:00 (TBC)

Venue: NHIF Auditorium, 2nd floor Wing B, NHIF Building, Nairobi

Objectives:

- To review and evaluate the general progress of the project
- To approve the annual work plan of the project
- To exchange opinions on issues regarding the project.
- To discuss any other issues pertinent to the smooth implementation of the Project

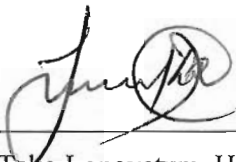
8:30-9:00	Registration (30 min)
9:00 - 9:10:	Opening Remarks from MWI (10 min)
9:10 - 9:15:	Opening Remarks from WRMA (5 min)
9:15 - 9:20	Opening Remarks from JICA (5 min)
9:20 - 9:40	Progress Report from JICA Project Team (20 min)
9:40 - 10:10	Result of the Mid-Term Evaluation of the Project from JICA Study Team (30 min)
10:10 - 11:00	Discussion (50 min)
11:00 - 11:20	Tea Break (20 min)
11:20 - 11:40	Next Steps including Training Programme from Project Team (20 min)
11:40 – 12:00	Recommendations from JICA Study Team (20 min)
12:00- 12:50:	Wrap Up Discussion (50 min)
12:50- 13:00:	Closing Remarks from WRMA (10 min)

7. 合同調整委員会議事録等

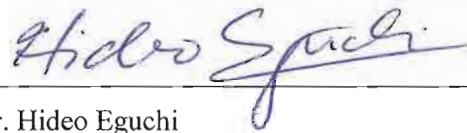
7-4 第4回合同調整委員会議事録等

MINUTES OF MEETING
OF
THE 4th JOINT COORDINATING COMMITTEE (JCC) MEETING
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA
AGREED UPON BETWEEN
MINISTRY OF ENVIRONMENT, WATER AND NATURAL RESOURCES (MEWNR),
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA EXPERT TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

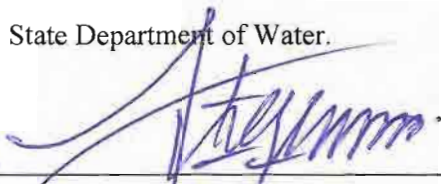
Nairobi, 8 October 2013



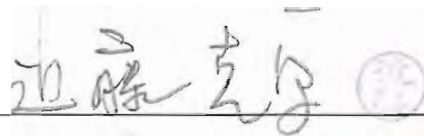
Mr. James Teko Lopoyetum, HSC,
Principal Secretary,
Ministry of Environment, Water and Natural
Resources.
State Department of Water.



Mr. Hideo Eguchi
Chief Representative
JICA Kenya Office



Eng. John P. Olum
Chief Executive Office
Water Resources Management Authority



Mr. Katsuro Kondo
Chief Advisor
JICA Project Team



Mr. Hideki Sawa
Team Leader
JICA Project Team

The 4th Joint Coordinating Committee (hereinafter referred to as “JCC”) Meeting on the Project on Capacity Development for Effective Flood Management in Flood Prone Areas in the Republic of Kenya (hereinafter referred to as “the Project”) was held on 8 October 2013. As the result of the discussions, JCC members confirmed the following issues;

1. Opening Remarks

Mr. John Nyaoro, Director Water Resources in Ministry of Environment, Water and Natural Resources, thanked participants for attending the JCC meeting. He pointed out that the fourth JCC meeting should give direction to where the Project is going. He added that floods were big problem in the country and Kenya as country lacked an authority that deals with disaster and leading institutions were already putting in place systems to manage floods. He pointed out that WRMA had already dispatched flood management officers at the Sub-regional offices. He pointed out that the trainings were ongoing and learning experiences from Japan was a plus in flood management.

Eng. Kinyua, Technical Coordination Manager in WRMA, in his opening remarks pointed out that the meeting aimed at looking at the 2 ½ years the Project has been ongoing vis-à-vis the WRMA’s staff capacity and WRUA’s capacity in management of floods. He pointed out that structural measures implementation was currently ongoing. He added that the JCC should request for extension of the Project period. He appreciated JICA for assistance to WRMA in mainstreaming flood management in the WRMA strategic plan. He pointed out that resources have been set aside for Flood Early Warning System (FEWS) and operational centres for dissemination of information at regional and sub-regional level.

Mr. Hanai, Senior Representative in JICA Kenya Office, in his opening remarks, pointed out that the Project was technical cooperation and three pilot sites had been selected which will include implementation of structural and non-structural measures. He added that JICA had signed MOU with KRCS on 19th Sept. 2013. He added that KRCS was leading agency in disaster management with over 70,000 volunteers was going to add value to the Project. He pointed out the serious earthquake in 2011 that led to Tsunami leading to losses of over 21,000 people. He gave analogy of a woman who survived the disaster with her baby, the woman pointed out that she had been taught by her grandmother on early warning and when she observed the early warning she left her valuables and with her child moved to raised place and she survived the disaster. The story indicates the importance of community involvement in disaster management. He added that he was eagerly waiting for lively discussion from the presentations.

2. Progress in Isiolo River Basin

Mr. Kinyanjui, Isiolo Sub-regional Manager of WRMA, in his presentation highlighted the progress of works in Isiolo river basin. He explained the characteristics of Isiolo River Basin. He also explained that rainfall characteristics in Isiolo and pointed out that Isiolo had two seasons of rains in April and November. He added that the Project covers Meru and Isiolo counties. He states that Integrated Flood Management Committee (IFMC) had been commissioned and explained the membership, objectives of the IFMC and he also stated that two meetings had already been held. He also explained the structural measures in Isiolo. He also stated the proposed countermeasures as captured in the plan and the selection method of the pilot structural measures that was being implemented under the Project. He also explained

The bottom of the page features several handwritten signatures in blue ink. On the left is a large, stylized signature. To its right are three smaller, more compact signatures. Further right is a circular stamp with some illegible text inside. On the far right is another large, stylized signature.

the non-structural measures which include disaster management education, Community Based Flood Early Warning System (CBFEWS), training in sandbag, afforestation in the upper catchment, restriction on land use on the steep slopes.

He explained the Isiolo River Basin Integrated Flood Management Plan (IFMP) and what it addresses and the challenges therein. He added that the IFMP had a lifespan of five years and in the course of the five years the IFMC could review the plan accordingly based on the need.

He pointed out that based on selection criteria River Bank Protection emerged as the pilot structural measure. He added that public consultation meetings were held leading to consensus of the Project and community agreed to contribute 15% to the Project based on WRUA Development Cycle (WDC) module. He thereafter explained the procurement procedures of contractor that led to Waso Building and Road Co. was selected to carry out the works.

He concluded his presentation by pointing out the way forward was to finalize the IFMP, incorporate the IFMP into the SCMP.

Eng. Matagoro, Head of Flood Management Unit in WRMA, pointed out that based on the presentation it clearly indicated that project was community based with only technical assistance. He added that IFMP will be shared with the Isiolo County Government and find ways of implementing the plan.

3. Progress in Lumi River Basin

Mr. Maina, representing Nol Turesh Lumi Sub-Regional Manager of WRMA, in his presentation explained the progress of works upto October 2013: IFMC established, draft IFMP, Shared IFMP with Taita Taveta County Governor and procurement of the contractor for the works which is currently ongoing.

He explained the IFMC in Lumi and stakeholders who were members of the IFMC. He explained the characteristics of floods in Lumi River Basin. He explained the schedule of the IFMC. He thereafter explained the IFMP and the chapters therein. He thereafter explained the purpose of the pilot project structural measures, the proposed countermeasures in the IFMP, the selection criteria of the pilot project structural measures and the results of selection of countermeasure to be piloted. He added that the stakeholders through consensus selected the improvement of evacuation places and raising toilets. He also explained the processes of determine appropriate site wherein Eldoro Primary School was selected as the location for pilot project. He also explained that public consultation meeting was held and the purpose of the public consultation meeting. He also pointed out that the Project Team met with Taita Taveta County Governor and in the meeting Governor pointed out that the County Government was going to assist in rehabilitation of the dykes. He explained the procurement processes and that the process was still ongoing.

Eng. Matagoro pointed out that the Governor was keen with the schedule of implementation and repairing of damaged dykes. He pointed out that the Governor felt that when the dykes and canals are repaired then there will be no need for evacuation. He pointed out that the Governor had approached National Youth to carry out rehabilitation and requested for technical support from WRMA and the JICA Project Team.



- 2 -



4. Progress in Gucha Migori River Basin

Mr. Njihia, representing the Southern Shoreline Gucha Migori Sub-regional Manager, in his presentation, explained the background of Gucha Migori River Basin. He explained the process of establishing the IFMC in Gucha Migori river basin thereafter explained list of prospective Gucha Migori River Basin IFMC members, he also explained the way forward towards implementing of Gucha Migori River Basin first meeting. He also explained that IFMP was going to be incorporated in the Sub Catchment Management Plan (SCMP) and Catchment Management Strategy (CMS).

He thereafter explained the contents of Chapter one and two in a summary format which included policy, natural conditions, river structures and riverbed materials, hydrology and metrology, population and development plans. He also explained the possible activities that stakeholders can undertake, he also pointed out the current LOGUMI WRUA activities and also their activities in Flood Management.

5. WRMA Flood Management Training Course in Kenya and Japan

Eng. Kondo in his presentation stated that the Project aims at capacity building and therefore there are training components in the Project. He explained the first stage of training where WRMA staff will be trained, 2nd stage WRMA trained staff will train other WRMA staff and 3rd stage WRMA staff will train WRUA members. He explained that WRUA members would be trained based on WDC Flood Management Module. He explained that the 1st stage will commence on 14th October, he stated on 18th October the lecture will open up to other officer from other institutions, on 20th Oct. move to Kisumu and observe the experiences in the Nyando river basin.

He explained the training in Japan would consist of 12 staffs from WRMA, one staff from MEWNR and 3 members from the WRUAs. He added that in Japan the main activity was going to be site visits.

He explained the open lectures on 18 October 2013. He stated that Mr. OI will make key note presentation and he added that the open lecture was open to all JCC members. He explained rain gauge and water level gauge developed by Mr. OI who will explain and capacity build on how to develop the rainfall and river gauging devices. Thereafter Mr. OI will move to Isiolo and Taveta and install those gauges.

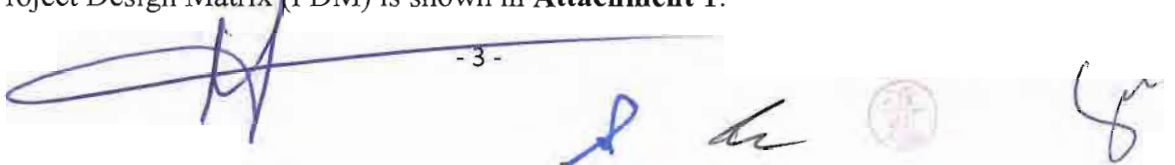
6. Project Design Matrix and Work Plan

Eng. Sawa in his presentation explained the modification of PDM and the Work Plan. He explained the Project Outputs and the verifiable indicators as per the Project Design matrix. He clarified that the PDM did not indicate the number of staff to be trained in the 1st stage and in the 2nd stage. He therefore proposed the following:

- a) That 15 staffs in 1st stage, 2nd stage 25 persons and therefore the total is 40 persons which implies 12%. He therefore proposed that in PDM it should indicate 12% and 40 out of 319 technical staffs.
- b) That 26 staffs were actively involved with the Project and therefore he proposed that it should be indicated that at least 25 staff had experience in community based flood management.

