Appendix 4-3

Minutes of 3rd WG Meeting

MINUTES OF MEETING

OF

THE WORKING GROUP MEETING

ON

THE PROJECT ON CAPACITY DEVELOPMENT

FOR

EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IN

THE REPUBLIC OF KENYA

AGREED UPON BETWEEN

WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)

AND

JICA EXPERT TEAM

Nairobi, Aug 2, 2012

Eng. Joseph Kinyua	Mr. Hajime KOBAYASHI
Technical Manager	Chief Advisor
Water Resources Management Authority	JICA Expert Team
The Republic of Kenya	

Mr. Alexander Nzyuko	Mr. Hideki SAWA
Head FMU	Team Leader
Water Resources Management Authority	JICA Expert Team
The Republic of Kenya	

Agenda

1. Adoption of Agenda
2. Opening remarks
3. Data collection and Submission
4. Effective Flood Management Workshop.
5. Joint Coordinating Committee Meeting
6. Room Arrangement
7. AOB

Min 1: Adoption of Agenda

The agenda of the meeting was adopted as proposed.

Min 2: Opening Remarks

The meeting was started with opening remarks by Eng. Joseph Kinyua –The Technical Manager WRMA. Participants were welcomed to the meeting and invited to participate in the proceedings.

Min 3: Data collection and submission

Data collection and submission updates were given by the supervisors and the sub-regional managers of the 3 project sites.
Most of the information and data in the checklist had already been submitted. The remaining data from the checklist that had not been collected included the following:

- Increasing and decreasing rates of population for Isiolo was to be gotten from the District Development Plan.
- Commercial, Industrial and Agricultural Statistics would also be gotten from the District Development Plans
- The Height Discharge Equations from Gucha Migori was to be submitted as soon as possible. The Regional Manager from LVSC promised to take up the matter.
- The records for the past floods in Isiolo had also not been submitted. The SRO promised to submit any available data by 3rd August 2012.
- It was confirmed that the rest of the data had been submitted as required.

The Technical Manger thanked all the participants for working hard in the collection of the data and asked them to be prompt if asked for the same in future. He also requested that the stations with automated data loggers to be regularly collect the data. Mr. Sawa confirmed that he was going to develop the longitudinal profiles for all the 3 river systems. This would then be taught to the WRMA staff.

The meeting was informed that there are some information that do not exist, information like longitudinal profile.
The supervisors and the sub-regional managers were advised to bring only the information that is there for a start.

Min 4: Effective Flood Management Workshop.

Mr. Sawa presented the time schedule and staff schedule for the Effective Flood Management Workshop. The meeting would commence from 9.00 am. However the registration would begin from 8.30 am. Two members for the reception would be from the project team. An additional member was needed. It was agreed that the Technical Manager's secretary would assist in the reception.

The chairperson for the meeting would be from the Ministry of Water and Irrigation. Eng. Kinyua was tentatively chosen to be the Master of Ceremony. WRMA would provide the technician for the computer, microphone and camera. The facilitator for the project would be Mr. Khroda.
The people who would make presentations included the Nyatike DC and the three (3) WRMA sub-regional managers and Chairman of the Isiolo WRUA.
Mr. Sawa informed the meeting that Kenya Red Cross would not be able to send a representative. The Regional Manager LVSC, Dr. Abira promised to get in touch with the Regional Office of Red Cross in Kisumu to see if they could send a representative. She would then give the feedback.

Min 5: Joint Coordinating Committee Meeting

The JCC meeting would commence at 2.00 p.m. The chairman for the meeting would be either the PS or the Director of Water Resources. Eng. Kinyua's Secretary would assist members of the project staff in the registration of the JCC members.

The minutes for the meeting would be prepared for signing in the following day.

Appeal Document
In the previous meeting one of the outputs was to be the Appeal Document. JICA Kenya Officials said that it was too early in the Project to come up with the Appeal Document. It may be prepared in the subsequent JCC meetings. However it was suggested that the appeal could be discussed in the meeting.

Min 6: Seating Arrangements

Ms. Kato discussed the seating arrangements for both the Workshop and the JCC. She presented the arrangements in a pictorial form. Members suggested various changes and these changes were adopted by the Working Group.

AOB

Mr. Sawa made a sample of the presentation for the problems of recent flooding in Kenya that he would present in the JCC

Invitation for Workshop and JCC Participants
Invitations needed to be sent out to the various participants because time was running out. Mr. Sawa informed the meeting that the invitation letters had been prepared and given to the Director of Water Resources for signing. The invitation letters were being distributed to the various participants.
The issue of facilitation for the participants arose. The meeting was informed that JICA would be facilitating the participants and would provide for their accommodation and transport allowances. It was agreed that some of the invitees especially the District

Commissioners would need different arrangements since they travelled to the meetings with their drivers and bodyguards. It was agreed that the invitation letters for the DCs should be modified to reflect this before they were sent. Mr. Sawa agreed that these modifications would be made.

Adjournment

There being no further business to come before the meeting, the chairperson thanked all members for their participation and adjourned the meeting at 1:00 P.M.

Appendix 4-4

Minutes of 4th WG Meeting

RECORD OF MINUTES
OF
WORKING GROUP WORKSHOP
UNDER
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS
IN
THE REPUBLIC OF KENYA
HELD ON TUESDAY, NOVEMBER 29, 2012
AT
NHIF BOARDROOM 906 WING A

Nairobi, November 29th and 30th , 2012

_____	_____
Mr. Bosiben Staff with Water Resources Management Ministry of Water and Irrigation The Republic of Kenya	Mr. Hajime KOBAYASHI Chief Advisor, JICA Expert Team
_____	_____
Eng. Joseph KINYUA Technical Manager Water Resources Management Authority The Republic of Kenya	Mr. Hideki SAWA Project Team Leader, JICA Expert Team

Agenda (Day 1: 29th Nov. 2012)

1. Opening Remarks from CEO WRMA
2. Keynote Address (JICA Project Team)
3. Capacity Assessment and development planning for WRMA
4. WRUA and Community Capacity Assessment and development planning for WRMA.

Agenda (Day 2: 29th Nov. 2012)

1. Opening Remarks from CEO WRMA
2. Keynote Address (JICA Project Team)
3. Flood Disaster Risk Reduction Activities conducted by KRCS
4. River Basin Integrated Flood Management Committee
5. Community based Flood Management Module to be incorporated in the SCMP and Revised WDC Manual
6. Wrap up Discussion.

Day 1: 29th November 2012

Introductions

The workshop began by a word of prayer from Dr. Margaret Abira. Eng. Kinyua thereafter explained the agenda for the workshop.

Min 1: Opening Remarks from WRMA CEO

Eng. Olum stated that flood management is a mandate of WRMA and it is included in the draft policy and bill. Once the bill are effected then WRMA will revcise the WRMA strategic plan. He pointed out that the assessment was factual and because WRMA is mainstreaming flood management there will be improvement. He assured the team that despite the budget constraints flood management will also be factored in the budget.

Min 2: Keynote address (JICA Project Team)

The Team Leader JICA Project Team explained the Project Status. In a powerpoint presentation he explained the flow chart of progress of work and expected output. Flood Management Unit should be developed in the HQ, Regional and Sub-regional offices. It is expected that WRMA supports WRUA in flood management.

He further explained the plan for capacity assessment and capacity development. He clarified that the participants would decide on the proposal. He explained the framework proposed for capacity assessment of WRMA and WRUA.

Min 3: Capacity Assessment and development planning for WRMA

Objective 1:Eng. Kinyua requested that the matrix on capacity assessment and development of WRMA should be critically looked at and comments made:

a) Low flow WRMA good and high flow not good

b) Rainfall

1-1 Mr. Thooko pointed out that WRMA had the knowledge but lacked the equipments, Mr. SAWA clarified that the assessment is divided into staff, organization and all are analysed. Mr. Wangombe pointed out that WRMA had knowledge on observation and collecting data but the main problem was in the analysis of the data. Mr. Bosiben concurred stated that WRMA does not have banked records. Dr Abira clarified that analysis was based on the Project Team interaction with WRMA and she concurred that though WRMA could collect data but can they analysis, interpret and linking the data with flood event. The participants concurred on 1i1

1-2 Participants concurred with analysis

1-3 Participants concurred with analysis: Dr. Abira pointed out that there was minimu use of the map and she had experience where she could not give the

1-4 Participants concurred with analysis

1-5 Participants concurred with analysis: The question was there a manual or document that shows how the voluteeer observers are involved. MOU between WRMA and Voluteer observers. It was agreed that Mr. Thooko submits the MOU to the Project Team (It was agreed that MOU were not systemized). WRMA pointed out the supplementary notes that poor accessibility to the station could only implicate to some few stations. The procedure in collection of data was monthly. Dr. Abira pointed out that the automated station download was quarterly. The need to change the language on supplementary note.

1-6 Participants concurred with analysis

1-7 Participants concurred with analysis: The GIS officers are only elementary users. Eng. Kinyua asked for clarification on the supplementary note. Mr. Sawa clarification data collected and not analysed in graphs and therefore unable to identify the anomalies and mistake of the observers.

1-8 Participants concurred with the assessment. Mr. Memo wanted to know if there was a common reporting formats. Response eng. Kinyua clarified there are no flood reports yet

1-9 Participants concurred with the assessment

Objective 2:

2-1 Participants concurred with assessment. It was agreed that generally that staff do not use map. Dr. Abira pointed out that it was culture that should be discouraged and an incentive is appropriate but also punishment for not using should be considered.

2-2 Participants concurred with assessment

2-3 Participants concurred with assessment and requested the word no opportunity be replaced with limited opportunity

2-4 Sawa clarification is that the concern here is that high flow during the peak is not considered. Framework of high water discharge. Eng. Kinyua The need for peak during high water discharge. CEO systematized collection of data at high water discharge. Telemetric observation good but need for WRMA staff to go and check. Eng. Kinyua High marks registered by volunteer observers do WRMA staff go and check and come up with discharge- only WRMA-LVSC has done it

2-5 Participants concurred with assessment

2-6 Participants concurred with assessment: Eng. Kinyua pointed out that the word ignore should be changed

2-7 Participants concurred with assessment this can be dealt with after the revised bill is passed

2-8 Ditto

2-9 Ditto

3 Objective 3:

3-1 Participants concurred with assessment

3-2 Participants concurred with assessment: Explanation of community flood hazard mapping

3-3 Participants concurred with assessment

3-4 Participants concurred with assessment but pointed out that WRMA have developed maps with community during SCMP development but not on flood hazard mapping. Need for intra-networking for GIS and

3-5 Participants concurred with assessment

Objective 4:

4-1 Participants concurred with assessment

4-2 Participants concurred with assessment

4-3 Participants concurred with assessment

4-4 Participants concurred with assessment (WRMA is able to assist community to get funds for their activities it is only that it is in flood management that it is not prioritized

4-5 Participants concurred with assessment but pointed out that the SCMPs should be developed that includes flood management activities

4-6 Participants concurred with assessment

4-7 Participants concurred with assessment

Objective 5:

5-1 Participants concurred with assessment

5-2 Participants concurred with assessment

5-3 Participants concurred with assessment

5-4 Participants concurred with assessment

5-5 Participants concurred with assessment will be incorporated with the passing of bill

Objective 5:

6-1 Participants concurred with assessment

6-2 Participants concurred with assessment

6-3 Participants concurred with assessment pointed out the word sub-region to be replaced with Sub-catchment

The development needs for each article in 2-3 question on training, working group to be trained and then they trained others (Mr. SAWA). Dr. Abira pointed out that the first group to be trained must clearly selected whereby people who are articulate should be selected in order to ensure the skills are passed to others. The SCMP development need for induction of Support Organizations (SO).

Prioritization of the assessment

Need for prioritization of the assessment important because after the exercise the project team must come up with action plan.

Mr. Kiamba led the participants in ranking the assessment he used the puzzle comparative assessment tool the ranking was as follows:

Objective 1 ranked 1

Objective 2 ranked 2

Objective 5 ranked 3

Objective 6 ranked 4

Objective 4 ranked 5

Objective 3 ranked 6

Min 3: WRUA and community capacity assessment and development planning for WRMA

Eng. Kinyua gave a summary and thereafter

1-1 The Sub-regional manager concurred with the assessment. The development needs the WRUA need to understand the outline and Dr. Abira pointed out that also WRUA need to know their roles;

1-2 Participants concurred with the assessment. The development needs: WRUA awareness on self-help needs to be developed and WRUA thereafter create and engage in awareness

1-3 Participants concurred with the assessment.

1-4 Participants concurred with the assessment.

Objective 2

2 Lower Lumi are able to predict floods based on observing the rains

2-1 Lower Lumi are to predict floods based on observing the rains. Participants concurred with the assessment

2-2 Participants concurred with the assessment

2-3 Participants concurred with the assessment

2-4 Participants concurred with the assessment

2-5 Participants concurred with the assessment.

2-6 Participants concurred with the assessment: Need for accuracy in the updating the maps was pointed out

Objective 3

3-1 Participants concurred with the assessment

3-2 Participants concurred with the assessment: Clarification though is needed on the implication of certain terms like regional issues related to disaster prevention. Mr. Sawa clarification regional issues implies local issues in WRMA regional issues means the entire river basin system. It was agreed that the article be divided into two the river basin level and sub-catchment level

3-3 Participants concurred with the assessment. WRMA requested replace the word regional to local (sub-catchment) leadership. Change community leaders to WRUA leaders

3-4 Participants concurred with the assessment. Replace the word regional to local (sub-catchment). The constitution of WRUA gives room for election of leadership. WRUA constitution should define the role of leaders to lead during the flood disaster including evacuation and also have by-laws that addresses disaster emergency

3-5 Participants concurred with the assessment. WRMA pointed out GM WRUA has flood management sub-committee. On development needs: WRUA should sensitize community on the flood management sub-committee

3-6 Participants concurred with the assessment. Development need: replace WRUA with WRMA

Objective 4

4-1 Participants concurred with the assessment.

4-2 Participants concurred with the assessment.

4-3 Participants concurred with the assessment but pointed out that the assessment is based on GM WRUA

4-4 Participants concurred with the assessment.

4-5 Participants concurred with the assessment. In development need it was agreed that WRMA be replaced with WRUA

Objective 5

5-1 Participants concurred with the assessment. It was agreed that disaster preventing should be replaced with disaster mitigation. Development need: Flood management activities should be incorporated in the SCMP and that WRMA needs to train WRUA in developing SCMP that mainstream flood management

5-2 Participants concurred with the assessment.

5-3 Participants concurred with the assessment. Statutory framework be replaced with institutional framework, inter-ministrial be replaced with stakeholders change WRUA to WRMA in the third column

5-4 Participants concurred with the assessment. Secure of the communication channel be changed to Secure stakeholder attention to buying and implementing flood management plan. Change the word request to lobbying for proposals. There is need to rephrase 5-4

Objective 6

6-1 Participants concurred with the assessment. Requested addition WRMA should supervise

6-2 Participants concurred with the assessment. Addition WRMA needs to have capacity to assist WRUA to develop Flood Hazard Map

6-3 Participants concurred with the assessment. Delete draft in column three

6-4 Participants concurred with the assessment. Need for rewording but idea is clear

6-5 Participants concurred with the assessment. Other areas currently have done flood map. Base map is topographical map

6-6 Participants concurred with the assessment.

6-7 Participants concurred with the assessment. Correction gabions work in Lumi

Objective 7

7-1 Participants concurred with the assessment.

7-2 Participants concurred with the assessment. Addition done in collaboration with WRMA. WRUA should be trained in flood fighting and evacuation drill skills. Clarification by Eng. Kinyua WRUA apply to WSTF and then through SO evacuation drills can be conducted, WRMA have capacity to train WRUA on evacuation drills

7-3 Participants concurred with the assessment. Same as 7-2

Objective 8

8-1 Participants concurred with the assessment. Evacuation centres and routes be in place in order to come up with an evacuation system

8-2 Clarification of flood fighting by Mr. Sawa: Involves coming up with measures to prevent floods for example use of sandbags etc. Participants concurred with the assessment.

8-3 Participants concurred with the assessment. Clarification GM left implies put pictures on the map replace the word correspondence with response

8-4 Participants concurred with the assessment. The article aimed at coming up with communication channels that will effectively reach the DC fast in order to issue early warning

8-5 Participants concurred with the assessment. There is need for sharing information i.e. developing communication channel

8-6 Participants concurred with the assessment. There is need for a manual to be developed that will enhance communication and flow of information during disaster. WRMA to come up with manual

Objective 9 delete destruction and substitute it with recovery

9-1 Participants concurred with the assessment. Change the term superagency

9-2 Participants concurred with the assessment.

9-3 Participants concurred with the assessment.

9-4 Participants concurred with the assessment. WSTF can provide funds for reconstruction, Response centre has some funds that it gives for reconstruction

Need for prioritization of the assessment important because after the exercise the project team must come up with action plan.

Mr. Kiamba led the participants in ranking the assessment he used the puzzle comparative assessment tool the ranking was as follows:

	1	2	3	4	5	6	7	6	9
1		1	1	1	1	0	1	0	0
2	0		0	0	0	0	0	0	0
3	0	1		1	0	0	0	0	0
4	0	1	0		0	0	0	0	0
5	0	1	1	1		0	0	0	0
6	1	1	1	1	1		1	1	1
7	0	1	1	1	1	0		1	1
8	1	1	1	1	1	0	0		0
9	1	1	1	1	1	0	0	1	
total	three	eight	six	seven	five	zero	two	three	two

rank	5	1	3	2	4	9	8	6	7

Objective 2 ranked 1

Objective 4 ranked 2

Objective 3 ranked 3

Objective 5 ranked 4

Objective 1 ranked 5

Objective 8 ranked 6

Objective 9 ranked 7

Objective 7 ranked 8

Objective 6 ranked 9

Day 2: 30th November 2012

Min 1: Opening Remarks from WRMA CEO

Eng. Olum welcomed the KRCS and thanked the KRCS with their activities in disaster management in the country. He clarified that the government was taking disaster seriously and the government was involved in planning. He explained that the government was mainstreaming flood management. He explained that the government aimed at building capacity to manage floods and WRMA was ready to cooperate with the KRCS to ensure effective flood management in the country.

Min 2: Keynote address (JICA Project Team)

The facilitator explained that keynote address from JICA that due to time and was be skipped.

Min 3: Flood Disaster Risk Reduction Activities conducted by KRCS

Nzyki Disaster Adivisor, KRCS plays auxillary role to Kenya government. KRCS has 64 branches and has over 70,000 voluteers.

He explained the structure of the KRCS. He further pointed out that KRCS was going into hotel business whereby the profits will be ploughed back to the KRCS activities. KRCS aims to be self reliant rather than rely on donations for their activities.

Mr. Elijah Muli made a presentation on flood management activities in the Nyando. He stated that the there is department in KRCS that aims at Disaster Risk Reduction. He explained on the following KRCS cognizance of the disaster profile in Kenya, Observed climate change where he pointed out that the flood disaster will be experienced in the country at least after every two years, impact on vulnerable people, strategies to overcome the problem, the six pillar to disaster risk reduction, KRCS activities in Kenya and he pointed out that KRCS aims at transforming the disaster into opportunities by developing resilience in the communities i.e. turning challenges to opportunities, the Red Cross strategy, KRCS Programming Strengths (merits) among the explanations he pointed out KRCS has signed MOUs with various partners e.g. KARI, KRCS sustainability Project Model for CBDRR he explained that KRCS has tools that allow community led implementations; Overview of KRCS implemented Projects in the Nyando Project there was a lot of interactions and cooperation with the WRMA-LVSC, PFR Project-Isiolo-Kenya, Three approaches for the PfR, Health Risk Management in a climate change Project in Nyando, KRCS experience, ddr challenges in Kenya, KRCS partnership arrangements, further opportunities and invest in Africa.

Mr. Maturwe pointed out KRCS has good method in transferring to community and government, KRCS presence is not being felt in the community and government, how is KRCS supporting the government to change its approach on responding to floods. Mr. Bosiben data sharing in terms of predicting and forecasting bearing in mind that nature at times is unpredictable how do KRCS deal with such unpredictability.

KRCS response to Mr. Maturwe: The perception of KRCS is that it provides relief only and has made community dependable leading them to expect hand-outs during meetings with KRCS. Lack of presence of KRCS in the community is a perception and a fallacy that is not true because that lack of presence is only noted when KRCS do not give out hand-outs. KRCS plays an auxiliary role to the government. KRCS limited with resources especially when the activities are not response oriented. Disaster Risk Reduction Management is fairly new in KRCS and it is when they are implementing and expanding it across the country. Example for KK (Kenya for Kenya) money was raised and was used beyond just relief and the most affected area pilot project in those area community expected relief and dependence

but through capacity building now the community have managed bumper harvests and now KRCS is tackling the challenge of marketing the produces and developing cooperative society.

Data integrity is a challenge and KRCS relies on getting the data from the relevant sectors for example in terms of weather KRCS get data from KMD.

Ms. Diego: What incentives do KRCS give to the volunteer that makes them committed. KRCS response: There are volunteers in various professional fields. KRCS has a department that deals with volunteer, with a data base of volunteers, the KRCS signs with volunteers who indicate their availability, volunteer are on social media that are able to pass the information concerning disaster through facebook and twitter.

Mr. Maturwe: WRUA volunteers and are engaged by WRMA to carry out water resource management the question: how can KRCS engage the WRUA in KRCS projects to ensure the sustainability and ownership of this Projects. KRCS: WRUA a good entry point and where KRCS has a project and can gain entry through the WRUA. Example in Nyand Divisional and Location Disaster committee organized under provincial administration and KRCS used them as entry point. In Ewaso Nyiro KRCS has gain entry through the WRUAs in the area.

Mr. SAWA currently there is a project in Isiolo and therefore an arrangement should be made to cooperate with KRCS and there will be further discussion. WRMA should make arrangement and meet KRCS at their offices.

Min 3: River Basin Integrated Flood Management Committee

Mr. SAWA presented comparison with existing/ existed forums and the proposed river basin integrated flood management committee matrix that had a comparative of the elements of each forum. WRMA should decide the levels of sub-committees and WRMA is the lead organization and therefore should give the vision of the Committee and also explain to proposed members and why they need to be member of the Committee.

Participants concurred with the objectives as clear objectives for IFM Committee, Interactive approach between WRMA and IFM Committee was adopted, background acknowledge as the right one, scope shall be river basin, the purpose of IFM is flood management, the number of 20-25 was questioned and clarification from Mr. SAWA that the number was not restrictive and it was agreed that in terms of participants it was agreed that it should be based on need, on ownership be changed to coordinator or secretariat, the other elements were agreed upon i.e. the budget is to be shouldered by WRMA.

Mr. SAWA raised the issue of the legal framework of the IFM Committee and gave example of Tana Forum that has its existence in the Water Act 2012. The purpose of the legal framework was for purposes of sustainability of the IFM Committee, WRMA should think sustainability of the IFM Committee in their strategic plan. Mr. Maturwe pointed out that WRUA are covered by Water Act 2002 and that WRUAs can establish an umberalla WRUA which can be the IFM Committee. The Water Act Bill in parliament that has given WRMA mandate for flood management then WRMA can use the opportunity to incorporate the IFM in the CMP.

Min 4: Community Based Flood Management Module to be incorporated in SCMP and Revised WDC Manual

Mr. SAWA explained the various types of flood i.e. flowing type flood, reserviour type flood and wide spreading type flood. He thereafter explained the case study for the three pilot project areas i.e. Isiolo, Lumi and Gucha Migori: flood disaster analysis. Mr. SAWA

explained that WRMA and Project Team should discuss with WRUA and agree if the case study are the actual assessment of the situation. The three SRO agreed and acknkowledged the case study as the correct assessment of their respective areas. Mr. Maturwe wanted to know how steep gradient causes floods he pointed out that he prefers the narrow river channel as the cause.

In Lumi the term natural dyke should be changed because the dykes were done before independence therefore artificial dykes. The salinity of L. Jipe should be discussed and currently the river diverts and changes course to the outlet and does not flow directly to the lake. Mr. Maina pointed out that when it is not raining there no issues of floods. It was agreed that more information be gathered on Lumi before further plan may be developed.

In totality the participants concurred with the assessment and only requested for changes in Lumi to mean artificial dykes and not natural dykes. Requested for changes in the name of source as Kiabonyoru in Nyamira county.

Mr. SAWA explained the measures/capacities that addresses the floods in the three pilot project areas. He explained the following the viewpoint of measures/capacities that address the floods, common measures/capacities that addresses vulnerability before and after floods, he further explained the draft proposed measures that addresses the floods in the three pilot project area. Eng. Kimanga pointed at the proposal followed logical order and was correct and was needed was assessment and feasibility study on the proposed measures. Dr Abira the measures should be based on the integrated flood management that addresses the floods holistically and thereafter the measures are prioritized and implemented based on rank and need. Mr. Wangombe pointed out that check dams that when constructed wil tackle the floods but also O&M will be easy because community members need them. Mr. Nyuko pointed out that the proposals have been made and there is need for a group to go and evaluate the measures and come up with a framework. Dr. Abira the participants should ratify the measures and that does not imply that the Project will undertake all the works but the measures will be incorporated in the flood management plan and other stakeholders can take up a measure and implement.

Min 5: Wrap-up

In the wrap up Mr. Nzyko pointed out that there was need for coming up with timeline for the various items proposed. He requested the participants to come up with the way forward: It was agreed that the Project Team come up with Workshop Report that has content on the way forward and share with all the participants.

Appendix 4-5

Minutes of 5th WG Meeting

MINUTES OF MEETING
OF
THE WORKING GROUP WORKSHOP
ON
THE PROJECT ON CAPACITY DEVELOPMENT
FOR
EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREA
IN
THE REPUBLIC OF KENYA
HELD ON 4TH AND 5TH JUNE 2014
AT
WRMA ATHI REGIONAL OFFICE BOARDROOM
AGREED UPON BETWEEN
WATER RESOURCES MANAGEMENT AUTHORITY (WRMA)
AND
JICA PROJECT TEAM

Nairobi, 6th June 2014

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

Mr. Katsuro Kondo
Chief Advisor
JICA Project Team

Eng. Wilfred Matagaro
Deputy Technical Coordination Manager
(Flood Management)
Water Resources Management Authority

Mr. Hideki Sawa
Team Leader
JICA Project Team

The Working Group (hereinafter referred to as "WG") Workshop 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 4th and 5th June 2014. Attendance list is shown in **Attachment 1**. As the result of the discussions, Attendance confirmed the following issues;

Min 1: Post-Project Capacity Assessment for WRMA

The members discussed six (6) items of WRMA capacity to be developed as follows;

1. To develop a system for collecting and analyzing information/data with respect to flood phenomena
2. To analyze cause and effect of floods by using related information/data
3. To coordinate relevant stakeholders for better flood management in communities
4. To advice WRUAs technically to formulate SCMPs which include Flood Management component/ activities
5. To formulate and update training manuals on flood management and conduct training seminars to HQ/RO/SRO staffs of WRMA
6. To introduce a concept of "river basin flood management plan (RBFMP)", which should be set between the CMS and the SCMPs

Present assessment after the Project and actions to be taken were discussed and summarized in the matrix of "Post-Project Capacity Assessment for WRMA" shown in **Attachment 2.**

Min 2: Knowledge Management on Flood

Mr. Sawa gave a presentation on knowledge management highlighting the objective of the exercise, the challenges, definition of classification, among others. He noted that there have been record keeping efforts, as seen in WRMA Regional office in Machakos, although there are areas of improvement using technologies such as intranet, which would increase effectiveness. He noted that the way forward is to establish implementation systems for documents management in WRMA.

He explained about the *flood survey sheet, which is* critical in collecting flood damages in the last season and will be filled by some officers, is to be sent to WRMA HQ for analysis and dissemination after completion. Mr. Simon took the participants through the flood survey sheet showing the participants how to fill in the form. There was a discussion on the format of the questionnaire and the participants were able to understand the requirements thereof.

There was discussion on question no. 6 of the survey having a format (table) for collecting transect water depth from flood marks immediately after the floods. It was agreed that a table having GPS coordinates & the watermarks will be created to facilitate creation of a map of

the flood zone. The modified "Information Collection and Dissemination concerning Flood Disaster" is shown in **Attachment 3**.

There was a discussion on how to store and analyze the data. It was agreed that there will be two tables the Data storage sheet which will summarize all the sites visited in a day and a final table that explains the flood area extent of damage. The modified data storage sheet is shown in **Attachment 4**.

Min 3: Work plan for WRMAs Flood management project (next phase)

Eng. Sawa gave a brief on the Time frame of activities for the next phase for FMU in WRMA. He highlighted 7 activities in the river basin via IFMP as follows. These include Training of WRUA to be done in Sep., formation of IFMC, site survey flood damage data collection, hold 2nd IFMC to draft IFMP, 3rd IFMC (finalize plan), 4th IFMC to (make SCMP), set up FEWS.

Mr. Sawa explained that these activities would be done in one River Basin to be followed by the rest of the 5 River Basins to be identified by WRMA. The estimation is that it will take around 3 years to complete. The proposed time frame is shown in **Attachment 5**.

Mr. Sawa also gave a breakdown of the budget for the activities. Mr. Sawa requested for details on the River Basins. The Technical manager requested for time to go through the River Basins to check if there are any WRUAs. It was noted that there are six River Basins that have WRUAs and the project could commence with these. The proposed budget is shown in **Attachment 6.**

Min 4: Details on Taveta forum (Date changed to 24th – 25th June)

Eng. Kondo noted that one of the main objectives of the forum is on wrapping up of the project as well as highlighting the success of the FEWS, among others. He also stated that the forum would provide a platform where the observers will be given a reward that will serve as a motivation.

There will be a field visit with activities such as evacuation drill, demonstration of flood education, FEWS visit, There will also be presentations from WRUAs, SROs, WRMA, JICA team. There will be a presentation on FEWS and a discussion on the same.

Min 5: Closing remarks

Mr. Simon encouraged the SROs to make their activity list based on the work plan so as to maximize on the opportunity presented by Kenya Water Security fund.

The Technical manager closed the workshop by thanking the participants for being participatory. He implored the FMOs that now that their work has been identified for the next three years, to get working on their work plans and budgets.

(End)

Attachment 3

2014/06/05 JICA PT

Information Collection and Dissemination concerning Flood Disaster

1. The outline of information collection and dissemination

Mainly after the rains at upstream, there would be an occurrence of flood disaster in Kenya. To reduce damages, it must be necessary to setup the countermeasures against floods. Information collection is the first step of countermeasure in the field of "Flood Management Plan". This document explains the procedure how to collect and disseminate the information at the affected areas by flood.

2. Procedure how to collect and disseminate the information

If the flood occurs, WRMA starts the procedure shown below.

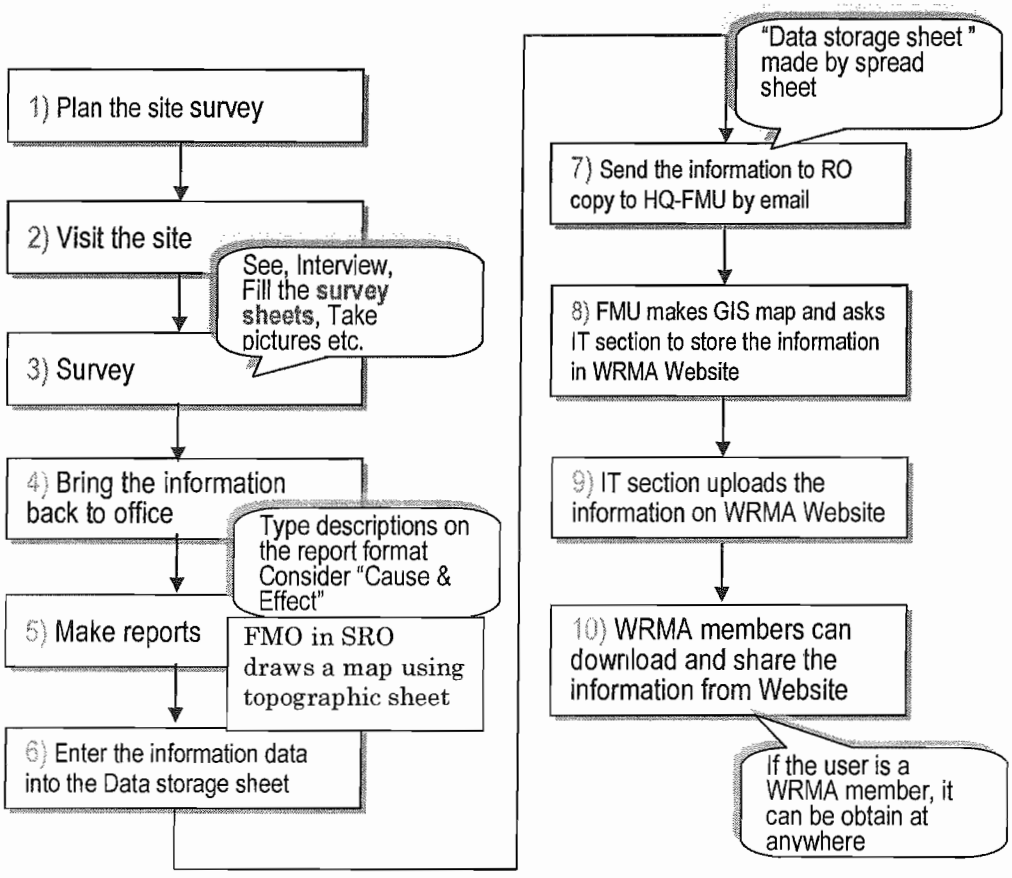


Fig. 1 The procedure for information collection

3. Survey sheets

In the course of "Survey", WRMA staff as surveyors can collect the information by using the attached Appendix-1"Survey sheets".

Table1. Information item of survey

No.	Information item	Description	Remarks
1	Surveyor	Name of surveyor, Affiliation -WRMA XXX SRO XXX-	Basically, done by WRMA staff. Sometimes done by WRUA member.
2	Survey Area	County, District, Location, Sub-location and Village	
3	Survey Date	Date of implementation	Start/end date
4	Survey Schedule	Actual schedule for site visiting and investigation	Record the date and visited place along the timeline
5	Duration of Flood	The interval between the flood start and end	Add the duration of maximum level If possible.
6	Location map	Maps of the site, sketch map or drawing etc.	Use geographical map or free hand drawing
7	Target place and details Interview Sheet	Questionnaire	Use 1 sheet by1interview
8	Findings on "Cause & Effect" of the flood and damage	The information or analysis of "Cause & Effect" concerning the flood	Free description
9	Any Other Remarks	Relevant any other information to the flood	Free description
10	Pictures	Various pictures taken at the actual sites such as damages in river related facilities, road condition, damaged houses, crops, other the situation of affected area, and also evacuees and evacuation areas.	Describe the caption under the picture

4. Information storage

After the survey, WRMA staff brings the information back to their office and then type descriptions on the report with considering "Cause & Effect" of the flood.
Then, WRMA staffs enter the information data into the "Data storage sheet" attached as Appendix-2.

5. Information sharing

After the making the report and entry of information to "Data storage sheet", WRMA staff will send email attached the files of report and "Data storage sheet" to HQ-FMU member.
HQ-FMU member will ask IT section to store and upload these files.
After that, WRMA member can share the flood survey information by downloading the files from WRMA Website.

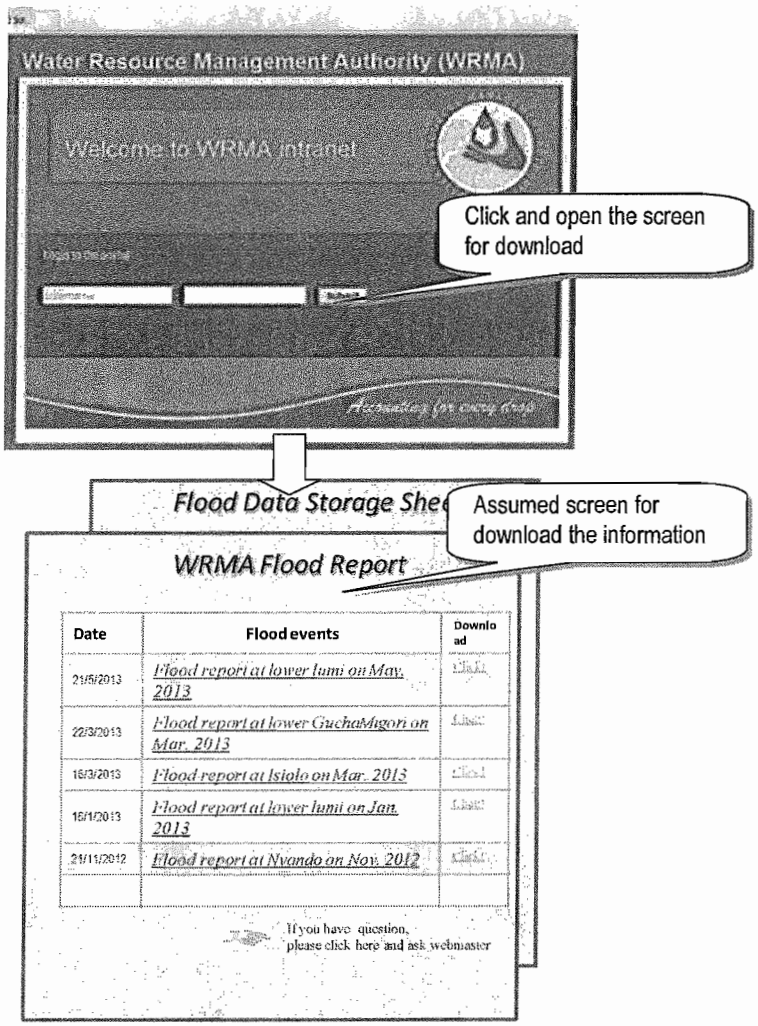


Fig.2 A screen for Downloading flood information on WRMA Website

Appendix-1

Date:

Attention:

WRMA HQ: DTCM, Flood Management
WRMA XXXXX Regional Office: Regional Manager and Flood Management Officer
WRMA XXXXX Sub-regional Office: Sub Regional Manager

Re: Flood occurred in <*place*> on <*date*>

Dear Sir,
I would like to submit to you a report on the captioned flood event.

Thank you for your kind attention to the above.

Very truly yours,

Attachment
Flood Survey Sheet

Name of the reporter:
Position:
Office: WRMA XXXX Sub Regional Office,

Attachment

Flood Survey sheet

1. Surveyor _____WRMA XXXXX Office
2. Survey Area Sub basin code, name _____
   Sub Region: _____
   County: _____
   Sub county: _____
   Ward: _____
   Village: _____
3. Survey Date Day:From to__Month:_____Year:_____
4. Survey Schedule

Date, time	Visited sites	Accompanying person (WRUA member, Interviewee)	Institution of accompanying person

5. Duration of Flood: From: Day:___Month:_____Year:_____
   To : Day:_____Month:_____Year:_____

Site/feature name	GPS	depth	Remarks

6. Location map (show areas inundated and depth of inundation, if information acquired)

Draw or Attach map below (Including free hand drawings)

Caption

Transect water depths from flood marks shall be obtained after water recede.

7. Target place and details Interview Sheet (use one sheet for each interview)

Site/feature name		**Ward**	
Item		**Description**	
Detail of Flood situation			
When did inundation start		Date:_____ Hour: _____	
How deep? (maximum)			
Duration of flood			
Flood Damage			
Casualties			
Damages to infrastructures			
Damage to crops and live stocks (quantities)			
Others			
Evacuation		Did you evacuate?	Yes/No
(If Yes) Where to?			
(if no) Why?			
With whom?			
Difficulty encountered?			

Are there any countermeasures/activities against flood in your community?	Yes/No
(If Yes) What kind of countermeasures/ activities?	
Were they effective or not against this flood? Please explain.	

8. Any Findings on "Cause & Effect" of the flood and damage

Free description

9. Any Other Remarks

Free description

10. Pictures

Picture	*Picture*
Date and Caption	*Date and Caption*
Picture	*Picture*
Date and Caption	*Date and Caption*

Pictures cont.

Picture	*Picture*
Date and Caption	*Date and Caption*
Picture	*Picture*
Date and Caption	*Date and Caption*

Appendix-2

Data storage sheet

No.	Date of survey (dd/mm/yy)	Surveyor		Survey Area					Duration		Flood Type
		Name	Office	County	District	Location	Sub-location	Village	Start	End	
1											
2											
3											
4											
5											
6											
7											
8											
9											

Cont.

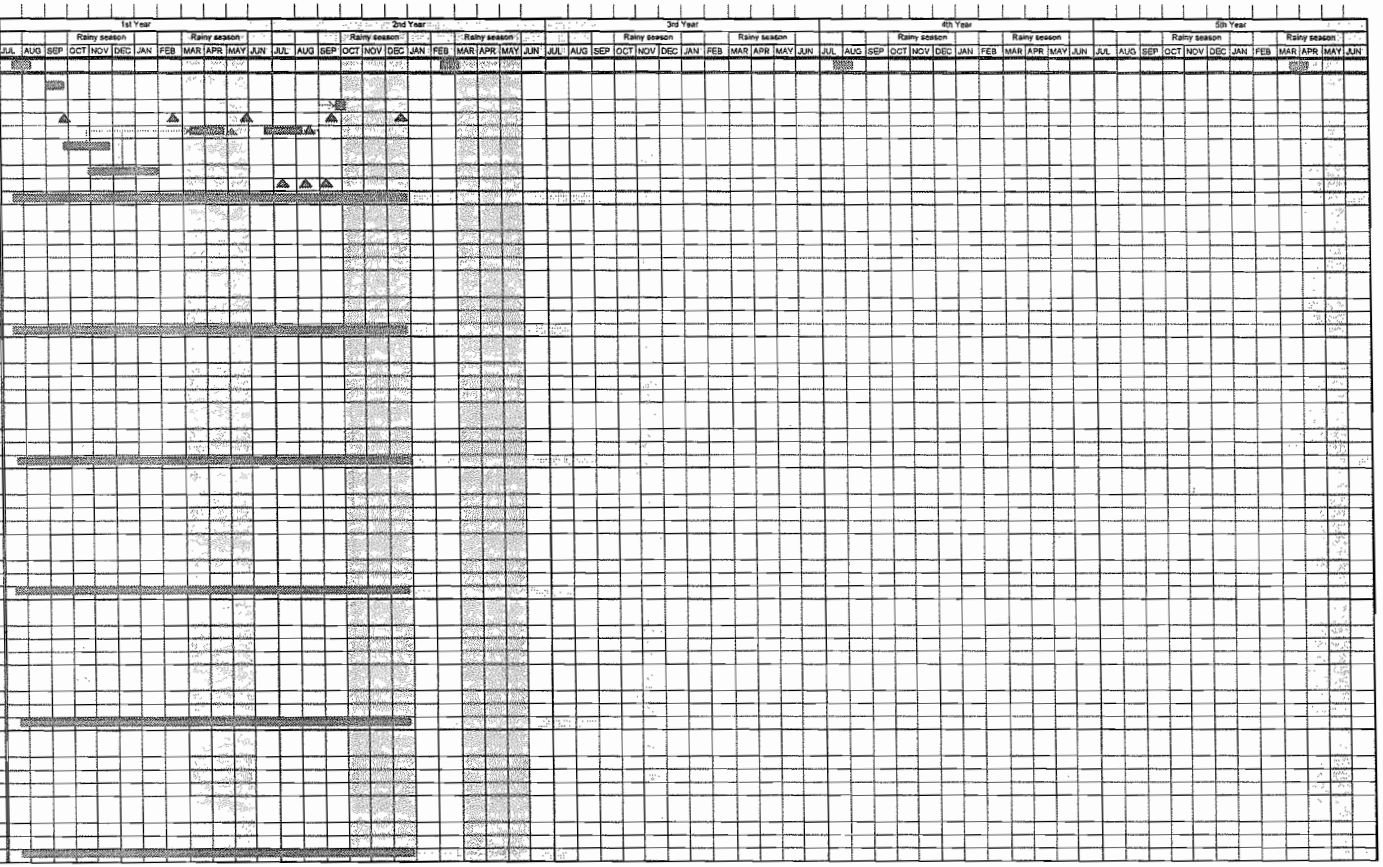
Any Findings on "Cause & Effect" of the flood and damage	Affected areea (Km2)	Casualties	Total Affected Residents	Any other remarks

Attachment 4

Date of survey	Reporter's name	SRO name	County name	District name	Location name	Sub-location name	Village name	Approx. starting date	Approx. ending date	Difference between start and end of flood	Flood type (ex: flood, flash flood etc.)	"Cause & Effect" description			SQ. kilometer of affected area	Number of casualties			Number of affected resident people	Remarks
dd/mm/yy	in words	in words	in words	in words	in words	in words	in words	dd/mm/yy	dd/mm/yy	days	in words	in words, and free description			Number	Number			Number	in words, free description

Date of survey (dd/mm/yy)	Surveyor		Survey Area					Flood Duration			Flood Type (Flash/ River/ Stormwater/ Lake)	Any Findings on "Cause & Effect" of the flood and damage	Maximum depth (m)	Wate level upstream	Approx. affected area (Km2)	Casualties	Infrastructure Damages	damage to crops and livestocks	Total Number of Affected Residents	Any other remarks
	Name ex) Mr. or Ms. XXXX XXXXX	ex) XXX Sub-Regional Office XXX WRUA	County	Sub county			Village	Start	End	Flood duration										

Group	Name of riverbasin	Name of Sub-catchmnet area / WRMA	Name of WRUAs		Activities for IFM at a river basin
A					Execution of training for WRMA
				1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			1	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			2	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			3	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			4	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			5	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS
			6	1	Execution of training for WRUA (Including drawing Community based hazard map)
				2	Reflecting IFM to SCMP
				3	Formurating and holding of IFMC
				4	Drafting IFMP (Including plan of flood counter measures)
				5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
				6	Site survey for flood damage data and Analysis of flood characteristics
				7	Fabrication and installation of FEWS



Attachment 5

b				7	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS
				8	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS
				9	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS
				10	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS
				11	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS
				12	1	Execution of training for WRUA (Including drawing Community based hazard map)
					2	Reflecting IFM to SCMP
					3	Formurating and holding of IFMC
					4	Drafting IFMP (Including plan of flood counter measures)
					5	Site survey and Collecting river basin data (Natural and Socio-economic condition, Development plan)
					6	Site survey for flood damage data and Analysis of flood characteristics
					7	Fabrication and installation of FEWS

Appendix 4-6

News letter

ACTIVITIES OF LOWER GUCHA MIGORI WRUA IN FLOOD MANAGEMENT

The LOGUMI WRUA is a an active organization with proactive members that are friendly and cooperative.

The LOGUMI WRUA has a leadership structure with chairperson being at the helm of the leadership and he chairs both the executive committee and management committee. The LOGUMI WRUA also has a well established office that is located at Wath Onger shopping centre with desks and office chairs; cardboards for storing records are also set up and book shelves. The walls in the office is pasted with the sub-catchment map and pictures of WRUA activities.

The LOGUMI WRUA with the assistance of WRMA have managed to develop a Sub-catchment Management Plan (SCMP) which mainly focused on management of water resources in the sub-catchment but by error of omission and commission the SCMP does not capture the management of floods. This in essence has triggered the WRUA with assistance from the Project Team to start reviewing the SCMP in order to incorporate community-based flood management plan.

In spite of not including the flood management into the SCMP the LOGUMI WRUA have been active in engaging in activities that are related to flood management which include the following:-

- In the early warning system, the LOGUMI WRUA has been in the forefront of checking the river levels and warning community members appropriately;
- The LOGUMI WRUA has also been active in assisting the affected members to evacuate to the raised grounds during flooding;
- The LOGUMI WRUA has also been active in collecting data on flooding. In the last floods that affected the area, the WRUA manage to collect pictorial data of the flooding incidence;
- The LOGUMI WRUA also have managed to draw a map of the Sub-catchment wherein the flood hot spots are clearly indicated on the maps; and
- The LOGUMI WRUA also have managed to carry out their own survey of the R. Kuja and they have to a conclusion that the river changed its course during the heavy El-Nino rains. They also fear that as sedimentation keeps on being on the rise which will make the river to change its course again incase of the heavy downpour after the manner of El-Niño.

The main expectation of the WRUA is that as the Project has come into their area and as they adopt some of the measures undertaken in the previous projects in the Nyando they will see some change in flood management.

Boats that ferry members of the community across R. Kuja

Pictorial data on floods collected by LOGUMI WRUA

Sub-catchment map drawn by LOGUMI WRUA

The proactive members of LOGUMI WRUA explains flooding patterns and incidences in the sub-catchment

EXPERIENCES OF THE PREVIOUS PROJECT THAT EXCITED WRUA

The chat with the LOGUMI WRUA during the development of the Community-based Flood Management Plan not only brought out their expectations but also their excitement on the flood activities that were carried out in the Nyando basin under the Programme for Community based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin.

During the interactions with LOGUMI WRUA it emerged that improvement of evacuation routes caught their attention mainly because the flooding in the Sub-catchment is so dire that boats and canoes have to be used to ferry the affected community members.

The WRUA was quite impressed by the concepts of footbridges that are constructed to enhance ease and quick evacuation system. It also emerged that the main evacuation place in the area is Nyakweri Primary School though it is near to some of the affected families but these families have to walk and wade through water for approximately ten (10) KM to access the evacuation place due to marauding flooding water which is at a high velocity across R. Kuja which is also infested by hippopotamus that hinders them from using boats or canoe to cross R. Kuja to access an evacuation place which from that point of flood incidence is about three (3) KM to evacuation place.

The WRUA in excitement stated that if such a footbridge is replicated in the area it shall enhance evacuation system.

The concept of the Nyando Project where community members played an important role in the community flood management in their villages also excited the LOGUMI WRUA. They expressed optimism that capacity building of community members as a way forward in the flood management. The evacuation drills was one of the activities for capacity building that caused a stir of excitement by virtue that the community members are prepared before hand on how to safely evacuated on regular periodic calendar times drew exponential excitement . Education Programme where pupils were taught on flood management also attracted attention and one elder pointed out that if the pupils can get appropriate skills on flood management then the future generation cannot be threatened by flooding disaster because of the efficacy of the skills acquired of managing floods at an early age.

The idea of evacuation centre also drew excitement from WRUA members. They stated that if such facilities were replicated in the Sub-catchment which by extension will imply that there will be no disruptions of learning programmes when schools are forced by circumstances to allow evacuees to get shelter of refuge at the schools during flooding disaster.

The WRUA members were also excited with capacity building of community to be able to write financial proposals and submitting them to relevant agencies and seeing those proposal approved and community based project realized.

Edition 01
12th March, 2012

KY E PROJEwK OGÕw PwrK Y DEVELOPMEGK FOR EFFEwKIVE FLOOD M G GEMENT IN FLOOD PRONE ˚ E S BEING IMPLEMENTED IN THE REPUBLIC OF KENY

INTEGRATED FLOOD MANAGEMENT

Gucha Migori River Basin Issue No. 01

INSIDE THIS ISSUE:

THE PROJECT FOREGROUND AND BACKGROUND

The Project "foreground" is that it aims at capacity development in order to achieve effective flood management in the flood prone areas. Targets areas for this Project are three river basins: Gucha Migori; Lumi; and Ewaso Ng'iro North.

The Project background on the other hand is that in 2004, WRMA formulated "Integrated Flood Management Policy" focusing on Lake Victoria Basin, which is one of the areas that suffers from severe flood damages. It was intended to promote Integrated Flood Management (IFM) to raise awareness of community and strengthen institutional capacity to allow flood mitigation, prediction and warning. In 2006 to 2009 JICA carried out "Study on the Integrated Flood Management for Nyando River Basin)" as the Technical Cooperation Scheme and "Programme for Community based Flood Disaster Management to Adapt to Climate Change in the Nynado River Basin (2009-2011)" as the Grant Aid Programme with the aim of establishing a flood management system in the southern part of Lake Victoria Basin through IFM. Through the above projects, community based flood management activities have been implemented and deployed combining structural and non-structural measures such as workshops for mapping flood damaged areas and protection measures for building structures in prioritized communities. Some positive outcomes have since been realized.

The activities implemented in the Nyando River Basin is aimed at being replicated to other parts of the nation with a purpose to promote community based flood management. The Water Resource User Associations (WRUAs) managed by community therefore comes in handy. This has led to establishment of a framework which enables the WRUAs to receive funds from the Water Service Trust Fund (WSTF) sourced from technical support, official aid, and donor's funds. This framework is known as WRUA Development Cycle (WDC). Therefore, this Project is expected to strengthen WRMA institutional ability through the capacity development on basic flood management to promote community based flood management activities within the WDC framework.

An Ariel view of flooding menace that affects Kenya

NATURE OF FLOODS IN GUCHA MIGORI RIVER BASIN

On 15th February 2012 there was a reconnaissance visit to the Lower Gucha Migori sub-catchment by Project Team. The preliminary results of the reconnaissance were as follows: The Lower Gucha Migori Sub-catchment experiences flash floods that affects mainly Luanda village. The flooding surface runoff water flows from the surrounding hills downwards towards Lake Victoria and as result of poor drainage system it affects the homesteads and business premises at Luanda village. Various socio-economic infrastructures are affected and these include roads, toilets that cave in and sink during the flash floods and houses are also damaged;

The LOGUMI WRUA is proactive and it has a well established office space with active officials. The members have also drawn the map of the sub-catchment with the flood hot-spots well indicated;

The Lower Gucha Migori Sub-catchment experiences also river floods that results from the river busting its banks and the villages that are mainly heavily affected are Kabuto, Anguko, Nyola and Aneko.

The wide R. Kuja after R. Gucha and R. Migori merges

There are two major rivers in the sub-catchment the R. Gucha and R. Migori that joins at a confluence as both river flow downstream to the L. Victoria and forms one big river that the locals calls river Kuja. The river Kuja as it flows towards the L. Victoria is affected by sedimentation and therefore making those areas vulnerable to flooding; and

That some of the villages are affected by the backflow flooding water from the L. Victoria which the WRUA firmly believe it is as a result of sedimentation that has even affected the shores of L. Victoria.

Development of Community-based Flood Management Plan

The development of community-based flood management plan commenced in Lower Gucha Migori Sub-catchment on 24th February 2012. Approximately twenty five (25) members of the LOGUMI WRUA were in attendance.

The storyboard tool-kit of planning was adopted and utilized in coming up with the ingredients of the plan. Storyboard as a tool is operated in this manner:

First the participants have to agree that there is a common problem that needs a plan on how to manage it for this case floods in Lower Gucha Migori sub-catchment was the problem.

Second step is the way forward to managing the problem is agreed upon by participants. This way forward is thereafter written on an A4 paper and for this case it was developing a flood management system in the Lower Gucha Migori. The question that follows is how?

The how question leads to the third step which is identifying the facets of the problem and for this case was the phases of flood disaster. Each of these phases are thereafter written on separate A5 paper and for this case the phases identified were preparedness, response and rehabilitation.

The forth step entails listing the activities that can be done in order to manage floods at each phase. An A6 paper is used for listing of these activities. During the listing there are no discussions allowed only listing. After listing there is a brainstorming session where the listed activities are analyzed based on merit and demerit of each activity and in view of realistic way of each activity implementation. In this case all the activities were critically discussed.

The fifth step is prioritization of activities in each phase based on the importance of each in achieving the goal of the plan which in this case is an operational and functional flood management system in Lower Gucha Migori Sub-catchment. This step also entails coming with who is responsible, where the funds will come from, parameters of verification and when monitoring and evaluation will be done.

The sixth step and the last but not the least is coming up with implementation schedule based on short-term, mid-term and long-term. It is important to realize that the purpose of a plan is its implementation not putting it down on paper therefore the participants assign themselves responsibilities they will do in order to realize the plan that is developed.

Storyboard developed by LOGUMI WRUA members for a plan against flood

Preparedness Phase

Activities for preparedness phases were prioritized by participants from LOGUMI WRUA as follows:

Capacity building of WRUA in various spheres of flood disaster management;

Construction of a new evacuation centre and improvement of the existing evacuation places;

Construction of drainage channels and check dams along the hilly areas;

Construction of footbridge to enforce accessibility of evacuees to evacuation centre at Kabuto area;

Develop posters with description of the flood condition in a particular area specifically flood depth, direction to evacuation centre and the distance remaining to arrive at the evacuation centre;

Desilting of water pans and removal of blockades and obstacles from the river channels;

Construction of water pans in eight locations to check floods;

Planting of vegetations along the riparian areas and starting a tree nursery in the sub-catchment ;

Protect and conservation of wet lands from rapid destruction;A proposal request to NWCPC to survey the river Gucha and Migori for gabion construction at the breached points for riverbank protection;

Equip each household with a disaster kit that has a mosquitoes net, torch, telephone contacts of WRUA executive and pain killer drugs; and

Writing a proposal to government to construct dykes along the river banks.

Response Phase

Activities for response phases were prioritized by participants from LOGUMI WRUA as follows:

Capacity building of WRUA in various spheres of flood disaster management;

Construction of storage facilities at the evacuation centre for food, firewood, tents, drugs, household utensils and other items safe keeping;

Construction of well designed toilets (pit latrines) that can with stand flood water pressure and not collapse with septic tanks that can be used to collect waste water;

Develop community flood hazard map for the sub-catchment and thereafter painted on signboard. Five signboards were proposed to be installed thereafter in five locations in the sub-catchments;

Procuring dustbins and digging of composite pit at the evacuation centre for garbage collection to improve sanitation at the centre;

Drilling of borehole and installation of water tanks to harness the roof harvesting of rain water and thereafter treatment of the water using water treatment tabs;

Develop evacuation posters that would strategically be pasted on the evacuation route to guide evacuees on safe evacuation. The posters will have a description of flood depth at that point, the direction to the evacuation centre and the distance in measuring units remaining to the evacuation centre; and

Establish a committee i.e. Flood Management committee consisting of one executive member of the WRUA and four other WRUA members that will be tasked with assessment of flood damage and thereafter report to the WRUA Management Committee for requisite actions to be taken based on the recommendation by the flood management committee.

WRUA members deeply engaged in a discussion in one of the sessions of developing flood management plan

WRUA members explains how response agencies responds to floods in Lower Gucha Migori Sub-catchment

Rehabilitation Phase

Activities for rehabilitation phases were prioritized by participants from LOGUMI WRUA as follows:

Capacity building of WRUA members and community members at large in various spheres of flood disaster management in the rehabilitation phase;

Sensitization of the community members on various flood management issues that focuses on rehabilitation phase;

Establish a flood management planning committee that deals with planning on flood disaster and enable the capacity of these team built to enable them carry out there task of planning and thereafter report to management committee of the WRUA; and

Establish flood management committee within the WRUA with its capacity built to carry out assessment of the riverbanks and rehabilitation of the breached parts;

Construction of culverts to improve drainage thereby improving evacuation routes in the area; and

Establishment of proper dissemination of information system to line ministries and stakeholders to ensure there is follow up exercise for reconstruction of various socio-economic infrastructures that are damaged as a result of floods. Also collecting feedback and data from the various stakeholders that intervene in floods in order to develop WRUA database on floods in the sub-catchment.

WRMA staff explains a point to WRUa

Local chief express appreciation to Project

Flood and Drought Disaster in Lower Gucha-Migori

There are two major disasters that are related to water that occur perennially in Lower Gucha Migori Sub-catchment. These two disasters are floods and drought. Floods often precedes drought i.e. floods occur in the month of March, April and early May while drought occurs in July, August and September and there occurrence more often than not is annually. The flooding disaster leads to too much water overflowing in the area which one community member referred to as polarization of the water in the area. On the other hand is drought disaster which leads to scarcity if the water in the area to which one community member also referred to as absenteeism of water in the area. Therefore the two disasters operate at the two extremities of availability of water resource in the area.

Floods affects Lower Gucha Migori Sub-catchment and the WRUA members trace it back to the heavy downpour of 1963 dubbed Koth Uhuru. The aged members of the community explain that before the Koth Uhuru rains some of their farms were located in the areas currently occupied by the Lake Victoria. One community member described the rains as Koth Uhuru that led to forceful and hostile takeover of some of the lands by Lake Victoria as a result of the flooding water overflowing in the Lower Gucha Migori area. He explained that the damage caused by that particular flooding was vast with entire farmlands being washed away, livestock lost in huge numbers, houses were damaged and human lives lost.

The major flooding occurrence of almost similar magnitude to Koth Uhuru floods occurred again in 1997 as a result of El-Nino rains. The community members explained that the damage was not as vast as Koth Uhuru floods in terms of losing farmlands to the Lake Victoria but in terms of socio-economic infrastructure damage the El-Nino triggered floods was severe. Community members explained that it was during the El-Nino rains that R. Kuja changed its course leading to severe floods in the area that even led one school to be relocated to another area because of the impact of damage caused by floods on the school.

The community members also explained that there have been other severe floods in the area other than the above mentioned floods. They further explained that in the year 2006 they witnessed severe floods that led to heavy casualties and evacuation. They explained that evacuees camped at Nyakweri Primary School. Community members further clarified that as a result of disruption of education programmes in four other schools i.e. Kabuto, Nyola, Sare and Anguko primary schools moved to Nyakweri Primary School making it five schools in one with one class having at least one hundred pupils. This led to some teachers to boycott teaching citing unmanageable classrooms.

On the other hand is the drought disaster that also heavily affects the area just as frequent as the floods. The drought disaster often sets in at the point when the community members are very vulnerable because of the impacts of floods i.e. it comes at the rehabilitation (recovery) phase of floods. This is the time when community is in the process of fighting diseases mainly waterborne diseases and also when they marshal their effort to reconstruct their homes resulting from floods. During the last drought community members lost livestock and crops.

Pictorial data collected by WRUA in 2011 floods

Pictorial data collected by WRUA in 2011 floods

Livestock wade through water during 2011 floods

Boat on transit for evacuation purposes during 2011 flood

VENTURING INTO FLOOD PRONE VILLAGES IN LOWER GUCHA MIGORI

Visiting flood prone villages in the Lower Gucha Migori Sub-catchment was an adventure. The visit commenced with a meeting that was held at the LOGUMI WRUA office at Wath Ong'er between Project Team and the LOGUMI WRUA members. The date of the visit was on 29th March 2012. In that particular meeting the members of LOGUMI WRUA that were present identified the following listed below villages as the most affected by floods:

- Kabuto Village;
- Nyora Village;
- Luanda area that is mainly affected by flash floods; and
- Misiwi Village

After the meeting these affected areas were visited. In order to access some of these villages particularly Kabuto that was the worst hit in 2011 floods a boat ride was inevitable.

Riding across R. Gucha Migori was an adventure, the experience unforgettable and the view of the water channel and the riverbanks was exquisite. The erosion on the riverbanks was evident, the siltation with huge amount of sand deposits making the area to look like a sandy beach. Yet during the rainy seasons the whole area which is river channel switches back to its purpose. There are the sand-harvesting activities that are on-going wherein the accompanying WRUA members stated that it assists in desiltation.

Boat ride across the river to Kabuto village during visit

Pile of sand harvested from the river channel

The boat ride also revealed how wide R. Gucha Migori was as the visit led to Kabuto.

In Kabuto village there is a dispensary that becomes inaccessible during flooding because the water maroons it but because it has permanent structures and the area is slightly raised the dispensary becomes the first rescue centre for the affected community members from Kabuto village as they seek shelter hoping that flooding water will soon flow downstream. The medical personnel explained that evacuees general period of evacuation at the dispensary was two to four weeks (2-4 weeks). He further clarified that if floods persists the evacuees are forced to move to other places in order to access the relief aid that is dispatched by government and Kenya Red Cross during disaster. The medic stated that the evacuees move by boats to Nyora Primary School. Flood depth in the areas near Kabuto dispensary was estimated at 1.2 M (Meters).

During the visit a newly established fish pond was noted. The fish pond utilizes the water from R. Gucha Migori. The abandoned location of school where Kabuto Primary School in Nyora village was also visited. The abandoned classrooms and building lie waste in the place but the borehole is active with community members drawing water from the place. The WRUA members explained that the particular borehole was among the few with fresh clean water though during flooding the place becomes inaccessible.

Nyora Primary School that acts as evacuation place lies in a flat but raised area. The classroom are what evacuees use for shelter during flooding. There is also a rain water harvest tank that provides clean water to evacuees.

Top: Kabuto dispensary
Bottom: Nyora Primary school

Top: House damaged by floods
Bottom: Abandoned school compound

THE CONCEPT OF WRUA IN THE CONTEXT OF WATER RESOURCES

The main question that rings in the minds of many who are not familiar with the term WRUA is what is WRUA? WRUA is an abbreviation of Water Resources Users Association (WRUA) which is quote "an association of water users, riparian land owners, or other stakeholders who have formally and voluntarily associated for the purposes of cooperatively sharing, managing and conserving a common water resource."

The WSTF homepage clearly states the role of WRUAs as that it has been further developed in the Water Resource Management Rules. Notable among the WRM Rules are the following:

- A WRUA must be a legally registered entity in order to be recognized as a WRUA by WRMA. This implies that the WRUA must seek legal registration from the Registrar of Societies or as a Trust;
- A WRMA recognized WRUA will be listed in an official WRUA Register. This implies that there will be a formal element to the selection of a WRUA for a specific water body or part of a water body;
- A WRUA can also enter into an MOU with WRMA to further elaborate roles, responsibilities and working arrangements for collaborative management. This provides wide range of possibilities in which the WRUA can be involved in activities such as monitoring water resources and abstraction, collection of water use charges, etc. If a WRUA fails to honour a MOU, then it may be struck off from the WRMA register. The WRUA will still be registered by the Register of Societies but it will no longer be able to interact with the WRMA.

Stakeholder participation then becomes core principle in the concept of WRUA. The WSTF homepage expounds on the matter and highlights the following five key points:

- WRUAs established in the late 1990's in the Mt. Kenya region have demonstrated that certain water resource problems and conflicts can be mitigated through collective proactive engagement by WRUAs in the water resource issues;
- Common and collective action by stakeholders can provide a strong lobby which can be used to leverage government services, support and to influence the allocation and use of water resources for the common interests;

The other three key points will be discussed in the edition 3 of this newsletter. Also in the edition 3 there will be critical look at the history of Water Resources Users Association.

Edition 02
15th April, 2012

KEY PROJECT FOR DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 02

INSIDE THIS ISSUE:

FLOODS EARLY WARNING SOUNDED

Source: Standard homepage story on floods in 2011
Residents of Vanga Location in Msambweni District wade through floodwater Sunday. Their villages were marooned by floods after the River Umba burst its banks.

Floods are not a new phenomenal in Kenya. Kenya is a beautiful country endowed with many natural resources including water resources. There is the beautiful Mt. Kenya that shines and muscles the Kenya skyline; the beautiful natural forests like the Kakamega forest; there is the great Rift Valley a masterpiece of nature; and the Lake Victoria Basin among other natural phenomenon. Amidst this beautiful landscape there are also perennial floods that affect the country and impact the socio-economic parameters of many Kenyans that dwell in the flood prone areas.

These floods mainly affects the flood prone areas during the rainy season. The months of March, April and May register high rainfall amounts in most parts of the country. Based on this background the government through the media sounded an alarm to the residents living in the flood prone areas to be prepared for possible floods. Herein below is an article of flood early warning as written by Kenya Broadcasting Corporation Reporters in the KBC homepage. The article reads and quote "People living near riverbanks or in flood prone areas have been advised to move to higher grounds to avoid being victims of flooding.

President Kibaki has also directed that steps be taken to control human settlement in disaster prone areas to avoid loss of life and property.

The Special Programmes Ministry says flooding is expected in Budalangi, Nyando and Ahero in Nyanza as well as Garsen and Lamu in the Coastal region.

In a press statement, Special Programmes Permanent Secretary Andrew Mondoh said there was a high likelihood of flooding, landslides and lightning occurring in the River basins of Nzoia, Nyando, Yala and Galana.

Areas on alert include Western Kenya namely Busia, Butere, Mumias, Vihiga, Kakamega and Bungoma. In Nyanza areas to be affected are Kisumu, Siaya, Migori, Kisii, Kuria, Nyamira,Borabu and Gucha. Other parts of the country that could receive heavy rainfall are Central and South Rift Trans Nzoia,Uasin Gishu, Kericho, Nandi, Nakuru, Narok and Kajiado.

In a statement, Kibaki further ordered the Provincial Administration to identify and control settlement in landslide prone areas. He further ordered relevant government agencies to avoid excessive red tape and bureaucracy and avail necessary equipment in times of emergencies.

He said that Kenyans were thankful to God for the rains but cautioned that necessary steps must be taken to safeguard citizens from any disasters.

"There was need for pre-emptive and preventative steps to be taken to avoid the occurrence of such disasters, especially now that the long rains have begun in many parts of the country".

Others steps he directed to be put in place include sensitizing the public to keep off scenes of disaster."

The flood early warning has been sounded now is time for action by all parties i.e. community members and other stakeholders in order to reduce flood damage and suffering aftermath.

MOBILIZATION OF THE PROJECT OFFICE

The Project Office is currently under mobilization. The Southern Shoreline WRMA Sub-regional office, Kisii managed to get an office at Kisii Training Centre a serene and quite place.

The office required renovation which has since been done. The window grills have been reinforced; steel door installed and the entire room painted

The office desks that were brought into the office are being renovated and improved upon.

The project office will be ready in April 2012 for occupation.

Project office under renovation

A VISIT TO THE UPSTREAM OF GUCHA MIGORI RIVER BASIN

A visit to the upstream of Gucha-Migori is a beautiful experience. The natural sites are exquisite in some places there are vast forest cover and in most area the green cover illuminated by the shining Africa sunshine coupled with fresh air makes the aroma of nature complete.

The sages over the ages have admonished that if you want to solve a problem go to the source. In order to understand the flooding problem in Lower Gucha Migori its critical therefore to know and understand the overview and nature of upstream where the source of both R. Gucha and R. Migori are located. It was with this in mind that the Project Team visited the upstream led by the Team Leader.

R. MIGORI

The first place to be visited was Chepalungu area. A 100 square km area around Chepalungu Forest Reserve has an approximate population of 55647 (0.000556 persons per square meter) and an average elevation of 1871 meters above the sea.(source of information:Traveljournal.net)

There is vast forest coverage at Chepulungu forest with neighbouring areas that are inhabited with increased human activities including agricultural activities on the hill tops which subsequently leads to erosion. Livestock keeping is also evident with heavy stocking of herds of cattle whose cattle treads will eventually lead to soil erosion. There are logging activities also in some areas evidenced by tree stumps left behind after tree cutting.

Gorgor area was also visited and River Migori flows through this area as it goes downstream. There is water reservoir in the area that is also used to pump water to the nearby secondary school. The water reservoir collects water from the surface run-off and also taps into the R. Migori. The water upstream is also notably clean. At Ndanai area there is a water pan that is constructed and collects the surface run-off water that during heavy rains breaks banks and flow downstream as it erodes soils.

Kilgoris area was also visited. In this area there are large stocks of livestock and the cattle in the area are huge as a result of plenty of pasture in the area. Logging activities is also noticeable with smoke from charcoal burning noticed in some areas, also charcoal being ferried from one place to another is evident. This is an indication of deforestation in some parts of the upstream.

The vast Chepalungu forest

Water abstraction to Gorgor Secondary School

Water pan that collects surface run-off water

Debris and obstacles along the river channelol

At the boundary between Transmara and Kuria districts the indigenous trees are conserved and the area has green pastures leading to also heavy stocking of herds of cattle that treads toward watering points s as they go to the river for watering. The cattle treads lead to erosion;

There were very few incidences of car-washing that were noted though there were debris and obstacles on some parts of the river channels. The debris were mainly the cut down vegetations, uprooted trees and logs.

At Migori town where R. Migori flows through there are notable car washing activities with unconfirmed complaints from the young men engaged in car washing business at the river that one private hospital indiscriminately discharges affluent into the river channel.

R. GUCHA

At the source of R. Gucha the water flows from the hills and three spots were noted. The water is clean as it flows and is used by the locals in their domestic usage . Agricultural activities are the source are heavy with tea plantations cultivated on the hill tops. The indigenous tree in many places has been replaced by the blue gum eucalyptus tree that grows fast and has ready market but also its level of underground water in-take is at a high rate.

At Taboti Village, Kiagoro Sub-location, Kiabunyore Location, Kerenyo District (new district curved out of Nyamira district) where at least three more spots of water flows and joins together as it flows downstream. At Nyabikomo Village, at least three spots are notable as they join and flow downstream as R. Gucha. In both places the water is very clean and community people draw from these sources for domestic use. The indigenous tree covers are increasingly being replaced with blue gum (eucalyptus) trees. There are also tea plantations cultivated in both places on the hill slopes.

At Kanyerere area the R. Gucha widens and even in some areas there is evidence of riverbank breaking and debris collection in the river channel.

Community member draws water at the source of R. Gucha

R. Gucha widens as it flows

At Kegati area the R. Gucha flows downstream and there is water plant that supplies water to Kisii town established in the area. It is in this area that debris are clearly notable in the river channel; At Ogembo area where R. Gucha flows through has a bus stop and market stalls constructed few metres away from the river channel though the bus stop has since been condemned and remains abandoned.

Water supply plant hinged on R. Gucha at Kegatii

The condemned bus-park that was constructed next to R. Gucha

In the mid-stream area between Sori area and the Rodi area there are three tributaries of R. Gucha namely R. Achuodho, R. Othere (both are seasonal) and R. Mirogi. In these two areas there are agricultural activities and there are parcels of debris in the river channels which mainly are the logs and cut-down reeds. Between Rodi area and Awendo area there are intensive agricultural activities mainly of sugarcane plantations. Car washing activities along the water channels is also common;

MEETING WITH THE D.D.O OF NYATIKE DISTRICT

The meeting between the Project Team and the District Development Officer (D.D.O) of Nyatike and Migori districts was held on 20th March 2012 at the D.D.O's office. In that meeting various salient issues were discussed. The D.D.O informed the Project Team that the National Irrigation Board (NIB) were currently engaged in a feasibility survey for irrigation project in Lower Gucha Migori Area. He further clarified that there is a Disaster Management Committee (DMC) which is active at the district level and is chaired by the District Commissioner (DC) and its members consist of World Vision, Kenya Red Cross, DC, DDO, opinion leaders and religious leaders (mainly Catholic and SDA). He pointed out that LOGUMI WRUA can have a representative on the DMC at the level of opinion leader.

The D.D.O also explained that there are at least one dispensary per location though most of these facilities have a shortage of staff and facilities. He added that recruiting staff for Lower Gucha Migori area was not an easy task since most of the people consider it as hardship area. He further clarified that in order to cope with limited number of medical staff, Community Health Workers have been trained by IFAD and AFYA Plus to enhance medical care in the area that enable the area to fairly cope in health matters during disasters.

Project Team meets the D.D.O in his office in Migori town

He also clarified that there were no established communication channels between the Kenya Metrological Department (KMD) and the DMC. And on a light note he stated that at least each homestead had a mobile phone and if properly tapped, the mobile phone can be used as an avenue to warn community members of possible floods. His observation was that a stakeholders forum was a noble idea that will assist various organizations to avoid duplicity of effort.

AN ENCOUNTER WITH KENYA RED CROSS MIGORI BRANCH

A meeting was held between the Project Team and the Kenya Red Cross Migori Branch Coordinator on 28th March 2012at the Kenya Red Cross Migori Branch Office located in Migori town. In that meeting the branch coordinator pointed out that the dissemination of flood information among stakeholders operating in the area was not effective. In her explanation of the experience they had in December 2011 she clarified that the biggest challenge was lack of preparation for such an eventuality by stakeholders. She also pointed out that in the Lower Gucha Migori area most of the flood incidences were as a result of heavy rainfall in the upstream. She clarified that Kenya Red Cross Migori branch during flooding disaster in Lower Gucha Migori Sub-catchment often use boats when assisting the vulnerable, the affected and for supplies of relief in the area

In summary of her explanation concerning the floods in December 2011 was as follows:

- The floods were as a result of heavy rainfall in the upstream;
- Kabuto and Nyora villages were the worst hit in the floods that occurred in December 2011 in Lower Gucha Migori Sub-catchment with one hundred and ninty two (192) families affected. Kenya Red Cross used boats in assisting the victims of floods to evacuate;
- Some of the community members though affected were reluctant to move to safer grounds because according to them the Provicial Administration through the local chief had not issued the instruction. Mainly women, children and the elderly evacuated to Nyora Primary School while men stated that they had to stay and watch over their homesteads. The source of clean water for drinking during the period of evacuation was the school rain water harvesting tank;
- Waterborne diseases infection rate increased while the nearby dispensary was inaccessible because it was marooned by flooding water. The Ministry of Public Health intervened by providing mobile clinics in the area while UNCEF had a medical personnel stationed at the Lower Gucha Migori during the December 2011;
- Kenya Red Cross supplied non-food relief items like mosquitoes' nets, blankets, sanitary towels, kitchen sets and water jerrican and treatment tablets; and
- That injuries as a result of piercings by sharp objects mostly affected the evacuees.

She also clarified that Kenya Red cross Migori branch in their preparedness activities in Flood Management in Lower Gucha Migori area have assisted one of the community to develop a flood hazard map for their village.

She also pointed out that Kenya Red Cross Migori branch are ready to cooperate with other stakeholders and stated that they were ready to give their staff to train community members on basic first aid if such a request is made to them.

In explaining the future plans for Kenya Red Cross Migori branch she pointed out that they had plans to carry out livelihood projects in the area though due to lack of funding they are yet to commence. Their target is to start up small kitchen gardens for each household and empower the beneficiaries in developing them into large scale farming.

She lastly capped it all with this quote "Flood is menace that if properly tackle will help improve some of the socio-economic challenges that Lower Gucha Migori area faces."

Dec. 2011 floods Discussion with locals on boat-use

Dec. 2011 floods Use of boat to assist in evacation

Dec. 2011 floods Going to the vulnerable homes

Dec. 011 flood homestead damaged by flood s rescue team from Kenya Red Cross arrives

All Pictures in this column are Courtesy of Kenya Red Cross Migori Branch

FLOODS IN THE NEIGHBOURING AREAS OF LOWER GUCHA MIGORI

Suba District

The areas that neighbour Gucha Migori River Basin but are located outside basin experienced floods. Gwasi Central location in Suba District experienced flash floods on 19th April 2012. Interviews with community members from the area indicated that at least ten (10) people mainly children died after being swept away by the flash floods.

The floods occurred during night season after heavy downpour in the area. The water from the hills with a mighty force was able to cause havoc as it flowed downstream. The mud walled houses on the path of flooding water were washed away. This incidence was captured in a newspaper article on 22nd April 2012 in the daily newspaper the Star.

The oral narration reveals that human instincts tend towards safety. In one of the incidence oral narration explains that during the flooding one household noted the floods were coming and the mother in effort to rescue her family hurriedly took her two children but the younger one refused when she saw the volume of water and climbed on a chair in one of the rooms. According to oral narration it is this one child who climbed on the chair survived the flood onslaught.