Revised Project Design Matrix (PDM) is shown in **Attachment 1**.

- 3 -



He thereafter explained the work plan wherein he explained that the Project could be divided into structural and non-structural components. He also stated that the Project perimeters which included training in Kenya and training in Japan, knowledge management and report. He thereafter explained the work plan in detail based on the above mentioned perimeters. Revised Work Plan is shown in **Attachment 2**.

5. Non-structural Measures in cooperation with KRCS in the target areas

Mr. Shadrack Musyoka of Kenya Red Cross Society (KRCS) in his presentation stated that the duration of the activities Sept. 2013 to February 2014. He explained the overall objective and he also explained the specific objectives. He explained that from the experience of Ethiopia Red Cross that use floods as an opportunity for irrigation. He explained the Project Implementation Structure. He explained the benefits of partnership with KRCS for JICA, WRMA and Community.

He thereafter explained the Progress of Activities. They pointed out the ongoing activities which included in site for installation of FEWS, develop plan with WRUA, identification of schools which will introduced of disaster management education and also designing of school drama, song and games. He pointed the upcoming activities conducting training volunteers and WRUA, establish KRCS clubs.

7. Wrap up

Eng. Matagaro thereafter ushered the participants into the Wrap sessions. He explained that the wrap session should be a lively session whereby the participants raise questions and discuss the various presentations.

Eng. Kondo kicked off the session by stating that he was impressed by the comments made by the Taveta County Governor on the Integrated Flood Management Plan. He added that it was very encouraging to hear that the Taveta County government was ready to utilize the Lumi River Basin IFMP. He added that WRMA should therefore cooperate with various County governments such that the county governments may acquire some of the skills that WRMA possessed.

Eng. Koki the deputy director of Water Resources in the Ministry of Water and Irrigation pointed out that he had noted that there was no scientific explanation on floods apart from Gucha Migori presentation which candidly discussed issues of hydrology. He further observed that from KRCS presentation that they intended to install rain gauges and he therefore inquired whether KRCS had an MOU with KMD for them to have authoritative data or otherwise the data collected from their rain gauges would be considered fake. Eng. Koki also stated that the presentation on Progress for Lumi River Basin erroneously reported that rain harvesting to reduce the impact of flood was not viable. He pointed out that rainfall played an important role in enhancing surface run-off which plays a part in floods. He pointed out that Gogo dam was earmarked for expansion under Nile initiatives. Eng. Matagaro emphasized that hydrology was important and therefore the science of arriving at the conclusions for the countermeasures should be clearly outlined.

Mr. Musau responding to the issue of science in the IFMP wherein he explained that during the training on IFAS which he undertook alongside Eng. Kimanga and that they had collected data and that the monitoring data was inaccurate and that there was a need to upgrade stations

- 4 -



with real time data. Mr. Maina responded by pointing out that the water rain harvesting was effective but was given a no based on the selection criteria but not on its efficacy.

Eng. Kinyua clarified that time duration of implementation does not make a countermeasure ineffective but rather the countermeasure should be categorized under long-term implementation. He added that long-term implementation activities should trigger sourcing for funds for such activities to be implemented. He also pointed out that a way forward should be established since the activities in the long-term were high cost and though they could be funded by WSTF through the SCMP but that kind of arrangement was time consuming based on the levels of funds as per WSTF guidelines. He therefore stated that WRMA as an institution should find a way of resource mobilization to implement the proposed countermeasures in the IFMPs.

Eng. Kinyua further pointed out that the science element had already been discussed and dealt with and that the level where the Project was premised on was on coming up with countermeasures based on the science. He added that the current presentations were basically hydrology conceptualized in practical solutions.





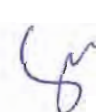
Mr. Simeon Mwangi pointed out that Isiolo and Lumi river basins focus was structural measures and therefore the science had been worked out and that the focus was currently pegged on implementation which was not the case for Gucha Migori river basin where the focus was on non-structural and therefore the science element would always be at the forefront. He added that the Project had trained WRMA staffs on IFAS that was aimed at improving the Flood Early Warning System. Eng. Matagoro on his part pointed out that floods experience should be documented and replicated as the case may be.

Ms. Jeptoo of WRMA stated that KRCS should recognize that WRUA had developed their SCMPs and that KRCS should study the SCMP and identify the shortcomings of the SCMP in case there some and develop their plan based on what is lacking in the SCMP rather than duplicating the efforts of what had already been done. Eng. Matagoro pointed out that initial response and consideration of floods disaster was reactive and not proactive. He pointed out that the reason for KRCS involvement with the project was to develop proactive systems. Eng. Kimanga clarified that the development plan that KRCS had stated in their presentation aimed at the tasks based on the Project and was different from the SCMP. He further pointed out that the intention of the 4th JCC meeting was presentation on the progress and not the IFMP. He added that the Chapter 3 of the IFMP deals with the science behind the deductions for the countermeasures.

Mr. Nzyuko pointed out that the rain gauges were not being planted for any other purpose other than the flood early warning that the community can use as a community based flood early warning tool.

Mr. Shadrack of KRCS pointed out that KRCS was not working in isolation but with WRMA and JICA and that the installations of rain gauges was a collective responsibility between WRMA and WRUA. He added that the plan KRCS was developing was based on the activities they intended to carry out and the when such activities should be implemented.

Eng. Kondo asked the participants whether the revision of the PDM was agreed upon by members. The moderator thereafter asked the members to show by lifting up of hands whether the PDM review had been adopted. All participants thereafter lifted their hands implying a unanimously agreement that the PDM review was appropriate and therefore the reviews were adopted.

 - 5 -    

8. Closing remarks

Mr. Koki, Deputy Director of Water Resources Management in the MEWNR, pointed out that the science should come out clearly not in the annex. He added that 1KB05 was being upgraded that the reading could be captured and read online. He pointed out that KEWI should be involved in the Project that they should train others on the Project.

Eng. Kinyua in his closing remarks thanked participants for active and lively participations in all the sessions. He thanked the pilot project areas for coming up with the plans. He added that WRMA was concerned with the cost element of interventions that makes WSTF funding insufficient the countermeasures. He pointed out that after the plans had been adopted then WRMA should market the plans to other stakeholders that could come in and fund some of the interventions. He added that implementation in piecemeal was handicapping the flood management but holistic implementation would go a long way in ensuring effective flood management. He thereafter declared the meeting closed.

Attachment List

1. Revised Project Design Matrix
2. Revised Work Plan
3. Attendance List



Project Design Matrix Version 2

Creation date: 8 October 2013

Project Name: The Project on Capacity Development for Effective Flood Management in Flood Prone Area

Duration: July 2011 – June 2014 (3 years)

Target Group: Working Group in WRMA

	Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal	Institutional framework of flood management in the context of integrated water resource management is expanded to all of the six catchments.	<ul style="list-style-type: none"> WRMA's Strategic Plan properly addresses flood management. WRMA staff in charge of flood management has capacity to implement community based activities in the six catchments. Flood management is incorporated in CMS and SCMP of flood prone areas in the six catchments WRMA's knowledge management mechanism (knowledge management) and training system function covering the six catchments are established. Budget for flood management is secured in the six catchments. 	<ul style="list-style-type: none"> Strategic Plan of WRMA Training records and performance appraisal records CMS and SCMP WRMA's activity records and training records Financial records 	GOK maintains its strategy to promote flood management.
Project Purpose	In the Project target areas, institutional framework of flood management in the context of integrated water resource management is established for effective and sustainable implementation of community based activities.	<ul style="list-style-type: none"> Staff of WRMA in charge of flood management in the project target areas has capacity to implement community based activities. Flood management is incorporated in CMS and SCMP of flood prone areas in the project target areas. WRMA's knowledge management mechanism (knowledge management) and triaging system function covering the project target areas are established. Budget for flood management is secured in the project target areas. 	<ul style="list-style-type: none"> Training records, project records and performance appraisal records. Strategies and plans in the project target areas. WRMA's activity records and training records Financial records 	Budget and personnel for flood management is allocated as planned.
Outputs	1) At each level of WRMA (headquarters, regional offices and sub-regional offices), sustainable organizations in charge of flood management are strengthened.	1-1 A future plan of WRMA on flood management covering personnel, budget and function is prepared. 1-2 Catchment Management Strategies (CMSs) in the Project target areas properly integrate flood management. 1-3 Training plan, training material and trainers are prepared. 1-4 More than <u>12 % (40 numbers out of 319 technical staffs)</u> of WRMA <u>technical staffs</u> attend training course by the end of this Project. 1-5 WRMA's institutional setup and budgetary systems for flood management are clearly defined and operated in the Project target areas.	1.1 Project records 1.2 CMS 1.3 Project records 1.4 Project records 1.5 Project records and financial records	<ul style="list-style-type: none"> Trained staff continue working for WRMA Residents in the pilot areas cooperate to the Project.
	2) For promoting community based activities of flood management, capacity of WRMA to support WRUAs and communities is strengthened.	2-1 Flood management plans in the pilot areas are prepared. 2-2 Materials describing the cases and lessons of the community based flood management activities are prepared. 2-3 More than <u>25</u> number of WRMA staffs have experience of community based flood management activities in the Project target areas.	2.1 Project records 2.2 Project records 2.3 Project records	