Homabay County

With floods on the rampage in the country Homabay County was not spared. In the mid April 2012 the area experienced heavy rainfalls that ultimately led to floods. WRMA dispatched its officer to assess the flood situation in Homabay County .

The summary of the floods in the Homabay County is as were summarized as follows:

- River Riana in Kabuoch Village broke its banks and caused floods in the area. Mr. Joseph Otieno a resident of the area was interviewed. He explained that the flooding river had swept away three people, five goats, two sheep, and some households goods and damaged homes.
- At Nyangweso area the flood depth was about 0.3 m. The inundation in the area interfered with livestock's grazing field. At R. Tende the river had burst its banks and caused flood disaster to the area residents. The inundation affected several farms that covered approximately four hundred (400) acres wand crops were washed away to the Lake Victoria. In this area various houses were submerged by water leading to community members to evacuate. Evacuation process was difficult for the residents since the flood depth in the area was about one and a half metres (1.5m) and area that was submerged was estimated at two kilometers square ($2km^2$) from the main river where it burst its banks. Interviews with the affected families revealed that some families lost approximately one hundred bags of maize they stored in their houses and therefore the evacuees had no food.
- The worst affected area by floods was Kanyindu village where several houses were submerged; toilets swept away, small animals such as goats sheep

Quote from Newspaper

"The floods in Suba and Homa Bay occurred after R. Awach Tende burst its banks and flooded nearby regions. The floods have also killed livestock, destroyed bridges and washed away 3,000 acres of crops."

THE CONCEPT AND BACKGROUND OF WRUA

In the second edition of this Newsletter the concept of WRUA on the principle of stakeholders participation were expounded upon with two critical points highlighted. In this third edition the other three critical points are herein highlighted: .

- Weak statutory controls create a "governance gap" in which the common interests may not be served, requiring local governance structures to fill the "governance gap";
- Common and collective action by stakeholders can provide a strong lobby which can be used to leverage government services, support and to influence the allocation and use of water resources for the common interests;
- Local patterns of settlement, use of communal land (e.g. forests, rangelands, etc) and water use behaviour require a "bottom-up" community based approach if sustainable improvements to water resources are to be realized.

The background of WRUA is as follows:

The Water Sector reform in Kenya seeks to address a broad cross section of problems that have plagued the sector in the past. Among these issues , is the need to **improve the investment** in **water services** and **water resource management.** The Water Services Trust Fund was established under the Water Act 2002 to assist in financing water services in the underserved parts of Kenya. In response to this mandate, the WSTF has set up financing windows for **rural water supplies** and has more recently embarked on opening a window for **urban systems** , focusing primarily on peri – urban areas. In addition, with the recognition that in excess of 50 % of Kenyans obtain their water directly from the water resource (rather than an improved supply system) and the need to safeguard the water resources on which water supplies depend, WSTF has decided to open the **WDC funding window** to support water resource management at the local level through the Water Resource Users Associations (WRUA's).

The Water Resources Management Authority (WRMA) was established under the Water Act 2002 to regulate, monitor, assess and allocate the water resources, to manage and protect the water catchments and to collaborate with other institutions as required for better water resource management. WRMA has adopted an Integrated Water Resource Management Approach (IWRM) which is expected to result over a long timeframe, in sustainable use and development of the catchments and water resources. WRMA, in conjunction with WSTF have developed the WDC as a framework to channel investment into water resource management at the local level through Water Resource Users Associations (WRUA's). (Information from homepage of WSTF). (This caption is extracted from WSTF homepage from the internet)

Edition 03
15th May, 2012

KY E PROkEwKÕDGCÖw PwrK Y DEVELOPMEGK FOR EFFEwKIVE FLOOD M G GEMENT IN FLOOD PRONEÕ E S BEING IMPLEMENTED IN THE REPUBLIC OF KENY

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 03

INSIDE THIS ISSUE:

FLOODS WRECKS HAVOC ACROSS KENYA

In the second edition of this Newsletter the first page story discussed the early warning on floods that was sounded by the government. The floods as warned in the month of March 2012 became a stark reality when most parts of the country experienced floods leading to loss of lives, property destructions, crops in farmlands being washed away, difficult accessibility of roads leading to heavy traffic and general suffering of the affected families with many being left homeless or displaced due to floods among many other problems witnessed.

The floods experienced highlights the importance of the on-going Project on Capacity Development for Effective Flood Management in Flood Prone Areas in the Republic of Kenya. The Project is being implemented in three pilot Project Areas that were also affected by floods.

The floods wrecked havoc in many parts of the country and Nairobi City was not spared with Kitengela area being the worst hit area. The floods led to heavy traffic being witnessed across the Nairobi roads in spite of the newly improved roads in Nairobi that aims to reduce traffic congestion in the city the floods on the other hand caused heavy traffic.

According to a report by Kenya Red Cross the heavy rains since early April 2012 leading to flash floods across the country, has since killed 42 people and displaced over 20,000. The report further points out that currently, Kenya as a country is experiencing heavy rains in several parts, leading to floods and landslides. This the report states that these disasters have impacted upon lives and livelihoods negatively. These impacts of the flooding includes loss of lives, destruction of property and infrastructure, as well as disruption of human activities including farming over most of the affected areas.

The report further clarifies that education has also been disrupted with cases of schools being submerged, books destroyed, students displaced or schools being used as shelter by displaced people. There have also been cases of toilets being submerged, pausing health and hygiene dangers. Further, transport has been interfered with in some areas with bridges being washed away or roads being submerged. Kenya Metrological department predicts excessive rainfall to continue into May 2012.

Headlines banners in the daily Newspaper screams flood

Aftermath of flash flood; Mud cover tarmac on Narok-Nairobi road

The affected regions include Western and Nyanza thus Kisumu County (Kisumu East, Nyando and Nyakach), Homa Bay County (rachuonyo, Homa Bay, Suba), Busia County (Teso North and Bunyala districts), Migori County (**Nyatike**), Nyamira and Kisii counties, Vihiga and Kakamega districts, Mt Elgon, Bungoma, Trans Nzoia, Turkana, Burnt forest area, Naivasha, Marakwet, Arth River, Mathare, Kitengela and several other areas in Central, Coast, the Rift valley, Lower eastern and the North eastern regions.

Adverse effect of flooding has been noted across the country the question this Newsletter poses is what next do we seat and wait for another horrific story or do we now take action? Check out for next edition.

MOBILIZATION OF THE PROJECT OFFICE

The Project Team moved into the new office on 20th April 2012. The new location of the office is at Kisii Training Centre situated near the National Youth Service camp just besides the Kisii-Narok Road.

Mobilization of the Project office is therefore complete and some of the office desks are under repair which will be completed in the due course to allow other personnel to comfortable occupy the office too. Currently the office is only occupied by the Flood Management Activities Supervisor.

Project Team Staff occupies the newly refurbished office at Kisii Training Centre

FLOODS HIT LOWER GUCHA MIGORI SUB-CATCHMENT

BEFORE THE FLOODS

In the month of April it was noted that the River Gucha Migori water levels were rising and the river was rapidly increasing in quantity.
River Gucha Migori serves communities surrounding it with water for domestic use. Community members often wash cloths and utensils at some points of the river. But in the month of April 2012 some of these points along the river banks which in the past three months were places where people moved to and did their domestic chores like washing cloths and utensils were soon recovered by the river and became part of the flowing water in the river channels
It was also noted that the water colour also changed to deep brown similar to rain run-off surface water. Both R. Gucha and R. Migori in the upstream and downstream water colour was brown in colour this was not at Ogembo and Kegati in Kisii town and at Migori bridge in Migori town. This in essence indicates soil erosion in the upstream and silt deposition in the downstream.
It was also noted that the river water velocity increased with various points on the river channels having water foams.
The tributaries of R. Gucha i.e. R. Oyani and R. Sare broke their banks and water overflowed into the nearby farmlands leading to the crops slanting but not washed away.
In the month of March 2012 the Project Team also assisted the LOGUMI WRUA to develop Community-based Flood Management Action Plan which included component of preparedness. Therefore one of the flood management activities undertaken by the LOGUMI WRUA was to confirm the availability of clean drinking water in the places flood affected families evacuate to.

R. Migori water changes its colour to brown

R. Gucha water level rises dramatically

TRIBUTARIES OF R.GUCHA BREAK THEIR BANKS

The tributaries of R. Gucha i.e. R. Oyani and R. Sare broke their banks and water overflowed into the nearby farmlands leading to the crops slanting but not washed away.

R. Sare and R. Oyani burst their banks and over flow to the nearby farmlands

FLOODS IN LOWER GUCHA MIGORI SUB-CATCHMENT

In April 2012 Lower Gucha Migori Sub-catchment like many parts of Kenya experienced floods. On 28th April 2012 R. Gucha Migori burst its banks and the water overflowed into Kabuto and Nyora villages. The floods led to at least five families to evacuate from their homes to the neighbouring homes that at raised places.
The floods also interfered with accessibility in the two villages due to inundation of feeder roads within the two villages with flood depths of some the places being thirty (30cm) to fifty (50cm) centimeters.

Feeder roads inundated by flood water

Flood depth of 30cm to 50 cm noted

FLOODS IN KABUTO-NYORA VILLAGE

The floods in Kabuto-Nyora village was not as a result of the heavy rainfall in the area but heavy rainfall in the upstream areas. There were heavy rainfall in Kisii and Nyamira area where the source of R. Gucha is located. In the Chepalungu forest where the source of R. Migori is located to Migori township also recorded high rates of rainfall.
The high rainfall in the upstream led to river level rising and increase in the velocity flow of the river water. This culminated in R. Gucha Migori bursting its banks on 28th April leading to dire consequences to Kabuto-Nyora village. Farmlands were inundated and crops washed away, accessibility of the medical rescue centre i.e. Kabuto dispensary was adversely affected and at least five families evacuated and found refuge in the neighbouring homes that are located in raised places. The footprints of the marauding hippopotamus were also noted in several places that lead to R. Gucha Migori.

Footprints of hippopotamus noted in the area

Farmer assess the extend of damage to the farm

Increased water level in R. Gucha Migori noted at Wath Onger Gauge Station

Heavy inundation in many homesteads leading to some families to evacuate and most household had the fishing boats ready for evacuation when need be.

A VISIT TO TITO AND AIEKO AREAS:

TITO AREA

Tito area is located within the Lower Gucha Migori Sub-catchments and it is at the edge of the border with Tanzania. There is Tito stream that drains its water into Lake Victoria.
A visit to Tito area on 23rd April 2012 revealed that the area is affected by both flash floods and floods from Tito stream. In the background of the area are beautiful hills which during heavy rains the water from the hills inundates the area. The WRUA members had proposed a check dam in the area to slow down the velocity of the flowing flooding water that flows from the hills,.
The floods from the Tito stream is as a result of heavy siltation that has led to vegetation growth within the Tito stream water channel. The suggested solutions by WRUA members included desiltation of the stream and sensitize community members against carrying out agricultural activities near the stream banks.
The major impact of flooding in the area is crop destruction in the farmlands and damages of homesteads leading to evacuation of homesteads located near the Tito stream.

Discussion with chief on impact of flood s in Tito area

Vegetation growth noted in Stream Tito

L. Victoria where stream Tito flows into

Farmland left furrow as a results of floods in Aeiko

An elder in Aeiko village explains the flood history

AIEKO AREA

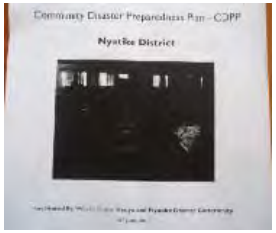
On 23rd April 2012 there was a visit to Aieko area for assessment of the flooding in the area. After the assessment there was meeting held between the Flood Management Activity Supervisor and the Community members of Aieko village whereby flooding in the area was discussed.
The community members pointed out that floods in the area contributed to increased poverty in the area because the floods mainly affects their farmlands leading to destruction of crops and thus bring the problem of poverty and food insecurity. The community members suggested construction of water pans to mitigate both floods and drought.

MEETING WITH WORLD VISION NYATIKE

A meeting was held between the Project Team and the World Vision Nyatike on 19th April 2012 at the World Vision Offices located in Macalder town in Nyatike district. The participants in the meeting were the Project Team, LOGUMI WRUA and the World Vision Nyatike Water Sanitation and Hygiene (WASH) department.
The following salient issues emerged from that meeting:

- World Vision carries out many activities in the area and flood management activities are just but one of the activities;
- The flood management activities carried out by World Vision are based on the Flood Disaster Cycle. World Vision assisted the community to develop a community based disaster preparedness document which aims to sensitize community on actions to take in preparedness phase. The document is to be reviewed on annually basis;
- World Vision share and disseminate information with other stakeholders;
- World Vision has assisted community to formulate ERDM committees that deal with disaster in the area. The ERDM are community based committees that involves the area chief and ERDM are monitored by World Vision;
- Sanitation challenges faced during flood disaster includes toilets collapsing, and portable water contamination;
- Ground water is not saline both shallow well and borehole drilled in the area are not saline; and
- World Vision showed interest in the concept of Integrated Flood Management Forum and stated that if such a Forum is established World Vision will be interested to participate.

Project Team meets with World Vision Nyatike



Community Disaster Preparedness plan document

MONTHLY PROJECT MEETING

In the course of implementation of this Project it is predetermined that there will be weekly Project meetings between the Project Team and WRMA's Flood Management Unit (FMU). The Flood Management Activities Supervisors from the three Project Areas attend the same meeting once in a month i.e. every first Monday of each month where various pertinent issues concerning the Project are discussed.
The meeting in the month of April 2012 was therefore held on 2nd April 2012 and was chaired by Eng. Kinyua WRMA Technical Manager and was attended by FMU members, JICA Chief Advisor of the Project , Consultants from NEWJEC Inc and the Flood Management Activities Supervisors. The meeting was held in WRMA boardroom at Headquarters .

Participants of the monthly project meeting keenly follow the proceedings during the meeting held on 2nd April 2012

ESTABLISHMENT OF THE FORUM

Forum is defined as a meeting for discussion where a person or institution is able to express his or her opinion, ideas concerning the subject matter that has brought about the meeting. Therefore Integrated Flood Management Forum can be defined as a meeting by various persons representing various interests and institutions for purposes of expressing their opinion, ideas concerning flood and water resource management plans for the respective river basins.

This Forum will be conducted alongside the Project on Capacity Development for Effective Flood Management in Flood Prone Areas in the Republic of Kenya. There will be three Fora during the implementation of the Project and each Forum will be operated in their respective river basin as per the three pilot project areas.

The background of the Forum is as follows: In the development of Master Plan for the Nyando River Basin, an Integrated Flood Management Forum was organized that brought about various stakeholders under one umbrella where the Forum members were able to actively participate and contribute to the Master Plan. The objectives of the Forum are to collect opinions on draft Flood and Water Resources Management Plan prepared by WRMA and ensure that stakeholder's opinions are reflected to the plan.

In order to successfully execute a plan there must be ownership of the plan by all the stakeholders involved. It is imperative therefore to know, discuss and incorporate the opinions and ideas of other stakeholders. Therefore the purpose of the Forum therefore is to give all stakeholder a platform where they can give their opinions and ideas without fear of intimidation in order to harness various ideas and opinions that will lead to improvement of the Flood and Water Resources Management Plan prepared by WRMA and at the same time give stakeholders an opportunity to be co-owners of the plan through their contributions. It is imperative therefore the venue of the Forum should be in the respective River Basin. To be a member, one shall fulfill the following requirements:

- Shall be a local community member from the Gucha Migori River Basin or a resident and officer of administrations related to the Gucha Migori River Basin. H/she must understand the current conditions and problems on flood and water resource management in the Gucha Migori River Basin;
- Shall commit to be able to express his/her opinions and also listen and accommodate opinions of others expressed in the public without fear of intimidation or intimidating others; and
- Shall commit to regularly attend Forum meeting.

The prospective members of the Integrated Flood Management Forum list has been developed and each member will receive invitation to Forum letter in due course.

BACKGROUND OF LOGUMI WRUA

Lower Gucha Migori water resources users association (LOGUMI WRUA) is a community platform formed in the year 2008 and registered with registrar of societies in march 2009 in Nairobi and WRMA lake Victoria south catchment, the same year, to manage water resources within lower Gucha Migori river basin in the southern shoreline

The driving force behind the formation of the LOGUMI WRUA was the need to properly utilize water resources and peacefully coexist without strive as a result of tensions arising in the use of the scarce but yet important commodity and a resource known as water. Therefore the water resources users came together to have one voice in the issue surrounding poor water resources management manifested in degraded catchment, food insecurity, and frequent outbreak of water borne/related diseases such as typhoid, dysentery, malaria, and cholera especially during and after floods of both short and long rains. It was evident that farmers and riparian land owners were losing their riparian land to river Gucha Migori due to rapid river bank erosion every rainy season. These problems among others necessitated a shove towards action for communities residing within the Lower Gucha Migori Sub-catchment. The sun rose on Lower Gucha Migori Sub-catchment when the current secretary noticed a WRMA staff at the water gauge station carrying out his tasks. The secretary approached the officer and in their interactions wherein the secretary explained the dilemma that the community faced in water resources management. The WRMA officer explained the various levels in which the issues concerning water resources could be solved, he also explained the concept of WRUA and how the communities in the area could benefit if a WRUA was formed and established in the area. A WRUA was thus formed.

Above : WRUA members in meeting in their office at Wath Ongeri
Below: WRUA members listen to visitor's explanation in their office

The current membership is over 300 individuals, most of them are water point committee, riparian land owners, farmers along the riparian zone, authorized water abstractors, beach management unit of Lake Victoria and public institutions

LOGUMI WRUA is founded on River Gucha Migori. Its jurisdiction starts from the confluence of R. Gucha and River Migori areas and goes all the way to the boarder of Kenya and Tanzania. In the next edition of this Newsletter, the vision, mission, mandate, goals and strategic objective of the LOGUMI WRUA will be discussed.

KY E PROJEwK OGÖw PWrK Y DEVELOPMEGK FOR EFFEwKIVE FLOOD M G GEMENT IN FLOOD PRONE ´ r E S BEING IMPLEMENTED IN THE REPUBLIC OF KENY

Edition 04
15th June, 2012

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 04

INSIDE THIS ISSUE:

IMPACTS OF FLOODS ACROSS KENYA

There was a poem written by a class five pupil on floods during the development of the Flood Management Textbook for Primary Pupils under the Community Based Flood Management Programme in the Nyando funded under the Japan Grant Aid. The Poem herein paraphrased "Floods go away go away you wreck homes, destroy farms and kill lives, floods go away floods go away." The poem summarizes the impacts of the flood disaster has caused in the past two months. A report by Kenya Red Cross Society states:

"Kenya is experiencing a complex situation, where parts of the country, mainly in Nyanza, Rift Valley, Coast provinces and the Nairobi Metropolitan area have experienced flooding, following heavy rains that began mid April 2012 and the rains are still pounding in most of these places. Preliminary assessment reports by KRCS teams indicate that at least **16,119 households (HH)**, and some **96,714 people have been displaced majority being in Nyanza and the Rift Valley**. The total number of those affected is estimated at **280,670 (conservative)**. At least **66 people have lost their lives** to reasons directly attributable to floods (drowning and road traffic accidents relating to vehicles being washed away). It is expected that the number of people displaced in Nyanza will increase, if rains continue in the Mount Elgon Region. This region is drained in Lake Victoria through River Nzoia, which causes serious flooding in Budalang'i and its environs."

The following are photograph pictures of floods across Kenya:

Floods interfere with the transport network | Floods interrupts of daily source of livelihood
Floods leads to displacement of families | Floods lead to difficulties in accessibility
Floods sweeps away crops and inundates farms | Coping with floods by wearing gumboots

Source of pictures: Nation Media websites on the internet

Kenya Metrological Department issued a report on the rainfall. The report quotes as follows:

"Heavy rainfall events of between 20mm and 50mm a day occurred in various areas that include parts of North-eastern areas, vast areas of Western Kenya, parts of the Rift Valley, central Kenya and Nairobi. In some cases, these were accompanied with very strong winds and hailstones that caused damage to property,"

GUCHA MIGORI RIVER BASIN PROJECT OFFICE

The Project Team have since settled in their office located at Kisii Training Centre situated near the National Youth Service camp just besides the Kisii-Narok Road.

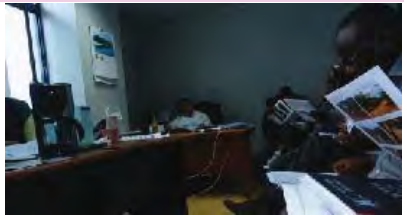
The Project Office noticing that there were many students who undertake causes in engineering disciplines and could benefit from the Project activities, the Project Office therefore requested for the information board next to the Project Office be used as public gallery where the activities of the Project will be pasted on that board. The WRMA counter part staff to the Project has since made the request which the institution did approve and in the month of June the board will have relevant information concerning the project pasted on the board and thus sharing information with the public.

Above : Information board at WRMA office Kisii and below: Project Office Kisii Training Centre

MONTHLY PROJECT MEETING

The Monthly Project Meeting was held on 11th June 2012 and it was chaired by Mr. Nzyko the head of Flood Management Unit, WRMA.
The Flood Management Activities Supervisor for Gucha Migori River Basin was also in attendance.
In summary the meeting discussed the following salient matters:

- Progress of Action Items to be taken;
- Data Management and Accuracy Control;
- The reason why some water resources management rules are not complied with; and
- Report from the 3 pilot Project Sites.



Participants keenly peruse through the handouts during the monthly Project Meeting

PROFILE OF LOGUMI WRUA, COLUMN WRITTEN BY LOGUMI WRUA

The Lower Gucha Migori Water Resources Users Association is a structured organization that has its constitution and has developed the Sub-catchment Management Plan (SCMP). The WRUA with assistance from the Project Team has also developed the Community based Flood Management Activities that can carried out by the WRUA. The WRUA intends that these activities be incorporated in the SCMP in order to enhance flood management activities in the Sub-catchment.
Silent questions on why the LOGUMI WRUA are deeply involved in these activities can be openly answered. A wise man once said that the strength of an eagle is not only in the strong wings but powerful eye vision. It is therefore vision that forms the basis for the purpose i.e. mission of a thing. In this column therefore we intend to highlight the Vision, Mission, Mandate, Goals, Strategic objectives and core values of the LOGUMI WRUA.

Vision: The vision of LOGUMI WRUA as captured in the SCMP is to be a leading association that guarantees a restored catchment with indigenous tree cover and improved water quantity and quality

Mission: The mission of LOGUMI WRUA as captured in the SCMP is to develop a sustainable association that is responsible for the management and conservation of LOGUMI water resources including all the water sources through transparent and fair management practices.

Mandate: The mandate of LOGUMI WRUA as captured in the SCMP is to have all inclusive management of water resources in LOGUMI water resources sub – catchment and provide for an avenue of resolving water based conflicts without prejudice to either gender, tribe, financial status etc

Goal: The goal of LOGUMI WRUA as captured in the SCMP is to promote cooperation management and utilization of water resources in entire the entire Sub-catchment area.

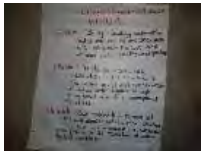
Strategic Objectives: The strategic objectives of LOGUMI WRUA as captured in the SCMP is as follows:
To promote legal water abstraction and efficient proper use of abstracted water from lower Gucha and Migori rivers and all their tributaries.

- To promote sustainable water use, management and development of water projects in LOGUMI sub-catchment.
- To promote soil and water conservation practices in the sub catchment.
- To improve water quality of the Lower Gucha and Migori rivers and its tributaries
- To ensure the rehabilitation of the catchment areas and afforestation program through tree planting.
- To promote a situation in which the available river flow is reasonably shared between the environment, wildlife livestock and all communities who rely on the Gucha Migori River in a manner that recognizes the following ranking of water-use from the highest to the lowest : (1) Domestic; 2) livestock; (3) environment, wildlife and fisheries; (4) irrigation ;(5) recreation ;(6) industries; (7) among others:
- To provide avenue to discuss, prevent and resolve water conflicts;
- To promote conservation of the environment; and
- To develop a sustainable association that shall be responsible for the management of Gucha Migori River through transparent and fair management practices.

Core Values: The core values of LOGUMI WRUA as captured in the SCMP is as follows:

- Promotion of fairness and equity in the allocation of water resources;
- Managing our affairs with transparency and accountability;
- Uphold gender and social inclusiveness; and
- Commitment to being at peace with one another as we use our scarce resource.

Herein under are some of the pictures of the LOGUMI WRUA offices, interaction with other stakeholders and activities



Mission Statement pasted on WRUA office wall

Reviewed Flood Hazard Map pasted on the WRUA office wall

Interaction with WRMA regional office at the WRUA office in Wath Onger

Interaction with WRMA sub-regional office at the WRUA office in Wath Onger

Interaction with Project Team: Joint assessment of the flood conditions

Edition 05
15th July, 2012

KY E PROkEwKDGCOw PwrK Y DEVELOPMECK FOR EFFEwKIVE FLOOD M G GEMENT IN FLOOD PRONEÕ E S BEING IMPLEMENTED IN THE REPUBLIC OF KENY

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 04

INSIDE THIS ISSUE:

COMMUNITY MANAGED DISASTER RISK REDUCTION (CMDDR) SEMINAR HELD IN NAIROBI

In the month of June 2012 JICA Nairobi organized Community Managed Disaster Risk Reduction Seminar. The seminar was held on 21st June 2012 at Rahimutullah Towers and it was attended by various stakeholders including the Project Team led by their Team Leader, WRMA Flood Management Unit members among other stakeholders.

Proceedings during the CMDRR Seminar that was held in

The meeting started at 10 am and it was facilitated by Mr. Mohamed of Cordaid a catholic based humanitarian organization with its headquarters in the Netherlands.
The educative seminar started with definition of some of the common terminologies of disaster whereby the participants were able to pin the terminologies on the wall and underneath these *terminologies* they pin the definitions. For sure there is no end to education and when you think you are at your best thinking again. With all the great minds in the room the participants still missed the definitions of some of the terminologies. The re no big misses just a misplaced terminologies but all the same they were misses!
The facilitator eloquently explained the difference between Community based Disaster Management and Community Managed Disaster Risk Management. The difference is based on the models i.e. approaches in the school of thoughts in disaster management. In summary the facilitator pointed out that the former was reactive in nature while the latter was proactive in nature. Therefore CMDRR in principle operates under the latter. It was clarified in the Seminar the CMDRR takes into consideration the multifaceted nature of disaster that affects communities. The following formula is the guiding principle in CMDRR:
Disaster Risk (DR) equals to hazard (H) multiplied by vulnerability (V) and then divided from capacity [C] . Mathematically it can be summarized as follows:

$$DR = \frac{H \times V}{C}$$

The seminar was educative and enriching in the skills of Community based flood disaster management.

GUCHA MIGORI RIVER BASIN PROJECT OFFICE

Project Office had requested for the information board next to the Project Office to be used as public gallery information board where the activities of the Project can be pasted on that board. The KTC in their kindness have since accepted this requested.
In the month of June 2012 therefore the information board was pasted with information concerning the Project and this Newsletter was also pasted and it has been noticeable been attracting people passing by to read the board.

Newsletter pasted on information Board outside the Project Office

POST FLOODS ACTIVITIES IN LOWER GUCHA MIGORI SUB-CATCHMENT

Disruption of lives characterizes flooding period. During flooding the affected families undergo through turbulent tumultuous time. In Lower Gucha Migori Sub-catchment community members mainly engage in agriculture, livestock keeping, fishing, small scale businesses among other economic activities that are often disrupted in one way or the other during flooding.

Farming which is a major source of livelihood in the community is often critically hampered with during flooding seasons. Among the problems farmers face during flooding are: a) Accessibility to the farmlands becomes very difficult; b) Crops in the farmlands are washed away and this is traumatizing because the two months labour and investment in farming go down the drain at the instance of flooding; and accessing the markets by farmers to sell their produce is also made difficult as a result of the damaged road infrastructures.

Livestock keepers are not also spared by floods. The flooding water inundates the grazing grounds leaving the livestock with no place to graze> The livestock at times are also drown in flooding water and thereby making the owners endure heavy losses.

After the flooding though the families must start coping and restoring their livelihood and this is often not an easy task because it is during the post flooding season that the effect of waterborne diseases is felt right across the affected areas. The recent scenerion of post flooding season was as follows:

The affected families returned to their homes and started rehabilitating and reconstructing their homes and livelihood.

KRSC collaborated with the department of Public Health in sensitization exercise on proper use of water and distributed water treatment tablets to the affected community members. Roadshows were done to enhance sensitization exercise to reach more people in the area. The following Post flooding activities were carried out by KRCS:

- Assessment of the health conditions of the affected families;
- Assessment of the health conditions of the flood affected areas by visiting the local dispensary and collecting data; and
- Community sensitization on clean and safe water use. This is done through the road shows where the KRCS staff using a pick up vehicle moves from one place to the other including market centres. The pick has loud speakers which they plays music and also is used to educate the community members who gather round the vehicle. There are also question and answer sessions and the person who is able to get most of the answers right is rewarded with a T-shirt.

Review of the flood hazard map by WRUA

KRCS led public sensitization exercise on the use of water treatment tablets

MEETING WITH WRUA FROM USTREAM

The Nyagweta WRUA is located in the upstream of Gucha Migori River Basin. The WRUA is divided into four blocks (A to D) for effective management. The meeting was held on 29th June 2012 at Kenyanya. The WRUA has a membership of four hundred (400) members. The meeting was attended by the following: The Flood Management Activities Supervisor, WRMA staff from the Sub-region office, WRUA executive office bearers and WRUA block representatives. The following salient issues were discussed:

The problems that the sub-catchment faces which includes the following:

- Soil erosion leading to soil fertility loss and all the fertilizer and chemical being drained into the Lake Victoria;
- Lack of domestic water leading to many people with their livestock walking long distances in search of water and this result to erosion due to cattle treads and also conflict in the community due to competing for scarce water resources;
- Frequent flash floods in the area;
- Encroachment of the wetlands due to population pressure;
- Planting of unfriendly to water trees like eucalyptus blue gum tree in the riparian areas and along the river banks leading to depletion of underground water ;
- Waterborne diseases as a result of lack of clean safe water;
- Abuse of water resources leading to pollution and contamination of water source especially streams and river. This is done through car washing and factory waste discharge into water channels;
- Lack of water storage like water tanks that cab harness the water roof harvesting during the rainy seasons;
- **Poor road infrastructures as a result of rain surface run-off water leading to blockages on the culverts; and**
- **Poor or no bridges along the roads whereby the streams flows on the roads as the water flow downstream.**

Some of the solutions suggested by the WRUA includes:

- **Establishing a pipe water supply plant;**
- **Community sensitization on proper farming methods, water roof harvesting and wetland and riparian land protection;**
- **Establishing tree nurseries and encourage reforestation of indigenous and water friendly trees;**
- **Establishing fish ponds and water pans in the area; and**
- **Establish greenhouse farming to reduce encroach-**

Executive Committee member of Nyangweta WRUA explains a point during the meeting with Project Team

WRMA staff explains a point to Nyangweta WRUA during tWRUA meeting with Project Team

MEETING WITH CHAIR OF DISTRICT DISASTER MANAGEMENT COMMITTEE

The Nyatike District Disaster Management Committee (DDMC) is chaired by the District Commissioner (DC) Nyatike District. The meeting took place on 28th June 2012 wherein the DC explained that it was barely a week since he took the new office as the DC of Nyatike.

The DC was able to give a vivid description of the operation of the DDMC. Based on the discussion the following activities are carried out by DDMC:

- Community sensitization exercise especially asking community to move to higher grounds during flooding;
- Coordinating with various sectors to ensure that community are able to cope and manage their livelihood;
- Ensuring that solutions to ensure that the disrupted education programmes continues unhindered; and
- DDMC is a reactive committee rather than proactive and therefore most of the activities entails responding to the disaster.

The composition of the DDMC include the following:

District Commissioner (chair of DDMC); District Police head (OCPD), Representatives from Ministry of Education, Ministry of Water and Irrigation, Ministry of Public Health, Ministry of Roads, District Development Officer; and Opinion leaders (the window through which WRUA can gain entrance into DDMC).

The DC also pointed out the need of Stakeholders Forum wherein various issues including flooding and drought can be discussed. He also explained the his office was open to the Project Team for both cooperation and assistance.

Project Team the DC who is the chair of DDMC for Nyatike

Lorry that is used in the distribution of relief during

MEETING WITH KRCS MIGORI BRANCH

The meeting took place on 26th June 2012 at the Kenya Red Cross Society (KRCS) Migori Branch. The Project Team met with the acting Migori Branch Coordinator who gave a vivid description of April May 2012 Floods in Lower Gucha Migori Sub-catchment. The following issues were noted by KRCS:

- Detailed assessment by KRCS revealed that two hundred and fifty (250) families were affected;
- The major challenge that the evacuees were faced with was lack of an evacuation place leading to evacuees either staying in their inundated homesteads or moving in with neighbours or relatives whose homesteads were at a raised place;
- The school (Nyora Primary) refused to allow the affected families to move to school due to previous experiences whereby the school's utilities were grossly abused and the compound dirtied by the evacuees;
- The tents that were distributed during the floods disaster that occurred in October to November 2012 to the evacuees were nowhere to be found and therefore new tents had to be distributed;
- During flooding snakes are also affected and this leads to their movements as they seek a place of refuge and as a result they can bite people evacuating or those assisting in evacuation;
- The floods level rising was spontaneous and rapid in place where the Red Cross officers were intervening in less than one hour the flood depth was able to rise from fifteen centimeters (15CM) on the onset to over fifty (50CM) but not above one (1M); and that KRCS distributed nonfood items like tents, mosquitoe nets, blankets and water treatment tabs.

KRCS Migori Branch Coordinator made the following recommendations based on the experiences of April May 2012 Floods:

- Evacuation Center should be constructed in the area. The purpose of evacuation centre will not only for evacuees to move into during disaster but also act as a store where requisite items that can be of great help during disaster can be stored;
- Community Training on effective maintenance and proper management of evacuation centre and places be should be carried out to the community to avoid abuse of utilities by evacuees while at the evacuation centre;
- Households should have at least a disaster kit that contains water treatment tablets, flash light and basic first aid tools; and
- Safe and clean water should be made available to evacuees and community members during flooding.

KRCS also expressed their willingness to cooperate and collaborate with other stakeholders involved in flood management.

PROJECT Team meets with the acting KRCS Migori Branch Coordinator

Acting KRCS Migori Branch Coordinator distribute non-food items to affected families

KRCS Migori Branch carry out a public sensitization on

MONTHLY PROJECT MEETING

The Monthly Project Meeting was held on 23rd July 2012 and it was chaired by Eng. Kinyua the Technical Manager, WRMA. In summary the meeting discussed the following salient matters:

- Progress of Action Items to be taken;
- Collaboration between KMD/MEMR and WRMA/MWI; and
- Confirmation of the information that were to be collected.

In the course of the month there were two working group meeting s that were held at WRMA's headquarters' boardroom.

Participants in deep discussion during the monthly Project Meeting

LOGUMI WRUA NARRATES FLOOD HISTORY AND DEVELOPS A HYDRO-GRAPH FOR FLOODS EARLY WARNING

The Lower Gucha Migori Water Resources Users Association (WRUA) members took their time to narrate the flood history that has affected the area since 1960s. The elderly members were able to explain the floods that they experienced in their teenager years. They clarified that the intensity of the flooding in the area has been on increase. In summary the major flood history in Lower Gucha Migori Sub-catchment has been as follows:

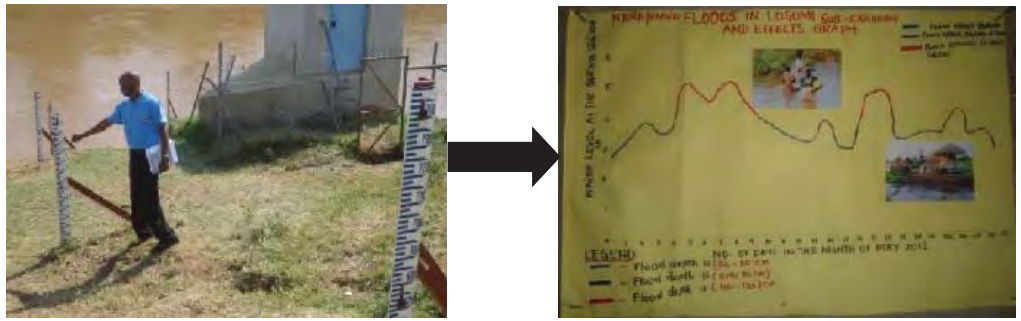
- Major floods was in 1960;
- In 1963, there were floods after heavy downpour of 1962-1963. The elderly members of the community point out that the 1962-63 rains led to heavy flooding that led to relocation some of their farms as Lake Victoria in hostile takeover took over the farmlands. They clarified that in some cases where it had been said the lake was receding was ironically the Lake leaving the land it had taken over;
- In 1985 there was heavy floods that led to displacement and eventual relocation of Kabuto Primary School;
- In 1990-92 floods;
- The other major flooding occurrence was in 1997 as a result of El-Nino rains.
- The other major incidence of flooding was in the year 2006 whereby R. Kuja changed its course from flowing through Aneko to the current flowing place of Kabuto-Nyora;
- In 2011 the area experienced heavy flooding and
- The year 2012 where there have been floods in the area.

It is important though to note that floods are perennial and occur annually in Lower Gucha Migori SC but the once highlighted above were uniquely heavy. The WRUA members pointed out that one of the good effects of flooding was that the river has since widen its course and thereby increasing the good soil fertility deposits in the area.

It was based on this flooding experiences and acknowledgement that the floods are perennial and annual that the WRUA under the guidance of the Secretary opted to develop a hydro-graph that they can use for purposes of early warning in order to minimize the losses that normally occurred during flooding.

The WRUA further pointed out that the hydro-graph was in place they still needed their capacity developed in early warning system and also that they should be empowered appropriately with enough skills to assist in evacuation and also have capacity on managing evacuation centre including provision of relief during disaster.

The hydro-graph is a concerted effort of the Flood Disaster Committee a Committee organized by the WRUA wherein the Secretary is an active member and alongside other like-minded official were able to develop the hydro-graph based on the regular observation of the river gauge station at Wath Onger and estimating the flood depths in the affected area.



The e river gauging at Wath Onger that the WRUA members used to gather data and developed the Hydro-graph that they can use for early warning during floods disaster

Edition 06
21st August, 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MA AGEME T IN FLOOD PRO E AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KE YA

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 06

INSIDE THIS ISSUE:

BUILDING RESILIENT COMMUNITIES AGAINST FLOOD DISASTER

The theme that featured heavily in the month of July was resilient communities against flood disaster. The question therefore is what is a resilient community? To define resilient we first must understand the noun resilience. Encarta Pocket Dictionary defines resilience as one, speedy recovery from problems and two , elasticity. Therefore a resilient community is elastic in nature in its effort to restore and recover from the problems that the community is faced with which in our case is floods disaster.

Resilient communities against floods are therefore communities that are able to restore their livelihood and quickly recover from the flooding disaster.

Floods are not strange phenomenal in Kenya or in the world, floods have been with us since time immemorial. The bible bears record of the earliest floods that faced humanity. In that severe flood only the resilient survived. How? One may ask. The resilient survived by virtue of proper preparations. There was the early warning that many ignored when they were informed (just like many people ignore the metrological warnings that are often sounded before floods). On the other hand the resilient in the community began constructing an ark and in the ark they were able to store food, keep livestock, kept seeds for recovery purposes (the ark represents the evacuation centre and places of refuge). Then the earth was struck by severe floods and many lost their lives, properties, livestock among other things! The loss was terrible and only the resilient survived .

Working Group Meeting in progress held on 16th July 2012

Working Group Meeting in progress held on 26th July 2012

The appropriate preparation allowed for quick recovery and restoration of livelihood. The lesson we learn from this story highlights the importance of building resilient communities against floods.

In the month of July 2012 various meeting including two Working Group meeting highlighted the importance of building a resilient communities . Resilience is not a term that is used as only a catch phrase but as a key phrase towards effective flood management in flood prone areas..

GUCHA MIGORI RIVER BASIN PROJECT OFFICE

Project Office was involved in data collection in the month of July 2012. Largely the Project Office committed its energy in collecting hydro-metrological and social data.

The Project Office was also involved in the preparatory works for the scheduled 7th August 2012, Workshop on Effective Flood Management and JCC meeting.

In the month of July 2012 the Project Office was able to paste the 5th edition Newsletter on the following information board: National Library Kisii Branch, WRMA SRO and Project Office board

Newsletter published by Project Office is keenly read

MONTHLY PROJECT MEETING

The Monthly Project Meeting was held on 27th August 2012 and it was chaired by Eng. Kinyua the Technical Manager, WRMA. In summary the meeting discussed the following salient matters:

- Progress of Action Items to be taken;
- Report on IFAS Training; and
- Establishment of flood management committees.

In the course of the month there was one working group meeting that was held at WRMA's headquarters' boardroom. During this meeting it was verified that data requested by Project Team had been submitted.

A power point presentation on IFAS Training during the monthly Project Meeting

Participants listen keenly to an explanation during the Working Group Meeting

RENOWN MOUNTAIN CLIMBER VISITS NYANDO RIVER BASIN

Ken Noguchi is a Japanese alpinist and environmental activist. In 1999, at the age of 25, he became the youngest person (at that time) to scale the Seven Summits, the highest mountains on each of the seven continents. He graduated from Asia University in 2000, and studied environmental education at Aomori University. Since then, he has worked on various mountain clean-up projects around the world, including projects at Mt. Everest,[1] Mt. Fuji, and Manaslu. His work has had a notable effect on efforts in Japan, where he has given many lectures to promote better environmental practices. (Source Wikipedia encyclopedia)

Mr. Noguchi visited Nyando River Basin on 22nd and 23rd August 2012. He was able to observe the Nyando Project on Flood Management that was funded by JICA. On the visit to Lake Victoria his heart cried out when he observed how the hyacinth weed has infested the water body.

Picture 1: at borehole site Kamuga village ; Picture 2: at evacuation centre Kamuga village; Picture 3: at culvert site Otera village and Picture 4: Heart breaking hyacinth infestation at Lake Victoria an indication of environmental degradation

RIVER STRUCTURES AND RIVERBED MATERIAL FOR R. MIGORI

In the last edition issued in the month of August river structures for R. Gucha were published herein is R. Migori's.

Upstream of R. Gucha

Downstream of R. Gucha

JICA

KEY PROJECT FOR DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

Edition 07

15th September, 2012

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 07

INSIDE THIS ISSUE:

WORKSHOP ON EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

The workshop on effective flood management in flood prone areas organized by JICA was held on 7th August 2012. The venue for the workshop was KCB leadership training centre and it commenced at 8:30 am and was completed at 1:30 pm. The meeting was attended by various stakeholders.

The master of ceremony was Mr. Alexander Nzyuko head of Flood Management Unit WRMA. The facilitator was the amiable Prof. Krhoda of the University of Nairobi while the guest of honour was Eng. John Nyaoro Director of Water Resources Ministry of Water and Irrigation .

There were two thematic issues that were presented. Theme one presentations consisted of four presenters. Presentation one was by Coordinator Office of Prime Minister Crisis Response Centre on a topic entitled "Flood Damage Cost Collected by the Cabinet". Presentation two was by KMD staff who presented a topic entitled "Meteorological data and early warning on floods". Presentation three consisted of three presenters with a topic entitled "Hydrological Data" and was also presented by the three WRMA Sub-regional Managers in pilot areas. Presentation four was presented by District Commissioner Nyatike District on a topic entitled "Flood situation in Nyatike District". The participants were thereafter divided into groups for group discussions on the four presentations.

Theme two consisted of two presentations. Presentation one was presented by Ministry of State for Special Programmes with a topic entailed "CBDM approaches in Kenya". Under this presentation, the ongoing project in Nzoia Basin was explained to the participants.

Presentation two was done by three chairmen of the WRUAs in the pilot project areas under the topic entitled as "Current Sub Catchment Management Plan (SCMP)". The chairman for LOGUMI WRUA explained to the participants the processes through which the WRUA was established, the first funding that the WRUA received from Water Service Trust Fund. Finally he explained how the LOGUMI SCMP was developed.

The Guest of Honour for the workshop, Eng. Nyaoro makes his opening remarks

A session of the workshop proceedings during presentations

JOINT COORDINATION COMMITTEE(JCC) MEETING

The JCC was held on 7th August 2012 at KCB Leadership Training Centre . The meeting commenced at 2:30 pm and was completed at 4:30 pm. The master of ceremony was Mr. Alexander Nzyuko head of Flood Management Unit WRMA. Progress Report No. 1 was presented by Mr. Hajime Kobayashi of JICA. The report highlighted many issues but notable in this report were: flood observation in an integrated manner; affordable flood early warning systems that are being conducted by other communities and building of the resilient communities against floods.

JICA Chief Advisor to the Project makes a presentation : Progress Report I during the JCC meeting

CASE FOR BUILDING RESILIENT COMMUNITIES AGAINST FLOODS

Resilient communities against floods were defined in the last edition of this newsletter as communities that are able to recover fast and restore their livelihood from the flood disaster that affected them. The question is what can make a community resilient against floods? To answer this question the Project Team Leader gave a graphic example of the rich and the poor.

The example was as follows:

- There are two families both located at the same place in the flood plain. One family is rich and the other poor;
- The rich family has built a good concrete house with its foundation raised while the poor family has built a grass thatched mud walled house and the foundation is not raised. The rich family is able to afford that kind of flood resistant design of a house while the poor can only afford what he has constructed as his house;
- The flood disaster occur in the area, both families are affected by floods but the damage to the rich family is minimal compared to the poor family where the walls of the poor man's house are damaged and the water overflows into the house and as a results his utensils (like cups, plates etc) and poultry are washed away. While the rich is also affected by floods but the house wall are not damaged and only minimal water overflowed into the house leading to zero damages in the house;
- The flood damage cost weighs heavily on the poor family with the cost of reconstruction of a new house, buy new utensils but yet the poor family does not have money for such recovery. The rich family on the other hand is quickly recovering from the flood damage, washing the mud that the flood water left in the house and opening small outlets to drain out the water out of the compound;
- The rich family is resilient against floods and does not wait for outside help to recover. The poor family are made victims of flood and are in the cold waiting for outside help to intervene in order to recover from the flood disaster; and
- The outside help eventually comes. The poor family because they have been in the cold there is need for medication, blankets are supplied alongside tarpaulins and relief food. The rich family because of the resilience are carrying out other economic activities, they are farming, reaching out to the markets in order to sell their wares to the affected families that are yet to recover.

Two families one rich and the other poor but located in same flood plain

From this case example it is evident that lack of resilience perpetuates poverty and poverty spiral effects that lead to dependency, apathy towards managing floods and enhances suffering and pain during flood disaster. While resilience against floods disaster develops a community to be self reliant and proactive in flood management. In spite of the flood disaster economic growth is not hindered but the places that experience floods take advantage of the floods to spur economic growth. The flood water is harnessed and used for irrigation.

Communities that are resilient against floods can spur economic growth

WORKSHOP PRESENTATIONS BY PRESENTERS FROM GUCHA MIGORI RIVER BASIN

Mr. Moses Ivuto, DC Nyatike District presented a topic entitled "The flood situation in Nyatike district in the last rainy season". He explained that floods in Nyatike mainly affected farmlands and there no loss of human life recorded. He clarified that 365 acres of crop. He also explained to the participants that a total of 136 households were affected. He went on further to point out that the floods led to disruptions of education programmes due to evacuees staying at the school.

The DC Nyatike makes his presentation

On infrastructures the DC stated that infrastructures damages led to disruptions of transport network including evacuation routes that led to a dispensary to be marooned by flooding water.

The DC also explained to the participants the role of District Disaster Management Committee (DDMC) in planning and responding to flood disaster. He pointed out the following roles: DDMC sensitized community to evacuate; prepositioning of relief food for the evacuees and disseminating the information to other stakeholders like Kenya Red Cross Society. He further clarified that waterborne diseases especially malaria was rampant in Nyatike during flooding seasons.

During the post-flood period the DC explained that the Ministry of Agriculture was able to provide maize seed and fertilizer to the affected farmers for replanting. He therefore called for various stakeholders to assist the communities in building their resilience against floods.

WORKSHOP PRESENTATIONS BY PRESENTERS FROM GUCHA MIGORI RIVER BASIN CONTD

Mr. Maturwe the Sub-regional manager WRMA-LVSC Southern Shoreline Kisii made a presentation on hydrological data in Gucha Migori River Basin. In his presentation, he explained the background information of Gucha Migori River Basin including areas that are affected by floods.

Sub-regional Manager WRMA-LVSC Southern Shoreline makes his presentation

He explained to participants that the hydrological data was collected through observers, WRMA staff and collaboration with other Ministries like Ministry of Agriculture and Ministry of Environment. He also pointed out the number of rainfall stations and river gauge stations within the Gucha Migori River Basin.

He explained to the participants that it was imperative for him to state the challenges that are faced in the river basin in data collection. These challenges he listed them as follows:

- Poor remunerations of the observers,
- unreliable observers,
- vandalism of stations,
- inadequate equipment, and
- delay in collection of the observation record sheet from the observers.

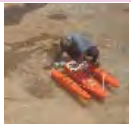
He concluded his presentation by pointing out that there was need for improvement of data collection and management by ensuring that there was capacity building of those who are assigned with the task of data collection.

Example of a vandalize rainfall station in Migori wherein a solar panel was vandalized

SOME LESSONS TO LEARN FROM NZOIA BASIN

Flood Early Warning System (FEWS): In Nzoia Basin, FEWS are premised on the proper data collection with information relayed to KMD headquarters after every 10 minutes and this information is analyzed with forecast for the next twenty four hours (24hrs) and relayed back to the key stakeholders in the daily bulletin which is sent through email at 9.00 am. The District Commissioner (DC) as per the mandate of his/her office broadcasts the flood early warning to the communities. The Nzoia Project therefore distributed one computer to the District Commissioner's office for purposes of enhancing communication via email in order to enhance flood early warning system.

Metrological station



ADCP for measuring high water velocity

There are automated metrological station which is strategically constructed at the District Headquarters for purposes of securing the station from vandalism. There are also automated river gauging station that is secured by metal case at Rwambwa Bridge and the manual and automated River Gauging Station installed by WRMA in the Rwambwa area. It is the data from these automated stations that is relayed to KMD Headquarter every ten minutes. There is a community oriented FM radio station that is used to transmit the early warning to the community. The radio station is located at the District Headquarters compound. The station also plays popular music and other entertainments including transmission of news that keeps the community members tuned to the station. There are winding radios that were distributed to the opinion leaders for purposes of them tuning to the station. The distributed winding radio use no battery or electric power but just winding and therefore they are easy to operate and maintain. FEWS has recorded some achievements. In 2011 floods there was high water flow that led to floods whose magnitude as a disaster could have been severe but the area register zero casualty and minimal damage of properties because the early warning was issued in time leading to early evacuation.

Community oriented Bulala FM radio station

Winding radio that was distributed to community members

District Disaster Management Committee (DDMC) in Budalangi meets on regular basis for preparatory arrangements and thereafter for response to floods. The regular meetings start in March to May during the long rains and October to December during the short rains annually. There is a Disaster Centre under construction. This centre will act as evacuation center during disaster and resource centre when there are no disasters.

Disaster Centre under construction

There are also Support local led Development component of the Nzoia Project. At Nambale there is support for community in dairy farming. This has enable them to move away from wetland encroachments and other destructive activities that could lead to disasters. The Project gave the community the foundation stock of livestock, trained community in artificial insemination and procured motorcycle. Thereafter the Nzoia procured a diary plant for safe preservation of milk.

Support local led development: Dairy plant at Nambale

MONTHLY PROJECT MEETING

The Monthly Project Meeting was held on 10th September 2012 and it was chaired by Eng. Kinyua the Technical Manager, WRMA. In summary the meeting discussed the following salient matters:

- Progress of Action Items to be taken;
- Site visit report on Lumi River Basin and Gucha-Migori River Basin;
- Constitution of integrated flood management committee; and
- Report on why people settle on riparian lands;

It is imperative to note there are Weekly Project Meeting that are held on regular basis. The meeting participants includes WRMA Flood Management \unit and JICA experts and the Project Team

Monthly Project Meeting held on 10th September 2012 in progress

CURRENT STATUS OF FLOOD MANAGEMENT STRUCTURES IN NZOIA AND NYANDO RIVER BASIN

Visit to Nyando River Basin: Awach Kano area

The Project Team was able to observe the one and half Kilometre (1.5KM) that has been completed by NWCPC and 1, 6 KM is under construction. This dykes aims at protecting the densely populated homestead in the area. There are homes in the area that had initially been abandoned due to floods but increasingly the owners are moving back to their homes.

1.5 KM stretch dyke that has been constructed

The dyke after completion can be used as an access road by rice farmers to access the markets and therefore leading to economic growth.

Visit to Nyando River Basin: Magina area

In 1961 the R. Nyando changed its course. This led to the dyke earlier constructed redundant. In 2007-2008 under the pilots project conceived in the Master Plan Study funded by JICA a stretch of one hundred metre (100M) was constructed which heavily used community labour rather than heavy machinery to show case that community members can also engage in dyke construction if facilitated.

Dyke constructed during the Master Plan Study

NWCPC has thereafter constructed a dyke in 2010-2011 in order to protect the homes and farms in the area.

Visit to Nyando River Basin: Spillway at Ahero Township

The meandering nature of the R. Nyando often led to floods to wreck havoc to Ahero Township. To mitigate this challenge NWCPC constructed a spillway that that enables overflow to flow the spillway but rejoins the river channel again after crossing the Ahero Bridge on Kisumu Nairobi A1 road. The spillway is constructed at a level higher than the R. Nyando riverbed and the challenge NWCPC faces is to ensure that the spillway path is not eroded.

Spillway constructed adjacent to R. Nyando

In case of uncontrolled erosion of the spillway this might lead to R. Nyando changing its course and converting the spillway into a river channel.

Visit Nzoia Basin: R. Kibisi weir

A weir is constructed at R. Kibisi by WRMA in order to trap the heavy sedimentation. The enables WRUA to collect the fertile sedimentation deposited at the weir which is used by WRUA member in their farms.

Kibisi weir constructed upstream of R Nzoia

There is also the Sosian weir that has been completed and serves the same purpose but the Project Team was unable to access and observe it.

Visit Nzoia Basin: At Budalangi the Flood plain

The dyke is constructed and the two Kilometer (2KM) requested by community has not been approved because such construction will interfere with the wetlands. In the area NWCPC has done river training. In the Maumau area where R. Nzoia migrated to flow through has a dyke. The first dyke has since become a riverbank since the R. Nzoia migrated and moved near the former dyke which is currently a riverbank leading to a new dyke that has now been constructed.

Dyke at Maumau in downstream of R Nzoia

It was noted that there were seven hundred and thirty six breaches on the dyke due to underground sippage. This has led to the use of the filter media in December 2011.

Visit Nzoia Basin: At Makunda area in Budalangi

In Makunda area dyke realignment has been done and filter media has used in the dykes. River training has been done in the area.

Dyke realigned at Makunda

Visit Nzoia Basin: At Hajura area in Budalangi

In Hajura area there are water ways dug in preparation of the spillway. One waterway is opened up on an old river channel that flows now in to the lake.

Edition 08
15th October, 2012

KY E PROJEwK OGÖw PwrK Y DEVELOPMEGK FOR EFFEwKIVE FLOOD M G GEMENT IN FLOOD PRONE ´ r E S BEING IMPLEMENTED IN THE REPUBLIC OF KENY

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Gucha Migori River Basin Issue No. 08

INSIDE THIS ISSUE:

SHARING WITH STAKEHOLDERS THE MENU FOR COMMUNITY BASED FLOOD MANAGEMENT ACTIVTIES

In the month of September 2012 the Project Team shared information on the Menu for Community based Flood Management Activities. The Project Team covered the river basin in totality while sharing the above mentioned menu. Among the stakeholders that the Project Team were able to meet and share this information with included the Kenya Red Cross Society Regional Office and Migori Branch; World Vision; Lake Basin Development Authority Rongo Office, LOGUMI WRUA, Provincial Administration, District Agriculture Offices, District Forest Offices, National Environment and Management Authority, WRMA Sub-regional office and the WRUA in the upstream among other stakeholders.

The content of menu for community based flood management activities included the case examples of the Nyando Project under Japan Grant Aid where evacuation centres, storage facilities, culverts, footbridges and boreholes were constructed across twenty four villages. The community members capacity was developed in Operation and Maintenance and implementing the evacuation drills. Another content was the case for community resilience with a case example of charcoal project assisted by JICA in Kakamega.

During the sharing of the information the various stakeholders were optimistic with the menu and indicated that structure measures on their own are not enough in flood management. Neither are non structural measures on their own can claim sufficiency in flood management. During the discourse with the stakeholders it was evident that the case of the integrated approach for both structural and non-structural measures as an avenue for effective flood management. Most of the stakeholders interacted with were quite impressed with JICA approach that was undertaken in the Nyando which integrated structural and non-structural measures. Most of them were quite impressed by the trainings that aimed at O&M of flood management structures and pointed out that such training leads to sustainability and posterity of such structures.

The case example of charcoal making caught the attention of all stakeholders.

Meeting with the LBDA Fish Farm Office at Rongo

Meeting with LOGUMI WRUA at their office in Wath Onger

DESCRIPTION OF FLOOD SITUATION IN GUCHA MIGORI RIVER BASIN

In the month of September 2012 there were no floods recorded in the Gucha Migori River Basin. It is important to note though that there was an El-Niño rains warning that were issued by Kenya Metrological Department which was broadcasted both in the print media, radio and television stations. The highland of Kisii which is part of the upstream of R. Gucha was indicated as one of the areas that shall experience the rains. The heavy rains were expected to pound the country from early part of October 2012.

The DDMC Nyatike has since met to strategize on the preparedness to possible floods in the Lower Gucha SC.

PROGRESS OF WORKS: IN THE PROCESS OF ESTABLISHING IFM COMMITTEE

In order to establish the Integrated Flood Management (IFM) Committee the Project Team approached various stakeholders in effort of consensus building. Herein is the synopsis of some of the meeting with some of the stakeholders:

Meeting with KRCS

The meeting took place on 6th September 2012 at the Sunset Hotel in Kisumu. The Project Team explained the objectives of the visit and requested for cooperation. The following salient issues were thereafter discussed:

- Previous cooperation between KRCS and the JICA Project in flood management in the Nyando. The Regional Coordinator explained that KRCS Nyando Branch cooperated with the Nyando Project to implement the non-structural measures on flood management which included developing manual for flood management and conducting evacuation drills during the Master Plan pilot project implementation in 2007. He further pointed out that KRCS cooperated with the local consultants for Nyando Project 2009 to 2011 and provided its staff for first aid training and also provided staff and vehicles during the implementation of evacuation drill. KRCS Migori Branch Coordinator expressed optimism in the charcoal produced from the maize cob as a venture that was worth emulating. KRCS Regional Coordinator also pointed out the eco-san toilets were good in flood prone areas and the treated wastes decompose used as manure for kitchen gardens.
- KRCS pointed out a need for developing a model evacuation centre that is community owned and properly managed. KRCS also explained that most evacuation places were in the public institutions because community members consider such institutions as their own, also the institutions are fairly secure and that most of the institution were easy to access. The evacuation centres constructed under the Nyando Project of which most of these centres were constructed in the Primary schools was a good example that was worth emulating.

Meeting with LOGUMI WRUA

The meeting took place on 7th, September 2012 at the LOGUMI WRUA Office in Wath Onger. The following salient issues were thereafter discussed:

- Income Generating Activities (IGA): The LOGUMI WRUA acknowledged the need for income generating activities in order to enhance their financial base that will enable the WRUA carry out the flood monitoring activities unhindered due to financial constraints. The WRUA were impressed by value addition project of charcoal produced from the maize cobs and stated that they would like such activities replicated in their area.
- Education Programme on floods: During the meeting it was agreed that there was need to develop a generation that is resilient to floods and as such it was imperative to have education programmes on flood management introduced in the schools.

Meeting with DO 1 Nyatike District

The meeting took place on 7th, September 2012 at the District Headquarters in Nyatike district.. The following salient issues were thereafter discussed:

- Turning floods disaster to productive resource: The DO1 also pointed out that flood water can be harvested and used during the dry seasons. He explained that currently National Irrigation Board was carrying out an irrigation project in Nyatike that will reduce flood disaster and enhance food security.
- Pre-flooding activities: DO1 explained that District Disaster Management Committee (D.D.M.C) often meet in February and March each year to prepare for the long rains seasons that leads to flood disaster in the area. He clarified that even though DDMC get information from KMD and through public meetings sensitize communities and even warn them to evacuate, some community members refuse to evacuate or take any action.
- Building of resilient community against floods: The DO1 expressed optimism on building resilient communities against floods. He explained that raising of houses and using the dug pit as a fishpond was a proactive venture that will both mitigate floods and ensure food security and stir up economic growth. He clarified the need for community sensitization on such an activity.
- Integrated Flood Management Committee: The DO1 pointed out that DDMC would be willing to be incorporated as part of the Integrated Flood Management Committee.

Meeting with LOGUMI WRUA members at their office in Wath Onger

Meeting with World Vision Nyatike and WRMA SRO Kisiiat their respective offices

Meeting with Dao Kisii and DFO Transmara West

ACTIVITIES BY OTHER STAKEHOLDERS IN BUILDING RESILIENCE AMONG COMMUNITY MEMBERS

There are various activities being undertaken by the various stakeholder that aims at building resilience in the communities. The following is a synopsis of the comments made by various stakeholders concerning their activities:

Source: UNEP Website: Energy saving stoves

- Current DFO Kisii activities: Carrying out community sensitization and mobilization and demo trainings on conservation and this is currently being undertaken in four focal areas in the district. Community training on energy saving fuel, good agricultural practices and riverbank reforestation.
- Activities by LBDA: Fish Farming: It was revealed that fish farming was a good income generating venture that the community members can easily sustain. It was also revealed that due to poor soil structure in lower part of the river basin which leads to the collapsing of the ponds. It was revealed also that the LBDA could offer technical support to the fish farmers. But officer in charge of fish farm stated that the Project can provide technical expertise in designing fishponds that will not collapse during flooding. It is important to note that under Vision 2030 there is a fish processing plant that is aimed to be constructed at Opapo near Rongo which will enhance the market for fish in the area thereby making fish farming a lucrative venture.

LBDA's Fishponds at Rongo

- Activities by LBDA: Mango tree: It was also revealed that hybrid mango trees can be introduced in the Project as a measure to conserve the riparian areas and assist in reducing erosion but also act as an income generating activity for community members.

LBDA's mango tree nursery at Rongo

- Building of resilience an explanation by DAO Kisii: Efforts of enhancing livelihood activities in the area through encouraging urban and peri-urban areas to establish hanging gardens which can also be replicated at the evacuation centre and flood prone areas. Through the initiatives of KUNI MOJA stoves (that uses minimal firewood) and fireless cooker (which is basket that is used to retain the heat and use the same heat to cook the food without using any other fuel but stored energy). Such initiatives can also be replicated in flood prone areas.
- Community Sensitizations by Ministry of Agriculture: NEMA and Ministry of Agriculture have been involved in community sensitization on importance of maintaining ecosystems. This has been done through participatory rural appraisal (PRA) and the issue of replacing trees like eucalyptus has been prominent. DAO pointed out in Keumbu area without assistance from any organization community members on their own have managed to cut down eucalyptus trees from the water sheds that has led to revamping of a river that had dried up for many years.

SOME LESSONS TO LEARN FROM KAKAMEGA ON VALUE ADDITION

Kakamega Forest is the only tropical rainforest in Kenya. The forest has been a protected area of Kenya since its vital role in the eco-system was first recognised in 1933. There are huge trees in the forest that are more than hundred years old and they are very huge making them vulnerable to the timber yard because of the intrinsic value of the hard and soft woods and charcoal dealers encroachment. It is impossible to talk about forest and not to mention the late Prof. Wangari Mathai. In one of her visit in Japan at the request of the Mainichi Shimbun for an event related to the Kyoto Protocol in 2005.Prof Mathai was given a shirt with the word "MOTTAINAI" written on it. Prof. Mathai wore the shirt at the Kyoto Protocols and in her presentation she requested all that were listening to her presentation to adopt the word MOTTAINAI and use it often. The question is why?

Pictures of community show casing their innovation of transforming valueless matter through value addition into the ever in demand charcoal

Mottainai is a Japanese word that means waste. But as a concept it advocates elimination of waste and at the same time increase the intrinsic value of a thing. Maize cob in most cultures and places is considered waste matter that has no value but to be thrown out. In Kakamega district that is not the case! Under JICA programme, Japan Overseas Cooperation Volunteers (JOVC) has managed to train communities in transforming the valueless maize cob through value addition into charcoal that community members now use as fuel for cooking rather than engage in forest destruction to produce charcoal. Not only the maize cobs that are used for making charcoal but also non wood material like harvested maize stems, sugarcane waste etc.

ACTIVITIES OF LOWER LUMI IN FLOOD MANAGEMENT

The Lower Lumi WRUA is a an active organization with proactive members that are friendly and cooperative.

The Lower Lumi WRUA has a leadership structure with chairperson being at the helm of the leadership and he chairs both the executive committee and management committee. The Lower Lumi WRUA had written a proposal for the establishment of a WRUA office with all equipment and materials required to run the office. However they have not received the requisite funds to carry out this activity. Most of their meetings are held at the Taveta District Commissioner's Pavilion.

The Lower Lumi WRUA with the assistance of WRMA have managed to develop a Sub-catchment Management Plan (SCMP) which mainly focused on management of water resources in the sub-catchment. However but the SCMP does not capture the management of floods. This in essence has triggered the WRUA with assistance from the Project Team to start reviewing the SCMP in order to incorporate community-based flood management plan.

In spite of not including the flood management into the SCMP the Lower Lumi WRUA have been active in engaging in activities that are related to flood management which include the following:-

- Lower Lumi WRUA have carried out a survey of the flooding hotspots within the area and come up with a mapping of the flood hazards indicating the affected , medium affected and most affected areas of the region. There are places that used to be settlements but they have ben abandoned due to excessive flooding and sustained periods of inundation. An example is Kiwalwa.

Kiwalwa: Was formerly a settlememt but now not inhabit-

- Lower Lumi WRUA has been assisting in the collection of data related to flooding. This includes the frequency of flooding , flood depths in various locations , the duration of flooding and the community coping mechanisms during the flooding period..

Housing in Marodo Majengo affected by Flooding

- They have participated in rudimentary early warning systems, measuring levels of water in the streams and warning the community members in and WRMA in cases of very sudden increases in the water levels.
- Survey of River Lumi and its tributaries. During the rainy season the flow levels of the river and its tributaries are very high bringing a lot of flood waters and sediments. The sediment has been deposited downstream raing the level of the river bed. This has led to more flooding and the river does not also reach the Lake Chala.

Map of Taveta inclusive of the Lumi sub catchment

REVIEW OF LOWER LUMI SCMP WITH EMPHASIS ON FLOOD MANAGEMENT

Flooding isssues in Lumi subcatchment are closely intertwined with drougts and proper utilization of flood waters. This is because the flood waters usually stay for a period of two (2) weeks to two (2) months and then they all flow away. However the Lower Lumi WRUA would like to both manage the floods and use the water effectively especially for irrigation farming and domestic and animal usage. In their SCMP they identify some of the problems caused by flood water and the water resources and how these problems may be solved.

Flooding: Causes soil erosion, diseases, displacement of people, famine, damages resources, causes communication breakdown e.g. washing away of roads, siltation of water sources, breakdown of river banks .

Solutions include desilting of canals, construction of dykes along river banks, construction of large storage dams to control the flood waters, stabilization of river banks by planting vitiver grass and rehabilitation of riparian lands, involvement of neighboring country Tanzania in the management of River Lumi and its tributaries which mainly originate from Tanzania.

Encroachment and siltation of springs: Caused by animal and wildlife activities and flooding.

Solutions include adequate reinforcement of resource management rules, spring protection, construction of animal/human drinking points , planting of trees, desilting and construction of Gabions heading to the springs.

Excess water Drainage to Kitobo springs from Njoro Kubwa Springs: causing floods and siltation.

Solutions includes construction of dykes around the spring, change of destination of the canal diversions and planting of trees and vetiver grass within the Kitobo spring and construction of soil and water conservation structures.

Siltation of water pans: caused by flooding poor siting and cutting of trees.

Solution for these includes desilting , tree planting, proper maintenance and proper technical advice during construction.

Unplanned blockage of River Lumi: caused by floods and human activities. Prevenyts water from reaching Lake Jipe, risng of the river bed and breaking of the river banks causinf flooding to adjacent areas.

Solution for this includes unblocking of the river at mboi area, redirection theriver course desilting, tree planting and sanitizing of the farmers on river bank management..

Poor drainage of irrigation canals: resulting in flooding and lack of enough water for irrigations.

Solutions for this include sentisization of farmers for good drainage methods, desilting of the irrigation canals and proper management of the irrigation schemes

Edition 01

February. 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Lumi River Basin Issue No. 01

INSIDE THIS ISSUE:

THE BACKGROUND OF THE PROJECT

An Ariel view of flooding menace that affects Kenya

The Project "foreground" is that it aims at capacity development in order to achieve effective flood management in the flood prone areas. Targets areas for this Project are three river basins: Gucha Migori; Lumi; and Ewaso Ng'iro North.

The Project background on the hand is that in 2004, WRMA formulated "Integrated Flood Management Policy" focusing on Lake Victoria Basin, which is one of the areas that suffers from severe flood damages. It was intended to promote Integrated Flood Management (IFM) to raise awareness of community and strengthen institutional capacity to allow flood mitigation, prediction and warning. In 2006 to 2009 JICA carried out "Study on the Integrated Flood Management for Nyando River Basin)" as the Technical Cooperation Scheme and "Programme for Community based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin (2009-2011)" as the Grant Aid Programme with the aim of establishing a flood management system in the southern part of Lake Victoria Basin through IFM. Through the above projects, community based flood management activities have been implemented and deployed combining structural and non-structural measures such as workshops for mapping flood damaged areas and protection measures for building structures in prioritized communities. Some positive outcomes have since been realized.

The activities implemented in the Nyando River Basin is aimed at being replicated to other parts of the nation with a purpose to promote community based flood management. The Water Resource User Associations (WRUAs) managed by community therefore comes in handy. This has led to establishment of a framework which enables the WRUAs to receive funds from the Water Service Trust Fund (WSTF) sourced from technical support, official aid, and donor's funds. This framework is known as WRUA Development Cycle (WDC).

Therefore, this Project is expected to strengthen WRMA institutional ability through the capacity development on basic flood management to promote community based flood management activities within the WDC framework.

NATURE OF FLOODS IN LUMI RIVER BASIN

Inundated area in lower reaches of Lumi

The first visit by the Project Team to Lumi Sub-catchment was conducted on 22nd February 2012. The team visited the Loitoktok Sub regional office to gather information about t he area. The reason for the selection of the sub catchment was given as mainly to address the flood menace in most parts of the sub–catchment as well as water shortage in some areas within the sub-catchment. The community of Lower Lumi sub catchment prioritized flooding as their main problem and ranked it as No1.

The Lower Lumi WRUA is composed of 1500 member with an active executive office. The sub catchment area is approximately 531 sq. km. and receives approximately 250mm –450mm of rainfall. The low rainfall in the Area is attributed to the fact that it is on the leeward side of Mt. Kilimanjaro . According to the Lower Lumi WRUA the flooding in the catchment is mainly caused by environmental degradation both on the Kenyan and Tanzanian sides of the border. The main river in the area is River Lumi which rises from Tanzania. There are also two major gulleys ; the Hollili Custom Gulley And the Mafete Gulley which act as tributaries of River Lumi. The upstream of River Lumi is seasonal due to dam constructed on the Tanzanian side. During the dry season no water flows into the Lumi, however during the rainy season water is released from the dam flooding the upstream areas. The downstream of the river is recharged by the Njoro Kubwa streams. The reach of the gulleys serving as tributaries for Lumi is very short and when it rains up in the hills flash floods frequently occur in the lower Lum B**asin**

CHARACTERISTICS OF LUMI SUB CATCHMENT

CHARACTERISTICS OF LUMI SUBCATCHMENT

Main River Causing the Flooding : River Lumi
Sub catchment area 531.2 Km^2
Population : 32,270
Land Use
Residential area : 1.88%
Farmlands :63.16%
Pastures : 0.04
Forest Cover 0.0005%
Open Spaces 0.56 %

CONDITIONS OF FLOODING

There are two conditions of flooding observed in the Lumi Sub catchment i.e. the general flooding that occurs during every rainy season and the extreme flooding events that occur less frequently. Shown in the table below are the conditions of flooding for the ordinary and extreme events.

Flood Condition	Ordinary Year	Extreme Year
Flood Area	22.5 Km2	79.8 Km2
Depth	0.3m	0.9 m
Duration	1 month	2 months
No of Evacuees	700	1600
Evacuation Durations	1 month	2 months
No of flood in a year	1	2

Wooden Footbrigre constructed by the community to assist in crossing of Lumi for the 2 villages of Marodo and Majengo

COMMUNITY COPING MECHANISMS

The Lower Lumi Subcatchment areas that are most hit by the flood includes Kimorigo, Kiwalwa, Ngutini, Kitobo and Madrassani areas. The people leaving in the areas usually flooded areas evacuate to higher grounds. The residents of Kiwalwa area evacuate to an higher area called the Python Hill. In this area if there is very heavy rains the inundation can last for a duration of two months. During this period the residents will depend on donations from relief organizations especially the Kenya Red Cross. They are provided with tents and other items like blankets, emergency foods and medicine. The community member also used to repair the communal drainage systems to drain away the flood waters. In the Majengo village flooding and excessive erosion led to formation of new River Valley and the villagers could not cross to the evacuation place. Due to this they had to use boats to cross from one bank of the river to the other . In the year 2011 they constructed a wooden foot bridge to use when crossing the river . It is the current evacuation route they use when evacuating from Majengo to the neighboring villages.

FLOOD MANAGEMENT FORUM

The flood management forum shall be established by the regional manager of WRMA and the objectives of the Forum are to collect opinions on draft Flood and Water Resources Management Plan . The project team prepared a draft outline for the constitution of the Forum. The Lumi River Basin prepared a draft list of the composition of the Forum. The list contained 30 names including executive committee members of the 2 WRUAs in the Lumi River Basin i.e. Lower Lumi WRUA and Upper Lumi WRUA. It also included members of the various stakeholders involved in the management of water resources within the Lumi River Basin like the Agricultural Office, District Water Office, the District Development office, the local provincial administration consisting of the three (3) District Officers within the Basin, the Public Health Office and the Local County Council Authorities. The original list that was submitted to the Flood Management Unit for consideration contained a totals of 30 members. However the proposed constitution for the Forum limited the number of members to 20. the List for the Lumi Forum therefore had to be adjusted accordingly and resubmitted to the FMU for consideration.

WRUA members in discussion with project team before reconaissaane to the project sites

Secretary General of WRUA accompanying project team to site visit listens keenly as villager explanation

COMMUNITY BASED FLOOD MANAGEMENT PLAN

The community based flood management activities were planned to be carried out. The activities included structural measures and non-structural measures. However the plan has to take in to consideration the budgetary allocations for the project
The structural measures included i) Architectural measures including evacuation centres, storage facilities, toilets , leveling houses and boats for evacuation, ii) Borehole works including borehole and hand pumps and apron and iii) Civil works including leveling of roads , dikes /open levee, retarding basins, gabion walls footbridges and culverts and sandbags.
The non-structural works discussed included i) Capacity building including Mechanism of Flood and how to prevent and reduce floods ii) Technical training including Disaster Imagination Games for risk mapping, Three dimensional mapping by cardboard, evacuation sign and signboard, sandbagging, rain gauge, river gauge and early warning system and iii) Awareness campaign including workshop on disaster prevention and reduction, Evacuation drill and New type of disaster drill comprising of teaching children through games (Iza! Kearu Caravan) .This was successfully modified by the Thai Government for flood management drills. It was modified from the more common earthquake evacuation drills in Japan.

Existing Bridge on River Lumi with a RGS for measuring the waterl level

Example of slope protection using Gabions. Situated at the Intake works for Taveta Water Supply adjacent to Njoro Kubwa Springs

The possibility of installing the Early warnin systems in dry river beds was asssesed This is because most of the rivers that cause flooding in the Lumi Sub catchment are seasonal rivers and dry gulleys. The upstream of Lumi River also receives flood water during the rainy season. This is because the river has been dammed upstream on the Tanzanian side of the border. Consequently the Tanzanian authorities open the gates of the dam during the rainy season thus causing the floods. The experts explained that the Early Warning systems could be installed in the dry beds. However they should be installed at a distance of approximately 20 Km from the nearest habitation to give an adequate warning. However some of the river and valley courses in Lumi are very short so the warning period for the flood would be very short.
The JICA experts had also prepared the list of problems and possible solutions from the Lower Lumi WRUA SCMP.
In all the above activities there is a beget that was to be adhered to. The flood management activity to be selected was to be within the budgetary limits.

Depth of Flooding approximated from Chief's Office

EXISTING COUNTERMEASURES FOR FLOOD MITIGATION

Upper Lumi Area: Visited the upstream of Lumi River Area at a place called Chumvini. The river is dry at this location during the dry season. The residents had attempted to construct a check dam on the river and dug irrigation canals to utilize the flood water for irrigation. The project was done in 2010 with the assistance of World Vision through a food for work programme. The check dam is practically located on the Kenya Tanzania border and therefor the existing structure was placed on an unsuitable site to prevent border disputes. It is currently not operational.
Mafete Gulley: The Mafete Gulley acts as tributary to the Lumi River. It is seasonal so there is no water flow during the dry season. The community members had suggested check dams on the course of the gulley to reduce the velocity of flow and to reduce the excessive siltation it causes in the Lumi River. The level of the river floor bed has risen due to the siltation. This also contributes to the flooding downstream. We carried out a reconnaissance along the course of the gulley.
Madulu Dam: Madulu dam was constructed in the year 2008. It is situated near Lake Challa. The purpose of the dam was for flood control, water storage and domestic and livestock use. The Capacity of the dam is 22,857m^3. The dam has been breached.
Mrimba Weir Dam: Mrimba dam was constructed in 2008. The purpose of the dam was for flood control, water storage and domestic and livestock use. The capacity of the dam is 13000m^3.
Njoro Kubwa Springs: The spring acts as a recharge for the River Lumi in the downstream areas. It is also utilized as the water supply supply for the Taveta residents and as source of irrigation water for the local farmers. However during the heavy rain the water level rises leading to the breaking of the banks and flooding downstream. With funding from the UNDP through the East African Wildlife Society in the year 2007 a local CBO constructed gabion works for the bank protections

Njoro Kubwa Spring one of the Recharge and tributary of River Lumi

Irrigation Ditch abstracting water from Njoro Kubwa Springs to the Local farms

Meeting with Lower Lumi WRUA

The meeting was held with Lower Lumi WRUA members on 4th April 2012. It was attended by twenty seven (27) members. Two members were absent with apology.