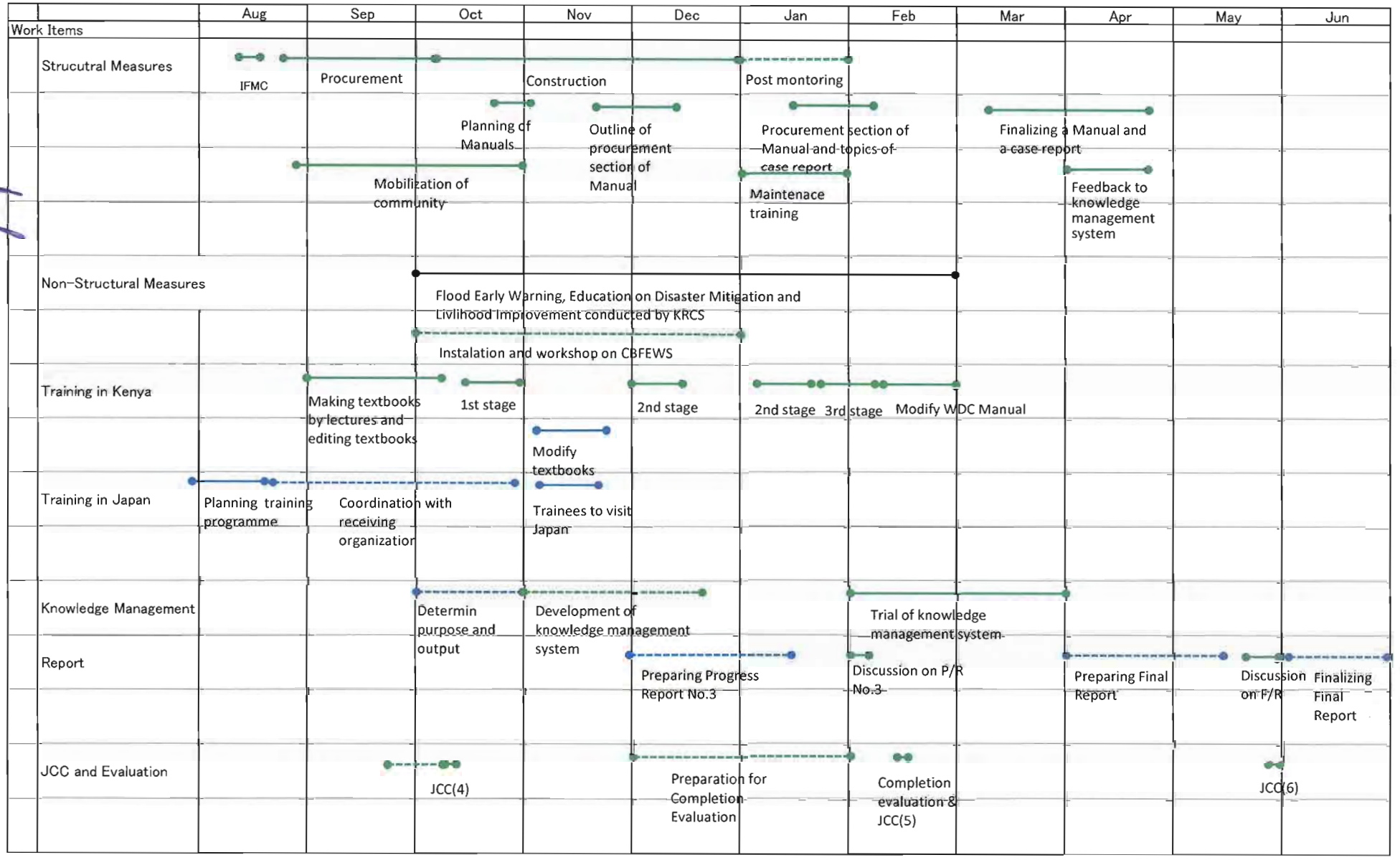
<p>Activities</p>	<p>(1-1) Working Group (WG) analyzes the actual state of flood management at national, regional and sub-regional level respectively.</p> <p>(1-1-1) Institutional framework (1-1-2) Budget arrangement (1-1-3) Personnel allocation (1-1-4) Good practices</p> <p>(1-2) WRMA formulates a future plan of WRMA on flood management including personnel, budget and strategy.</p> <p>(1-3) WRMA elaborates Catchment Management Strategy (CMS) including flood management.</p> <p>(1-4) WRMA advises MWI to include a chapter of flood management in the National Water Resource Management Strategy</p> <p>(1-5) WRMA establishes a training system for WRMA staff. (1-5-1) Formulation of a training plan (1-5-2) Preparation of training manuals (1-5-3) Implementation of training courses for trainers (1-5-4) Implementation of training courses by the trainers (1-5-5) Evaluation and feedback of the outcomes from the training courses (1-5-6) Contribution to the relevant organization in terms of implementation of training courses</p> <p>(1-6) WRMA institutionalizes knowledge management mechanism at regional level and sub- regional level respectively</p> <p>(1-7) WRMA establishes institution and budgetary systems to address flood issues.</p>	<p>Inputs <u>Japan side</u></p> <p>1. Experts a) Chief Advisor / Flood management administration b) Flood management technology c) Community based disaster management d) Promotion of disaster management activity e) Institution / Training</p> <p>The other field will be considered when necessity arises</p> <p>2. Equipment a) Office equipment (Personal computer and printer etc.) b) Project vehicles</p> <p>3. C/P training in Japan</p> <p>4. Facilities and equipment for community based activities a) sub-contracting cost for local consultant b) material and equipment cost for community based activities</p>	<p><u>Kenya side</u></p> <p>1. Personnel allocation from Counter Part (C/P) a) Joint Coordinating Committee (JCC) b) Working Group (WG)</p> <p>2. Budget allocation</p> <p>3. Office Space and Facilities a) Office space b) Depot space for construction materials, vehicles and other necessary equipment</p> <p>4. Local cost</p>	<p>Flood management Unit is established.</p>
-------------------	---	---	--	--

<p>(2-1) WRMA determines pilot sub-catchments.</p> <p>(2-2) WG establishes a coordinating function among relevant stakeholders such as flood management forum.</p> <p>(2-3) WRMA analyzes the current situations of communities.(Baseline survey)</p> <p> (2-3-1) Capacity assessment of community on flood management</p> <p> (2-3-2) Risk analysis including flood disaster map</p> <p>(2-4) JCC determines pilot areas based on a baseline survey.</p> <p>(2-5) WG facilitates communities to prepare flood management plans in the pilot areas to be integrated in Sub-Catchment Management Plan (SCMP)</p> <p> (2-5-1) Study on good practices</p> <p> (2-5-2) Participatory planning</p> <p>(2-6) WG supports the implementation of community based activities based on the flood management plans.</p> <p>(2-7) WG monitors and evaluates the community based activities.</p> <p>(2-8) WG prepares materials describing the cases and the lessons based on the community based activities.</p> <p>(2-9) WG contributes the cases and the lessons of the community based activities to the knowledge management mechanism.</p>			
--	--	--	--

[Handwritten signatures and marks in the left margin]

Work Plan
Project Name: The Project on Capacity Development for Effective Flood Management in Flood Prone Area

8 October 2013



Handwritten blue scribbles and initials on the left margin.

4th Meeting of Joint Coordinating Committee (JCC)
on
the Project of Capacity Development for Effective Flood Management
in
Flood Prone Areas (PCDEFM)

Agenda

Date: Tuesday 8 October 2013

Time: 9:00 – 13:00

Venue: Utalii College, Nairobi

	Moderator: Eng. Wilfred Matagaro, DTCM (Flood Management), WRMA	
8:30- 9:00	Registration (30 min)	
9:00 - 9:05	Opening Remarks from MEWNR (5 min)	Mr. Nyaoro, Dir. Of Water Resouces, MEWNR
9:05 - 9:10	Opening Remarks from WRMA (5 min)	Eng. Olum, CEO, WRMA
9:10 - 9:15	Opening Remarks from JICA (5 min)	Mr. Eguchi, Chief Representative, JICA Kenya Office
9:15 - 9:55	Progress in Isiolo River Basin (Presentation: 30 min; discussion: 10min)	Mr. Kinyunjui, MEN SRM, WRMA
9:55 - 10:35	Progress in Lumi River Basin (Presentation 30 min; discussion: 10 min)	Mr. Musau, NTL SRM, WRMA
10:35- 11:05	Progress in Gucha Migori River Basin (Presentation 20 min; discussion: 10min)	Mr. Maturwe, SSGM SRM, WRMA
11:05 – 11:20	Tea break (15 min)	
11:20 – 11:45	WRMA Flood Management Training Course in Kenya and in Japan (Presentation: 15 min; discussion: 10 min)	Eng. Kondo, JICA Project Team
11:45 – 12:00	Project Design Matrix and Work Plan (15 min)	Mr. Sawa, JICA Project Team
12:00 – 12:15	Non-structural measures in cooperation with KRCS in the target areas (15 min)	Kenya Red Cross Society
12:15 - 12:50	Wrap up Discussion (35 min)	
12:50 - 12:55	Closing Remarks from MEWNR (5 min)	Dir. Nyaoro, MEWNR
12:55 - 13:00	Closing Remarks from WRMA (5 min)	Eng. Olum, WRMA

7. 合同調整委員会議事録等

7-5 第5回合同調整委員会議事録等

MINUTES OF MEETING
OF
THE 5th JOINT COORDINATING COMMITTEE (JCC) MEETING
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA
HELD ON THURSDAY, MARCH 20, 2014
AT
UTALII COLLEGE
AGREED UPON BETWEEN
MINISTRY OF ENVIRONMENT, WATER AND NATURAL RESOURCES (MEWNR),
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA PROJECT TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

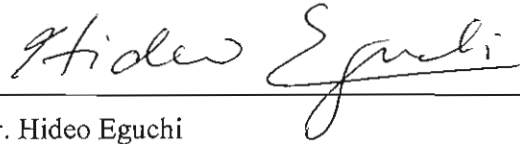
Nairobi, 21st March 2014



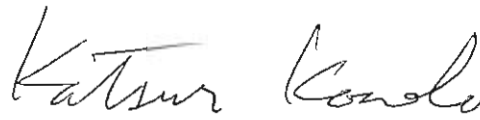
Mr. James Teko Lopoyetum, HSC,
Principal Secretary,
Ministry of Environment, Water and Natural
Resources.
State Department of Water.



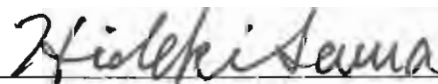
Eng. John P. Olum
Chief Executive Office
Water Resources Management Authority



Mr. Hideo Eguchi
Chief Representative
JICA Kenya Office



Mr. Katsuro Kondo
Chief Advisor
JICA Project Team



Mr. Hideki Sawa
Team Leader
JICA Project Team



The 5th Joint Coordinating Committee (hereinafter referred to as “JCC”) Meeting on the Project on Capacity Development for Effective Flood Management in Flood Prone Areas in the Republic of Kenya (hereinafter referred to as “the Project”) was held on 20 March 2014. Attendance list is shown in **Attachment 1**. As the result of the discussions, JCC members confirmed the following issues;

Min 1: Opening Remarks

Mr. Hanai of JICA Kenya made the opening remarks. In his remarks he pointed out that the JICA has supported flood management activities in Kenya since 2006 with the Master Plan Study for Integrated Flood Management in the Nyando, thereafter grant aid project in the Nyando and the current ongoing Project. He pointed out that it is not easy to control disaster but that it can manage. He added that climate change has led to increased disasters and that it is not easy to come up with big high investment structures to mitigate disaster. He added that the project aimed at building institutional and community capacity to manage floods. He added that today’s meeting aimed at sharing the achievements of the Project and the result of terminal evaluation. He concluded his remarks by giving analogy of the tsunami disaster in Japan where over 30,000 people lost their lives. He explained that one mother with her child remembered a story shared to her by grandmother that in case of disaster the community members should go to the well and in case there are gargling in the well then the community members should escape to the back hill of the mountain. Therefore the lady with her daughter followed what the grandmother taught her and she escaped tsunami with her daughter. Mr. Hanai therefore pointed out the importance of traditional conventional way of mitigating disasters. He therefore stated that he hoped for a lively discussion and presentations during the workshop.

Mr. John Nyaoro, Director of Water Resources in Ministry of Environment, Water and Natural Resources thanked the participants for attending the workshop and JCC meeting. He gave apology on behalf of the PS of Water due to Ministry budgetary matters that were on going. He pointed out that the workshop aimed at building capacity. He drew from Mr. Hanai analogy and stated that knowledge was important in mitigating disasters. He pointed out that the project has played a key role in training staffs and also has led to discussions with government officials on what need to be put in place in order to mitigate floods. He thanked Japan Government in the efforts that JICA had undertaken in flood management not only in the current Pilot Project Areas but in the country. He requested the participants to lively in the workshop to achieve the best outcome desired for the workshop.

Eng. Kondo, the Chief Advisor to the Project, explained the outline of the JCC and the workshop. He also explained the structure of the Project. He outlined the history of flood management in Kenya which he stated started with Water Act 2002 and establishment of WRMA in 2005 that gave WRMA the mandate of managing floods in Kenya. He gave a synopsis of the JICA assisted projects in flood management in Kenya. He explained the Master Plan Project in Nyando with the 5 pilot project area. He thereafter explained the Japan Grant Aid Nyando project that was implemented in the Nyando River Basin. He further explained the post project conditions of the structural and non-structural measures in the Nyando where he stated that the evacuation centre were assisting community but in some villages the O&M was poorly carried out. He added that duplication of the Nyando Project was difficult due to the high cost of the Nyando Project. He thereafter explained the current Project including WRMA stage 1 and 2 training and the training of the community. He

thereafter explained the Project Structure consisting of Output 1 and Output 2. He explained the new constitutional dispensation has devolution and it was important to consider the element of devolution in flood management. He explained that output aimed at building capacity of the community in flood management. He thereafter explained the agenda for the workshop and JCC meeting.

CEO WRMA Eng. Olum pointed out that Flood Management was a mandate of WRMA; he stated that there were concerns during the bill whether there was enough capacity in flood management. He pointed out that the capacity had been built in flood management. He explained that the current political dispensation ushered county government. He added that counties were concern with flood management. He explained that he met with Governors representatives in Kisumu and all they discussed was flood management. He pointed out that for effective flood management there was need to incorporate county government in flood management and consideration of developing the capacity of the county government should be considered. He stated that the progress in developing the capacity of WRMA was good but there was much that needed to be done. The other areas that are affected by flood must be considered. He pointed out that it was important for WRMA staff to be trained in flood management giving an example of Elizabeth Diego who went to Japan. But he emphasized that it was prudent that grassroots community members be empowered in flood management and not control. He concluded his speech by requesting the development partners to assist WRMA and communities in flood management by assisting in the implementation of structural and non-structural measures that had been proposed by the Project assisted IFMPs.

Min 2: Report on activities on Output 1

Eng. Kimanga of WRMA HQ FMU began his presentation by explaining the Project Design Matrix (PDM). He explained the overall goal of the Project that the institutional framework of flood management in the context of integrated water resources management is expanded to the six catchments in the country.

Indicator 1-1: A future plan of WRMA on flood management covering personnel, budget and function is prepared.

He pointed out that WRMA has developed strategic plan 2012-2017 which is adopted and under implementation. Strategic Plan captured flood management as role of WRMA. He added that three flood management plan for three pilot project areas had been developed. He added that thirteen (13) plan of FM for thirteen (13) flood prone areas will be developed. He added that WRMA aims at establishing flood management department. He added that WRMA has dispatched FMO in all the ROs, SROs and FMU in the HQ. He added that in budgetary matter there are clear budget to support FM Activities.

Indicator 1-2: Catchment Management Strategies (CMSs) in the Project target areas properly integrate flood management.

WRMA is currently revising six CMSs which will address the integration of flood management

Indicator 1-3: Training plan, training material and trainers are prepared.

WRMA maintains annual training plan and under the PCDEFM WRMA stage 1 training was done in Kenya and Japan and they were trained to be trainers. Stage 2 training WRMA trainers are training FMO and 28 officers have been trained. 3rd Stage training aims at trained personnel in 2nd stage to train WRUAs in Flood Management. 3rd Stage not yet done



Indicator 1-4: More than 12 % (40 numbers out of 319 technical staffs) of WRMA technical staffs % of WRMA staffs attend training course by the end of this project.

So far 47 personnel trained which is more than 12% trained.

Indicator 1-5: WRMA's institutional setup and budgetary system for flood management are clearly defined and operated in the Project target areas.

FM department established, staff dispatched in all flood prone areas, FM has a budget, revision of WDC that has incorporated FM. Establishment of Assistance Manual for Community Disaster Risk Reduction Activities. This activity is on-going. That manual will be developed and used by WRUA. He explained that WRMA aimed at developing two kinds of manuals one for procurement manual and manual for supporting WRUA activities in FM. Manual on gabion works, raised road, sandbagging and O&M manuals.

He pointed out the need for Knowledge Management System which aimed at easing problem of searching and dealing with the problem of the huge gulf bridge between HQ and SROs.

The MC pointed out the reactions will be during the discussion session.

Min 3: Report on activities on Output 2 Isiolo Sub-catchment

Mr. Kinyanjui, WRMA Sub-Regional Manager Isiolo in his presentation highlighted the outline of Isiolo River Basin. He explained the type of flood that affects Isiolo, the natural conditions of Isiolo River Basin, the graphs of the daily rainfall in Isiolo, the topography of Isiolo. He stated that the Project assisted in coming up with causes and effects of floods in Isiolo River Basin. He explained the erosion and sedimentation as a result of floods. He explained in the process of implementation of the Project Flood Disaster Analysis had been carried out. He explained the countermeasures that were developed under the Integrated Flood Management Plan (IFMP) Isiolo River Basin. He explained that the communities have developed flood hazard maps and the Kenya Red Cross Society (KRCS) have trained community on flood management including Flood Early Warning System (FEWS). He stated that the community managed rainfall gauge gadget and river level gadget have been installed and community members are managing the same.

He explained that structural measures have been undertaken completed and handover to the community. He added that WRUA capacity for procurement was built. He added that WRUA were empowered in monitoring of the implementation of the gabion works.

He explained that no-structural measures had been undertaken with four rain gauge gadgets installed and one river level gadget.

He added that IFMP had been drafted and awaits adoption in April 2014 during 3rd IFMC Meeting.

Mr. Karimba, Chairman of Isiolo WRUA began his presentation by pointing out that the communities in Isiolo have greatly benefited from the Project. He pointed out that Isiolo is a water scarce area but when it rains the area becomes flooded. He explained that four rain gauges had been installed in Isiolo River Basin he added that the gadgets will play an important role in early warning because the floods in Isiolo town were not as a result of rains in Isiolo but in the slopes of Mt. Kenya. He added that river gauge that aims at FM had been installed in Isiolo.

He pointed out that community members are moving away from Riparian Land.



He added that river bank protection had been undertaken and WRUA members had been trained in the O&M. He pointed out that gabion works were expensive activity that will take time before WRUA could roll out such structure by themselves. He added that there was need for scaling up the Project and great beneficiary for the community will be development and construction of dams and check-dams that can be community use the flood water constructively.

Min 4: Report on activities on Output 2 Lower Lumi Sub-catchment

Mr. Musau WRMA Sub-Regional Manager Loitokitok began his presentation by explaining the outline of Lumi River Basin. He explained the natural conditions of Lumi River Basin. He explained the achievements in Lumi as Integrated Flood Management Committee (IFMC), draft IFMP, training of WRMA locally and internationally.

He explained that the County Government was actively involved in the IFMC. He added that IFMP (draft) had been developed and shared the plan with the Governor.

He explained the Flood Early Warning System (FEWS) where WRUA had been trained in assembling the gadget and installation. He explained the concept of early warning and pointed out that river gauge gadget had been installed and played an important role in warning community members to evacuate during floods two weeks after its installation.

He pointed out that WRMA staff and WRUA member went to Japan for further training in flood management

He further clarified the raised road construction using sand bags where WRMA staff and WRUA members were trained were ongoing.

He explained the current progress in construction of raised evacuation centre and toilets.

Mr. Fredy Reuna, secretary of Lower Lumi WRUA, explained the achievements in Lower Lumi. He pointed out that communities were the greatest beneficiary of the Project. He explained FEWS development of gadgets, DO-NOU (sand bag) technology in raised road construction, exchange visit to Nyando and LOGUMI SC, and the MOU signing where WRUA had a role to play in the construction of evacuation centre and toilet.

Min 5: Report on activities on Output 2 Lower Gucha Migori Sub-catchment

Mr. Masafu, WRMA Sub-regional Manager Southern Shoreline began his presentation explained the background of his presentation. He explained FEWS in Gucha Migori River Basin starting from the hydrograph, RGS gadget. He explained the first and second IFMC in Gucha Migori river basin. He explained the current progress of IFMP. He thereafter explained establishment of Community-based Flood Management Organizations (CFMOs). He also explained the impact of Nyando Project exchange visit.

Mr. Joshua Ouna, secretary of Lower Gucha Migori (LOGUMI) WRUA, explained the background of LOGUMI SC. He explained that floods in LOGUMI have been on increase both in intensity and impact. He explained the flood management trainings that the WRUA had undergone through. He explained the excursion visit to Nyando. He explained the training of WRUA member in Japan. He explained the use of hydrograph and the community based FEWS. He explained the cooperation with KRCS during the training. He further explained the LOGUMI WRUA achievements including rapid response against floods in 2013, he pointed out the good coordination and cooperation among the stakeholders. He explained the training of community members on monitoring and information. He explained that LOGUMI WRUA had established 11 CFMOs under WRUA. He explained the lesson

learnt was the raised toilets in the Nyando and using the knowledge from the visit and WRUA was able to convince World Vision to change design of the toilet and constructed raised toilets. He explained the milestone achievements of LOGUMI WRUA which included developing of Flood Hazard Map, participated in response of floods, participated in training in FEWS in Nairobi; He explained the challenges in LOGUMI WRUA and shared the pictures of the problems in LOGUMI SC and pointed out that LOGUMI WRUA had submitted a proposal to Japan Embassy for Grant for Grassroots for construction of evacuation centre in LOGUMI SC

Min 6: Report on KRCS activities

Mr. Shadrack Musyoka of Kenya Red Cross Society (KRCS) in his presentation explained the role of KRSC in the Project. He explained the sensitization trainings for WRUA. He also explained the Flood Early Warning System (FEWS) training and developing rain gauge gadgets. He explained that during FEWS training both traditional and scientific early warning were considered. He thereafter explained the installation of the rainfall gadgets.

He also explained the disaster management training that was carried out in the three pilot project areas. He explained the training materials that were used during the training. He explained that KRCS assisted schools through school clubs to discuss the issues of floods. He explained that songs and role plays were used in school. He explained the livelihood component of chicken rearing. He explained the methodologies that were used during the implementation of non-structural measures. He further explained that lessons learnt during the implementation. KRCS initially used to grants but the project gave them room to be part of tripartite partnership, community experience traditional and modern approaches on floods management and integrated approach in flood management between structural and non-structural measures in FM.

Min 7: Discussions on the report on output 2

MC invited Mr. Wanyonyi of WRMA to moderate. The moderator pointed out that as participants make the comments they should introduce themselves and organizations that they were representing. He gave brief overview of the presentations that had been undertaken during the morning sessions.

One participant wanted to know the plans in place to roll out the Project in all other parts of Kenya that are affected by floods and the role of devolution in FM. He also wanted to know the efficacy of structural and non-structural measures that had been implemented.

Mr. Ben Opa of National Environmental Management Authority (NEMA) raised an issue with Mr. Kimanga presentation where flood prone areas were pointed out as the three pilot project areas. He wanted to know the other institutions that deal with flood in the country and how they interact with WRMA. MOU between Tanzania and Kenya what it entails and how the MOU will facilitate the management of trans-boundary waters.

Mr. Karimba of Isiolo WRUA pointed out that the airport and road construction are cause of floods in Isiolo and what can be done to mitigate.

Eng. Kimanga pointed out that FM department in WRMA was new and it was not possible for all flood prone areas in Kenya but they had to start by piloting in some of the areas. He pointed out that WRMA had done mapping and at least 15 SC are affected by floods. He stated that floods were not a preserve of WRMA but the Constitution 2010 gives disaster management to central government and county government. He added that WRMA aims at developing plans and activities that WRMA can undertake. He added that WRMA had been



mandated to coordinate flood management in Kenya. He further stated that measures can be divided only to structural measures.

Dir. Nyaoro stated that there was an MOU between Kenya and Tanzania which targets on getting was of implementing measures on the trans-boundary water. He pointed out that the two countries are identifying the activities that the two countries can undertake and after the activities had been developed then the activities will be handed to WRMA to implement under the support of WRMA.

Mr. Okge of Kenya National Highways Authority (KeNHA) pointed out that structural and non-structural measures were expensive and can be implemented in the piecemeal. He pointed out that construction of road is constructed after only after environmental and social impact assessment had been done. He added that the meetings are held for purposes of consultation but community members do not attend he gave example of construction of a road in Eldoret where community members did not attend the meeting. He pointed out that current set up of the construction of road demanded that the water that is being channeled must be certified where it will drain to. He further explained that under JICA assistance to National Road were being trained on road works, highway maintenance and environmental concerns.