The members gave a short history of floods and flood disasters in Lumi area. Generally there were floods during each rainy season of the year i.e., twice during the long rains from March to June and the Short season from November to December. The flooding has become more frequent and more severe in the present year.

During the past times there was some very heavy flooding that required serious government intervention. They gave the years as 1963 where there was very heavy flooding such that the residents of Kimurigo Village had to permanently evacuate to a neighboring Village of Eldoro. There was also very serious flooding during the years of 1974, 1984 and the El nino rains of 1997 December to 1998 January.

The WRUA members observed that in the current days the flooding had become an annual issue. It did not have to rain within the catchment for them to experience the flooding. According to them the reasons for the increased flooding included.

Meeting with the members of Lower Lumi WRUA

- Population increment: Due to population pressure people were now settling in areas where they used not to stay in before including close to the river valleys and the gulleys and therefore the effects of flooding were more severe.
- Overgrazing: The animals grazing in the area and leading to more soil erosion. The soils are deposited in the river courses causing siltation and rising of the river beds. This result in flooding
- Encroachment and Siltation of springs
- Excessive cutting of trees
- Poor drainage of irrigation canals
- Blockage of River Lumi diverting its flow to Lake Jipe

Bridge marking the boundary between lower and upper Lumi. The upstream side of the bridge is usually dry during the dry season. In wet Season high flows from Mt. Kilimanjaro causes flash flooding

Effects of flooding and suggested countermeasures

The WRUA members enumerate the following as some of the negative effects from the flooding disasters;

- They are forced to evacuate from their homes. This can last for as long as two months.
- Destruction of their property
- Children do not attend school because their schools are also inundated with floods.
- Destruction of their crops and also the livestock are washed away.
- In extreme cases they have experienced loss of lives.

In addition there is concern that the excessive and frequent flooding will eventually lead to the destruction of the Njoro Kubwa Springs. The springs are the source of domestic water supply for the whole of Taveta District. It is also a major recharge for the lower reaches of River Lumi.

Suggested coping mechanisms and remedies

The discussions suggested the following remedies to the flooding menace;

- There is a vast network of existing drainage canals within Lumi. However the canals have no had maintenance for a long period of time. The canals should be reopened and regular maintenance carried out to drain the flood water to the outlets in River Lumi and Lake Jipe.
- Unblocking and draining of River Lumi. There is excessive deposition of Silt from upstream. Desilting should be done. Alternatively the silt can be trapped upstream.
- Building of dikes along the banks of river Lumi and the major gulleys.
- Construction of check dams, spurs and weirs in the upstream of River Lumi.
- The construction of dams both for irrigation and use by animals and human beings. This will prevent animals from accessing the rivers and leading to more erosion and deposition of silt. Special livestock watering places should be considered.

Edition 02
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THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

Integrated Flood Management

Lumi River Basin Issue No. 02

INSIDE THIS ISSUE:

Current flood situation in Taveta

There was major rainfall in the Taveta and surrounding areas on 3rd and 4th of April 2011. In addition there was heavy runoff from the hills in Tanzania. The rain rainfall duration on 4th April lasted for several hours i.e. from approximately 5.00 pm to the next day at approximately 6.00 am. As a consequence the resultant flooding consisted of both local rainfall and run-off from the hills in Tanzania.

Concrete Wall dyke broken after being hit by flash floods in Loitoktok -Taveta Road

Transport and communication in the areas surrounding Taveta was severely disrupted. Most of the dry streams crossing the roads were fully inundated with flood waters. It took approximately six hours for the flood waters to subside to improve means of transportation.

There are no early warning systems in the area. The residents though are aware that it is the long rainy season and they will be affected by flooding. Due to the heavy rains they knew flood flooding would follow.

Child standing inside their house that has been affected by flooding. Notice the wet floor and the broken walls

- The only school in the Village Abori Primary School was completely inundated. The school authorities had to close the school earlier than the recommended time. The pupils have not reported back to school.
- The office of the provincial administration i.e. the Assistant Chief of Kamurigo Sub-Location is still inundated.
- The approximate depth of the flooding ranged from 0.5m to 0.8m
- A number of families were affected by the floods so that they had to evacuate from their houses. The houses had been inundated with water to knee depth and so they could not stay inside them. The household foodstuff that was stored in the houses was either swept away or had been destroyed.
- Some of the houses had been rendered unfit for habitation as they were nearly collapsing.
- One resident was a rabbit farmer. He lost twelve of his rabbit when the hutch was swept away by the flood waters.
- The residents evacuated to their neighbor's houses which were not very much affected. The floors of the habitable houses were still wet from the rain. All doors were therefore open to dry the floors.
- Those who had evacuated had been out of their houses for at least seven days. The residents had succeeded in draining of a swampy ground and were preparing it for farming. The area has been flooded once more rendering it unfit for farming.
- Kenya Red Cross came to the village and assisted them with non-food items including blankets, mosquito nets and water guard for treatment of drinking water

INSTITUTIONAL FRAMEWORK FOR WATER RESOURCE MANAGEMENT

THE WATER ACT 2002

The Water Act 2002 was passed by Parliament with the aim of providing a legal framework for the management , conservation , use and control of water resources, which it defines as any lake pond swamp, marsh stream , water course, estuary, aquifer , artesian basin or other body of flowing or standing water whether above or below the ground.

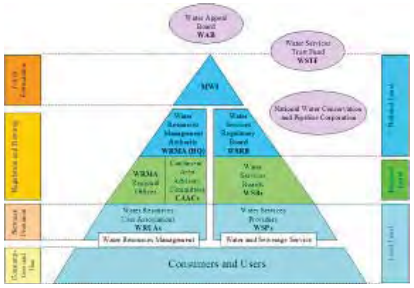
WRMA was established as the lead authority for the management and regulation of all the water resources in the country. With the formulation of the new constitution in August 2010 it was necessary to amend the Water Act of 2002 to be inline with the new governance structures and this is ongoing.

WRMA has the mandate of managing the water resources and allocating water permits for various users through the six catchment areas of the country. WRMA encourages and supports the establishment of the Water Resource Users Associations (WRUAs) in the various sub catchments.

The project is being carried out in collaboration with WRMA and the WRUAs which was one of the bodies established under the Water Act 2002. The WRUAs are defined as: **Local body set up by water users to enable communities and water users to participate in water resource management.**

As part of their activities the WRUAs are supposed to formulate the Sub Catchment Management Plans (SCMP). In the original SCMPs there are no flood management activities. The project will be involved in the capacity building of the WRUAs in the flood management activities. The existing SCMPS will therefore be improved and modified to include a component of flood management.

INSTITUTIONAL FRAMWOORK UNDER THE WATER ACT 2002



Body	Role
Ministry of Water and Irrigation	To formulate policy and provide oversight within sector
Water Service Trust Fund	To finance water services
Water Service Regulatory Board	To regulate matters related to water services
Water Services Board	Regional body responsible for regulation and planning of water services
Water Service Provider	To provide water services under license from the WSBs
Water Resources Management Authority	To plan, regulate and manage water resources
Catchment Area Advisory Committees	Regional body set up to advice WRMA on the management of water resources
Water Resource Users Association	Local body set up by water users to enable communities and water users to participate in water resource management
National Water Conservation and Pipeline Corporation	Development and management of state assets for bulk water supplies

MOBILIZATION OF THE PROJECT OFFICE

The Project Office for Nolturesh Lumi Sub region is located in the WRMA Loitoktok Office. The first visit to the Sub Regional office was on 23rd February 2012. The Project Team inspected the office that had been set aside for the team and found that it was suitable.

On 6th March 2012 the Project Team Visited the Office again and discussed with the SRO on the modalities for the equipping of the office with the requisite furniture. Due consultation was carried out with the WRMA Headquarters and the furniture was availed for the office including two office desks and three office chairs. They also provided one extra big table.

WRMA Loitoktok Sub regional Office

The office equipment were procured and delivered to Nolturesh Lumi Sub region is Office included;

One (1) Desktop Computer; Dell Optiplex 790 with one (1) APC Back-up UPS 650V

One (1) Projector; Dell 1210S

One (1) Digital Camera; SONY DCS—W530 with one (1) 2GB SD Memory card.

One (1) A3 Colour Printer; HP Office jet 7000 Wide Format

One (1) Photocopy Machine CANON Image RUNNER ADVANCE C 20202L

Project Office within the WRMA Sub regional Office

WATER RESOURCES IN THE LUMI RIVER BASIN

LAKE JIPE

WRMA staff taking position of rain gauge located next to Lake Jipe. KWS rangers assist in the collection of the data

Lake Jipe ecosystem is located south of Mount Kilimanjaro and is an international water body that straddles the Kenya-Tanzania border. It is located in the southern part of Taita-Taveta district about 28km to the south of Taveta town, in Taveta division along the Kenya-Tanzania border.

The larger portion of the lake is in Kenya, while the smaller portion is found to the leeward side of the Pare Mountains in Mwanga district of Northern Tanzania. The lake lies about 700m above sea level and neighbours the crater lake Challa to the west. Lake Jipe is shallow covering an area of about 30 km^2 with an average depth of 3metres. The lake is bordered to the south by Mount Kilimanjaro, to the west by the North Pare Mountains and to the south-east by Tsavo West National Park. The southeastern quarter of the lake is within the Tsavo West National Park serving as a wildlife water reservoir.

The wetland catchment is approximately 680km^2 excluding the national park. In Kenya the catchment stretches from the eastern slopes of Mount Kilimanjaro and extends about 10km to the north of Lake Challa. It includes various irrigation canal systems, vegetative edges of Lake Jipe, the permanent seasonal swamps and the open waters of Lake Jipe and the Lumi and Ruvu rivers.

The Lumi River discharges it waters into the Lake Jipe. There are also a series of canals which discharge into the Lake Jipe. The outlet of the Lake is the River Ruvu. However due to excessive deposition of silt the bed of both the Lake and River Lumi has been rising over time.

This has resulted in excessive flooding of the lowland areas adjacent to both the river and the lake.

WRMA maintains a gauging station in the Lake. The gauging station is used to measure the level of water and is manned by personnel form the Kenya Wildlife Service range next to the lake. Readings of the levels are taken daily at 9.00 am. And are collected by WRMA staff

View of Lake Jipe adjacent to Tsavo West National Park Ranger's Camp

LAKE CHALLA

The Project Team visited Lake Challa for the first time on 8th March 2012.

Lake Challa is situated in Taveta District on the border of Kenya and Tanzania. It is managed under the Athi Regional Office and Loitoktok Sub region of WRMA. The lake is a crater lake situated in the Chala hills at approximately 850 m above sea level. The lake is fed by groundwater flows, which come from Mount Kilimanjaro, fed and drained underground. The depth of the rim of the crater to the top of the hill is approximately 100m

It is a freshwater lake. The basic characteristics of the lake are as follows

Panorama of Lake Challa

- Estimated volume 340 million m^3
- Estimated depth 90 m from the surface
- Surface area 4.2 Km^2

Map showing location of lake Challa

It is supposed that the water from the lake charge the Njoro Kubwa Springs which are a major source of water for the lower part of River Lumi.

Activities which take place in the lake include fishing some tourism especially on the Tanzania side. Currently the lake is not used actively to abstract any water because this would require consent from both the Governments of Kenya and Government of Tanzania.

WRMA has installed a mechanical gauging station in the lake. Readings are taken every day at nine o'clock in the morning. They are compiled and submitted monthly to the Sub Regional Office in Loitoktok. In case of any emergency for example if there is a dramatic increment or decrease in the level of water, the Sub Regional Office is informed by use of telephone.

In January 2008 the level of water was greater than 3.0 m. However on our observation during the visit the water level was at 1.3 m. This represents a drop of more than 1.7m. If the level of water drops to below 40 it will not be able to support life and will be considered dead.

CONT' UPPER REACHES OF LUMI RIVER BASIN

Observations

1. The catchment consists of very steep and deep valleys. These valleys are not inhabitable and thus are very well protected from destruction.
2. The topography of Rombo District ensures that there is no flooding as the rain water quickly flows away.
3. There is adequate vegetative protection on the riverbanks thus preventing soil erosion and deposition of silt in the river.
4. Observed a water gauging station on one of the bridges but it is not currently functional due to the meandering and change of river direction.
5. There exists one reservoir abstracting water from the river.it is situated approximately 2km away from the banks. The volume of the reservoir is 21,000 m^3. It was constructed in 1978 through village communal efforts *(Ujamaa)*. The government assists the villagers in the continuous maintenance of the facility through the Ministry of Agriculture. The rate of flow of water into the reservoir through a concrete lined channel is 360 l/s. The last major rehabilitation of the reservoir was carried out in 1989.
6. Approximately two kilometers from the Kenyan portion of the river all the surface water disappears (percolates) into the ground and the riverbed is dry.
7. The local farmers utilize the irrigation water for farming maize, bananas, sunflower, coffee and vegetables.

Bridge on River Lumi approximately 2 km from the Kenyan border. All the water has percolated to the ground and then river bed is dry.

Silt Trap to prevent excessive deposition in reservoir

ESTABLISHMENT OF THE INTEGRATED FLOOD MANAGEMENT FORUM

The Site Representative for Nolturesh Lumi Sub region made a number of trips in the office for the purpose of the formation of the flood management forum. A draft flood management forum was prepared and discussed among all the three pilot project target areas in conjunction with the Sub regional officers. It is currently under review and will be submitted to the WRMA Headquarters for review and authorization. The names of the proposed members for the Integrated Flood Management forum was prepared and submitted to the Headquarters. The names were authorized and letters have been prepared and dispatched to the district commissioners' office who will invite the members to join the forum. The Project Team is working overtime to facilitate the first forum meeting

Edition 03
May 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT

Lumi River Basin Issue No. 03

INSIDE THIS ISSUE:

GULLUYES AS FACTORS IN FLOODING

During the site visits to Taveta to assess the flood damages caused by the flooding to the villages of Kimala, Timbila and Rekeke, both the community members and the local administrators informed the project team that flooding in their villages are cause by two sources. The two sources are:

1. Flooding from River Lumi and the associated gulleys *(Korongos)* from the upper Lumi areas
2. Flooding from very heavily eroded gulleys originating from within the Tsavo west National Park.

The community members reiterated that the flooding Tsavo West National Park was more severe and it was mainly the type of flash flooding which occurred immediately after episodes of very heavy rain. On 4th April 2011 there was heavy rain in the area which caused very severe flooding and caused the following damages:

- Three houses were swept away by the flood waters
- A dyke had been constructed to protect the farms in one of the irrigation schemes. The dyke embankment was
- Farmers had been supplied with seed and fertilizer for the planting season in the irrigation scheme. The crops were destroyed and the fertilizer rendered useless
- Food that had been harvested and stored in the granary was destroyed
- Small livestock especially goats, sheep , rabbits and poultry died
- A number of houses were rendered inhospitable forcing the inhabitants to seek evacuation from their neighbours whose houses were not affected.
- The main canal that supplied farmers with irrigation water was cut off; hence the farmers downstream of it had no irrigation water.

The residents and the local administration were of the idea that to deal with the flooding problem the source of the problem should be assessed and any mitigation measures to integrate the whole basin. The gulleys all originated from Tsavo west national Park.

Number of gullies in each location and estimated lengths

Location	No. of Gullies	Average length (km)
Jipe	6	5
Kimorigo	6	15
Bomeni	15	10
Chala	7	8
Njukini	10	5

CONT' GULLEYS AS FACTOR IN FLOODING

On 4th May 2012 we paid a courtesy call to the District Commissioner of Taveta District Mr. Nkaduda. The reason for the visit was to introduce the Project Team to the Administration as we had not done this before. The project was explained to the DC and he said that and advance team had already visited him and explained the Project in 2011. The other reason for the visit was to ask for permission to make a site visit inside the Tsavo West National Park because it is a protected area and it the D.C who can give the authorisation to visit.

The D.C also gave his views of the flooding in the Taveta District and they were the same as what had been said by the community members i.e. the two sources of flooding from Mt Kilimanjaro via Lumi River and the gulleys originating from Tsavo West National Park. He also reiterated that any countermeasures must take into consideration the flooding sources inside the national parks. He promised to provide two security rangers and other district officials who would guide the team during the site reconnaissance visit to the National park.

Observations

- The origins of the gulleys are all located within the Tsavo West National Park. The park is a protected area and is fenced with an electric fence to keep in the wildlife and keep out the neighbouring community and their livestock. However they routinely breach the fence to search for water and pastures for the livestock leading to frequent conflict. Any countermeasures to be done in the park will require close coordination between the implementers, the local administration and the Kenya Wildlife Service.
- The area can be referred to as a watershed since it divides the basin into two with one side collecting the water and channelling it to Taveta and the opposite side of the ridge channelling the water away from Taveta to place in Tsavo East.
- There are many small gulleys within the park which join together like tributaries forming large gulleys as they get into the neighbouring communities.
- There are several small gulleys which emerge from the park and cause flooding to the downstream communities, however, there are three (3) big ones which cause the major damage.
- There is no protection at all for the villages in the path of the gulleys and they are therefore severely affected by mainly flash flooding.
- The neighbouring community, mainly the Maasai keep very large herd of cattle, sheep and goats. The animals exacerbate the situation causing soil erosion leading to the formation of more gulleys.
- The erosion produces deposits which are carried by the flood waters to the gulleys, canals and finally into River Lumi and Lake Jipe. The level of the river and lake rises causing flooding.
- Kenya Wildlife Service attempted to reduce flow velocity by construction of small dam in the park but the countermeasure is inadequate.

CONCLUSIONS AND RECOMMENDATIONS

- There is significant flash flooding in the mentioned locations originating from Tsavo West National Park and flowing through the gulleys to cause disasters in the lower areas
- There is no protection for the villagers from the flood waters
- The villagers make the situation worse by overgrazing leading to soil erosion and formation of more gulleys.
- Inadequate vegetative cover in area also leads to the formation of more gulleys
- The gulleys all finally flow into River Lumi or Lake Jipe with significant silt loads increasing the problem of the silt deposition in both water resources.
- Construction of more dams/water pans is required upstream for storage of the flood water.

Flood waters from gulley originating in Tsavo West National Park

UPPER REACHES OF LUMI RIVER BASIN

River Lumi has its source in Tanzania in the ranges of Mt. Kilimanjaro. It flows into Kenya draining parts of Taveta District and into Lake Jipe. Lake Jipe is drained by River Ruvu which joins into River Pangani and flows into Indian Ocean. During the dry season the upper parts of the river on the Kenyan side has no flow. There is suspicion on both sides of the border that the other is using the river waters to the disadvantage of the other. During the rainy season the same river causes severe flash floods which mainly affect the residents on the Kenyan side of the border.

Catchment for river Lumi. Note the steep slopes and deep valley

During our visits to the sites and in our conversations with the residents within the river Lumi Basin on the Kenyan side they claim that there are big dams on the upstream side of the river in Tanzania. They say that the water is dammed in Tanzania to be used by the residents during the dry season while when it rains heavily the Tanzanian authorities open the gates causing flooding on the Kenyan side. Due to this reasons it was deemed important to make a visit and ascertain the facts on the ground.

Channel for irrigation flow to reservoir

The visit involved travelling to the neighboring country therefore we had to get the requisite authorizations. The District Officer in Taveta wrote an introductory letter to the District Commissioner of Rombo explaining our purpose for the visit and asked for assistance and cooperation from their counterparts. The visit took place on 24th May 2012. We first had a meeting with the District Executive Assistant who then directed us to the Director of Natural Resources for Rombo District. The available technical personnel was the District Irrigation Officer. Discussions were held with the officers and the following points were noted:

- Mt. Kilimanjaro is the source of River Lumi and it produces a lot of water although they do not have the exact amount. They do not have a functioning RGS system for the river.
- No flooding is experienced in the areas along the river.
- There is suspicion that the downstream area within Tanzania hve very permeable beds and therefore the flow percolates into an underground system. This later forms springs in the downstream area.
- There is suspicion that Kenya abstracts a lot of water for various uses on their portion of River Lumi and consequently a little volume of water flows into Lake Jipe which is considered as an important source of River Ruvu and River Pangani. There is therefore need for mutual cooperation between the cross border water authorities to reduce the mistrust and utilize the trans-border water resources equitably.
- There is one reservoir of water on the Tanzanian side of the border abstracting water from Lumi for irrigation purposes.

21,000m³ Reservoir

Sunflower plant in a farm under irrigation from

river Lumi percolating into the permeable soils

COMMUNITY MANAGED DISASTER RISK REDUCTION

On 16th June 2012 the JICA Nairobi Office held a Seminar on Community Managed Disaster Risk Reduction CMDRR. The Seminar was held at the JICA offices at the 16th Floor of the Rahimtullah Towers. The seminar was co ordinated by Mr. Mohamed of Cordaid a Catholic Relief Based Organization.

Lesson on the common concepts and terms used in CMDRR

The Seminar involved different types of approached used in carrying out community development while at the same time reducing the risks associated with various hazards that affect communities.

Community Managed Disaster Risk Reduction is a new approach as opposed to the Community based Disaster Management. It is based on the risk analysis and the reduction of the risk.

The seminar participants were taken through 5 different models that CMDRR approach is based on.

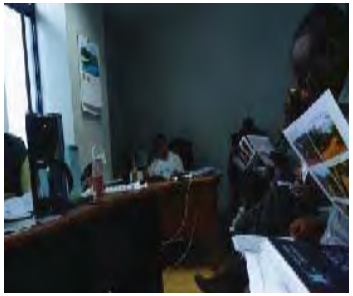
The facilitator then gave various examples of the projects that have been successfully executed using this

Group Discusion during the CMDRR Seminar

MONTHLY PROJECT MEETING

The Monthly project Meeting was held on 11th June 2012. The main items on the agenda were as follows:

- Progress of Action Items to be taken
- Data Management and Accuracy Control.
- The reason why some water resources management rules are not complied with
- Report from the 3 pilot Project Sites



Edition 04
June 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT

Lumi River Basin Issue No. 04

INSIDE THIS ISSUE:

STAFF TRAINING IN INTERGRATED FLOOD DISASTER MANAGEMENT

The Water Act 2002 was passed by Parliament with the aim of providing a legal framework for the management , conservation , use and control of water resources, which it defines as any lake pond swamp, marsh stream , water course, estuary, aquifer , artesian basin or other body of flowing or standing water whether above or below the ground.

WRMA was established as the lead authority for the management and regulation of all the water resources in the country. With the formulation of the new constitution in August 2010 it was necessary to amend the Water Act of 2002 to be inline with the new governance structures and this is ongoing.
Various institutions were also formed to carry out different activities under the water Act 2002 as shown in the table below

Body	Role
Ministry of Water and Irrigation	To formulate policy and provide oversight within sector
Water Service Trust Fund	To finance water services
Water Service Regulatory Board	To regulate matters related to water services
Water Services Board	Regional body responsible for regulation and planning of water services
Water Service Provider	To provide water services under license from the WSBs
Water Resources Management Authority	To plan, regulate and manage water resources
Catchment Area Advisory Committees	Regional body set up to advice WRMA on the management of water resources
Water Resource Users Association	Local body set up by water users to enable communities and water users to participate in water resource management
National Water Conservation and Pipeline Corporation	Development and management of state assets for bulk water supplies

From the table above it can be seen that no specific body is charged with the issue of flood disaster management. As a result flood disasters are usually put together with other disaster and are managed under a department in the Ministry of State in the Office of the President. The management of the disaster is usually reactive other than proactive and thus few mitigation measures are in place.

Cont' Staff Training

It has been observed that both at the regional and sub regional levels there are no staff who are involved in flood management issues
It is with this in mind that the Project has a component for the staff training for flood management. The training component is to consist of both local training and the training of the staff in Japan

WRMA Institutional Development in Flood Management

At each level of WRMA (headquarters, regional offices and sub-regional offices), sustainable organizations in charge of flood management are strengthen. At the headquarter the Flood Management Unit has been formed under the leadership of the Technical Services Manager and an additional five members of Staff. To achieve the aims the following will be carried out:

- A Future strategy of organizations dealing with flood management covering personnel, budget and their function are prepared
- Preparations of Training manuals
- WRMA staffs attend training courses under this Project.
- Institution and budgetary systems are established

On 8th July 2012 the first batch of staff who were to undergo the training travelled to Japan. They Included a member of the Flood Management Unit from WRMA headquarters, The Sub– Regional Manager for Noulturesh Lumi Sub Region and an Officer from the Kenya Metrological Department. They are expected to undergo a one moth training and subsequent to their return they should utilize the training gained in Japan for the success of this project.

Following table shows themes and subjects to be covered during training session, organization tasked for respective training topic and training schedule

Organization charged with Training	Training Topic	Subjects	Implementation period
Urban Disaster Research Institute, Asian Disaster Reduction Centre	Disaster prevention	Disaster management planning, community disaster management etc.	May to December
Public works Research Centre	General Flood management		May to December
Disaster Prevention Research Institute Kyoto University	General Flood management	introduction to River engineering and Flood management	May to December
Ministry of Land, Information, Transport and Tourism, Kinki Regional Development Bureau, Yodogawa river office	Flood management	Flood management at lower plain river	May to December
Ministry of Land, Information, Transport and Tourism, Kanto Regional Development Bureau, Tonegawa upper river office	Water prevention activities	Participation of water prevention activities on TONE River	Mid May
NEWJEC Inc.	General hydrology and hydraulic science	hydrology and hydraulic science, hydraulic experiments	May to December

DATA COLLECTION

JICA headquarters sent short term experts to assist in the expediting of the project. One of the problems that was being encountered was the lack of adequate data to come up with a flood management plan. WRMA was requested to assist the project team in acquiring the data from the various bodies in charge of the data collection. The data that was urgently required included:

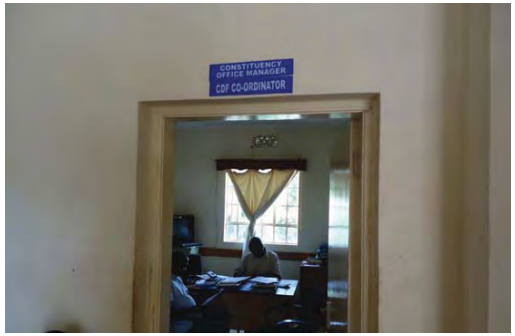
1. Rainfall Data
2. Water Level Data
3. Discharge Data.

The locations and mapping for the rain gauges and RGS station were also required if they were available. The rainfall data was to be requested from the Kenya Meteorological Department (KMD) while the other data was to be acquired internally from WRMA. In Lumi River Basin it was found that the KMD did not have any facilities for the measurement of the various weather parameters. However the Ministry of Agriculture had installed a series of simple rain gauges which could be easily managed by the local communities. It was from these community managed weather stations that we were able to get especially rainfall dat a for the area. The sub regional office also provided the data for the water level data and the discharge data, We made an agreement with the Min istry of Agriculture to be providing monthly data for the rainfall from their network of rain gauges.

Data from the District Disaster Management Committee (DDMC) and the Constituency Development Fund (CDF) was also got from the District Commissioners Office and the CDF manager respectively. This information is required for comparison purposes with the Financing authority under the Ministry of Water and Irrigation i.e the Water Services Trust Fund.

Rain gauge stioned in Kedon Village in Lumi Subcatchment

Rain gauge stationed at the KWS Stion in Taveta for collection of Rainfall Data



Collection of Data of Constituecncy Development Fund from the Mnager in Taveta

FARMILIARIZATION TOUR OF ISIOLO SUB-CATCHMENT AREA

The Isiolo WRMA Sub-Regional Office together with Isiolo Water Resource Users Association Chairman organized a tour for visiting JICA Experts and NewJEC Isiolo Supervisor.

The main aim of the Visit was to observe the effects of the floods in the Isiolo Sub-catchment area, and efforts of the local community to mitigate the floods.

The area visited included:

- Isiolo Town and its Environs
- Isiolo Water and Sewerage Company (IWASCO) water supply intake works
- Maili Saba Bridge Site
- Ntumburi TM area
- Lewa conservancy
- Ntugi and Ruiri area

IWASCO water supply intake works

Maili Saba Bridge with RGS

Isiolo Town and its environs suffered from flood waters from airport construction site, surface runn off from roads. Construction of houses along the waterways also blocked flood water from flowing in its normal course hence find its -way in in settlements within the town and its neighbourhoods.

Isiolo river when floods, it overpasses the Maili Saba bridge, this as a result of blockage of culvert inlets by debris. The flood waters then passes through farmlands and settlements around Maili Saba bridge hence causing destruction to properties.

Rugucu river is a tributary for Isiolo river at Ntumburi TM area. The effects of floods withnessed in these areas including Ntugi and Ruiri areas are quite devastating. During flooding there road linkages are broken, crops are washed away by the flooding waters. After the floods there are no road linkage between residential areas and main tarmac road.

In the year 2011, floods in these areas has affected the Mission Hospital around here, The hospital had to be closed down for a period of one month because the medical facilities were destroyed by the flood waters.

Access road destroyed by floods in Ruiri Area

OTHER ACTORS IN ISIOLO SUB-CATCHMENT AREA

ENNCA organized a seminar for Inter- County Stakeholders forum for Medium Term Asal Programme (MTAP). This programme is under Natural Resources Management supported by DANIDA.

The geographical focus is Institutional capacity building in six priority areas comprising:

- Isiolo District
- Garissa District
- Lamu District
- Marsabit District
- Tana River District
- Wajir District

The programme focuses on supporting decision makers in Isiolo County with relevant water resources information. The Chairman of IWRUA were among the participants in the forum.

The focus in Isiolo Sub-catchment area was on:

- Training and capacity building of District/County stakeholders for greater understanding of opportunities in using data for improved water resources management.
- Regulation and abstraction survey for ENNCA
- Preparation of a draft surface water county survey for water allocation plan for the whole county
- Support for WRMA to respond to the needs of addressing county information requirements
- Establishing and facilitating stakeholders forum on water resources management
- Special catchment area protection
- Storage development to meet water demand.

Edition 01
30th April, 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Ewaso N`giro North River Basin Issue No. 01

INSIDE THIS ISSUE:

BACKGROUND OF THE PROJECT

The Republic of Kenya experiences regular nationwide flooding during rainy season, which leads to affect approx. 5,000 people and causes financial damage of approx. JPY 160 million every year. In 2003, the southern part of Lake Victoria Basin including Nyando River suffered from a serious flooding which affected approx. 22 thousand people. In 2007, Garissa city on the middle Tana River Basin was hit by flood and suffered from approx. JPY 680 million financial damage. According to the analysis reported in the fourth assessment report published by the Intergovernmental Panel on Climate Change (IPCC), it is anticipated that Climate Change will lead to generate more occurrence of flood.

The Government of Kenya established Water Resources Management Authority (WRMA), under the Ministry of Water and Irrigation (MWI) through the sector reform enforced by Water Act 2002. WRMA acts as implementation organization in charge of overall water resource management of each catchment and installed into all levels from headquarter, regional level (6 Catchment) to sub-regional level (32 Sub Catchment of 6 Catchment).

In 2004, WRMA formulated "Integrated Flood Management Policy" focusing on Lake Victoria Basin, the area suffers from severe flood damages. It was intended to promote Integrated Flood Management (IFM) to raise awareness of community and strengthen institutional capacity to allow flood mitigation, prediction and warning. Based on the request from GOK, JICA carried out the "Study on the Integrated Flood Management for Nyando River Basin (2006 – 2009)" as the Technical Cooperation Scheme and "Programme for Community based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin (2009-2011)" as the Grant Aid Programme with the aim of establishing a flood management system in the southern part or Lake Victoria Basin through IFM. Through the above projects, community based flood management activities have been implemented and deployed combining structural and non-structural measures such as workshops for mapping flood damaged areas and protection measures for building structures in prioritized communities. Some positive outcomes have been realized.

GOK proposes to expand these activities, which were limited in the area of Nyando River Basin, nationwide to promote community based resource management activities including flood management. GOK has been currently working on the institutionalization of Water Resource User Associations (WRUAs) managed by community. A framework has already been established which enables the WRUAs to receive funds from the Water Service Trust Fund (WSTF) sourced from technical support, official aid, and donor's funds. This framework is known as WRUA Development Cycle (WDC).

GOK plans to utilize WDC framework to deploy nationwide community led activities based on IFM which integrates outcomes from previous JICA's projects. However it is considered that GOK is not competent enough to provide appropriate technical advice to relevant entities in IFM including WRUAs. Following on the above, this project is expected to strengthen WRMA institutional ability through the capacity development on basic flood management to promote community based flood management activities within the WDC framework.

MIDDLE EWASO N`GIRO (ISIOLO) PROJECT RESUMES

EWASO N`GIRO NORTH RIVER BASIN

Ewaso N`giro North river basin covers an area of 210,000 $Km^2$ . It is divided into five(5) sub-catchement areas, these are; Upper Ewaso N`giro(Nanyuki), Middle Ewaso N`giro (Isiolo), North Ewaso Laggas (Marsabit), Enkare Narok Melghis (Rumuruti) and Ewaso Daua (Mandera).
Middle Ewaso N`giro (Isiolo) catchment area have Isiolo River which Originates from Mt. Kenya Forest and passes through 3 districts ( Meru Central, Imenti North, and Isiolo) before joining Ewaso N`giro river. Surface Water Resources in Isiolo and neighbourhood includes rivers; Isiolo, Ngare Ndare, Ngare Nything which origate from Mt Kenya, Ewaso N`giro river which forms the boundary between Isiolo and Samburu and Archers post catchment area.

Ewaso N`giro North River Basin (Isiolo) has an established Water Resource Users Association (IWRUA) which active. The IWRUA has objectives some of which ranges from short term to long term.
IWRUA is established in a cosmopolitan area of Isiolo Town. There are 5 ethnic communities around IWRUA operation area.
There are sporadic clashes which were analyzed to be an inter–ethnic based on water demand for agriculture, livestock and human use. The inter– ethnic clashes are majorly triggered by livestock theft among the pastoralist communities in Isiolo District.

The IWRUA are on the fore front to address some of the issues that may cause conflict related to water demand. They have a dopted a motto of ``*Live I Live*`` for the Upstream, mid stream and down stream water demand.

The Regional manager explained the ambitious plan to construct a dam at the the sources of the Isiolo river. The team visited the proposed dam site at Kibirichia and some tributaries of Isiolo River.

Proposed Dam Site at Kibirichia in ENNCA

OVER VIEW OF ISIOLO SUB CATCHMET

Isiolo River sub-catchment basin is located within Ewaso N`giro North River basin. The Sub-catchment originates from Mt Kenya area and flows down to Ewaso N`giro River. It traverses Meru Central, Imenti North and Isiolo Districts.

The monthly temperatures ranges from 7.6^0C in the higher areas to 32^0C at the lower areas. The low land part is characterized by a semi-arid climate. The slope ranges between 14% and 4% with steeper slopes in Mt Kenya. Isiolo sub-catchment lies within the agro climatic zones on the leeward sides of Mt. Kenya therefore receives low amount of rainfall. The altitude ranges from 3,580m to 900m above sea level. The Isiolo river discharges are monitored by one RGS located at the upstream of Isiolo water supply intake.

The Isiolo River is perennial fed by many springs such as, Mukuu, Mukembu, Rugucu, and Lewa. However, during the drier months of February, March, August and September Isiolo River sometimes dries up in the lower -parts when irrigation is at its peak.

To resolve conflicts and promote sustainable and legal water use in the sub-catchment, the Water Resource Users (WRUA) is divided in three Zones, the upper zone from the source in Mt Kenya(Kibirichia, Ntugi and Ntumburi areas), middle Zone (Mukebu, Rugucu, Maili saba and BBC) and lower Zones

Over View of Isiolo Sub-Catchment Area

VISIT TO EWASO N`GIRO NORTH REGIONAL OFFICE

NewJEC recruited a new national Supervisor for Isiolo Project to resume. The supervisor together with Japanese Expert visited the Regional Office in Nanyuki and Sub– Regional Office in Isiolo to introduce new Project Supervisor for Isiolo. The Regional and Sub-Regional Managers were informed on the need to re-start the Isiolo project based on JICA security dispatch report.
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Source: Google Map
Over View of Isiolo Sub-Catchment Area

ESTABLISHMENT OF PROJECT OFFICE IN ISIOLO

Isiolo Sub– Regional Office provided for office space for 2 persons for JICA Flood Management Activity Programme. The Office has been set up and is operating after receiving office equipment for the project.The Flood Management Activity Office is at WRMA sub –regional Office in Isiolo just around 1 Km from Isiolo town.

Access road Isiolo WRMA Sub – Regional Office

OFFICE EQUIPMENT PROCURED FOR THE PROJECT

The office equipment were procured and delivered to Isiolo Su– regional Office included;

- One (1) Desktop Computer; Dell Optiplex 790 with one (1) APC Back-up UPS 650V
- One (1) Projector; Dell 1210S
- One (1) Digital Camera; SONY DCS—W530 with one (1) 2GB SD Memory card.
- One (1) A3 Colour Printer; HP Office jet 7000 Wide Format
- One (1) Photocopy Machine; CANON Image RUNNER ADVANCE C 20202L

Overview of Isiolo WRMA Sub – Regional Office

The Isiolo Project Office was set up on April 24, 2012. The Office has Electric Power Supply though the power breakdown is a common phenomenon in all of the Isiolo area.
An area overview for the Isiolo office is illustrated in the below Pictures.

Office equipment at Flood management Project Office in Isiolo.

VISIT TO ISIOLO AUTOMATIC WEATHER STATION

Isiolo Automatic weather station was installed and managed by CETRAD. The weather station is one of the automated weather stations around. It is installed with modern technology instruments. The weather station is installed within the Kenya Wildlife Service (KWS) office to curb against vandalism. CETRAD works in collaboration with Kenya Metrological Department (KMD) who are the custodian of weather data for the Republic of Kenya. All data collected at this station is forwarded to Kenya Metrological Department for custody and to provide weather information to the public.

The ultra modern weather station comprises of remote box with data card, battery charger, 72v solar panel. The remote box stores data as a back up. There is a rain gauge which collects rain data and transmits to server after every fifteen minutes. The other components include A nanometer, wind vane and hydrometer. The automatic weather station also gives data on global radiation per square meter. The automatic weather station transmits data to the server after every 15 minutes. According to the director CETRAD, the weather station can provide accurate data for the next fifteen days.

The data obtained from this weather station is for importance to the communities around. First, it gives information on occurrence of heavy rains that might result to floods. This information on flooding can be shared with the community living in the flood prone areas to evacuate before the flood occurs. Second , to the farmers the information can be used to insure crops against drought and knowing which crops to be planted for a particular seasons for proper yield. Finally to the pastoralist communities, when there is information of occurrence of long spell of drought, the pastoralist can decide to sell off part of the livestock before the animals succumb to drought as had been witnessed years before. By taking precautionary action against weather hazards, our livelihood will not be affected because early warning will give alarm for good for storage, good farming practices and improved response to flood emergency.

The weather data should be properly be utilized by stakeholders in flood management to avert the looming crisis of flood that has -a menace to this country. CETRAD is currently undergoing training for stakeholders in climate change for proper use of information gathered from the weather stations to manage issues of climate change that affect human. The climate change has brought about the extremes of weather, droughts, floods ,landslides, mudslides, strong winds name them.

Automatic weather Station at Isiolo

Components of Weather Station

WRMA INITIATES ROOF WATER HARVESTING

Water is a scarce natural resource. Improved ways for conservation, use and apportionment will ensure good coexistence among communities. As the constitution says water is right, everyone should not be denied access and use of water. In view of this WRMA initiated roof catchment water harvesting project at Kirimara Primary School in Timau, Buuri District. WRMA installed a 240 000 litres capacity plasting tank with all accessories including gutters, and taps.