MC pointed out that the water from the roads call for integrated approach in managing that kind of waters.

Min 8: Disaster Management Policy Post Hyogo Framework

Mr. Gordon Muga of Ministry of Interior and Coordination of National Government began his presentation by explaining the Hyogo Framework. He explained the five priorities of action i.e. ensure Disaster Risk Reduction (DRR) is a national and local priority, identify, assess and monitor disaster risk, use knowledge innovation, reduce the underlying risks factor.

He explained the Regional level member states of Africa had started formulating policies to address disaster. He explained the six objective of AU on disaster. He further explained the Sub-regional level where East Africa Disaster Risk Reduction and Management strategy while IGAD had developed a training manual.

At national level Kenya uses constitution and presidential decrees. He explained the objectives of National Disaster Risk Management Policy. He explained in summary the six chapters in the policy of National Disaster. He explained the comprehensive disaster risk management and thereafter the guiding principles and thereafter explained the code of conduct in disaster management.

He explained the National Disaster Management Authority (NADIMA), national funding mechanism and provision. He explained the devolved funds.

HFA 1 has not been fully implemented with emphasis on political commitment, commitment of more resources from development partners, commitment from global stage on public-private partnership to address urban risks and strengthen monitoring and evaluation mechanism for DRR projects and improve online reporting.

Min 9: Discussion on Devolution and flood management

MC invited Mr. Wanyonyi to moderate the session. Mr. Wanyonyi ushered the discussion and explaining in brief the presentation by Mr. Muga. He pointed out that top down approach was catastrophic where disaster occurs and then top government official flies to the area in a chopper to observe the disaster.



Mr. Ben Opa of NEMA wanted to know the impact of disaster. He wanted to know how duplicity of effort is avoided between NADIMA and NADRA. He wanted to know the framework and interplay of NADIMA visavis the plan of government for lean government. He also wanted to know the funding stream can be enhanced to tackle the flood occurrence and drought.

One participant wanted to know the funding mechanism of disaster in Japan, the nature of flood management in Japan. He wanted to know how the draft framework is being used in intervening floods or the county governments are developing their own framework.

Prof. Onyando wanted to know the perimeters or guideline that determines a particular occurrence is a disaster and therefore funds are channeled to it.

Responses

Disaster policy started after El Niño rains and bomb blast. The policy formulated did not capture climate change and therefore the draft policy was sent back for review. During the review element of livelihood was incorporated. He added the policy has been realigned to the new constitution in consideration of the bill of rights. He explained that the policy is at cabinet levels and will soon be taken to parliament. He explained on the duplicity of efforts and stated that NDMA only focused on one disaster while NADIMA cuts across all the disasters. He pointed out NDMA is funded by EU. There are two options that NDMA be expanded to encompass other disasters or be augmented within the NADIMA.

He explained that National government sets the agenda and the County Governments develop their own county disaster reduction framework. County government need just to borrow from the National Government to developed their own.

Guidelines for declaring disaster is the inability of the nation to cope with a disaster. He pointed out due to political inclinations disasters exposes vulnerability of the nation and therefore

Min 10: Result of terminal evaluation of the Project

The afternoon session began with introductions of participants and the organizations that they represent. Mr. Kooke of Ministry of Environment, Water and Natural Resources chaired the sessions.

Ms. Nakamura of JICA Terminal Evaluation Team gave the results of the terminal evaluation. The outline in her presentation entailed introduction evaluation criteria. The outline of the Terminal Evaluation Study is shown in **Attachment 2**.

She explained the output and objectives of the Project. She explained the objectives of terminal evaluation.

She explained the five evaluation criteria i.e. relevance, efficiency, effectiveness, impact and sustainability.

She thereafter explained the summary of the results relevance (high), efficiency (Medium/low), effectiveness (low), impact (Medium/low), and sustainability (Medium/low).

She thereafter explained the evaluation criteria vis-a-vis evaluation and justification. She explained the current Project vis-a-vis Nyando project that implemented the Project through the community based organization i.e. CFMOs. She added that the current Project entry point was WRUA and she added that the idea was noble but for the success of such Project relies



on the proper organization of the WRUA where there are gaps in such situation it becomes difficult.

She explained the effectiveness was evaluated medium/ low because the Project has not achieved the Project purpose fully. She explained that there were hampering factors like the baseline survey that led to longer period in data collection poor project management wherein the scheduling was not checked, personnel allocation constant transfer of WRMA staff leading to slow capacity building process/ budget lack of finances to support activities of WRMA staff. If the budget is provided at the commencement of the Project then may be the activities could be done. The Project Team request for appointment of FMO but delayed until September 2013.

She explained the efficiency was evaluated low was vis-a-vis WRMA outputs, human resources, overseas training, equipment and cost.

She explained the impact was evaluated medium/ low in view of WRMA strategy, FMO and FMU i.e. the staff assigned not only assigned for flood management but also other role that makes it difficult to continue after the Project, revision of CMS which is ongoing and not sure if the revision of CMS will be carried out within Project duration period. On the training system 1st training, 2nd training and 3rd training. She pointed out that WRMA completed 2nd stage training, yet there is no plan for 3rd training. The budget not allocated to FM. Currently there is a budget for FM but in future it is not granted that the budget will be allocated.

She explained the sustainability was evaluated medium/ low vis-a-vis policy institution was good but organizationally there was a challenge based on the institutional framework that can sustain FM in the community. She pointed out technical transfer of Flood Hazard Map easy and is sustainable but on the structural measures. Pilot project sustainability not clear, IFMC sustainability is also in doubt.

She thereafter gave summary of evaluation and in summary she stated the Project need follow up support to check and guide the activity by the end of the Project

She invited Mr. Miyata, Leader of the JICA Terminal Evaluation Team, who gave the recommendations as follows

- a) Mainstreaming flood management and incorporate in development plans;
- b) Stronger institutional framework;
- c) Extending Project activities to other regions. The Project Team to develop plan include scheduling and budgetary allocations before the end of the Project;
- d) Resources/ budget. WRMA to conduct coordination for WRUA to ensure they get funding;
- e) Capacity development. WRMA and Project Team to review 2nd stage training and come up with lesson learnt and capacity assessment. WRMA should conduct 3rd stage training;
- f) Community participation/ coordination with flood vulnerable residents;
- g) Community-based Flood Early Warning System (water gauge and rain gauge); WRMA to develop working group for FEWS and WRMA to provide technical advices to WRUA;
- h) Knowledge management: Make manual for early warning, disaster education and livelihood;
- i) Integrated Flood Management Committee
- j) Structures constructed in pilot project. Recommend WRMA and Project Team to coordinate WRUA on ownership of the structures

He pointed out if the recommendations are implemented then the evaluation will be high.

Min 11: Discussion on the result of the terminal evaluation of the Project

Mr. Wanyonyi moderated.

Ms. Diego, Assistant Technical Coordination Manager in charge of community development of WRMA, wanted to know the perception of terminal evaluation on the community and the WRUA. She pointed out that what an X put on finance implies.

Response

Ms. Nakamura pointed out that according to WRMA WRUA is the community but JICA focus is the affected community. WRUA was formulated to solve water resources problem while community that focuses on floods. Mr. Wanyonyi pointed out that not only WRUA members are community members but all WRUA members in a particular geographical area are community members. Ms. Nakamura pointed out that focus on sustainability where finance was marked X was because the finance is based on concrete plan on the budget that can be used could not be noted with WRMA especially after the Project. Mr. Wanyonyi pointed out that if the future on budgetary was doubtful he would have preferred a question mark (?) rather than X

Mr. Njiru pointed out CFMO in Nyando have a problem of sustainability and WRMA uses WRUA because they have an MOU that enhances management. He added that FMU in headquarters in the only place where members have other assignment but in ROs and SROs there are flood management officers.

Prof. Onyando pointed out WRUA provides framework to CFMO to join them, WRUA members cannot turn away CFMO because they are members from that geographical area. He pointed out that FM was in the WRUA. He added that WRMA a national institution while flood is localized and for effective utilization of human resource must be considered.

CEO pointed out that WRUA by definition it may seem distinct but in flood impact the WRUA represented the community. WRUA were able to draw flood hazard map therefore the capacity to manage floods was available. He pointed out that WRUA was open to everyone and WRUA was not exclusive to individual. He added that it was a misconception that WRUA was a sub-set of the community but it was a community.

Min 12: Future development of flood management after the Project

Eng. Kimanga in his presentation stated that floods must be looked at from the disaster point of view. He explained floods caused loss of lives and loss of livelihood. He pointed out that disasters in Kenya was important and was considered at two tiers of governments i.e. national and county governments.

He explained flood management in WRMA was a core mandate and currently the Project covered three SC. He explained that 15 other SC were also affected. He thereafter explained the proposed Framework of WRMA Action Plan in FM.

He stated that WRMA considers floods pre, during and post floods. He added that WRMA were preparing programmes for prefloods, during floods and post floods. In pre-flood phase FM plans and budget, early warning, inert-county and agencies coordination, putting up structural and non-structural measures shall be made. During floods monitor of high flows

EVALUATION BY FIVE CRITERIA		
Criteria	Evaluation	Justification
Relevance	High	<ul style="list-style-type: none"> •Policy Support from GOK (◎) •Japanese ODA Policy (◎) •Selection of Target Areas (△)
Effectiveness	Medium / Low	<ul style="list-style-type: none"> •Achievement of Project purpose (Middle) •Hampering Factors (Baseline Survey/Poor Project Management/ Personnel Allocation/Budget) •Contributing Factors (FMO)

EVALUATION BY FIVE CRITERIA		
Criteria	Evaluation	Justification
Efficiency	Low	<ul style="list-style-type: none"> •Outputs (Medium) •Human resources •Overseas Training •Equipment •Cost
Impact	Medium / Low	<ul style="list-style-type: none"> •WRMA Strategy (◎) •FMO (◎) FMU (△) •Revised CRS (○) •Training System (○) •Budget (△)

EVALUATION BY FIVE CRITERIA		
Criteria	Evaluation	Justification
Sustainability	Medium / Low	<ul style="list-style-type: none"> •Policy & Institutional (◎) •Organizationally (○) •Financially (×) •Technically (○) •Pilot Project (△)

Summary of Evaluation

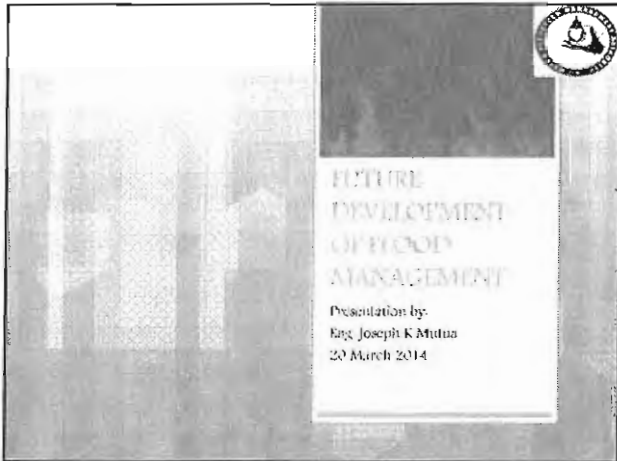
- The team has confirmed that the expected outputs have been partially achieved due to the notable delay in the implementation of the Project.
- It was also assumed that the Project would not achieve its purpose fully within the cooperation period.
- Therefore the Team concluded that the Project will need follow-up support to check and guide the activity by the end of the Project and after the Project if necessary.

Recommendations

- (1) Mainstream flood management and incorporate in development plans.
- (2) Stronger institutional framework
- (3) Extending Project activities to other Regions
- (4) Resources / Budget
- (5) Capacity Development

Recommendations (Continued)

- (6) Community participation
- (7) Community-based Flood Early Warning System (water gauge and rain gauge)
- (8) Knowledge Management
- (9) Integrated Flood Management Committee
- (10) Structures constructed in pilot project



FLOOD MANAGEMENT IN PERSPECTIVE

- Floods can be a disaster.
- Disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

(UNISDR)

Why Disaster Management?

- Losses in:
 - Human life
 - Property and Material
 - Economic
- GoK has mandated both National and County Governments with Disaster Management. It is a concurrent function and involves many stakeholders.
- Next Millennium Development Goals???

The CoK 2010

Extract from the 4th Schedule - Distribution of functions between the National Government and County Governments

Part 1 – National Government (2, 18, 19, 22, 24, 32, 33)	Part 2 – County Governments
2. The use of international waters and water resources	10. Implementation of specific national government policies on natural resources and environmental conservation, including (a) soil and water conservation, (b) forestry
18. Transport and communications, including, in particular - (c) pipelines	11. County public works and services, including (a) stormwater management systems in built-up areas; and (b) water and sanitation services
19. National public works	12. Fire fighting services and
22. Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development, including, in particular (c) water protection, securing sufficient residual water, hydraulic engineering and the safety of dams	
24. Disaster management	
32. Capacity building and technical assistance to the counties	
33. Public Investment	

Flood Management in WRMA

WRMA	County	Sub-County
1	Atti	Nairobi
2		Loilekitok
3		Mombasa
4	Tana	Garissa
5	Ewaso Ng'iro North	Isiolo
6		Rumuruti
7		Mandera
8	Rift Valley	Lodwar
9		Narok
10		Kabarnet
11	Lake Victoria North	Siaya
12		Kiale
13	Lake Victoria South	Kisii
14		Kisumu
15		Kericho

Proposed Framework of WRMA Action Plan in Flood Management

Institutions	Roles before floods	Roles During floods	Roles After floods
Ministry of Environment Water and Natural Resources	Develop Flood policy	Inter-government/ministerial Coordination	Review and update the policy
County Government	Domesticate the flood policy	Mobilise resources	Support Rebuilding

Framework cont'd

Institution	Roles before floods	Roles During floods	Roles After floods
WRMA	<ul style="list-style-type: none"> Flood Management Plans and budget Early warning Inter county and agencies coordination Put in place structural and non-structural measures Community mobilization 	<ul style="list-style-type: none"> High flow, rainfall and sediment monitoring Information dissemination 	<ul style="list-style-type: none"> Review the flood mgt plans Update the flood hazard maps Update the early warning systems Mitigate on the flood structural and non-structural measures Update the database

Framework cont'd

Institution	Roles before floods	Roles During floods	Roles After floods
Kenya Meteorological Department	<ul style="list-style-type: none"> Early warning 	<ul style="list-style-type: none"> Rainfall monitoring Information dissemination 	<ul style="list-style-type: none"> Update weather database Disseminate information
Regional Development Authority	Identify and share information on flood prone areas	implement Integrated Flood management plans	Support Rebuilding
Kenya Red Cross Society	<ul style="list-style-type: none"> Stock Resources for flood disaster Perform evacuation drills 	<ul style="list-style-type: none"> Evacuation of the vulnerable Removal victims Distribution of relief items Disseminate information 	Update the database

- ### Action items by WRMA after end of this project
- Continue to work on the development of integrated flood management policy
 - Mapping of flood prone areas in the country.
 - Delincate potential river basins for development of IRBFMPs
 - Assess flood monitoring network for collecting and disseminating of information
 - Collection of socio-economic data in the flood prone areas.
 - Flood data analysis (cause – effect) to support plans preparation

- ### Actions Cont.
- Coordinate flood management stakeholders forums
 - Development of integrated flood management plans for other sub catchments
 - Review of Catchment Management Strategies and other planning tools such as SCMPS to incorporate IFM
 - Review the annual budget for flood management
 - Develop project proposals for flood management in flood prone areas from adopted IRBFMPs
 - Dissemination of flood information to public


- ### Actions Cont'
- Train community to develop 'my disaster prevention and hazard maps'.
 - Develop TOR for code of practice to support self help/mutual projects
 - Development of a framework for river classification

7. 合同調整委員会議事録等

7-6 第6回合同調整委員会議事録等

MINUTES OF MEETING
OF
THE 6th JOINT COORDINATING COMMITTEE (JCC) MEETING
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREA
IN
THE REPUBLIC OF KENYA
HELD ON THURSDAY, JULY 31, 2014
AT
UTALII HOTEL
AGREED UPON BETWEEN
MINISTRY OF ENVIRONMENT, WATER AND NATURAL RESOURCES (MEWNR),
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA PROJECT TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

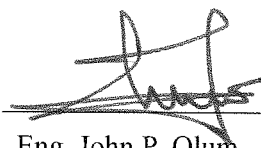
Nairobi, 1st August 2014



Mr. James Teko Lopoyetum, HSC,
Principal Secretary,
Ministry of Environment, Water and Natural
Resources
State Department of Water



Mr. Hideo Eguchi
Chief Representative
JICA Kenya Office



Eng. John P. Olum
Chief Executive Office
Water Resources Management Authority



Mr. Hideki Sawa
Team Leader
JICA Project Team

The 6th Joint Coordinating Committee (hereinafter referred to as “JCC”) Meeting on the Project on Capacity Development for Effective Flood Management in Flood Prone Area in the Republic of Kenya (hereinafter referred to as “the Project”) was held on 31st July 2014. Attendance list is shown in **Attachment 1**. As the result of the discussions, JCC members confirmed the following issues;

Min 1: Background, Objectives and Outline of the Project

The draft final report of the Project was prepared by the JICA Project Team and presented to Ministry of Environment, Water and Natural Resources (hereinafter referred to as “MEWNR”) and Water Resources Management Authority (hereinafter referred to as “WRMA”). Mr. Hideki Sawa, Team Leader of JICA Project Team, presented to the participants the background, objectives and outline of the Project. The Project Design Matrix (PDM) is shown in **Attachment 2**.

Activities after the 5th JCC and the terminal evaluation were presented as follows;

- 1) Pilot structural measures such as a riverbank protection in Isiolo and an evacuation centre in Lumi were completed. MOU on ownership, property rights and operation and maintenance responsibility for the works to be agreed upon among WRMA, WRUA and the JPT was prepared. Handing over of those structures from the JPT to WRMA was completed on 17 April 2014.
- 2) Training and Capacity Development
 - The 2nd stage training was evaluated and reviewed
 - The 3rd stage training for Lower Gucha Migori WRUA was conducted in May 2014
 - Capacity assessment of WRMA was conducted by the WG in June 2014
- 3) Establishment of Community Based Flood Early Warning System (CBFEWS)
 - Manual was developed.
 - Simple rain gauges and water level gauges were installed.
 - WRMA formulated the expansion plan to nationwide coverage.
 - CBFEWS forum in Lumi River Basin, Taveta was held.
- 4) Development of Manuals
 - Eight (8) manuals and two (2) lessons learnt report were developed and handed over to WRMA
- 5) Expansion of IFM to nationwide coverage
 - IFM nationwide expansion plan with budget plan was prepared.
 - The plan includes such works as flood hazard mapping, Integrated Flood Management Committee (IFMC) formulation and operation, Integrated Flood Management Plan (IFMP) development, CBFEWS installation, WRMA FM training and WRUA FM training.
- 6) Community Participation
 - Flood Management Sub Committee (FMSC) is recommended to be set up under WRUA in flood prone area.
 - Community-driven Flood Management Organization (CFMO) under WRUA can be a direction to take for better community participation for flood management.
- 7) Knowledge Management
 - The form and procedure for Flood Survey were prepared and they will be used in the second rainy season of 2014.

- 8) Revision of CMS: FM was incorporated in the revised CMSs.
- 9) Integrated Flood Management Plan (IFMP)
 - Three (3) IFMPs in three pilot river basins namely Isiolo, Lumi and Gucha Migori were developed in the target three river basins.
 - Twelve (12) target river basins were selected and IFMPs for these river basins are scheduled to be developed within next three years.
- 10) Enhancement of FM in WRMA: ATCM (FM) in HQ was appointed exclusively to FM.
- 11) Reflection of flood management issue to other national acts and plans
 - Disaster Management Bill is yet to be approved.
 - Water Bill is yet to be approved.
- 12) WDC Manual revision
 - FM module (Chapter 9) was incorporated into WDC Manual Version two (2) finalized in April 2014
- 13) Integrated Flood Management Committee (IFMC)
 - IFMCs in three pilot river basins were established and operationalized.
 - IFM nationwide expansion plan with budget plan including IFMC establishment and operation in twelve (12) target river basins was prepared.

Expected actions to be taken by WRMA after the Project were explained as follows;

- 1) Utilization and updating of manuals
- 2) CBFEWS expansion and operation and maintenance of installed system
- 3) Execution and continuous improvement of WRMA IFM training
- 4) Execution and continuous improvement of WRUA IFM training
- 5) Incorporation of IFM into SCMPs
- 6) Handover of the structures of the pilot projects from WRMA to WRUA
- 7) Knowledge management
 - Implementation of flood survey after every rainy season
 - Utilization of WRMA website for storing and sharing of knowledge on community based FM

Min 2: Activities and Achievement of Output 1

Mr. Simon Mwangi, Assistant Technical Coordination Manager (ATCM) in charge of Flood Management of WRMA presented the Output 1 and the indicators as follows;

Description
Output 1: At each level of WRMA (headquarters, regional offices and sub-regional offices), sustainable organizations in charge of Flood Management are strengthened.
Indicators:
1.1 A future plan of WRMA on Flood Management covering personnel, budget and function is

prepared.

1.2 Catchment Management Strategies (CMSs) in the Project target areas properly Integrate Flood Management.

1.3 Training plan, training material and trainers are prepared.

1.4 More than 12 % (40 from 319 technical staffs) of WRMA staffs attend training course by the end of this project.

1.5 WRMA's institutional setup and budgetary system for Flood Management are clearly defined and operated in the Project target areas.

Indicator 1.1

In 2012, WRMA developed "WRMA Strategic Plan 2012-2017" as a five-year plan. In the plan flood management is clearly mentioned as a mandate and function of WRMA.

That plan also cater for personnel reinforcement that led to the establishment of Flood Management Department (FMD) at HQ, ROs and SROs and appointment of Flood Management Officer (FMO) and all these were approved in January 2013. In July 2013 FMD was established and FMOs were deployed to their respective catchments.

As for the future budget plan, Annual Corporate Work Plan for FY 2014/15 shown in **Attachment 3** has included flood management activities.

Indicator 1.2

Revision of CMSs has since been carried out by WRMA and the revised CMSs capture integrated flood management. Revised CMSs in the Project target areas have been already developed and are being presented to the counties and relevant stakeholders.

Indicator 1.3

Training plan with time table, materials including WDC Manual Flood Management Module and teaching materials were finalized.

Master trainers were fostered in the 1st stage training (TOT). Trainers for WRUA were fostered in the 2nd stage training. The trained trainers conducted 3rd

Budget for expansion of 2nd stage training for other WRMA officers and 3rd stage training for WRUA was included in the Annual Corporate Work Plan for FY 2014/15.