During commissioning of the project , the community was sensitized on the importance of water conservation to avert water shortages that is always experienced. Various stakeholders of water sector aired their views on the importance of equal opportunity of river water use from the communities in the upper, middle and lower stream. The need for protection of water catchment area was emphasized since every year the national water resources reduces year by year. This has made Kenya as a nation to be considered a water stress country.

The ceremony for commissioning Kirmara water project was attended by Chairman WRMA, CEO WRMA among other dignitaries.

From top left clockwise; Chairman joins the Entertainment group, CEO WRMA plants tree to mark the day, water tank Sponsored by WRMA

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

Edition 02

31st May, 2012

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Ewaso N`giro North River Basin Issue No. 02

INSIDE THIS ISSUE:

FLOODS THE SCREEPING DISASTER

Kenya experiences a number of natural hazards, the most common being weather related, including floods, droughts, landslides, wildfires and strong winds. History of floods in Kenya indicates that the worst floods disasters was recorded in 1961-62 and 1997-98, the latter ones being the most intense, most widespread and the most severe. During this period the flooding was associated with El Nino phenomenon, a weather pattern that affects most parts of the world.

The problem has been perennial each time taking behind years of development and costing the government millions of shillings in reconstruction and recovery. Every year several people are reported dead or injured necessitating action to curb the menace.

The onset of long rainy seasons in Kenya has started with devastating impacts in the country. Since its onset there has been many reports of death due to floods in various parts of the country. Households and people have been displaced, large tracts of land under cultivation and domestic livestock have been destroyed with flood waters thereby threatening not only the food security of those affected but also compromising the livelihoods of the affected communities.

The destruction of infrastructure such as bridges, roads has been widespread slowing down the relief support for the affected area.

The North Ewaso N`giro river basin has a low national river flow. In 2010 households were displaced in Garfasa area in Garbatula District. Staff members working in the tour lodges were displaced when Ewaso Ngiro river broke its banks and flooded the Samburu National Park. The displaced staff members took refuge in the nearby hills. The damage of strong winds has been experienced in Moyale District, three (3) classrooms and an administration block were destroyed. The learning was disrupted as both children and teachers were displaced. Property of unknown value were destroyed. Livestock (goats, sheep, cattle) were swept by flood waters in Dori Village in Moyale District. The effects of floods in Kinisha Location results from flash floods from heavy rains experienced in the Ethiopian Hills. The flash floods destroyed a large water pan which is used by a self help group for farming of vegetable and fruits.

In April 2010,in Kangatia Village in Meru District, one person was reported to have been swept by flood waters fortunately the victim was rescued and taken to Nanyuki hospital for treatment. At Nyambera, isiolo, a lorry was swept away by flash floods, a female teacher was among the victims of the flood.

Flash floods experienced in Isiolo Town on May 22, 2012

TRANSPORT DISRUPTED IN ISIOLO FLOODS

The onset of heavy rainy seasons at the catchment of Ewaso Ngiro River came with it the perennial havoc that has been over the years being experienced in Isiolo area. In May 2012, passengers and buses , lorries and trucks were stranded at Gotu Bridge when Ewaso Ngiro River flooded and passed over the bridge. This resulted to humanitarian crisis as no food stuff could be ferried passed Gotu bridge as the condition of other optional road was in a terrible state. The trucks which were ferrying food and non food stuff got struck while exploring the alternative route to Merti and Moyale.

Scarcity of food stuff and other humanitarian aid items had hit the area just two weeks of the flooding of Ewaso N`giro river at the Gotu bridge point.

Submerged Gotu Bridge May 10, 2012

Gotu Bridge is along Isiolo-Merti and Moyale Highway. The Bridge was constructed by colonialists and it's a submerged structure as per the construction. During dry/low rainy seasons the waters of Ewaso Ngiro River pass under the bridge hence there is no distruction of transport. During the flooding of Gotu bridge, not only the transport was affected but also the manyatta (temporary pastoralists houses) settlements were destroyed too. There has not been any report of casualties that were reported when the Ewaso Ng`iro River flooded at Gotu Bridge.

The affected settlements were reconstructed on higher grounds next to Police station. The reconstruction of the affected settlement were carried out by the affected community. Those settlements were in the form of make shift structure which are associated with nomadic pastoralists who live at areas around Isiolo. Gotu Bridge is within Gotu Conservancy an area prone to cattle rustling. To avoid loss of life and livestock, the Government of Kenya has constructed and equipped the Police station to broker peace between the two pastoralist communities living around there.

The is Gotu springs just next to Gotu Bridge. The spring is the source of safe water for both livestock and human population leaving around that area. The spring is protected by the Arid Land Resource Management of Isiolo District.

Gotu Springs

Manyatta Settlement

FLASH FLOODS IN ISIOLO TOWN

Flash floods normally occur in a flash without much warning as a result of an accelerated runoff. As the case of Isiolo, on May 22, 2012, there was a flash floods which kept town at a stand still for a period not less than thirty minutes. The flash floods were accelerated by the ongoing airport construction which channels water from the construction sites to roads leading to Isiolo Town. The flooding water does not come from the ongoing airport construction site as perceived by the residents of Isiolo town, airport just aggravate the existing perennial floods that has been coming from surrounding hills. From the visual geographical features, Isiolo town is in a valley surrounded by hills and that describe the flash floods being experienced more often than the river floods which are slow on the onset and build up slowly, over a period of time when river breaks its and are seasonal.

The areas that have been identified by the locals to be flood prone areas around Isiolo Town are; Kulamawe, Bullapesa, BullaArera, Juakali, Kambiodha, Kambibulle, Kambigarbaa and Kabiwacho Villages. When the flood prone areas are affected the humanitarian aid always come from the Catholic Mission and the Kenya Recdcross who are always present on the ground.

Scenes of Flash Floods in Isiolo Town May 2012

ENNCA CONVENES CAAC MEETING

Catchment Area Advisory Committee (CAAC) members for ENNCA forms part and parcel of Forum Members for the Isiolo Flood management programme. CAAC held their meeting to share information from members who come from the entire Ewaso Ngiro North Catchment Area. The ENNCA CAAC members are very proactive in defining their roles in areas of jurisdiction. The WRUA work hand in hand with the CAAC member in the area to address the needs and obligations of the WRUA. Since most part of the ENNCA is 80% Arid or Semi Arid, water scarcity is in the centre stage for many WRUA. The WRUAs in these areas has a mandate to reduce conflict that might arise due to conflict over water resources. Good farming practices and protection of natural water resources are key responsibility of every CAAC member.

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Pictures taken from CAAC meeting

CAAC MEMBERS ON A FAMILIARIZATION TOUR OF UPPER ENNCA

For better understanding of challenges that the CAAC members of Upper ENNCA experiences every day in the course of execution of their duty, it was necessary for the members to be taken for a familiarization tour. The tour was at Archers Post bridge and at recording house located just a few meters downstream of Archers post bridge along Ewaso N`giro river.

At the recording house, CETRAD director explained to the group the effects of vandalism of recording house, river gauging plates. Vandalism of gauging plates is a phenomenon which is rampant at the entire ENNCA area. Vandalism is accelerated by the sale of scrap metals which is booming in the black market. Regarding this, CAAC members were reminded about their advisory roles to the Officers of the Regional Authority on the need to put measures to curb vandalism of water monitoring equipment. With proper water monitoring equipment, there could be improved water resource conservation, improved use and improved apportionment. This in turn will reduce the conflicts that might be brought by water resources.

The rehabilitation of recording house and weir will be done by CETRAD. Regarding the recording house, there will be improved method of construction and installation of automatic recording machine with remote control which submits the data to the server. The weir at the same location, is dilapidated since it has lived its time. From the history gathered, the weir was constructed in the colonial era. Due to wear and tear, corrosion from river water pollutants, the weir is in a bad state. CETRAD has undertaken to carry out rehabilitation of both weir and gauge house.

Ewaso Ngiro River at this point divides in to two arms just immediately after the bridge. The two arms later joins hundreds of meters downstream just before it reaches the recording house and the weir. The division of the river is suspected to be as a result of hard and un weathered rock that exist at the midstream of Ewaso Ngiro river just after the bridge.

The CAAC comprises of nine members from the community, six other members from other development agencies in interest in water. The advisory roles of the CAAC includes; water resource conservation, use and apportionment, granting, adjustment, cancellation or variation of permits and any other matters pertaining to proper use of water resources.. The main towers of ENNCA are Mt. Kenya with twelve main rivers, Aberdare ranges with eight main rivers, Nyambene ranges with two main rivers and Mt Marsabit with several springs and wetlands that causes floods in Garfasa area.

CETRAD Director explains functions of Record house

Vandalised Record House

Ewaso Ngiro River joins just before record house.

MEETING AT KENYA REDCROSS HEADQUATERS

On July 13, 2012 there was a meeting at KRCS Headquarters in Nairobi between the Project team and KRCS staff. The main agenda of the meeting was to share on the activities which KRCS are currently carrying around as regards to disaster management and also to share the information about the project on flood disaster management which is currently ongoing under funding by JICA.

There was a presentation from JICA and NEWJEC Consultants on the background of the Project and the Action Plan of the Project.

Presentation by KRCS officials pointed out that integration of data is a major barrier for effective disaster management. There has never been any plat form with KMD to discuss the results of disaster damage vis a viz the weather focus. However there is progress into bringing a common plat form KRCS and Ministry of Special programme and the talks are in high gears. However responses made by the KRCS includes early recovery, early reporting on matters such as level of water contamination, diseases outbreak and damaged structures. KRCS has community volunteers in all areas of operation who have capacity in First Aid, health promotion, mobilization of community, Vulnerability Assessment and dissemination of information. KRCS has many capacities. Each KRCS branch have staff which coordinate volunteers. Training models such as flood training manuals for youth and school, community based disaster risk reduction units. Other capacities include, call out system for community to raise an alarm, identification of evacuation sites and evacuation routes, community based evacuation plans with responsibilities e.g First Aid, care for vulnerable members, strengthening district disaster communities through training, and preparation of appeal document which doesn't quantify the monetary value.

Assessment tools used by the KRCS include; rapid assessment, Vulnerability capacity assessment, community managed disaster risk assessment, introduction of climate change games to the community to help understand climate change. In 2009 KRCS together with UNICEF carried out Vulnerability Capacity Assessment (VCA) training in Tana River area at district level.On structural measures there is construction of dam in pokot area with capacity of 36 billion litres. KRCS construct dams or water pans based on needs such as for flood control or water supply, gabion constructions too are under taken by KRCS in conjunction with NWCPC. Ease of construction and ease of use, materials and risk failure are preconditions before undertaking any structural measures.

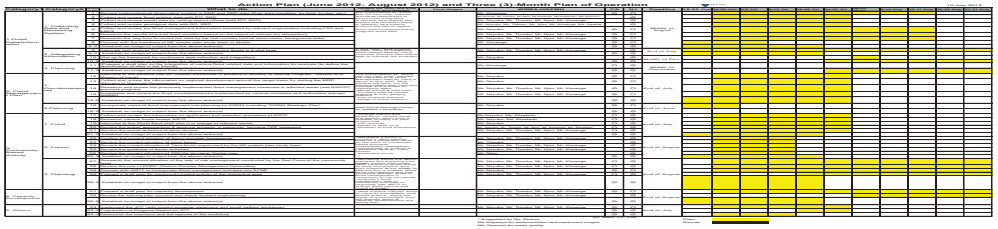
Meeting at KRCS headquaters

Presentation by Team Leader at KRCS Headquarters

THREE MONTHS ACTION PLAN DEVELOPED

The Consultants developed a three (3) month action plan for the project. The three month action plan covered from the month of June to August 2012. The components of each activity, timeline and the project team member were developed. The highlights of the three month Action plan include:

1) Flood data information which entails: Data collection and review of system, Integration of information and planning.
2) Flood management plan which entails: countermeasures and planning.
3) Community based activities which describes: funding, forum and planning.
4) Capacity development.



Edition 03
July 15, 2012

THE PROJECT ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS BEING IMPLEMENTED IN THE REPUBLIC OF KENYA

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

Ewaso N`giro North River Basin Issue No. 03

INSIDE THIS ISSUE:

FRIENDS OF EWASO NG`IRO FLOOD CONTROL

Kenya Red Cross Isiolo Branch has initiated a project called Friends for Ewaso Ngiro Flood Control. The project coded Partners for resilience aims at building capacities of the communities along Ewaso Ngiro River towards resiliency to flood disaster. The partners for resilience include; Wetlands International Ecosystem, Cordaid, Kenya Redcross Society, Netherlands Red Cross Society and Care Netherlands. The main donor being the Government of Netherlands through Ministry of Foreign Affairs. The identified target sites along Ewaso Ngiro include the communities living in five (5) divisions of Oldonyiro, Kina/Kula Mawe, Garbatula, Merti and Isiolo Central. Of importance to note is that Isiolo Central divisions is within Isiolo Sub Catchment area which is project target sites for Project on capacity Development for Effective Flood Management in Flood Prone Areas.

The project activities will include monitoring climate to assist the communities to plan on farming periods, early warning for floods, ecosystem management and restoration, interpretation of climate change in communities perspective, supporting communities livelihood and environment conservation.

The tool that is being applied is Participatory Disaster Risk Assessment (PDRA) which is a hybrid of Community Managed Disaster Risk Reduction (CMDRR) and Vulnerability Capacity Assessment (VCA).

Each Partner for Resilience (PfR), has a unique role in the Friends of Ewaso Ngiro Flood Control Project.

To break the cycle of disaster emergency response, the Partners for Resilience through the programme ' climate proof Disaster risk reduction' are bringing together three approaches to address underlying causes of vulnerability and help strengthen preparedness for all eventualities:

Disaster risk reduction—through a systematic efforts to analyze and manage casual factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and poverty, wise management of land and environment and improved preparedness for adverse events.

Climate-Change adaptation-climate change brings unpredictable weather patterns and prolonged dry periods. The communities are expected to have their own understanding of climate change so that they develop their own response to actual or expected climatic stimuli or their effects to moderate harm.

Ecosystem management and restoration– is a strategy for the integrated management of land, water and living resources that provide sustainable delivery of ecosystem services in equitable way.

In project target sites, KRCS Isiolo branch is conducting a project on sanitation and hygiene community project for Drought Prone arid and semi arid lands. The broad objective of the project is to contribute to the MDGs, improve health status and reduce vulnerability of rural communities living in arid and semi arid lands. The project targets rural pastoralists communities of four (4) administrative districts os Isiolo, Merti, Garbatula and Samburu East. Hygiene components entails conducting CLTS, supporting media campaigns, conducting PHAST training for volunteers and procurement of PHAST materials for households. Other components includes construction of sanitation facilities, construction of water facilities, institutional arrangements and O & M trainings and school programme. Rehabilitation of flood affected households in Garbatula area is done by KRCS.

CMDRR SEMINAR

JICA Kenya office organized a seminar on Community managed disaster risk reduction (CMDRR) on June 21, 2012 at JICA Kenya Office Headquarters. The presenter was from Cordaid which is a Catholic Based organization for relief development for horn of Africa. The organization is pioneering drought cycle management in Northern Kenya and Southern Ethiopia.

The area of highlights during the seminar were; Evolution of CMDRR , CMDRR methodology and participatory research assessment. The CMDRR emphasizes on a paradigm shift from poverty reduction to disaster risk reduction. The principles of CMDRR recognizes that;

- Basic rights are foundation of safety
- Community taking their own roles in risk assessment and government is a major player.
- Community have to take responsibility for their own most at risk members.
- Community decides if they are in the state of disaster, if they could not cope and need outside help.
- Resiliency is not merely accumulated physical assets or secured livelihood.

CMDRR methodology was developed in participatory approach and differentiates disaster management and disaster risk management using various models;

- Disaster continuum model,
- Pre– During– post model
- Contract and expand model
- The disaster crunch model
- Disaster release model

The first three models entails disaster management while the last two models entails disaster risk management.

CMDRR processes identified various steps to be articulated. The steps identified included;

- Site entry and rapport building
- Community risk assessment
- Community hazard assessment (Understand behavior of assessment)
- Community vulnerability condition/Assessment (reasons for vulnerability, elements at risk)
- Community capacity assessment (capacities addressing hazard, prevention, mitigation, vulnerability, survivability, and readiness, ecisting capacity, required capacity and gaps)
- Identification of priority groups
- Identification of natural leaders or progressive members.
- Feedback/validation of results of community disaster risk analysis.
- Further analysis of the priority community disaster risk.
- Planning of the disaster risk reduction measures (community plans to solve their risk)
- Organization of the Risk Reduction group

CMDRR is necessary to build resilient, resistant and safe community with high level of survivability to any hazard. Outsider is an agent of learning not agent for change. The identified element at risk are human disintegrated by gender and age, production assets and critical service providing facilities.

CURRENT STATUS OF ENNCA WRUAs

Isiolo WRUA Office at Maili Saba within Isiolo Sub catchment.

There are a total number of five (5) Sub regional areas within ENNCA. The five sub regions include; Marsabit, Mandera, Isiolo, Rumuruti and Nanyuki. Each sub region has sub catchment/ sub drainage areas with registered and operation WRUAs. There are a total of fifty four (54) WRUAs which are registered with department of social services.

All the fifty four WRUAs in ENNCA have either developed SCMP and are receiving funding from WSTF and other donors or are in the process of developing SCMP and are awaiting approval for funding from the donors.

Focusing on the pilot project area, Middle Ewaso Ngiro sub catchment area, there are a total of fifteen (15) WRUAs. Out of fifteen WRUAs, seven are still in the formative stages. Three have completed SCMP and received funding to implement some parts of SCMP activities. Five WRUAs are in the process of coming up with the SCMP while the rest are still in the formative stages.

WEEKLY MEETING

There was a weekly meeting held on June 11, 2012. The salient features for discussion was the action plan for the three month period ending in August 2012. The contents of the action plan include;

- To integrate data and analyze cause and effect relationship of flood
- To formulate catchment management plan.
- To develop resilient community to floods
- Capacity of WRMA to be developed

Way forward include;

- To collect, review and Integrate flood related data.
- To collect and review information to prepare the Flood Management Plan
- To prepare community based activities based activities such as funds, forum, DDMC, planning.
- To plan capacity development including training.

Participants at the Past Weekly meeting

MEETING WITH DISTRICT DISATER MANAGEMENT COMMITTEE

The meeting with the DDMC chair took place at Isiolo District headquarters. The main objective was to highlight the various roles and membership of the DDMC. The disaster management and response is a collective responsibility by all line ministries and humanitarian agencies. In Isiolo District, the DDMC consist of; Ministry of Roads, Ministry of Public works, Ministry of Northern Kenya and Other Arid lands, Isiolo County Council, Provincial Administration represented by DC, the Wildlife and Rangelands conservancies, Non– Governmental organizations, Community based organizations and Faith based organizations.

Level of Operation in Disaster Response

Level 1
Localized emergency events dealt within the regular operating mode of the protective, emergency and health services in the district.

Level 2
Disaster Emergency events that overwhelm the capacity of the resources in the municipal/ district, but which *do not* overwhelm the capacity of the provincial resources to respond and recover (such zones of impact can be declared *Affected Areas*).

Level 3
Disaster Emergency events that requires the mobilising of national *resources* to respond and recover (such an event may be designated as a n*ational disaster*). This will prompt seeking of assistance from other external partners.

Level 4
A Disaster Emergency event that overwhelms the existing national response capacity, thus prompting the President to declare a national disaster to seek foreign/international assistance to support the country in the response and recovery initiatives

The response of the NDOC and other collaborating response agencies depends on the severity of the disaster emergency and the type of assistance required.

MONTHLY PROJECT MEETING (PREVIOUS MONTH)

The Monthly Project Meeting was held on 24th October 2012 and it was chaired by Eng. Kinyua the Technical Manager, WRMA. In summary the meeting discussed the following salient matters:

1) Progress of Action Items to be taken;
2) Updates on integrated flood management committee; and
3) WRMA Strategic Plan.

The monthly Project Meeting held on 24th Ocober 2012 at WRMA HQ boardroom

ACTIVITIES OF WRUA FOR THE MONTH: LOGUMI WRUA

Picture 1: at LOGUMI WRUA Office Project Team meets WRUA ; Picture 2: Transfer of the hazard map to topographical map; Picture 3: Taking GPS coordinates at water point and Picture 4: Record of water levels for October 2012 and kept by LOGUMI WRUA

In the month of October 2012 LOGUMI WRUA were involved in various activities which included the following:

1) The LOGUMI WRUA played an important role in transferring the community flood hazard map to the Topographical map;
2) The LOGUMI WRUA also accompanied the Project Team to various spots indicated on the hazard map in order for the Project Team to record the GPS coordinates;
3) The LOGUMI WRUA also discussed with World Vision on the possibilities of providing workshop hall for the purposes of Integrated Flood Management Committee Meeting ;
4) The LOGUMI WRUA were also involved in continuous monitoring of the water river levels; and
5) The LOGUMI WRUA members were able to meet in their monthly WRUA meeting for planning and assessment purposes .

ACTIVITIES OF WRUA FOR THE MONTH: LUMI WRUA

In the month of October 2012 Lower Lumi WRUA were involved in various activities which included the following:

1) Divided into groups according to locations to come up with the countermeasures for flooding in their specific locations.
2) Divided into groups according to locations to come up with the flood hazard maps for in their specific locations.
3) The WSTF had provided level two funding to the Lower Lumi WRUA. This funding was used in two projects within Lower Lumi
   a) Rehabilitation of the canal by desilting and plantation of grass along the canal; and
   b) The protection of the Majengo springs

The Lower Lumi WRUA members were also busy preparing in case there were floods in the sub-catchment.

Rehabilitation of Canal in Lower Lumi by WRUA members with funding from WSTF-5 October 2012

ACTIVITIES OF WRUA FOR THE MONTH: ISIOLO WRUA

WRUA members poses for a picture after the Workshop on Problems analysis

In the month of October 2012 Isiolo WRUA were involved in various activities which includedthe following:

1) Holding a meeting to propose various activities to be included in flood management programme in Isiolo sub catchment.
2) Isiolo WRUA members continued with the river patrol to reduce the number of illegal water abstractors.
3) The Isiolo WRUA held a workshop on identifying the problems that each member of the WRUA is facing and the counter measures that were being undertaken by WRUA members as individual or community.
4) The workshop identified problems facing Isiolo WRUA, ranked them and planned for future contingencies measures.

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.001 10th December, 2012

INSIDE THIS ISSUE:

TOWARDS THE FIRST INTEGRATED FLOOD MANAGEMENT COMMITTEE MEETING

The month of October 2012 witnessed a plethora of activities all geared towards establishment of the first Integrated Flood Management (IFM) Committee in each of the three pilot project area.

IFM Committee aims at establishing synergy towards flood management by all stakeholders involved in a river basin. It also aims at ensuring that the stakeholders' opinion are reflected in the final flood management plan for each respective pilot project area . Last but not least the IFM Committee also aims to be a forum whereby various stakeholders can share ideas, information and their diverse undertakings in development iin the respective river basins.

In preparation works for the first IFM Committee meeting WRMA's Flood Management Unit and Project Team met with various stakeholders and discussed the concept of the IFM Committee meeting and requested them to cooperate towards effective running of the IFM Committee.

The Project Team and FMU also discussed and shared information with the WRMA Regional Office on the IFM Committee.. The first preparatory meeting was held in Kisumu WRMA-LVSC Regional Office and in attendance were the Project Team led by JICA Expert and Flood Management Supervisor Gucha Migori River Basin and WRMA-LVSC Regional Manager and Assistant Technical Manager in charge of Community Development.. The second meeting was held at Sunset Hotel in Kisumu and in attendance from Project Team was JICA Expert, three Flood Management Supervisors and JICA Chief Advisor. While WRMA Headquarters was represented by the Technical Manager, and FMU member. WRMA-LVSC was represented by Regional Manager and Assistant Technical Manager in charge of Community Development.. The meeting agreed on the venue, participants and date and agenda for the first meeting.

The next meeting was held in Athi WRMA Regional Office and was attended by the three Supervisors, JICA Chief Advisor, FMU member and WRMA Athi Technical Manager and Nolturesh Lumi Sub-regional Manager. The meeting agreed on the venue, participants and date and agenda for the first meeting for Lumi River Basin.

The preparations are on-going and the first meeting in each respective river basin will be held early next year.

Meeting between Project Team : JICA, WRMA FMU (HQ) and WRMA –LVSC at Sunset hotel in Kisumu City

DESCRIPTION OF FLOOD CONDITIONS IN THREE BASINS

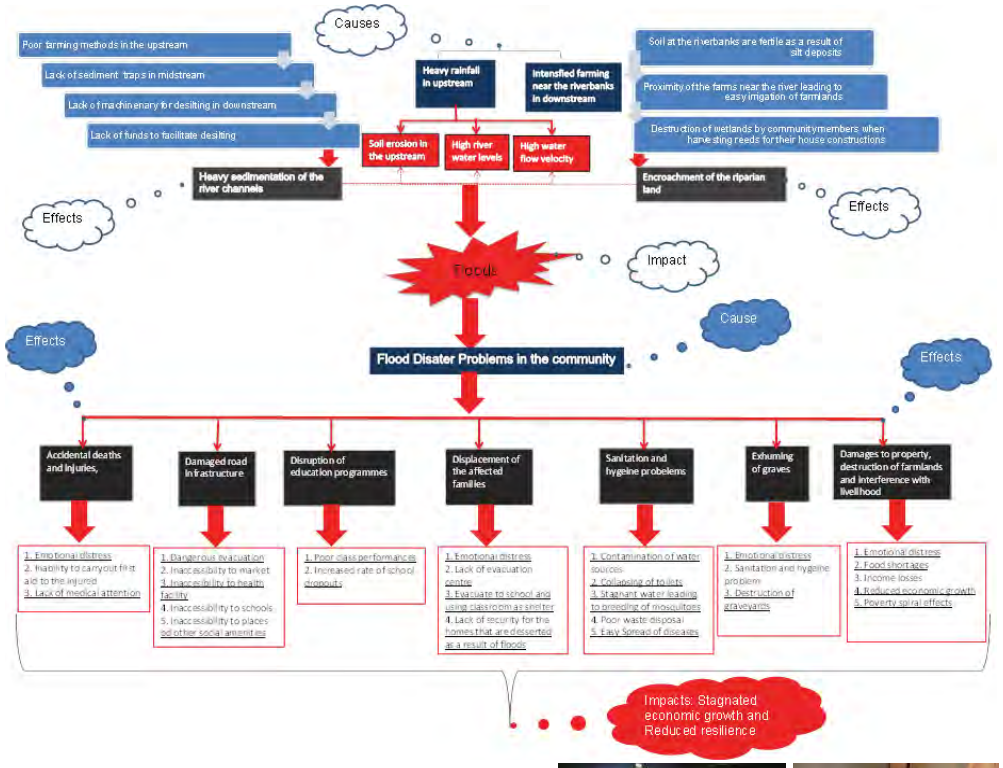
In the month of October 2012 the weather pattern in the Gucha Migori was characterized with the rainfall patterns. In the downstream the area experienced partial showers of rainfall while in the upstream the rains were fairly heavy but the area did not experience floods. In Isiolo the area experienced floods and the Newspaper reports indicated two persons lost their lives. In Taveta Lumi the area experienced average rainfall. The three pilot area are as shown on the map

The three pilot project area locations

Progress of Works: Gucha Migori River Basin

The Project Team was involved in the transferring of community flood hazard map to a topographical map. The JICA Expert and the Supervisor visited WRMA-LVSC Regional Office and Sub-regional Office and explained the processes involved in the above mentioned activities.

The WRMA counterpart staff for the Project in Gucha Migori River Basin was involved in the drawing of the Community Flood Hazard Map and was also involved in collecting data for purposes of transferring the data to the topographical map.
The Project Team met with LOGUMI WRUA members on 30th and 31st October 2012 and discussed the flood problems.
The community members were divided into groups and thereafter these groups discussed various problems they face based on the hazard, vulnerability, capacity and risks. The groups thereafter made presentations of their findings.
The community members were further tasked with the duty of identifying reasons why the flood menace including impact and effect persisted in the area in spite of the fact that community members were aware of the source, causes, effects and general outcome of the problem The diagram below is analysis of the source, cause, effect and result of the flood hazard as explained by community.



The following is a summary of what the community members explained as the reasons why the flood problems persisted in their area in spite of the magnitude human suffering and distress that the flood often causes: 1) Lack of collective community responsibility in flood management; 2) Lack of knowledge in effective evacuation and managing evacuation places; 3) lack of community managed evacuation centres; 4) Poor and danger prone evacuation routes; 5) Perennial disasters of floods and drought leading to food shortages; 6) Lack of coordinated and systemized communication channels; 7) Lack of proper and well managed early warning system; 8) Lack of capacity to strengthen the existing coping mechanism; 9) Lack of community sensitization and awareness of flood management; and last but not least 10) Lack of community capacity to manage floods.


WRMA staff explains problem analysis


JICA Expert assist in group discussion


Group discussion in progress


Group presentations

Progress of Works: LUMI River Basin

In the month of October 2012 the progress of works in Lumi River Basin was as per the schedule. The target for the month was basically to carry out flood problem analysis based on the community members opinion.

In order to achieve the above mentioned target the Lower Lumi WRUA members were mobilized and for three days they were engaged in problem analysis workshop with the Project Team.

The Lower Lumi WRUA Members therefore divided themselves into 4 groups i.e. 1)Kimorigo,Eldoro and Marodo 2) Leuyai Self Help Group,Jipe Division 3) Cess, Kimala, Rekeke and 4) Kitobo.

These above mentioned groups thereafter analyzed the flood problems as related to their localities and came up with solutions specific to these locations.

On 10th October the groups submitted their solutions to the Loitoktok supervisor through their Chairlady and the Secretary On the same day the two officials also met with the JICA Expert in charge of Lower Lumi who discussed with them about flood hazard mapping, the formation of the flood management committee and the preparations for the first meeting to be held. The WRUA officials also presented the flood hazard maps that they WRUA members had made in the above groups


Meeting between Project Team and Regional Office Machakos


JICA Expert Meeting with WRUA Officials

Progress of Works: ISIOLO River Basin

In the month of October 2012 the progress of works in Isiolo River Basin was as per the schedule. The target for the month was basically to carry out flood problem analysis based on the community members opinion.

In order to achieve the above mentioned target the Isiolo WRUA members were mobilized and for three days they were engaged in problem analysis workshop with the Project Team.

This workshop aimed at producing a participatory flood problem analysis and prioritization of problems based on the magnitude of the damage.


Workshop held in Isiolo

Planned activities for the month in three basins

The planned activity for the Isiolo river basin in the month of November includes the preparation and development of the flood hazard map for the Isiolo pilot project area. This will include engaging Isiolo WRUA members in drawing community flood hazard map which will later be transferred to topographical map thereafter field surveys and taking coordinates of the various landmarks including the adversely affected areas.

The planned activities for the month of November in Lumi includes the preparation and development of the flood hazard map for the Lower Lumi area. This will include field surveys and workshop with the community on the development of the maps. There will also be the analysis of the flood management issues with the community members including causes of the flood s, the effects and the countermeasures both at individual, community and governmental and other non governmental levels.

It is imperative to note that LOGUMI WRUA had developed a community flood hazard map for Kabuto-Nyora area and even transferred the flood hazard map to topographical map that led to a GIS drawn map for the Lower Gucha Migori Flood Plane to be developed. Therefore in the month of November 2012 the planned activities includes drawing a comprehensive community flood hazard map for the entire subcatchment capturing both riverine and flash floods affected areas.

The expected output for the planned activities in the month of November 2012 is a GIS drawn map that captures the geographical data on floods in the respective three project areas. The example of the output is captures in the figure 1.

Figure 1: A flood plain map for Lower Gucha Migori area developed by the Project Team

PLANNED ACTIVITIES FOR JANUARY 2013

The Month January the following activities are planned :

1) Weekly Project Meetings;
2) IFM Committee meeting for Isiolo River Basins;
3) Preparatory works for IFM Committee meetings for Gucha Migori and Lumi River Basins; and
4) Among other activities Preparatory for the JCC meeting

Last JCC meeting that was held on 7th August 2012 at Karen KCB training centre

ACTIVITIES OF WRUA FOR THE MONTH: LOGUMI WRUA

Picture 1: at LOGUMI WRUA members assist in inquiry of flood condition in Ogango area in Aneko and Picture 2: LOGUMI WRUA members sketch community flood hazard maps for Ratieny-Tito area and Lwanda-Misiwi area

In the month of November and December 2012 LOGUMI WRUA were involved in various activities which included the following:

1) The LOGUMI WRUA played an important role in developing the community profile for the most affected villages;
2) The WRUA was also involved in the transect walk wherein the landmarks were identified and GPS coordinates recorded;
3) The WRUA also were involved in drawing the community flood hazard map for Ratieny-Tito area, Lwanda-Misiwi area and incorporating Aneko area into Kabuto-Nyora Map;
4) The WRUA also mobilized community and WRUA members to attend to the Project Team during excursion trip that involved transect walk that identified various landmarks in Sub-catchment; and
5) The WRUA were active in flood management activities including observation of river level and in the flash floods in Lwanda.

ACTIVITIES OF WRUA FOR THE MONTH: LUMI WRUA

In the month of November and December 2012 Lower Lumi WRUA were involved in various activities which included the following:

1) The project team comprising the consultants and the JICA office and held a workshop with the WRUA members from 1st- 3rd November on the analysis of flood problems in the area. They come up with the problems, solutions and reasons why the flood issue is difficult to deal with perennial floods;
2) WRUA also mobilized WRUA and community member to participate in community flood hazard mapping;
3) The WRUA was also involved in the training and the development of the Community flood hazard map under the instruction of the JICA mapping Expert Mr. OKAWA. This took place between 7th –9th of November. The map was then transferred to the topographical map; and
4) In December they were involved in the preparation of the community profiles for Lower Lumi

Lower Lumi WRUA members explain the flood situation in this area during the transect walk across the Sub-catchment in November

WRUA members participate in the preparation of the community profile

ACTIVITIES OF WRUA FOR THE MONTH: ISIOLO WRUA

Flood Hazard Map drawing Workshop held on November 2012 .

In the month of November and December 2012 Isiolo WRUA were involved in various activities which included he following:

1) Holding a meeting to propose various activities to be included in flood management programme in Isiolo sub catchment;
2) The WRUA mobilized members to participate in problem analysis workshop;
3) The WRUA mobilized members to participate in training on flood hazard map development and later led WRMA and Project Team members to danger spots that were highlighted on the map;
4) WRUA members actively participated in drawing the community flood hazard map and thereafter transferred it to topographical map; and
5) The WRUA chair together with the Project supervisor and WRMA official carried out activity on community profiling.

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.002 15th January, 2013

INSIDE THIS ISSUE:

WET FESTIVE CHRISTMAS SEASON AS FLOODS RAVAGES ACROSS THE COUNTRY

The Christmas festive season in Kenya is an important season where families meet, where domestic tourism is rife and business sector thrives. It is a season characterized by love, giving and reaching out the less privileged with gifts. More so it is a time that Christians worldwide celebrate the birth of Jesus Christ the Saviour of the world. But on 19th December 2012 the Kenya Metrological Department issued a warning of possible heavy rains across the country that will lead to floods and landslides and advised the possible vulnerable community to move to safe grounds. Come 21st December 2012 the heavy rains began pondering across the country leading to a wet festive season in most part of the country.

In some areas it was not only wet festive season but inundated festive season because of floods . In the night of 24th December 2012 the Nyando River Basin experienced heavy floods as a result of heavy rainfall in the basin and in the Nandi escarpments which led to heavy floods on the 25th December 2012 which is the Christmas Day. The floods dampen the Christmas mood taking into consideration that most families prepare earnestly for Christmas with family members residing in the big cities having travelled back home to celebrate with their families only for the floods to hack into the celebration and dampen the mood. According to media reports at least four hundred (400) families in the Nyando River Basin alone were affected. The floods led to heavy evacuation of the affected families to evacuation centres and places with heavy losses on stored food, damages to houses, disruption of transport networks and disruption of the festive season.

In the Project Area Gucha Migori River Basin was affected with Lwanda Township in Lower Gucha Migori Sub-catchment being affected by flash floods that led to destruction of homes, collapsing of toilet facilities and disruption of transport networks.

Meeting between Project Team : JICA, WRMA FMU (HQ) and WRMA –LVSC at Sunset hotel in Kisumu City

WORKING GROUP WORKSHOP ON CAPACITY DEVELOPMENT

The months of November and December 2012 witnessed undertaking of various Project Activities. In the month of November 2012 the Project Team were privileged to hold a working group workshop on capacity development. The workshop was held on 29th and 30th November 2012 and it was a well attended workshop where opinions, divergent views were discussed and mutually agreed upon and a way forward streamlined.

The Kenya Red Cross Society also attended the workshop wherein they explained their current activities in disaster management. WRMA on their part expressed willingness to cooperate and work together with KRCS in flood disaster management in Kenya.

WRMA CEO makes the opening remarks

Project Team makes a presentation

FLOODS WRECKS FESTIVE SEASON: LWANDA TOWNSHIP

In the month of December 2012 Lower Gucha Migori Sub-catchment was affected flash floods that inundation period of between three to five hours leading to at least eight homestead to evacuate but returned back to their homes after three hours when the flood water subsided.

The flash floods in Lwanda township was a result of the heavy rains in the neighbouring Karungu hills. The community members described the flood water as marauding that takes up the Lwanda-Ndhiwa murram road and make it look like a river without its banks and therefore spilling the water anyhow to the nearby homesteads.

The flash floods in Lwanda led to heavy losses especially of crops that were still in the farms, damages to houses, collapsing of toilets and making accessibility within Lwanda very difficult. The affected families explained that there was no warning of any kind of the impending floods because the rains appeared normal only to intensify around the hills and without warning flowed into their homes and there was no room or time to sound the alarm!

Chief of the area points at Karungu hills that was the source of flash floods

Murram road which flood water flow on

Almost collapsing toilet facility

A house seriously damaged by floods

Grazing lands and feeder roads inundated

FLOODS WRECKS FESTIVE SEASON: NYANDO RIVER BASIN

In the Nyando River Basin where flood management Project under Japan Grant Aid had been implemented, the floods were severe but there was no human loss recorded. The community members attributed the lack of human loss to evacuation drills that were implemented under the Japan Grant Aid Project that trained community on safe evacuation.

From left to right: A woman and her son carry there ware from the flooded house, youths in the village assist in evacuation, an old woman carries her luggage as she evacuated tand finally KTCS responds to the distress cross and come to assist affected community members

Under the above mentioned Project six evacuation centres were constructed in Nyand River Basin. The affected families moved to these evacuation centres and settled there during the flood disaster. The affected community members in one of the evacuation centre in Kamagaga village in Muhoroni district pointed out that the evacuation centre's accommodation capacity was three hundred people yet the affected population that moved to evacuation centre was six hundred people that led others to stay in the tents and the condemned houses at Kogallo Chief's camp.

Affected families raise their concern during a meeting with Project Team

R. Nyando busted its riverbanks and thus causing floods in the area that affected villages in Muhoroni and Nyando districts. In Nyakatch district R. Sondu also busted its banks leading to heavy floods in the area. Also the streams and seasonal rivers in the Nyando River Basin busted their banks and overflowed in the neighboring villages thereby extending the boundaries of flood affected areas. The primary schools in these areas also acted as evacuation place as the floods ravaged the Nyando River Basin. These floods led to heavy losses in the farmlands whereby crops that were almost to harvested were washed away, huge livestock losses, damages to the houses and disruption of transport network in the area.

From left to right: Coping strategy to ensure safety of poultry, disrupted transport networks making it difficult for the cyclist to access, homestead deserted after floods led to evacuation and a house damaged by floods

PROGRESS OF WORKS: GUCHA MIGORI RIVER BASIN

In the month of November 2012 the Progress of Work in Gucha Migori River Basin was per the planned schedule for the month. The Project Team aimed at developing Lower Gucha Migori River Flood Plain map for purposes of developing geographical data for flood management.

To achieve this the Project Team engaged the services of JICA Expert in GIS Mr. Naori OKAWA, Flood Management Supervisor for Isiolo River Basin, Flood Management Supervisor for Gucha Migori River Basin, WRMA-LVSC Kisii SRO staff and the LOGUMI WRUA members in particular the Vice-chair and Secretary and also other members in the flood prone areas. This activity was undertaken between 13th to 16th November 2012. The activities during this period included meeting with WRMA-LVSC Regional Office and Kisii Sub-regional Office whereby the intended activities were discussed and agreed upon. Thereafter there was a meeting with the LOGUMI WRUA that led to the drawing of the Community flood hazard map for the three most affected area. Thereafter the team visited the highlighted landmarks on the hazard map including evacuation centres, breached riverbanks, inundated areas etc whereby the team discussed with the community members on flood conditions and thereafter took GPS coordinates.

In the month of December 2012 the Progress of Work in Gucha Migori River Basin was per the planned schedule for the month. The Project Team aimed at developing Flood prone Community Profile as the Project Team prepares towards the first Integrated Flood Management (IFM)

WRUA members draw community flood hazard map

WRUA members lead Project Team to various flood landmarks in the area

PROGRESS OF WORKS: LUMI RIVER BASIN

The activities for the month of November included: A two day workshop on problem analysis on flooding in Lower Lumi was held on 2nd and 3rd November 2012 at the Taveta CDF Conference hall in Taveta. The workshop came up with the flooding problems, problematic areas and the proposed solutions to these problems from various stakeholders including the community members themselves, other development partners and the government.

The other activity in the month of November included development of Flood Hazard Maps and the transfer of the map to a topographic map that was held on 7th to 9th November. It involved the services of the a JICA Expert on GIS Expert, Mr. OKAWA; the Flood Management Activity Supervisors Gucha Migori and Lumi, Taveta and WRMA staff from the Regional Office and Sub regional office. The maps were prepared together with the community members using their intimate local knowledge of the area.

In the month of December entailed an orientation excursion trip of the incoming Chief JICA Advisor Mr. KONDO to introduce him to the flooding situation in Lower Lumi. On 1st and 2nd of December he was taken to the various flooding hotspot sites within the areas.

The community profiles for Lower Lumi was also prepared in the month of December in close consultation with the WRUA members.

Workshop on flood analysis for Lumi River Basin

Development of Community Flood Hazard Map for Lower Lumi

PROGRESS OF WORKS: ISIOLO RIVER BASIN

In the month of November 2012, the Project Team received a JICA GIS Expert whose assignment was to conduct the process of community hazard map development procedure. The output was to produce a community based flood hazard map, drawn by the community and later transferred to a topographic sheet through GIS software.

Before conducting the exercise, there was a manual developed to guide the community, WRMA staff and the entire project team on the procedures and materials necessary for the exercise. The exercise in developing Isiolo WRUA community Flood Hazard map took place between 19-22, November 2012. The Isiolo WRUA community Flood hazard map was drawn on 20th November 2012, after a workshop on the process of developing community flood hazard map. The community members were able to identify danger spots along the evacuation routes, evacuation site, the duration of inundation in areas that are prone to floods.

In the Month of December 2012, the preparation of holding the 1st Integrated flood management committee meeting for Isiolo river basin is under way. The proposed list for stakeholders for the Integrated flood management committee was drawn from the line ministries dealing with flood issues, Non- governmental organizations and faith based organization .The 1st IFM committee for Isiolo river basin is proposed to be held in January 2013. The list for Integrated flood management committee members has been vetted by WRMA and the project team just to include members who are committed to flood issues and able to coordinate flood management activities whole river basin.

WRUA Members Participate in drawing community hazard map

Brainstorming meeting on Procedures and materials necessary for holding IFM committee meeting.

GROUP C PRESENTATION

In their presentation group c was tasked with answering this question: The mitigation measures that community can put in place to address the flood problem in Isiolo town. The group identified the following mitigation measures

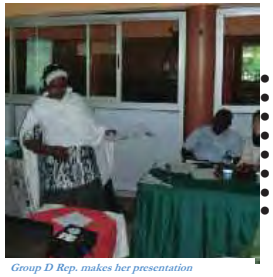
Mitigation measures that the community needs to make in Isiolo River Basin

- Flood hazard map as a community as EWs
- Effective communication or collaboration between up/down stream
- Collaboration with relevant authority in community planning
- Use traditional ways mitigation measures: destocking, building gabions
- Avoid settlement around river course

Group C Rep. makes his presentation

GROUP D PRESENTATION

In their presentation group d was tasked with answering this question: What are the impacts of flooding within the urban area and the rural area that is affected by flood? The group pointed out the following as impacts of flood within the rural and urban areas.



Group D Rep. makes her presentation

Impacts of flood on rural and urban areas in Isiolo River Basin

Rural	Urban
• Flood hazard map as a community as EWs • Destruction of crops in rural areas • Soil erosion • Displacement of people • Loss of lives for livestock and human • Outbreak of waterborne diseases • Destruction of services eg water intakes • Destruction of businesses rural areas	• Destruction of crops in rural areas • Destruction of services; water pipes etc • Water contamination • Business suffer those rely on agricultural produce from rural areas • Insecurity in urban areas especially during blackouts • Outbreak of diseases

WRAP AND CLOSING REMARKS

In the wrap session the WRMA Regional Manager pointed out the following pertinent issues:

1) He discussed the countermeasures to floods based on what the government can do, what community can do with the assistance of the government and community based and managed initiatives.
2) The Second Meeting be held on 15th March 2013 and from this meeting the Chairman of the Committee would be selected.
3) The third meeting will come two months after the second meeting.

In the closing remarks made by Representatives from JICA, Ministry of Water and Irrigation and WRMA HQ . In summary the above mentioned speakers pointed out the following salient issues:

1) They all agreed that the meeting was fruitful and that through the meeting new information and new ideas had sprouted up.
2) They all appreciated the Isiolo IFM Committee members who took their time to attend the meeting which was an indication of earnest desire of each stakeholder in tackling the flood problem. It was also pointed out that good disaster management can effectively be achieved when every person take responsibilities and perform their roles.
3) It was also pointed out that the world as a whole was witnessing increased flooding which was a result of Climate Change and therefore flood was considered a global issue.
4) It was also pointed out that Water Sector Policy Review was currently being undertaken and flood was also considered in that policy review.
5) It was also pointed out that there was a new proposed framework for Flood management.
6) Finally the Isiolo IFM Committee members were encouraged to maintain the spirit they had shown during the first Isiolo IFM Committee Meeting and extend the same spirit to the subsequent Isiolo River Basin Committee Meetings.

JICA Kenya Representative gives her closing remarks

Representative from the MWI gives Final remarks

WRMA HQ Representative gives her closing remarks

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT

ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.003 6th February, 2013

INSIDE THIS ISSUE:

ISIOLO INTERGRATED FLOOD MANAGEMENT (IFM) COMMITTEE MEETING KICK-OFF

The first Isiolo IFM Committee Meeting was held on 23rd January 2013 and the venue was the Rangepark Hotel. There is a common Africa adage that says "when the clouds are full they will pour the rains" which simply implies that in the fullness of time what has been cumulatively prepared for will surely come to pass.

The IFM Committee Meetings across the three Project Area are pre-determined in the Project Design Matrix (PDM). The Project Area of Isiolo was privileged to kick-off the first IFM Committee meetings in the area and the first one under this Project.

The Isiolo IFM Committee consists of various stakeholders that work within the Isiolo River Basin. The meeting was facilitated by WRMA Ewaso Ng'iro North Regional Office.

The stakeholders were eagerly waiting for the meeting bearing in mind that though most of them have on-going activities within the Isiolo River Basin but their activities were not coordinated and the various stakeholders did not know the level of engagement of other stakeholders because of lack of forum for sharing such information. Therefore the stakeholders were eager to share information and set up a IFM Committee that will be an avenue of sharing information, coordinating various flood related activities and opening up discussions amongst various stakeholders on the issues of flood that will inform policy and strategies of effective flood management within the Isiolo River Basin.

It was therefore with jubilation, joy and gladness that the Isiolo IFM Committee members welcomed the official opening of the first Isiolo IFM Committee Meeting. The meeting was declared opened by the WRMA Ewaso Ng'iro Regional Manager. The meeting was well attended by various organizations which included, government agencies, NGOs, parastatals, WRUA, CBOs and Project Team.

IFirst Isiolo IFM Committee Meeting in progress

BACKGROUND OF FLOODS IN ISIOLO RIVER BASIN

In Isiolo area, on October 2006, flash floods displaced approximately 5,000 residents and eight lives were lost. The assessment indicated that the floods displaced residents of Kulamawe, Bullapesa, Bulla Arera, Juakali, Kambiodha, Kambibulle, Kampigabra and Kabiwacho villages when Isiolo River burst its banks. The evacuees camped at isiolo Catholic mission and in the residents of unaffected people.

In 2011, flooding of Isiolo river damaged farm lands, blocked culverts, IWASCO water supply intake was affected, residential houses were washed away. General damages caused by floods included; loss of livelihoods including destruction of crops, death of farm animals, destruction of settlements and houses, destruction of infrastructure mainly roads, power lines, erosion of productive layers of the soil rendering the soil less productive, loss of food reserves, health related problems(contamination of water resources, water related diseases), increased conflicts of water resources, nutrition problems-lack of food as the floods destroy food reserves.

PREPARATORY WORKS FOR FIRST ISIOLO IFM COMMITTEE MEETING

In the month of December 2012 the preparation works commenced in earnest. The works entailed; Preparation of materials for presentation(concept note, budget, Agenda for the day, and Methodology for facilitation) and objectives of the Integrated River basin Flood management committee (IRBFM).

Preparation meeting on confirming stakeholders list

The Project Team and WRMA had taken cognizance to the fact that in implementing Integrated water Resource management (IWRM), the community component should be represented by WRUA since there are activities in the upstream, mid stream and downstream which affect and impact on each other. It was therefore necessary for the community to share their experience on their activities and the impacts of each activities. Its on this plat form that the IFM committee for Isiolo river basin was formed.

Various meetings were held at different levels during the preparatory works for the first IFM committee meeting. The first meeting aimed to understand the functions of ENNCA forum which is operational in Ewaso Ngiro North Catchment. ENNCA forum covers the entire catchment with five sub regions of : Nanyuki, Isiolo, Rumuruti, Marsabit and Mandera. Though some objectives of ENNCA forum touches on IRBFM committee, it was necessary to concentrate the membership of IFM committee to those who come from within the target pilot project area and are prone to floods damage.

Mock presentations at ENNCA Regional Office by the Project Team

The composition of the IFM committee include: Isiolo WRUA, WRMA (both regional and sub regional office), line ministries dealing in flood mitigation, Non– governmental organizations, interest groups, the local authority and provincial administration. The list of the membership for IFM committee was vetted in one of the preparatory meetings that was held on 13th December 2012, and it was attended by the Project Team and WRMA staff from regional office and sub regional office. All proposed members were found suitable for Inclusion in IFM committee for Isiolo river basin.

Invitation letters were designed and distributed to the participants. On the day to day preparations for the 1st IFM committee meeting, there was need to explain to the participants their roles prior to the meeting, the participants showed willingness to support the project.

In the preparatory works, its important to recognize various contributions of ideas from the Project Team, and WRMA staff.

The subsequent preparatory meetings for first Isiolo IFM committee took place in the month of January 2013. The main agenda was to fine-tune on the presentation materials, confirmation of the venue for meeting and agenda. The key points on the agenda aimed at engaging the participants into a brain-storming session that aimed also at triggering the participants to discuss their experiences in flood matters within Isiolo sub– catchment.

The sneak peak of the agenda which were prepared for discussion included: Key note speech from the Project Team, basic information about Isiolo river basin from WRMA Isiolo Su—regional office , current flood situation in Isiolo River basin and panel discussion from the stakeholders. A Matrix form was prepared in advance by the Project team to be filled by the participants/ stakeholders in the IFM committee meeting where solutions identified at the plenary discussions were to be filled, classifying the solutions in the category of short—term, mid—term and long –term either by the government agencies, other development partners or the community themselves. In the preparatory works, its important to recognize various contributions of ideas from the Project Team, and WRMA staff.

MORNING SESSION PRESENTATIONS DURING IFM COMMITTEE MEETING

Morning presentations were done by Project Team and WRMA both Regional and Sub– regional office. The Regional manager welcomed every participants in the meeting and declared it officially open.

In the Key note address, the JICA Project Chief Advisor, identified that disasters had been increasing in their occurrences in Kenya. According to data from Crisis Response Centre collected between the years 2010 to 2012 estimated a cost of 13 billion in losses as a result of disasters. He also explained to the participants why WRMA was the counterpart agency to the Project which primarily was predicated on WRMA's mandate. He also explained the historical background of JICA Projects on Floods in Kenya and in particular Nyando River Basin .In his presentation of basic river characteristics, the WRMA Isiolo sub-regional manger In his presentation to the participants, he explained by giving the analysis of a case study of flood disaster analysis in the Isiolo River Basin. He also explained the flash floods in Isiolo in which he attributed to the surface run-off that flows on the road into the town. He also explained the sediment discharge problem and increased human activities leading to increased incidences of floods. He thereafter explained the impact of the floods in the town.

JICA Chief Advisor to the Project makes a key -note address during the Isiolo IFM committee meeting

The Project Team leader in his presentations in flood damage situation in Isiolo river basin, He explained that R. Merire was shallow and narrow and that many houses had build in encroached rivers areas, culverts and bridges were clogged which during high flows leads to floods. He further pointed out that the drainage channel and network in Isiolo were not sufficient and that the road and the airport cause heavy rainfall surface run-off leading to flooding of the Isiolo town.

PLENARY SESSION

The plenary session aimed at having a panel discussion whereby the participants could engage in brain-storming session whereby they could debate the morning session presentation mingled with their own experiences on floods in Isiolo River Basin.

Isiolo WRUA chair makes his contribution during plenary session

The Isiolo WRUA chairman was selected to chair the panel discussion. The WRUA chair pointed out that Isiolo River Basin experienced extreme scarcity of water at a particular season and voluminous water overflowing the town at another particular season. He clarified that there were buildings constructed on the water ways and riparian land in which he posed this rhetoric question to the participants: Where will the water that used to flow through those encroached areas be channeled to? He also gave historical background of the water channels and he pointed out that through the oral traditions in the area that it is believed that R. Merire was formed when there were serious bombing during the Second World War.

CAAC member makes his contribution during plenary session

Thereafter various participants pointed out the causes and effects of floods in Isiolo River Basin. It was revealed that there were tree logs and waste disposals that clogged the river channels leading to floods. It was also revealed that the floods damages the infrastructures in the region including the water supply infrastructures leading to all round water scarcity in the homes of many families in Isiolo town. One participants pointed out that there were little sensitization exercises that could sensitize the community members on proper farming methods. One participant also pointed out that Ministry of Agriculture was involved in various sensitization activities that aimed at coming up with energy saving fuel that will reduce tree cutting in the area.

IFM member makes a contribution

A participant from Bola Pesa Marire Isiolo stated that a person who was his neighbor had died in the flood, houses have been damaged by floods. He explained that these negative impacts of floods led the community members to organize themselves in preparation which led the community members to meet with various relevant agencies. He also pointed out that the major problem was uncontrolled construction, feeder roads that were being constructed in the area without appropriate feasibility studies leading to problem of floods as a result of roads that act as water channel. He further pointed out that the constructed culverts in the area drains the water into Isiolo town. He further stated that the county council has not taken up the responsibilities to address the above mentioned problems. He also explained to the participants that Isiolo does not experience heavy rainfall but yet heavy rains in the upstream led to floods in Isiolo town.

community being developed to tackle the flood menace, manage risk assessment in their villages.

The KRCS risk reduction officer pointed out that lack of contingency planning was a major problem which should be addressed right from the village level with the capacity of the →

GROUP A PRESENTATION

In their presentation group A was tasked with answering this question: What are the causes of floods in Isiolo? The group identified the causes of floods in Isiolo town as follows:

Causes of floods

- Catchment degradation in the upstream
- Poor farming methods: No conservation measures, poor planting
- Lack of check dams along the water course
- Poor drainage system
- Poor planning in town
- Uncontrolled development
- Irregular land allocation
- Poor solid waste disposal
- Lack of infrastructure maintenance
- Lack of water harvesting techniques

Group A Rep. makes her presentation

GROUP B PRESENTATION

In their presentation group b was tasked with answering this question: The mitigation measures that government can put in place to address the flood problem in Isiolo town. The group identified the following mitigation measures:

Mitigation measures that the government needs to make in Isiolo River Basin

- Undertake study of catchment to determine flood characteristics in the catchment area
- Propose dams/check dams to be built in strategic positions
- EIA for all civil works and other major projects
- Disaster response unit with contingencies measures: disaster mgt funds, technical capacity
- Safe Evacuation grounds in events of flood disaster
- Early warning systems
- Reconstruction funds

Group B Rep. makes his presentation

THEME THREE PRESENTATIONS AND DISCUSSIONS

Mr. Boit in his presentation defined community flood hazard map, thereafter he explained the methodology for developing flood hazard map, he also explained the importance of community based flood hazard map, he also explained the role WRMA should play during development of community based flood hazard map. Mr. Boit thereafter explained the merits of the community based flood hazard map to the community and to WRMA.

Mr. Boit makes a presentation on community based flood hazard mapping

Mr. Joshua Ouma of LOGUMI WRUA in his presentation gave a historical background of floods in Lower Gucha Migori SC. He also narrated how a WRUA member lost over Kenya Shillings three hundred thousand (Ksh. 300,000/-) from the expected water-melon harvest. He thereafter explained the reasons why LOGUMI WRUA decided to develop their own flood early warning system. He elaborated on the steps that the community took in developing the hydrograph for flood early warning. He further explained how the hydrograph developed by community was being used within the Lower Gucha Migori SC. He concluded his presentation by highlighting the merits of having a community based early warning system.

Mr. Ouma makes a presentation on community based flood early warning system in LOGUMI

Mr. Arakida JICA Expert in his presentation explained the aim of community based flood management activities and the interlink relations between floods and poverty spiral effect. He emphasized on the need for developing a resilient community to counter the problems that the community faced. He thereafter explained some examples of best practices in community based flood management activities such as activities as raising house foundation, toilet foundation and evacuation routes; he further stated that by raising toilet foundation ensures eco-sanitation. He thereafter explained community initiatives in prevention of forest destruction in which he gave an example in Kakamega where community members were trained in production of charcoal by using agricultural waste in order to conserve forest. He further explained that the community early warning system could be achieved through the use of low cost and easy to grasp technology that ensures low cost maintenance. He gave an example of early warning system that was used in Central America and as a result of such system lives had been saved through early evacuation before disaster occurrence. He further pointed out that the Project planned to install a rain gauge at Nkando school upstream of R. Merire in Isiolo River Basin. He added that the Project was going to procure solar panel and battery for the simple rain gauge. In his conclusion, Mr. Arakida demonstrated practically how the low cost rain gauge could be used for early warning.

JICA Expert explains the relationship between floods and poverty spiral effects

During the discussions the moderator observed that the communities were knowledgeable on issues that affects them. He further pointed out that there was a need to harness this potential through capacity building thereby enhancing community involvement in the flood management. It was also pointed out that the simple rain-gauge based early warning system was going to be replicated in the other two pilot Project Area. The discussions also revealed that there was need for change of community mindset on their perception on who was responsible in giving solutions to the problem that the communities suffer. The discussion also revealed that there was a need for capacity building fo community on operation and maintenance of the structures within the community that enhances mitigation efforts against flood disaster.

JOINT COORDNATING COMMITTEE MEETING PRESENTATIONS

Mr. Kondo and Ms. Diego jointly made a presentation on the Progress Report. The presentation was divided into two with Mr. Kondo presenting on the Output one while Ms. Diego presented on Output two. In summary the two presenters explained the progress of the Project vis-à-vis the Project Design Matrix wherein they were able to highlight the milestones hitherto achieved by the Project which included the flood management plan for Gucha Migori River Basin; IFMC meeting in Isiolo River Basin; community flood hazard maps in the three pilot project area; and the involvement of WRMA staffs in the implementation of the Project.

JICA Kenya Chief Representative makes his opening remarks

Ms. Doi and Ms. Yamashita made a presentation on mid-term evaluation results. Ms Yamashita on her part explained the evaluation criteria that they used i.e. relevance, effectiveness, efficiency, impact and sustainability. She thereafter explained that relevance was high; effectiveness was low; efficiency was low; impact was high; and sustainability was attainable. Ms. Doi on her part of presentation enumerated the recommendations of the mid-term evaluation results. The recommendations were as follows: 1) Acceleration of non-structural activities in the project areas;2) Linking of various activities to ensure outputs are achieved;3) Flood management activities are used in existing facilities and systems; 4)Encourage the sharing experiences of WRMA staff and WRUA by visiting to other areas that flood management areas; Encourage network for sharing experiences and knowledge on issues of flood management. Establish systems of competition of good WRUA experience; and 5) Need for setting up clear total numbers and period for indicators of verification. On the next step for the Project Eng. Kondo pointed out that it was imperative for all participants to ask themselves the role of WRMA in flood management and how to achieve that role after the Project comes to an end. He added that it was important for capacity of WRMA in flood management to be enhanced. The scheduled WRMA and WRUA training programme was also explained.

Project Team Leader responds to the comments raised by participants

Participants keenly follow the proceedings during JCC meeting

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.004 10th March, 2013

INSIDE THIS ISSUE:

SECOND WORKSHOP ON EFFECTIVE FLOOD MANAGEMENT

The second workshop on effective flood management in flood prone areas organized by JICA was held on 12th February 2013 at Panafric Hotel, Nairobi. The workshop commenced at 8:30 am and ended at 4:30 pm. The meeting was well attended by various stakeholders. The colourful opening remarks made by WRMA CEO and Director for Water Resources in the Ministry of Water and Irrigation thanked Japan government for the support, assistance and cooperation extended to Kenya in flood management.

Director MWI makes his opening remarks

In the workshop three thematic issues were presented. Theme one presentations consisted of two presentations. Presentation one entitled "Flood Hazard Mapping" was presented by Mr. Ngida of JICA Project Team. Presentation two entitled " Integrated Flood Alert System" was presented by Eng. Kimanga of WRMA. Theme two consisted of five presentations as follows: presentation one "Roads and Floods" presented by Eng. Mundilia of KENHA; presentation two "Environmental Impact Assessment and Floods" presented by Mr. Opaa of NEMA; presentation three "Isiolo River Basin Integrated Flood Management Committee" presented by Mr. Mikumo JICA Expert; presentation four "Flood early warning in Isiolo" presented by Mr. Njogu of KMD; and presentation five "Urban Development Planning and Urban Drainage." presented by Mr. Mburu the DC for Isiolo. Finally theme three presentations consisted of three presentations as follows: 1) "Community based flood hazard map" presented by Mr. Boit of WRMA; 2) "Community based flood early warning in Lower Gucha" presented by Mr. Ouma of LOGUMI WRUA; and "Community based flood management Activities" presented by Mr. Arakida JICA Expert. After presentations of each theme there were plenary discussions that were moderated by Prof. Khroda.

THIRD JOINT COORDINATING COMMITTEE MEETING

The third Joint Coordinating Committee (JCC) meeting was held on 13th February 2013 at NHIF Auditorium. The meeting was well attended by the various stakeholders. The agenda of the meeting included: Progress Report from JICA Project Team; Result of the Mid-Term Evaluation of the Project from JICA Study Team; Next Steps including Training Programme from Project Team; and Recommendations from JICA Study Team. The meeting commenced at 9:00 am.

JCC meeting in progress

Mr. Kioki Deputy Director Water Resources in Ministry of Water and Irrigation made the opening remarks. Eng. Kinyua of WRMA in his opening remarks that the Project was important considering the flood management mandate for WRMA. He thereafter stated that under the Project the capacity of WRMA was being built in order for WRMA to effectively fulfill their mandate of flood management. He further clarified to the participants that the WRMA Board had approved the establishment of flood management department within WRMA that will be headed in the HQ and trickle down to Regional and Sub-regional offices across the country. Mr. Hideo Eguchi the Chief Representative of JICA Kenya pointed out that timing of JCC was appropriate because the Project was at its mid-term and hence the JCC could give a way forward.

PROCEEDINGS OF WORKSHOP ON EFFECTIVE FLOOD MANAGEMENT

The workshop commenced in earnest with opening remarks from Eng. Philip Olum the CEO of WRMA. In his remarks the CEO pointed out that it was official that Flood Management was one of the mandate of WRMA. Prof Khroda summarized the opening remarks of the CEO to the participants as follows: "That the core idea in the remarks was that flood management was now a task in water resource management and therefore the capacity building of WRMA staffs and respective communities in flood management was of paramount importance." Mr. Kondo the JICA Chief Advisor to the Project in his opening remarks stated that the purpose of the workshop was for the stakeholders to come together and discuss and share information of flood management. He also pointed out that it is estimated that a whooping ten (10) billion Kenya Shillings is lost annually due to floods in addition to lives that are lost and property destroyed. He also explained to the participants that the Project had adopted the approach of Integrated Flood Management in its implementation. He further stated that Japan as country had witnessed disasters for centuries and as a result Japan had experience in disaster management that stands out and such skills shall be replicated in the Project. Ms. Doi of JICA Tokyo in her opening remarks pointed out the background of the Project and the working relationship between JICA and WRMA in Flood Management. Using the analogy of football, She pointed out that the second workshop timing was appropriate because the workshop acted the role of kick-off for the second half of the Project. Eng. Nyaoro in his opening remarks stated that the workshop was being held after mid-term review of the Project. He pointed out that in the management of flood it was of utter most importance that it must encompass the integrated flood management approach. The Director pointed out that there are tangible results that are being realized in the Project. He further stated that the Integrated Flood Management Committee meeting had been successfully held in Isiolo and that the one for Taveta was underway which both indicated huge milestones in the Flood Management in those areas. He also clarified that early warning, evacuation plan and structural measures were in the pipeline of being implemented in the Project.

WRMA CEO makes his remarks

JICA Projcct Chief Advisor makes his remarks

Ms. Doi of JICA Tokyo makes her remarks

THEME ONE PRESENTATIONS AND DISCUSSIONS

A participant makes a comment after presentation one

Moderator clarifies the key points of theme one presentations

Mr. Ngida started his presentation by defining flood hazard map; he thereafter explained the current status on the condition and capacity to develop flood hazard map and the merits of the developing flood hazard map for community and WRMA. He thereafter enumerated and descriptively explained the steps involved in developing flood hazard map to the participants. discuss and share information of flood management. He concluded his presentation by putting up a case for importance of flood hazard mapping.

Mr. Kimanga began his presentation by introducing the participants to IFAS. He explained that IFAS was a tool that was used for flood analysis. After defining IFAS , he explained the concept of IFAS whereby he pointed out that real time input and IFAs were friendly interface. He also explained the technical scheme for flood forecasting and gave an example of tropical rainfall measuring mission. He also explained the implementation of a model creation function. Thereafter he explained the steps in IFAS Engine application. He also explained the Lumi case i.e. basin boundary and river channel and Lumi area flood hyeto hydrograph based on a storm in April 2011. He thereafter explained the application to actual basin with case example of selected Asin cases. He also explained to the participants the challenges to IFAS application in Kenya. He concluded his presentation by explaining flood forecasting and warning by using GFAS information.

Prof. Khroda stated that key pointers in two presentation was the challenges in collection of data and and how to address such gaps in data collection. He also gave the participants this food thought: "What capacity needed to be developed in data management and sharing. And what need to done in order to make data sharing possible." The following is summary of discussion:

It was pointed out that stakeholders can be engaged in the various lined activities in data collection i.e. synthesizing of primary data and secondary data and thereafter sharing the outcome with others stakeholders. It also emerged that the institutions had no fixed budget for data collection but generally most institutions use whatever resources that are available at that particular time i.e. recurrent budget. It was clarified that honesty in data sharing was paramount and that institutions must be ready to indicate the cost of data that was in their possession rather than develop bottlenecks to other stakeholders who were in dire need of the data.

It was generally agreed that data was scattered and therefore there was a need for integrated data system that will enable effective and easy accessibility to data. It also emerged that there was policy in place for data sharing but that data was sensitive and needed proper handling and management. And that before sharing any data the purpose detailing need for data must be outlined. WRMA also pointed out that they were incrementally improving in data collection through better wage payment for data collectors and improvement of monitoring stations. On Trans-boundary data collection it was explained that there were effort towards cooperation with neighbouring countries like Tanzania i.e. for L. Jibe and L. Challa that have shared boundary with Tanzania.

THEME TWO PRESENTATIONS AND DISCUSSIONS

Eng K.I Mundilia from KENHA in his presentation gave a background of the various bodies in the Ministry of Roads. He thereafter explained the core functions of each of these bodies. He further clarified that after the completion of road construction that particular road was handed over to roads maintenance departments. He also explained to the participants the various types of maintenance i.e. routine, periodic, emergency and performance based contracting (PBC). He pointed out that the worst hit road by floods was the Mai Muhiu- Narok road (B3) road. On flood he clarified that the Maai Mahiu- Narok road problem was based on its design because during its design period there were no settlement in the area but vegetation but thereafter the area experienced heavy settlement leading to high flows of surface run-off water flowing on the road leading to flooding. He also pointed out that there were roads that were blocked by silt as a result of flood and the unblocking of such roads was often achieved through the community labour.

Participants make their comments on the roads and floods presentation

Mr. Opaa of NEMA in his presentation defined EIA and its objectives and those who were eligible to undertake EIA. He further explained to participants the significance of EIA and the study process therein and the steps involved in the study. He thereafter explained EIA in the context of flooding and the challenges of EIA in Kenya. He concluded his presentation by pointing out that flooding was both natural and human induced and therefore it demanded a study on the positive and the negatives of flooding regimes.

Mr. Opaa makes his presentation on EIA and floods in Kenya

Mr. Mikumo, in his presentation gave the background and purpose of Integrated Flood Management Committee. He also explained to the participants the current flood situation in Isiolo pointing out the four types of flood that affects Isiolo town. He clarified that the causes and effects of floods in Isiolo. He thereafter elaborated on the schedule of the IFMC in Isiolo and other Project Areas. He concluded his presentation by highlighting the countermeasures and eventual master plan for Isiolo river basin. He stated that a simple flood early warning and garbage removal from the river channels was being considered to be undertaken by the Project.

Mr. Njogu in his presentation pointed out that there was a need for assessment of RGS stations i.e. identify the active and inactive stations and rehabilitate, automate RR/RGS for flood early warning purposes, He concluded his presentation by pointing out that there was need of integrate Rainfall and River level data, run-off observation and added that there were satellite data that can be used for flood early warning.

JICA Expert makes a presentation on Isiolo IFMC meeting

Mr. Mwangi Mburu the DC Isiolo in his presentation explained the hotspots in Isiolo. He also explained to the participants that the R. Merere had a major problem of human encroachment. He further stated that, Isiolo town suffered from the floods that were as a result of surface run-off. He also clarified that drainage was a problem and KENHA was in the process of dealing with challenges. He also explained to the participants that the airport in Isiolo also contributed to the flood problem in Isiolo town. The following is summary of discussion:

DC Isiolo makes his presentation

Moderator pointed out that the major thematic concern that arose from the presentations was lack of coordination between various organizations and agencies. During the discussions it emerged that there was legal framework that gives WRMA the role of lead agency in coordinating the flood management activities. The discussions also revealed that there were gullies in some areas that were caused by culverts constructed on roads for purposes to evacuate water from the road leading to formation of gullies. The discussions also brought to fore the fact that the Ministry of Roads was currently collecting data and even sharing with other ministries during design period before construction of roads.

The discussions also revealed that IFMC were important because IFMC in respective river basins were going to facilitate good practice in road construction. It also emerged that many roads in Isiolo did not have side road to enhance accessibility. The discussions also revealed that the culverts constructed on roads in Isiolo drained surface run-off water into Isiolo town. It also emerged that the main problem in Isiolo was not only in the context of structures but also in coordination and cooperation among the stakeholders. It also emerged out of the discussions that flood management was not synonymous with disaster management. The stakeholders agreed that for effective flood management there must be cooperation and coordination among the stakeholders. It also emerged out also that there was a need for paradigm shift from the old school of thought of flood control to new school of thought of flood management.

The discussion also revealed that there was a need for all the stakeholders to understand the new constitution and the role the institutions plays at county level. It also emerged out of the discussions that Project had plans to install rain gauge station in R. Mereire in Isiolo for purposes of analyzing the amount of rainfall that leads to floods in Isiolo town leading to an flood early warning system being developed. The discussion also revealed that there was need to integrate flood management to the development plans and a case example of Isiolo was mentioned where an airport was constructed with engagement of professionalism but yet still the airport had been singled out as one of the sources that caused floods in Isiolo town.

In conclusion it was consensually agreed that data was important and therefore there was a need for legal framework that gives credence to coordination of various stakeholders. The participants also pointed out the need of bringing all stakeholders that have data on a round table to manage data.

WATCH OUT FOR THE FIFTH EDITION OF THIS NEWSLETTER FOR MORE INFORMATION:

The Lumi Integrated Flood Management Committee (IFMC) Meeting will feature in the fifth edition of this Newsletter.

MORNING SESSION PROCEEDINGS PART THREE

After the morning session presentations there was a session of discussion. During discussion session the various participants pointed out that the impacts of floods in Lumi River Basin among which they outlined included loss of lives and property destruction.

One participants inquired from the JICA Project Team if the Team could assist in training community members on healthcare education to deal with health issues that affect the community during flooding. He singled out Bilharzia disease as the most common during floods. It also emerged that Bilharzia was not only a problem during floods but affect the community living near the rice growing areas. Eng. Kimanga clarified that the education programme on flood management was in the pipeline of the Project and during its implementation the school pupils will be taught on how to deal with flood related diseases. He elaborated that the education programme was going to become the first step in addressing the health issues during flooding including bilhazia problem and that the Lumi IFMC must think of coming up with more solutions to address the matter.

Group C Rep. makes his presentation

DISCUSSION ON POSSIBLE ACTIVITIES TO BE IMPLEMENTED

There was a brief discussion on the possible activities that can be implemented as the countermeasures. It was further agreed that the outlined activities be analysed by the JICA Project Team and in the next subsequent IFMC meeting the countermeasures could be discussed in details. The summary of the activities outlined by the stakeholders is as follows:

A) Community participatory works/activities with government assistance including structural and non-structural (Medium Scale)

i) Use of gutters (roof water harvesting) ii) Repair and Rehabilitation dyke and canal C iii) Education of community on flood management iv) Digging of diversion drains v) Sensitization and awareness creation for community members vi) Land demarcation vii) Regulation and law enforcement viii) Tree planting ix) Construction of check dams x) Evacuation routes.

B) Community initiative works/activities including structural and non-structural (Small Scale)

i) Maintain good drainage system ii) Planting trees and grass iii) Construction of gabions iv) Engage in alternative energy sources v) Raised foundations for house vi) Establishment of tree nurseries vii) Education of community on tree nursery establishment (It was pointed out the need to KRCS disaster education not only on tree nursery but on disaster prevention and management) viii) Canal and small drains desilting ix) Digging trenches (cut-off drains) x) Relocating to raised higher ground.

OUTCOME OF THE IFMC: MATRIX OF THE MASTER-PLAN OF PROPOSED ACTIVITIES

Countermeasures: Master Plan in Lumi River Basin (Proposal)

	Short Term (1Year)	Medium Term (2-5 Years)(SCMP)	Long Term (5-10 Years)
Structural measures by the government (Large scale)	Draft planning for dredging Canal A, B and C Repair of breached dyke of Canal-C	1) Repair of broken dyke in Canal C 2) Draft renovation planning for river LUMI 3) Starting discussions with Tanzanian side (Flood management, Lake Jipe)	Tree planting
Community participatory works/activities with government assistance including structural and non-structural measures (Medium scale)	1) IFAS/GFAS introducing 2) Adding the disaster prevention program in the school education 3) Dredging of Canal A a O&M	1) SCMP planning 2) Dredging of Canal B and O&M 3) Dredging of Canal C and O&M	Constructing of evacuation centre
Community initiative works/activities including structural and non-structural measures (Small scale)	Tree planting and preventing deforestation by charcoal making from Biomass	1) Tree planting 2) Construction of WRUA office (Taveta town)	1) Establishment of FEWS 2) Renovation of river LUMI 3) Dredging of lake Jipe 4) Multi purpose Dams (upper LUMI)

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.005 6th April, 2013

INSIDE THIS ISSUE:

THE FIRST INTEGRATED FLOOD MANAGEMENT COMMITTEE (IFMC) MEETING FOR LUMI RIVER BASIN

The first Lumi River Basin IFMC Meeting was held on 22nd February 2013 and the venue was the Green park Hotel in Taveta. The IFMC Meetings across the three Project Area are pre-determined in the Project Design Matrix (PDM).

The IFMC Lumi River Basin consists of various stakeholders that work within the Lumi River Basin. The meeting was facilitated by WRMA Athi Regional Office.

The IFMC Lumi River Basin becomes the open forum that brings various stakeholders together for purposes of sharing information, coordinating various flood related activities and opening up discussions amongst various stakeholders on the issues of flood that will inform policy and strategies of effective flood management within the Lumi River Basin.

The meeting was declared opened by the Taveta District Commissioner. In his opening speech he appreciated JICA for extending the Project to Taveta an area which was heavily affected by floods. He clarified that rains in Taveta instead of being a blessing was a curse and he stated that by the Project entry in Taveta was the starting point for the curse being converted to a blessing. He also appreciated the Project approach of involving the community in all stages of implementation.. The meeting was well attend by WRUAs, NGOs, relevant line ministries, parastatals and KRCS.

There were various presentations during the meeting and all aimed at the integrated flood management approach. The eye catching presentation that day was the one that was presented by the Project Team on how to reduce deforestation by producing charcoal that do not demand tree use but using alternative method of agricultural waste and not wood. The description of this method is captured in page three of this Newsletter.

DC Taveta makes his opening remarks during IFMC meeting

BACKGROUND OF FLOODS IN LUMI RIVER BASIN

Floods in Lumi River Basin are not a new phenomenal. The history of floods in the area is as follows in 1964; 1974;1984; 1997; 2006 ; and 2012. The flood disaster in the river basin has left a trail of human suffering including loss of lives, property destruction among other negative impacts.

The summary of the negative impact of floods in Lumi River Basin is as follows:1) destruction of property i.e. houses destroyed and swept away.2) Loss of lives e.g. in the year 2010 one person died due to floods 3) Loss of crops when farmlands are inundated and crops are washed away. 4) Heavy livestock losses including goats, sheep, rabbits and poultry are killed or washed away. 5) Evacuation of affected families as a result of houses being submerged 6) Interference with education programmes as a result of schools being submerged making it difficult for students to learn. 7) Disruption of transport infrastructure i.e. roads and bridges are destroyed thereby disrupting community daily livelihood which impacts negatively the local economy. 8) Interference with the water supply system and also the destruction of toilets. This leads to the outbreak of waterborne diseases like typhoid and cholera. 10) Outbreak of vectorborne diseases like malaria due to presence of a lot of mosquitos after the flooding.