Indicator 1.4

1st stage training: 17 officers x 10 days (Oct. 2013)

2nd stage 1st batch: 16 officers x 5 days (Dec. 2013)

2nd stage 2nd batch: 15 officers x 5 days (Feb. 2014)

In total, 15 % (48 from 319 technical staffs) of WRMA staffs participated in the training.

Indicator 1.5

Flood Management Department (FMD) was established in HQ, six (6) ROs and fifteen (15) SROs in flood prone areas. One (1) DTCM and one (1) ATCM in charge of flood management were allocated at the HQ, six (6) ATCMs in charge of flood management were allocated at six (6) ROs, and

fifteen (15) FMOs were deployed at fifteen (15) SROs. Three layers (HQ, RO and SRO) of personnel system was set up. In total, twenty three (23) staff members were appointed in charge of flood management. The roles and mandates of FMD were clarified in the Annual Corporate Work Plan for FY 2014/15.

In the FY 2013/14, budget of flood management was incorporated. The budget of flood management for FY 2014/15 was defined.

Min 3: Activities and Achievement of Output 2

Mrs. Elizabeth Diego-Lusimba, ATCM in charge of Community Development of WRMA presented the Output 2 and the indicators as follows;

Description
<p>Output 2: For promoting Community-based activities of Flood Management, capacity of WRMA to support communities is strengthened.</p>
<p>Indicators:</p> <p>Indicator 2.1 Flood Management plans in the pilot areas prepared.</p> <p>Indicator 2.2 Materials describing the case and lessons of Community-based Flood Management activities are prepared.</p> <p>Indicator 2.3 More than 25 number of WRMA staffs have experience of Community-based Flood Management activities in the Project target areas.</p>

Indicator 2.1

Integrated Flood Management Plans (IFMPs) for Isiolo River Basin and Lumi River Basin were prepared. In Gucha Migori River Basin, through the 4th IFMC meeting on 17th July, draft IFMP was adopted and is being finalized by WRMA.

Indicator 2.2

The following three types of documents were prepared by the Project Team in cooperation with Working Group (WG);

- 1) Manual on supporting community-based flood management activities for WRMA and WRUA
 - (1) Manual on Supporting WRUA Procurement
- 2) Manuals on community-based flood management activities for WRMA and WRUA
 - a) Structural Measures
 - (2) Manual on DO-NOU raised road
 - (3) Manual on evacuation centre including raised toilets and drainage culverts
 - (4) Manual on river bank protection using gabion
 - b) Non-structural Measures
 - (5) Manual on Community Based Flood Early Warning System (CBFEWS)
 - (6) Manual on flood disaster education
 - (7) Manual on evacuation drill

28

- (8) Manual on community-based flood hazard map
- 3) Case Study and Lessons Learnt Report
- (9) Lessons learnt from Pilot Activities
 - (10) Lessons learnt from Nyando River Basin

Indicator 2.3

Forty (40) C/Ps in total at HQ, RO and SRO levels participated in the community activities (structure and non-structure).

Some of them have since developed their capacities and they have become lecturers of the disaster management education program in the community and the schools. In addition, there are many staffs who have learned techniques for producing an early warning system. CBFEWS will actually be installed later in the outside of the pilot areas. There are also many staffs who acquired knowledge on the Integrated Flood Management Plan of a river catchment and coordination of stakeholders through the Integrated Flood Management Committee (IFMC).

There were also good opportunities for WRMA staffs to participate in community based activities (non-structure measurement) such as school and community education program and evacuation drill conducted by KRCS. However, some of these opportunities were missed due to communication breakdown between KRCS and WRMA, and therefore WRMA staffs could not be fully involved in those activities.

Min 4: Achievement of Project Purpose and Developed Capacity of WRMA on Flood Management

Mr. Alexander Nzyuko, Deputy Technical Coordination Manager of WRMA presented developed capacity of WRMA on flood management and achievement of the Project Purpose as follows;

Developed Capacity of WRMA on Flood Management

In July 2012, necessary capacity for WRMA in the field of flood management was discussed through the meeting with the Working Group and the JICA Project Team. Based on the discussion, prioritized subjects which should be tackled by GOK were listed as follows;

- 1) To integrate data and analyze causes and effect relationship of flood
- 2) To formulate river basin flood management plan
- 3) To develop resilient community to floods

Also, necessary capacity to conduct above mentioned subjects were decided as follows:

- To develop a system to collect information/data related to cause and effect of flood holistically
- To analyze information/data related to cause and effect of flood holistically
- To coordinate relevant stakeholders for better flood management
- To advice WRUAs to formulate SCMPs
- To formulate and update a manual on flood cause and effect assessment and teach RO/SRO and County (District) officers
- To formulate “River Basin Flood Management Plans” which shall be under the CMSs and oversee the SCMPs

The abovementioned capacities were assessed within the Working Group (WG) that was held in November 2011, one and half year after the Project had commenced. And another assessment was carried out before the end of the Project, in the WG meeting that was held in June 2014.

Capacities which were assessed and were deemed as very much improved were: “4 To advice WRUAs to formulate SCMPs” with 75%; “6 To formulate “River Basin Flood Management Plans” which shall be under the CMSs and oversee the SCMPs” with 57%; and “5 To formulate and update a manual on flood cause and effect assessment and teach RO/SRO and District officers” with 27%.

Project Purpose and Indicators:

Description
<p><u>Project Purpose:</u> In the Project target areas, institutional framework of flood management in the context of integrated water resource management is established for effective and sustainable implementation of community based activities.</p>
<p><u>Indicators:</u></p> <p>1: Staff of WRMA in charge of flood management in the project target areas has capacity to implement community based activities.</p> <p>2: Flood management is incorporated in CMS and SCMP of flood prone areas in the project target areas.</p> <p>3: WRMA’s knowledge management mechanism (knowledge management) and triaging system function covering the project target areas are established.</p> <p>4: Budget for flood management is secured in the project target areas.</p>

Indicator 1:

Many C/Ps received transfer of knowledge and enhanced their capacities through the Project activities under the close collaboration and working with the Project supervisors and JICA Project Team as described in Indicator 2.3 of Output 2. In addition, almost all the C/P staffs participated in the 1st and 2nd stage training, and learned theories and concepts of flood management through the training as confirmed in Indicator 1.4 of Output 1.

Based on the abovementioned capacity assessment after the Project, (4) to advice WRUAs to formulate SCMPs, (6) to formulate “River Basin Flood Management Plans” which shall be under the CMSs and oversee the SCMPs, (5) to formulate and update a manual on flood cause and effect assessment and teach RO/SRO and County (District) officers, and (3) to coordinate relevant stakeholders for better flood management were relatively highly evaluated as very much improved and/or partially improved.

In total, 23 % of elements of capacity development were deemed as very much improved and 55 % were deemed as partially improved.

Indicator 2:

As for CMS, revision process of CMS has been carried out, and revised CMSs are currently in the final draft stage and IFM is already included. This is because the context of WDC Manual sets the standard for CMS and in WDC Manual has chapter 9 that entails flood management contents.

As for SCMP, IFMPs for Isiolo River and Lumi River have been completed and ready to be incorporated into SCMP. Meanwhile the IFMP for Gucha Migori River is in the process of finalization. WRMA FMD has included budget for the revision of SCMPs in the three pilot river basins in the Annual Corporate Work Plan.

WDC Manual was updated and flood management was incorporated in chapter 9. Therefore, the newly developed SCMPs now and in the future must have flood management chapter and the existing SCMPs must be revised to reflect WDC Manual chapter 9.

Indicator 3:

<Knowledge management mechanism>

Knowledge management mechanism in the Project target area is defined by JPT as the structure to accumulate the experiences and lessons learned from the disaster management activities at community level, which will be accumulated by WRMA HQ, RO and SRO, as a result of discussions with WRMA/FMU counterparts. Specifically, the concept is an archive of the information that the person in charge has, as well as fragmented information scattered in each place, and the lessons learnt.

The procedure of flood situation survey and the survey sheet were prepared and are planned to be used in the next rainy season.

<Training system>

As described in Output 1 (indicator 1.3), training plan and training material were prepared and master trainers and trainers were fostered. WDC manual which is a core training material of the third stage training was finalized in April 2014 and it included flood management chapter. The third stage training was carried out for the members and leaders of Lower Gucha Migori (LOGUMI) WRUA by the chosen trainers fostered in the second stage training.

Budget for expansion of the second stage training has been included in the Annual Corporate Work Plan. Therefore, the training system on IFM was established.

Indicator 4:

IFM Expansion plan to 12 target river basins was prepared and the Annual Corporate Work plan and the budget were prepared by WRMA. In the Annual Plan, activities and budget for three Project target areas and the Nyando River were included.

Min 5: Next Step on Flood Management in WRMA

Eng. Joseph Kinyua, Technical Coordination Manager of WRMA presented the next steps on Flood Management in WRMA. The outline of the presentation is as follows and is shown in the **Attachment 4**;

- 1) Develop and implement effective flood management tools
- 2) Implementation of existing IFMPs for Isiolo, Taveta, Migori and Nyando
- 3) Development of projects and programs for flood mitigation
- 4) Carry out Detailed surveys in flood prone areas
- 5) Promote Partnerships
- 6) Modernize surface water resource monitoring networks
- 7) Implement the Constitutional Requirement on Capacity building of CGs
- 8) Enhance WRMA capacity to manage floods

Attachment List

1. **Attendance List**
2. **Project Design Matrix**
3. **Annual Corporate Work Plan for FY 2014/15**
4. **Next Step on Flood Management in WRMA**

Attachment 2: Project Design Matrix

<p>Activities</p>	<p>(1-1) Working Group (WG) analyzes the actual state of flood management at national, regional and sub-regional level respectively.</p> <p>(1-1-1) Institutional framework (1-1-2) Budget arrangement (1-1-3) Personnel allocation (1-1-4) Good practices</p> <p>(1-2) WRMA formulates a future plan of WRMA on flood management including personnel, budget and strategy.</p> <p>(1-3) WRMA elaborates Catchment Management Strategy (CMS) including flood management.</p> <p>(1-4) WRMA advises MWI to include a chapter of flood management in the National Water Resource Management Strategy</p> <p>(1-5) WRMA establishes a training system for WRMA staff. (1-5-1) Formulation of a training plan (1-5-2) Preparation of training manuals (1-5-3) Implementation of training courses for trainers (1-5-4) Implementation of training courses by the trainers (1-5-5) Evaluation and feedback of the outcomes from the training courses (1-5-6) Contribution to the relevant organization in terms of implementation of training courses</p> <p>(1-6) WRMA institutionalizes knowledge management mechanism at regional level and sub- regional level respectively</p> <p>(1-7) WRMA establishes institution and budgetary systems to address flood issues.</p>	<p>Inputs</p> <p><u>Japan side</u></p> <p>1. Experts a) Chief Advisor / Flood management administration b) Flood management technology c) Community based disaster management d) Promotion of disaster management activity e) Institution / Training</p> <p>The other field will be considered when necessity arises</p> <p>2. Equipment a) Office equipment (Personal computer and printer etc.) b) Project vehicles</p> <p>3. C/P training in Japan</p> <p>4. Facilities and equipment for community based activities a) sub-contracting cost for local consultant b) material and equipment cost for community based activities</p>	<p><u>Kenya side</u></p> <p>1. Personnel allocation from Counter Part (C/P) a) Joint Coordinating Committee (JCC) b) Working Group (WG)</p> <p>2. Budget allocation</p> <p>3. Office Space and Facilities a) Office space b) Depot space for construction materials, vehicles and other necessary equipment</p> <p>4. Local cost</p>	<p>Flood management Unit is established.</p>
-------------------	---	---	--	--

Attachment 2: Project Design Matrix

	<p>(2-1) WRMA determines pilot sub-catchments.</p> <p>(2-2) WG establishes a coordinating function among relevant stakeholders such as flood management forum.</p> <p>(2-3) WRMA analyzes the current situations of communities.(Baseline survey)</p> <p>(2-3-1) Capacity assessment of community on flood management</p> <p>(2-3-2) Risk analysis including flood disaster map</p> <p>(2-4) JCC determines pilot areas based on a baseline survey.</p> <p>(2-5) WG facilitates communities to prepare flood management plans in the pilot areas to be integrated in Sub-Catchment Management Plan (SCMP)</p> <p>(2-5-1) Study on good practices</p> <p>(2-5-2) Participatory planning</p> <p>(2-6) WG supports the implementation of community based activities based on the flood management plans.</p> <p>(2-7) WG monitors and evaluates the community based activities.</p> <p>(2-8) WG prepares materials describing the cases and the lessons based on the community based activities.</p> <p>(2-9) WG contributes the cases and the lessons of the community based activities to the knowledge management mechanism.</p>			
--	--	--	--	--

Attachment 3: Annual Corporate Work Plan for FY 2014/15

ANNUAL CORPORATE WORK PLAN FOR FY 2014/15											
INDICATOR	OBJECTIVES	STRATEGIES	ACTIVITIES/PROJECTS	ANNUAL TARGETS	UNIT OF MEASURE	LEAD ACTOR	REGIONAL QUARTERLY TARGETS				Budget (Ksh. M)
							Q1	Q2	Q3	Q4	
SERVICE DELIVERY	2. To maintain efficiency and effectiveness in water resource planning and management	Modernize water resource monitoring networks	Mapping out all the flood prone areas within the 15No flood prone areas	1	Reports	DTCM(FM)					0.10
			Identify, map and monitor the monitoring stations for flood monitoring and prediction (weather and river monitoring stations)	2	No.	DTCM(FM)					-
			Establish/Rehabilitate/Upgrade targeted flood monitoring networks into realtime	18	No.	DTCM(FM)					5.00
		Improve water resource management tools	Mainstream flood management in RVCA Catchment Management Strategy	1	No.	DTCM(FM)					0.05
			Develop integrated River Basin Flood Management Plans for Awach Kano, Perkerra and Engare Narok(Rumuruti)	6	Draft IFMPs	DTCM(FM)					Below
			+ Execution of training for WRMA	6	No.	DTCM(FM)					2.00
			+ Execution of training for WRUA (2 Weeks) (Including drawing Community based hazard map)	6	No.	DTCM(FM)					-
			+ Reflecting IFM to SCMP (1 weeks)	9	No.	DTCM(FM)					Budget with CD
			+ Formulating and holding of IFMC	18	No.	DTCM(FM)					7.25
			+ Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)	6	Reports	DTCM(FM)					0.60
			+ Drafting IFMP (Including plan of flood counter measures)	6	Reports	DTCM(FM)					0.60
			+ Site survey for flood damage data and Analysis of flood characteristics(after every flood for all 15No SRs)	6	reports	DTCM(FM)					3.00
			+ Fabrication and installation of FEWS for all SRs	18	No.	DTCM(FM)					0.60
		Carryout water resources assessment	Implement integrated River Basin Flood Management Plans for Isiolo, Taveta, Lower Lumi and Nyando	3	No.	DTCM(FM)					8.00
				6	reports	DTCM(FM)					0.60
Service Delivery System	Carryout water resources assessment	Undertake flood impact studies for 6No among the 15No flood prone areas	6	reports	DTCM(FM)					0.60	
		Improve access to information by:	100	%	DTCM(FM)						
Carryout service delivery innovations	Service Delivery System	Prepare periodicals on flood management activities taking place in the flood prone areas	1	report	DTCM(FM)					0.05	
		Operationalization of innovation (Convenient rain and water gauge)	1	No.	DTCM(FM)					0.30	

Attachment 3: Annual Corporate Work Plan for FY 2014/15

		Implementation of the Constitution	Build capacity of the CGs on the FM	1	No.	DTCM(FM)					0.30
		Enhance Institutional automation	Provide a list of requirements of setting flood control rooms	1	No.	DTCM(FM)					-
DYNAMIC/ QUALITATIVE	5. To promote partnerships, build institutional capacity and Improve work environment	Promote Partnerships	Partner with other institutions on:								
			Carry out joint studies of flood prone areas (Modelling)	1	Report	DTCM(FM)				0.10	
			Engage with County governments on legislation and planning (Pilot 6No Counties on capacity building of IFM) . Prepare project proposals	1	Report	DTCM(FM)				above	
		Repairs: equip. and machinery	Implement repair schedule of key Flood monitoring stations.	1	Report	DTCM(FM)				0.20	
		Maintenance: Machinery, Building and equipment	Implement maintenance schedule of key Flood monitoring stations.	1	Report	DTCM(FM)				above	
		Research and development	Research, development and capacity building(Capacity build 6No Hydrologist(ATCM FM) on Flood prediction using Crest and IFAS models) and Flood Risk Modeling)	1	Report	DTCM(FM)				0.30	
		Develop institutional competency	Identify skills gaps for training of ATCM-FM & FMOs	1	policy doc	DTCM(FM)				-	
		Total									28.95

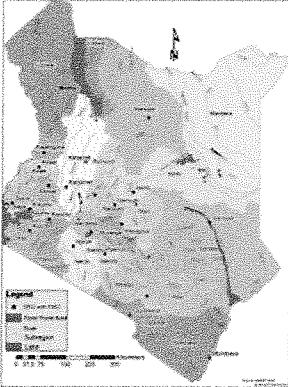
NEXT STEPS ON FLOOD MANAGEMENT IN WRMA

Presentation by:
Eng. Joseph Kinyua
31st JULY 2014

Presentation outline

1. Develop and implement effective flood management tools
2. Implementation of existing IFMPs for Isiolo, Taveta, Migori and Nyando
3. Development of projects and programs for flood mitigation
4. Carry out Detailed surveys in flood prone areas
5. Promote Partnerships
6. Modernize surface water resource monitoring networks
7. Implement the Constitutional Requirement on Capacity building of CGs
8. Enhance WRMA capacity to manage floods

Fifteen (15) Flood Prone Sub Regions



Region	Sub Region
1	Athi
2	Nairobi
3	Loitokitok
4	Mombasa
5	Tana
6	Garissa
7	Ewaso Nyiro North
8	Isiolo
9	Rumuruti
10	Mandera
11	Rift Valley
12	Lodwar
13	Narok
14	Kabarnet
15	Lake Victoria North
16	Siaya
17	Kitale
18	Lake Victoria South
19	Kisumu
20	Kisumu
21	Kericho

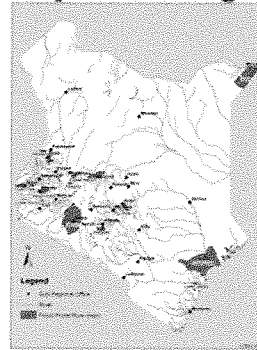
1. Develop and implement effective flood management tools

This will entail Development of Integrated Flood management Plans

- Mainstream flood Management in our CMSs
- Execution of 3rd stage training of the WRUAs within the 12 river basins
- Mainstreaming IFM within the SCMPs
- Formulating the Integrated Flood Management committee (IFMC) in WRUAs
- Site survey and collecting data for natural and socio-economic.
- Development of the Integrated Flood Management Plans (IFMP) 12No for the next 3yrs as detailed below

Region	Sub Region	County	County
I	Lower Sabaki	Athi	Kaji
	Engare Narok	Ewaso Nyiro North Catchment Area	Nyandarua and Laikipia
	Mehis(Rumuruti)	Lake Victoria North Catchment Area	Siaya, Kakamega, Vhiga, Nandi, Nandi, Ewaso Gichu
	Yala	Lake Victoria North Catchment Area	Nandi, Nandi, Ewaso Gichu, Kericho & Kisumu
	Awach Kano	Lake Victoria South Catchment Area	Shoreline
	Parkera	Rift Valley Catchment Area	Nakuru, Baringo & Laikipia
	Lower Tana	Tana	Mogotio
		Tana	Garissa & Tana River
II	Mbagathi	Athi	Garissa, Garisen
	Daua	Ewaso Nyiro North Catchment Area	Nairobi & Nairobi
	Sabwani Trib of Nzosa	Lake Victoria North Catchment Area	Kitengela & Mandera
	Sondu	Lake Victoria South Catchment Area	Mandera
	Ewaso Nyiro South (Narok urban centre)	Rift Valley Catchment Area	Trans Nzosa
	Thiba	Tana	Kitale
		Kencho, Kaumu	
		Narok	Narok
		Embu	Mwaa

Flood prone areas targeted by WRMA



12No flood prone areas to be covered within 3years

2. Implementation of existing IFMPs for Isiolo, Taveta, Migori and Nyando

- Incorporating IFMP activities into the WRMA Annual work plans and budget
- Supporting WRUAs in SCMP development incorporating FM
- Advocating for the community based FM approach in County Integrated development Plans

3. Development of projects for FM mitigation

To support the development of projects and programs for the implementation of flood mitigation strategies. This will include:

- WRMA supporting the WRUAs in proposal writing
- WRMA will prepare large project proposals for financing by partners
- WRMA providing quality assurance to financiers on the proper use of funds given to WRUAs

<p>4. Carry out Detailed surveys</p> <ul style="list-style-type: none"> ◦ Undertake flood impact studies for 6 No river basins ◦ Carry out joint studies i.e. Modelling of flood prone areas with stakeholders ◦ Research, development and capacity building(Capacity build 6No Hydrologist(ATCM FM) on Flood prediction using Crest and IFAS models) and Flood Risk Modeling among others) 	<p>5. Promote Partnerships</p> <ul style="list-style-type: none"> ◦ Engage with County governments on legislation and FM planning (Pilot 6No Counties on capacity building of IFM) ◦ Learning from best practices in IFM from other parts of the world and domesticating the knowledge so gained
<p>6. Modernize surface water resource monitoring networks</p> <ul style="list-style-type: none"> ◦ Identify, map, operationalize and collect real time information from the monitoring stations for flood monitoring and prediction (weather and river monitoring stations) ◦ Flood Risk Modeling - Use of a hydrodynamic model for determining vulnerability to floods, flood return period/hazard mapping, and project impacts under various flow regimes 	<p>7. Implementation of the Constitution</p> <p>In the fourth Schedule part 1 sec 32,of the Constitution of Kenya 2010, the National Government has a duty to capacity built the CGs.</p> <ul style="list-style-type: none"> ◦ WRMA will capacity built CGs staff on Water Resources Management in general and IFM in particular. ◦ WRMA will also disseminate the interventions proposed in the National Water Master Plan 2030 to the CGs
<p>8. Enhance WRMA capacity to manage floods</p> <ul style="list-style-type: none"> ◦ Determine requirements for setting up flood operations control rooms ◦ Establish the Flood operations control rooms in various WRMA offices ◦ Identify skills gaps for training of ATCM-FMs & FMOs ◦ Implement capacity building program to bridge the identified skills gaps 	<p>Concluding Remarks</p> <ul style="list-style-type: none"> ◦ The project on capacity building for Flood Management in flood prone areas of Kenya has provided good opportunity for WRMA/WRUA to effectively participate in flood management activities. ◦ It is WRMA's hope that this technical cooperation between Kenya and Japan will be strengthened for our mutual benefit.
<p>End of Presentation</p> <p>Thank you for your kind attention</p>	<p>End</p>

Handwritten signatures and initials at the bottom of the page.