Community members believe that flood water can be harnessed and used productively in the area.

PREPARATORY WORKS FOR FIRST LUMI RIVER BASIN IFMC

The composition of IFM Committee for the River Lumi Basin includes: Lower Lumi WRUA, Upper Lumi WRUA, WRMA (Regional and Sub-regional Office), and line ministries dealing with flood mitigation and, Non-governmental Organisations, local authorities and the provincial administration. The proposed members have been aware of the committee from late 2012 and had indicated willingness to attend the committee meeting.

The preparation for the meeting mainly involved the WRMA Regional and Sub regional office and the Project Team. A series of meetings were held in January and February 2013 to prepare for the meeting. This involved the preparation of the budget, finalisation of the list of proposed members, the concept the committee, preparation of the agenda and agreement on the date and the venue for the meeting.

A JICA Workshop was held on 7th February 2013 at Greenpark hotel with various stakeholders from Taveta town who are involved with the Lumi River Basin. During this workshop the facilitator who is the WRMA Sub- regional Manager for Nolturesh Lumi informed the members present of the IFM Committee meeting to be held on 22nd February 2013 because most of them had been selected to be members of the IFM Committee.

It was also agreed in that meeting that the Sub-regional Manager should write an official letter that invites all the IFMC members to the first IFMC meeting.

The master plan for the Lumi River Basin was prepared in advance by the project team. A matrix form was also prepared to be filled by the meeting participants for their preferred measures both structural and non-structural measures.

On 30th January 2013 members of the project team made a reconnaissance visit to Taveta. The purpose of this visit was to keenly evaluate and consider some of the activities that should be included in the master plan especially under the structural measures.

The Project Team were keenly interested in the network of canals and dykes situated in Kimorigho village. They also wanted to explore the R. Lumi from the inlet of Lake Jipe upstream. This interest was triggered by the interviews with the different stakeholders and community members whereby from the interviews it was pointed out that one of the main reasons for the bursting of the banks of the river was due to blockage of the inlet of the river into Lake Jipe. The blockage also caused excessive silting of the river bed on the downstream areas in the river. Unfortunately this was not able to be achieved because there had been some flooding from Tsavo West National Park from 28th -29thJanuary and this had swept awry the only bridge connecting Taveta Town to Lake Jipe

Preparation meeting with Sub-regional Manager

Community members use community flood hazard map to explain the flood condition in the area

Bridge on Gulley in Rekeke Village swept away by flood waters

MORNING SESSION PROCEEDINGS PART ONE

Regional Manager makes his opening remarks

Chief Advisor to the Project makes key note address

Sub-regional Manger makes his presentation

The morning session was the launch springboard for Lumi Integrated Flood Management Committee. The morning session was moderated by Sub-regional Manager WRMA-Nolturesh Lumi. WRMA-Athi Regional Manager explained the background of the Project. He clarified to the participants that flood management was the mandate of WRMA. He thereafter explained the purpose of Lumi IFMC. He further clarified that Lumi river basin was trans-boundary i.e. it is both Kenya and Tanzania. He pointed out that the Lumi IFMC was represented in Joint Coordinating Committee of L. Chala, Jibe and that an MOU had been signed in Kisumu on 14th February 2013 to that effect. He pointed out that there MOU signed will allow the cooperation in management of the resources. He thereafter outlined the agenda for the day and what was expected of the stakeholders. He further pointed out that East Africa Community decisions 2005 allowed the Lake Victoria Basin to extend its scope to other Lakes within the region that have lakes that cut across the boundaries of the East Africa countries. The moderator clarified that L. Chala and L. Jibe development plan had been developed and that the TZ community members had expressed their desire that the Project be extended to Tanzania.

In the Key note address, the JICA Project Chief Advisor, identified that disasters had been increasing in their occurrences in Kenya. According to data from Crisis Response Centre collected between the years 2010 to 2012 estimated a cost of 13 billion in losses as a result of disasters. He also explained to the participants why WRMA was the counterpart agency to the Project which primarily was predicated on WRMA's mandate. He also explained the historical background of JICA Projects on Floods in Kenya and in particular Nyando River Basin. The moderator Mr. Musau explained to the participants the geographical features and characteristics of Lumi River Basin. He also explained the physical features including the topography that characterizing the rivers, the rainfall features and topographical features in Lumi River Basin. He concluded his presentation by elaborating the causes of floods and counter measures therein to minimize the impact of floods

MORNING SESSION PROCEEDINGS PART TWO

JICA Expert clarifies a point during his presentation

Supervisor explain charcoal produced from agricultural waste

The JICA Expert Mr. Mikumo in his presentation entitled "Flood damage situation in Lumi River Basin" explained to the participants the background and purpose of the Project. He gave the flood disaster analysis of Lumi River Basin. He further explained the outcome of the community in developing the flood hazard map of the area. He thereafter explained the various site visits in Lumi River Basin. He explained the breached dykes in the area he also explained the location map around the canals.

He also explained the location map of Rekeke area and the current status of the floods impact in the area, he pointed out the erosion of the banks that if not checked will affect houses around the area.

He also discussed the countermeasures master plan in Lumi River Basin proposal. He stated that repair of breached dyke by government, disaster prevention education programmes in school. He also explained the conceptual planning of structural measuers. He explained in details the planned repair of the dykes. He also explained the importance of IFAS/GFAs and its importance in trans-boundary river basin. He pointed out that IFAs will be made easy to understand that the WRUA could engage in. In education programme he explanaied the conventional curriculum and engage children in developing rain-gauges Kimororigo and Eldo primary school will be engaged in disaster prevention programmes.

Step1: Prepare kiln and the agricultural waste e.g. maize stalks & cobs

Step 2: Heat the agricultural waste using the kiln and prepare adhesive

Step 3: Crush the heated wastes into dust and mix it with adhesive fluid

Step 4: Mould the mixed dust using a steel compressor and leave the wet charcoal to dry for two to five days and it is ready for use as fuel

The Flood Management Supervisor for Gucha Migori Mr. Ngida in his presentation entitled "Possibilities of preventing deforestation by charcoal production" explained that the title of his presentation sounded as semantic absurdity whereby charcoal that is produced from wood can be used against deforestation. He therefore highlighted on the importance of conserving the forests. He also explained that the community members needed fuel for cooking that leads them to cut tree for charcoal production. He stated that there were other alternative source of energy other than charcoal produced from wood. He gave an example of Kakamega forest that was a target of community member whereby they could cut trees for charcoal production. He further stated that KAMADEP an organization in Kakamega that had a JICA volunteer attach to it got involved with the community. He further explained that based on innovation and using locally available material the community with the assistance of JICA volunteer were able to come up with a homegrown solution of producing charcoal by using agricultural waste. He pointed out that this innovation was an value addition to hitherto considered useless materials i.e. agricultural waste through value addition this waste turned to raw material for environmental friendly charcoal which the community members were selling and therefore generating income for themselves.

He thereafter used video clips to explain the various steps engaged in environmental friendly charcoal production and throughout the presentation the key words used were value addition, non-wood charcoal production, simple and affordable technology, locally available materials as resources for environmental friendly charcoal production. He concluded his presentation by explaining how bamboo could be introduced. He clarified that by use of ecosan toilets the toilet waste could be used as manure in the bamboo farms and these bamboos be used for charcoal production.

Eng. Kimanga of FMU WRMA HQ in his presentation entitled "integrated Flood Analysis System (IFAS) and Lumi River Basin" introduced participants to IFAS. He explained that IFAS was a tool that was used for flood analysis. As a tool IFAS was a good tool for flood forecasting and warning.

He further elaborated that IFAS was important on trans-boundary river basin like Lumi. After defining IFAS he explained to the participants that there was need for satellite data on rainfall. He thereafter explained the concept of IFAS. He gave graphic explanation of background information of Lumi Area.

He further explained the hydro-metrological stations that were in the area i.e. total eighteen stations. He pointed out that there was a symmetry relationship between rainfall station (14) and regular gauging station (4). He further pointed out the major issues of floods in Lumi and thereafter gave a brief problem analysis of floods in Lumi River Basin. He pointed out the difficulty in synchronizing the hydrological and metrological data in the area in the previous regime made it difficult for developing flood early warning in the area. He thereafter described the steps in IFAS application. He also explained the IFAS results i.e. Flood Hyeto hydrograph. He also elaborated the objectives of such analysis and thereafter explained what was needed in order to use the remote sense data. He concluded his presentation by explaining the next step in IFAS that will eventually lead to establishment of flood early warning.

WRMA FMU member makes his presentation on IFAS

Participant raises a question during presentation on IFAS

ONE NIGHT SESSION: VIDEO ON EVACUATION DRILL

Evacuation drill is one of the major pre-flooding phase flood management activities. The drill aims at preparing community members in effective and safe evacuation in case of a flood disaster.

In the Nyando River Basin, the Japan funded Grant Aid Nyando Project assisted the communities in the twenty four villages that were under the project to implement evacuation drills. This drills have played a big role in reducing human casualties during floods as explained by Kamagaga CFMO chairman.

Picture of video clip of Kokwaro drill

It was therefore imperative that the participants of study visit to Nyando River Basin observe the evacuation drill. It was in this regard that the Project Team organized for an evening video show. The video was projected on the screen and two movie clips on evacuation drills were shown. One clip showed evacuation drill in Kokwaro village that was conducted under the JICA Study Team during development of Nyando River Basin Flood Master Plan. The other clip showed evacuation drill in Kamuga village conducted under the Japan funded Grant Aid Nyando Project.

Picture of video clip of Kamuga drill

Ms. Elizabeth Diego of WRMA FMU in her explanation in which she began by first thanking the Project Team for organizing the video show. She also thanked the participants for not sleeping during the one hour long video show that was also very interesting video despite the fact that all participant had a long busy day that involved observing various structures. She thereafter explained the steps involved in conducting evacuation drill. The participants were quite impressed with evacuation drill to quote a LOGUMI WRUA participant "In our Flood Management Plan, one of the activities is the evacuation drill. I believe if such activity is carried out annually before the floods, then human casualties in Lower Gucha Migori SC will dramatically reduce."


Explanation of the steps of evacuation drill

GOOD PRACTICES NOTED IN THE NYANDO RIVER BASIN

The Nyando River Basin is a model for community based flood management. There were many good practices in flood management that were noted in the Nyando River Basin that can be replicated in other flood prone areas. In summary some of the good practices noted in flood management were as follows:

- Education Programme on Flood Management. It was noted that the pupils within the Nyando River Basin were well acquainted with concepts of flood management. This can be attributed to the education programme on flood management. One teacher at Rae Kanyaika primary School explained that the teachers were trained on how to infuse flood management subject into the regular school curriculum subjects like social studies, science and English. He also clarified that pupils were able to share their experiences and what they had been taught on flood management with their parents and friends from other school. This kind of education programme on flood management is worth implementation in other flood prone areas as a tool in flood management;
- Evacuation drills . It was observed in the video that community members after training were able to conduct flood evacuation drill. This activity as a preparatory exercise that enables affected family to evacuate effectively was noted as a good practice in flood management;
- Community organizations with the sole purpose of managing floods. In the Nyando River Basin the affected villages have organized themselves and established Community based Flood Management Organizations (CFMO) that are registered at the Ministry of Social Services. The CFMOs are effective tool within the affected villages in the management of floods in their respective villageFlood management can be achieved at the community level. The stagnant paradigm has been that floods or any other disaster can only be handled by government or KRCS. Nyando case reveals that flood management can be achieved at community level. The structure measures undertaken in the Nyando do not demand heavy investment like dyke or dam but simple structures like raised toilet, raised borehole, small culvert construction, footbridge etc.;
- Efficacy of integrated flood management. In the Nyando River Basin it was noted that there was close correlation between the structures that were constructed in the region and training community members received e.g. for all the structures constructed there was the corresponding O&M training for such structure;
- High priority that is accorded to safety. It was noted that in Nyando River Basin human safety during seasons of floods is given a high priority. Culture is an important tenet in human civilization and Nyando River Basin is not an exception. In the Nyando cultural dynamics forbids mother-in-law and son-in-law to share toilet facility. But during floods the human safety comes first before culture and the affected community members use the structures without consideration to cultural dynamics;
- Stakeholders' cooperation and involvement. It was noted in Nyando River Basin that school institutions cooperates with the community in flood management. Schools as institutions within the affected community cooperate with this communities as exemplified in the school acceptance to the flood management structures to be constructed within the school compounds. The school management cooperate with the community in the O&M. During implementation of the evacuation drills the KRCS as key stakeholder in flood management were also involved. It is therefore noted that stakeholder involvement and cooperation as good practice that can be replicated in the pilot project areas; and
- Raised structures above the inundation flood depth. It was noted that the structures constructed within the evacuation places like evacuation centre, toilets and borehole were all raised above the flood depth in those area. This a good practice in flood management not only in improving evacuation places but also it is the model of building within flood prone areas for example hospitals, schools, market etc should be constructed with their foundations raised.

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.006 20th April, 2013

INSIDE THIS ISSUE:

THE PROJECT TEAM KNOCKS ON THE DOOR OF THE NYANDO RIVER BASIN

The timeless and priceless good book teaches us that knock and the door shall be opened for you. It was on this wavelength that the Project Team knocked on the door of the Nyando River Basin in what was dubbed as the Excursion Visit to Nyando River Basin.

Over the years Nyando River Basin has been badly and devastatingly been affected by floods. But in 2006 to 2011 a glimpse of hope emerged in the basin through JICA assistance, wherein community based flood management project was successfully implemented in the Nyando River Basin. This project in Nyando aimed at developing flood management system within the Nyando Basin. The guiding principle of the flood management system was the integrated approach whereby structural and non-structural measures that complimented one anoother was implemented. Interviews with community members within the Nyando River Basin revealed that as a result of the Project the casualties as a result of floods has dramatically reduced.

The Project Team therefore took a step of faith and organized a short study visit to Nyando River Basin. The participants of this visit were from the following organizations: JICA Project Team (5); WRMA (10); GIZ (1); and WRUA (11). The host was WRMA-LVSC (4) both regional and sub-regional office.

The purpose of the study visit to Nyando River Basin included the following:

A) To exchange the knowledge and experiences already in place in Nyando River basin and three piloted WRUAs;

B) To learn good practices in flood management in the Nyando River basin; and

C) To enable the WRUAs with the three pilot project to have a perspective and ideas on what is to be formulated in the effective community based flood management plans in the three pilot areas.

EXCHANGE VISIT TO LOWER GUCHA MIGORI SC

LOGUMI WRUA is a proactive organization that has made several milestone as a community based organization in management of floods. LOGUMI WRUA with assistance from the Project Team developed flood management plan; the WRUA also have innovatively incorporated flood management activities into their Sub-catchment Management Plan (SCMP); the WRUA also established a sub-committee within the WRUA to tackle the flood issues i.e. the Flood Management Committee; the WRUA also has since developed Community-based Flood Hazard Maps; and the WRUA also has since developed a Community-based Flood Early Warning System using a community developed hydrograph.


Team Leader explains the purpose of exchange visit to participants


LOGUMI WRUA have pasted the flood hazard map and community dbase hydrograph on the wall of their office

It was in this regard that the Project Team organized an exchange visit to Lower Gucha Migori Sub-catchment. The exchange visit was purposefully organized in order to learn good practices in community based flood management and valuable lesson in experiences for purposes of replicating such good practices in other Sub-catchments.

STUDY VISIT TO NYANDO RIVER BASIN

The Study Trip to Nyando River Basin entailed the participants observing the structures that were constructed under the Japan funded Grant Aid Nyando Project and interaction with the beneficiary communities of the same project. Community based Flood Management Organizations (CFMOs) were established in all the twenty four villages that benefited from the Nyando Project. These communities were organized at village level. The Project Team visited only six villages out of the possible twenty four villages. These villages include Rae Kanyaika village where small culverts were observed; Mowlem village where raised structures of borehole, toilets and evacuation centre were observed and also participants interacted with school management committee; Kamuga village where raised structures of borehole, toilets and evacuation centre and also participants interacted with Kamuga CFMO in a discussion on how the CFMO manages the structures. The participants also observed the flood management subjected being infused in social studies lesson in class seven; Kamagaga village where flood hazard map signboard, footbridge and raised structures of toilets and evacuation centre were observed and also participants interacted with Kamagaga CFMO; and Achuodho village where raised structures of borehole, toilets and evacuation centre were observed and a discussion session between the WRUAs and CFMOs located in Nyando and the WRUAs from the three pilot project area. It is also important to note that Kokwaro village which was a beneficiary of the pilot projects under the JICA funded Master Plan for Flood Management in Nyando River Basin was also visited. At Kokwaro the raised road and evacuation centre were observed and there was a warm and educative discussion between Kokwaro Community based Organization (CBO), Kano Plains WRUA and the participants of the study visit .

Observation of footbridge in Kamagaga village

Participants discuss with Kokwaro CBO during an interactive session that was held at Kokwaro evacuation centre

MAJOR FINDINGS DURING THE STUDY VISIT

Head teacher Rae Primary welcomes participants to school

A wise man once stated "If the path you are treading on is not a virgin path then take the responsibility of first asking those who have treaded along that same path, the challenges they experienced while treading on that path." It was with this in mind that the study visit participants were inquisitive during the visit. It is also important to note that even though a thing may not be broken, that fact does not mean that the thing in question does not need improvement! One of the recent addition to English vocabulary is the word kaizen which is of Japanese origin. Kaizen implies a philosophy of continuous improvement. Lesson learnt is a "good teacher" that triggers improvement in the current undertakings. The study visit to Nyando river basin revealed many things to the participants and herein is a summary of the major findings during the visit to Nyando.

A participant seeks clarification ori management of borehole by Kamuga CFMO

1. The Nyando River Basin is heavily affected by floods that adversely affect the community that live within the basin. The Nyando Project on flood management has led to reduced human suffering and casualties during floods as a result of both structural and non-structural measures that have been undertaken in the basin;
2. The education programme on Flood Management is still being undertaken in some of the school where the Nyando Project was undertaken that has led to high level of sensitization on flood management among pupils in school;
3. The raised toilets, evacuations centre and borehole plays an important role in the area because they enable communities to access these structures in spite of the floods in the area. There are community members who have raised the foundations of their toilets in their homes as modeled by toilets constructed in the Nyando Project;

Kamagaga CFMO chair explains O&M of raised evacuation centre

4. Community members through the CFMOs are operating and maintaining the various structures constructed within the Nyando basin;
5. The CFMO members in most areas still have dependence mentality and this is due to their reluctance in joining WRUAs that will enable the CFMOs to access funds through the WRUA to implement the various CAPs items that they developed. The CFMOs still depend on the external help rather than reach out and release the enormous potential that is within the basin including joining the WRUA; and

Discussion between the WRUAs and CFMOs in Nyando and the WRUAs located in pilot project area

6. There are gaps that need to be abridged between WRUA and CFMOs. WRMA is yet to make a follow up in strengthening the communities under the Nyando Project and this can be attributed to the Nyando Project Implementation strategy wherein the Project entry point was CFMO rather than WRUAs wherein WRMA is able to interact with directly. One of the way forward as per the discussion was to eliminated the gaps, whereby WRMA-LVSC Kisumu Sub-regional Office indicated that they will make a follow up, harmonize the activities of the CFMOs and the WRUAs and ensure that the CFMOs join the respective WRUA and work together as a team.

In conclusion it is important to note that the WRUAs in the pilot project areas indicated that the good practices they noted from Nyando were credible and worth replicating in their own areas.

EXCHANGE VISIT TO LOWER GUCHA MIGORI SC

Lower Gucha Migori Sub-catchment is located within the Gucha-Migori River Basin. The Gucha -Migori River Basin cuts across five counties i.e. Nyamira County, Kisii County, Narok County, Homa Bay County and Migori County. The Gucha-Migori River Basin is therefore located on the south-western corner of the Lake Victoria Basin in western Kenya. The Lower Gucha Migori Sub- catchment is not endowed with many rivers but has two permanent rivers i.e. River Gucha and River Migori which merge to become a wide river Gucha Migori river. The Lower Gucha Migori Sub-catchment is not endowed with many rivers but has two permanent rivers i.e. River Gucha and River Migori which merge to become a wide river Gucha Migori.

Map for LOGUMI SC

The R. Gucha has its source in the of Nyamira county, which rise up to nearly 3,000 m.amsl at Kiabonyoro peak GPS location Altitude1653M South 00034'07.6" East 034058'50.3". The Migori River has its source in Chepalungu forest, at altitudes of around 2,000 m.amsl, and drains a large area west of the Sirian Escarpment which shields the Maasai Mara to the east. The two rivers together have a catchment area which spans over 6,900 km² in Nyamira, Kisii, Migori and a section in the western-most Narok counties. At the confluence of R. Gucha and R. Migori near Macalder Mines, about 30 km from their mouth on Lake Victoria the mean annual runoffs (MAR) of the Gucha and Migori rivers are estimated at 1,083 and 609 Mm/year respectively.

Wide River Gucha Migori

The exchange visit focused only on Lower Gucha Migori Sub-catchment. The WRUA that is tasked with community water resource management in the SC is LOGUMI WRUA. The participants for the exchange visit included JICA Project Team (5); WRMA (10); GIZ (1); and WRUA (4). The host was WRMA-LVSC Kisii Sub-regional office (2) and LOGUMI WRUA (7).

The exchange visit had a mishap when one of the participant a Lower Lumi WRUA member fell ill and had to be admitted in Ram Hospital in Kisii for two nights and one day in hospital, thereafter he was discharged . It has since been confirmed that the participant has fully recovered.

Supervisor for Lumi River Basin patiently waits at the hospital

DAY ONE: TRAINING SESSION IN LOWER GUCHA MIGORI SC

Morning training session on community based flood management

Site visit to the two most affected villages in LOGUMI SC

Two evacuation places in Nyora and Kabuto schools in LOGUMI SC

Day one training sessions and activities included the following: a) Explanation by LOGUMI WRUA how they developed a community based early warning system using a simple community developed hydrograph. The explanation was done by LOGUMI WRUA Secretary; b) Training on community based flood hazard mapping. This training was conducted by Mr. Joseph Boit of WRMA-LVSC Regional Office; and c) Visit the two most affected villages i.e. Kabuto and Nyora villages. During the visit to these two villages the participants were able to observe the former channel of R. Gucha Migori at KUDISA which is an acronym that implies Kuja Disaster, the evacuation places within the two places, the school that was relocated as a result of flood disaster and the difficulties the community members face when trying to access the Kabuto Health Facility.

During the visit to the two most affected villages it was observed that the two places where flood affected community members move to as evacuation places were also vulnerable to flooding and also due to the nature of the structures of the buildings within these two schools that act as evacuation places were observed to be vulnerable to possible outbreak of diseases and epidemics.

The participants were impressed by communication ability of WRUA.

DAY TWO: TRAINING SESSION IN LOWER GUCHA MIGORI SC

Day two training sessions and activities included the following: a) Explanation of flood water discharge observation by using ADCP and demonstration of flood water discharge observation by using ADCP and thereafter plenary discussion based on the above mentioned explanation. The explanation were done by Mr. Ngessa of WRMA-LVSC Regional Office. During the plenary discussion on the use of ADCO many questions were asked, herein is a summary of the questions asked: how can the data that WRMA have be shared with WRUA in order for the WRUA to improve on their hydrograph and on importance of imparting simple monitoring techniques to the WRUA members and the possibility of engaging ADCP in areas like Isiolo; b) Discussion on excursion visit to Nyando River Basin and exchange visit to LOGUMI SC revealed that there are good practices that are worth emulating and being replicated in the three pilot project area but also that there were very good example from LOGUMI WRUA. The WRUAs from Lower Lumi and Isiolo indicated that they were going to replicate these good practices that they noted in Lower Gucha Migori in their own respective Sub-catchments.

It is imperative to note that the LOGUMI WRUA being the host prepared and served lunch to the participants. The meal was served with fish and chicken and brown ugali was a treat to remember.

Explanation on how to use the ADCP

ADCP floats as it moves across R. Gucha Migori

FLOODS IN ISIOLO COUNTY

Kenya Red Cross Socirty (KRCS) a leading humanitarian organization in Kenya published a report on Floods in Isiolo County on its website on 13 April 2013. Though the locations and villages affected as per the report are outside the Pilot Project Area in Isiolo county. This KRCS report published on KRCS website, on its home page stated that at least 8,000 people had been marooned in Isiolo County as a result of heavy rains.

The report further pointed out that in Korbesa village at least 820 households (HH) were affected with roads from Merti being rendered impassable. The report went further to state that cases of food shortages as a result of villagers inability to access the markets and this led to hiked food prices had been noted. The report further stated that in Saleti and Biliki villages 260 and 990 people were affected in the villages respectively.

The report further stated that Kenya Red Cross Society (KRCS) had provided four wheel drive vehicles to supply relief items to the affected families. The report further clarified that Basa village was the worst affected with at least 600 HH being affected and in dire need of food and clean water and moreover the roads were totally impassable. The report therefore further recommended that relief be airlifted to the affected people.

The report also pointed out that the farmlands along the River Ewaso Ngíro, had all been washed away. The report also stated extensive damages on the houses with most of them having their rooftops blown away exposing the affected population to harsh cold conditions.

Media covers the flood problem in Isiolo County. (picture shot on TV during KTN News broadcast)

Kenya military prepares to airlift relief to Isiolo County. (picture shot on TV during KTN News broadcast)

FLOODS A CURSE OR A BLESSING?

A wise man once said failure to plan is planning to fail if rephrased it reads "where there is no plan in place failure is inevitable". The cover story of this Newsletter through the eyes of the victims to flood refers to floods metaphorically as a thief in the night and a broad daylight robber. The questions that lingers are: why this kind of sentiments towards floods? Are floods a blessing or a curse? And what can be done to reverse such human suffering scenarios to human benefiting episodes vis-à-vis floods?

History has revealed that there is always a plan for response but the cliff-hanger remains a plan for pre-flooding preparedness phase and post flooding rehabilitation phase! Where do the evacuees go to when their houses are damaged beyond repair and their crops washed away and their financial savings depleted and media is no longer highlighting the plight of the affected families since the floods had subsided? Moreover more often than not the aftermath of the flood is characterized by drought thus a food of thought "What happens to the families and communities terrorized by floods? Is there a plan in place to alleviate such human suffering as a result of floods or the cyclic poverty spiral effects spins the coin again?"

The catalogue of questions above leads to one big question is floods a curse or a blessing? In one of the workshop for effective flood management Director of Water Resources under the Ministry of Water and Irrigation gave an analogy that clearly defines and give a clue on whether the flood is a curse or a blessing. The analogy stated as follows "Consider floods as salary that a young man earns at the end of the month. This salary can be used to enrich the life of the young man, he can invest, buy decent cloths and pay his rent. The same salary at the same time can be a 'gun' in the hand of the young man that he points on his own head and shoots i.e. he can go and drink himself silly, disappear from work the whole week, engage in a spending spree etc." Based on the above analogy it comes out clearly that it is not the salary that is the problem but the mentality and socialization of the young man! In the same manner floods are not the problem but how these floods are viewed and responded to determines whether the floods are a curse or a blessing. The floods become a curse if they are not properly managed i.e. the floods will cause untold suffering to human society, including loss of lives, property destructions, infrastructure damages, disruption of the daily livelihood activities the list is endless! The floods become a blessing when properly managed i.e. floods can deposits good silt that enriches farmlands fertility, the flood water can be harvested stored and used for irrigation during the dry spells etc. In the Nyando River Basin, the Nyando Project that was implemented under Japan Grant Aid assisted the communities to establish flood management system. The integrated approach in flood management that enable the implementation of structural and non-structural measures in the twenty four villages that has led to reduced negative impact of floods in the area. The evacuation drills implemented has since assisted the affected communities in safe evacuation, the community based flood management trainings implemented have since helped the community to coordinate with other stakeholders effectively, the raised structures of evacuation centres, storages toilets and boreholes coupled with civil works have since improved evacuation places and routes that have drastically reduced human suffering. The flood management subject in primary schools socializes the pupils in the proper and effective flood management and thereby empowering the future generation with skills to convert a disaster into a blessing.

The floods whether a blessing or a curse like beauty it squarely lies in the eyes of the beholder.

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.007 25th May, 2013

INSIDE THIS ISSUE:

FLOODS LIKE A THIEF IN THE NIGHT STRIKES ACROSS THE COUNTRY ONCE AGAIN

The flood early warning by weathermen from KMD was sounded in March 2013. The reality of climate change has not gone unnoticed, yet in the month of April like a thief in the night the floods struck ruthlessly across the country.

Some of the victims in the interviews with the media pointed out that floods affected them in the night while others stated that the floods came in during the day like broad daylight robber. The common denominator was the loss of properties by the affected families thus the use of metaphor like a thief in the night and broad daylight robber to describe floods!

The floods were as a result of the heavy rains that pounded the country. The broadcast and print media carried various stories on floods that disrupted day to day activities in most part of the country from Mombasa to Nyatike, from Mandera to Baringo, from Murangá to Busia etc the screamers in the media were the devastating effects of floods.

Herein is an example of the news headline in the international media NBCNews.com | **April 19, 2013**

Rains in Kenya kill dozens, floods crops

(you can read this story on NBCNews.com website)

This IFM Newsletter herein gives a big thank you to all the media houses that relentlessly covered the flood disaster in the country

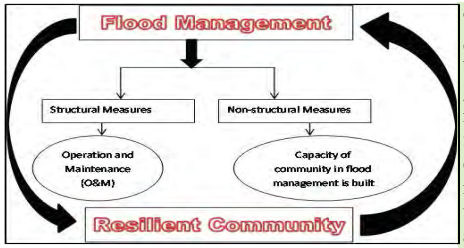
A vehicle that was swept away in the night time by the raging floods in Narok county, the driver and passengers in the vehicle were admitted in the hospital with serious injuries

The press media quotes a statistics by Kenya Red Cross of at least 70 people lost their lives and more than 90000 people displaced by the floods. The floods also caused widespread destruction of property, heavy losses in the farmlands and massive destruction of transport infrastructure. The Kenya National Government directed the military to help airlift families that were trapped by floods to raised and safe grounds.

In the KRCS report it pointed out that on 7th and 8th April 2013 A projected 180 families in Kabuto and 200 families in Nyora have been displaced in Migori County due to floods caused by the heavy rains across the county through R. Gucha Migori. The report further points out that in Isiolo county On the 4th of April 2013, there was a heavy rain from morning to evening with raging

BUILDING FLOOD RESILIENT COMMUNITIES

The Project on Capacity Development for Effective Flood Management in Flood Prone Areas (PCDEFM) in one of its workshop postulated a case for building resilient communities that are able to cope with floods. Floods as a disaster if not checked is responsible for poverty spiral effect that is experienced in flood prone areas and a resilient community plays an important role in ensuring economic growth in spite of the floods.



The diagram indicates that for effective flood management to be achieved efforts must be geared towards developing a resilient community as the base for flood management i.e. a community that has capacity to recover from floods and continue with their daily livelihood activities in spite of floods.

FLOODS IN GUCHA MIGORI RIVER BASIN

The floods in Gucha Migori River Basin affected mainly Lower Gucha Migori sub-catchment. The floods were as a result of heavy rains in the upstream of Kisii highlands and Transmara. The heavy rains in the Lower Gucha Migori sub-catchment mainly led to flash floods that affected Lwanda township, Misiwi area and Tito area. The river floods affected mainly Nyora and Kabuto villages. Though other villages like Tulu, Aeiko and Aneko were heavily affected.

The floods led to massive evacuation in Nyora village with two hundred and fifty four (254 HH) Households i.e. about nine hundred(900) people including children moved to Nyora Primary School. Some of the affected families in Nyora evacuated to the raised homesteads of their relatives. While in Kabuto village two hundred and thirty (230HH) Households i.e. eight hundred people have moved to Kabuto Primary school. The two schools acted as the evacuation place and the fortunate thing was that the schools were closed for first term vacation and therefore there was no disruptions of the education programme.

The highest depth noted at the River Gauging Station (RGS) was 6.21 M. It is worthwhile to note that the community based hydrograph developed by LOGUMI WRUA indicates that once the gauge is at 4.00 M there are areas in Nyora and Kabuto villages that will be affected. The flood depth was at an average of 1.2M and the flood affected area by the end of April 2013 was 15KM^2 and the inundation duration was more than three weeks with floods still on the rampage as at the end of the month of April 2013.

There was extensive flood damage experienced in Lower Gucha Migori sub-catchment with the farmlands being the worst affected. The houses in Nyora and Kabuto village were extensively damaged and also the transport infrastructure was heavily damaged.

A man shelter himself on top of the roof from floods

Affected families carrying their belonging evacuate to Nyora Primary

RESPONSE TO FLOODS BY VARIOUS STAKEHOLDERS

Flood damaged house in Nyora

The floods that affected Lower Gucha Migori sub-catchment did not just suddenly occur without an early warning. Immediately the early flood warning was sounded by KMD, the District Disaster Management Committee (DDMC) under the stewardship of the District Commissioner embanked on planning and preparing to respond to the flood disaster appropriately. During the planning phase the various stakeholders and the role they should play in case of the floods was planned and rehearsed with each stakeholders being assigned specific role to play during flooding.

The following responses were noted during the flood occurrence in Lower Gucha Migori sub-catchment:

Above pic: Evacuees with non-food items distributed by KRCS below pic: Evacuees with non-food items distributed by World vision

1. The District Commissioner office coordinated all the response to the floods. The DC mobilized various stakeholders who have capacity to respond for example through the DC's office relief assistance from UNICEF was able to be transported from Kisumu to Nyatike district. The District Commissioner's office also provided storage for relief items especially food items.
2. The Kenya Red Cross Society office distributed non-food items i.e. mosquitoes nets, blankets, trampoline, kitchen set and water treatment tablets to the affected families. The KRCS also actively participated in assisting the affected families to evacuate to the raised safe grounds.
3. The World Vision office, Nyatike distributed non-food items i.e. mosquitoes nets, blankets, trampoline, kitchen set and water treatment tablets to the affected families. World vision also distributed eco-san toilets to the evacuation places to ensure sanitation and good hygiene at the evacuation places.
4. LOGUMI WRUA played a pivotal role of informing provincial administration of the flood occurrence. The WRUA also actively assisted the affected families to evacuate using canoes. The WRUA also carried flood assessment. The WRUA were instrumental in the management of the evacuation places. The WRUA in collaboration with KRCS and World Vision also assisted in distribution of the relief assistance to the affected families. The LOGUMI WRUA also stationed one of its member at the evacuation places to ensure proper management of the evacuation place and also for coordination purposes and mainly with KRCS.
5. The Ministry of Health (MoH) played a pivotal role of supplying medical supplies at the evacuation places. The MoH also ensured that the medical personnel camps at the evacuation centre to administer drugs and treat the sick at the evacuation places.
6. District Water Officer ensured that the evacuation places had temporary water tanks of 10000litres that the evacuees could use to harvest rain water.
7. The Ministry of Special Programmes through the Provincial Administration distributed the food items (rice, beans, maize, cooking fat, salt etc) to the affected families

WRUA members assist in evacuation

MoH Medical supplies at the evacuation places

In conclusion it is worthwhile to note and acknowledge the good organization and planning that the Nyatike DDMC was able to put in place in order to alleviate or reduce the human suffering during the flood occurrence in the month of April 2013.

FLOODS IN LUMI RIVER BASIN

The floods in Lumi River Basin mainly affected Lower Lumi sub-catchment. The floods occurrence in Lower Lumi sub-catchment were first experienced in the mid month of March 2013 and extended throughout the month of April with trail of destruction and heavy losses being left behind.

The following villages were heavily affected i.e. Marodo, Kimondia, Mwarusi, Chechewa, and Mkochini. The residents of these villages were forced to evacuate to raised and safe grounds until the rains that were causing floods reduces in intensity.

In Kimorigo area the area chief explained that the area had been hard hit by floods. He however stated that the area residents had not evacuated from their homes because the residents felt that they had nowhere to evacuate to.

During these recent floods even the chief's office was cut off by the floods and he could not discharge his duties from the office and he had to operate in a makeshift office at his home.

During the site visit it came out clear that the residents had a clear understanding on the source of floods in their village. They pointed out that the floods were not as a result of the heavy rains in the area but the floods were as a result of heavy rains from the slopes of Mt. Kilimanjaro. The residents explained their predicament and metaphorically referred to floods as the broad daylight robber. They pointed out that they had gone to their daily livelihood activities only to come back home in the evening and found out that their houses were totally inundated by flood waters and some of their utensils washed away by the floods. The residents pointed out that even though the floods were still affecting them yet though they had established a contact link with other people in the upstream who could warn them of the impending floods via SMS.

During the floods there were no human casualties reported but many residents had lost small livestock especially poultry.

Chief's office inaccessible due to the floodsin Kimorigo

Homes in Kimorigo are marooned by flood water

Floods cause infrastructural damaged in Kimorigo

Farmlands in Kimorigo destroyed and crops washed away

Heavy inundation of flood depth 1.2 M in Rekeke

A family evacuate carrying dismantle parts of their house

Masain gully that continuously enlarges due to heavy soil erosion as a result of the flash floods and currently has damaged part of a permanent house structure that is near

Mkocheni village is situated in the downstream area of the Masaini gulley which is one of the biggest gulleys within the whole of Taveta town area. The depth and the width of the gulley keeps increasing continuously. The gulley is responsible for the flash floods that affects the village at a very high velocity from the Tsavo West National Park. On 29th January 2013 flash floods swept away the drift (small bridge) connecting Taveta town to Lake Jipe. The drift has since been repaired by staff from KERRA. However, the depth and width of the gulley has been increasing and on 17th April 2013 one of the permanent houses located just besides the gulley was damaged by floods. The village of Mkocheni has a total of 13 families and all the 13 families did evacuate and moved to raised and safe grounds. The recent flood occurrence led to waters with heavy deposits of silt that covered the houses in this village. Most of the houses were covered in approximately 1 meter deposits of the silt. The village does not have an evacuation place and therefore the affected families are forced to stay with their neighbours who are slightly on the raised grounds that less frequently affected by the flooding.

During the recent floods community members dismantle their houses and carried the materials including doors, windows, and timber and roofing materials to the evacuation places. After the end of the evacuation period which often lasts from 2 weeks to 2 months the affected families will carry back the dismantled house materials and rebuild their houses in the same places. The residents of the area pointed out that if an alternative places could be given to them, they were willing to migrate and to establish their village new place.

The flood damage in this village included the destruction of farmlands whereby the crops were all swept away by the raging flood water. The livestock especially goats, sheep and poultry were also swept away by the flood water. However the affected families were able to recover and save some of the cattle and have evacuated with them to the higher grounds.

These village have a good rapport with the communities in the upstream. This has enabled the community members to have a community early warning system. The early warning system operate in this manner: the upstream community members give warnings to those in Mkocheni village via the mobile phones. The interval between the warning and the occurrence of the floods is however very short (10-20 minutes) which does not help much in saving property but human lives .

CURRENT COMMUNITY RESILIENCE AGAINST FLOODS

"Quitters never win and winners never quit" is a common quote by Bill Graham. In the months of April and May 2013 the country was ravaged by heavy floods that among other things led to loss of lives, property, business opportunities etc leading to heavy losses and outcry from the affected families. But after the floods the affected members were recollecting back their lives, restoring back their daily livelihood and going back to their homes. The affected families refuse to give in to the whims of the floods but rather rise up again to stand on their two feet again in a resilient manner.

Osewe's farm in 2012 when floods washed all his crops

Osewe's melon farm after replanting

Night vigil Tent erected in Osewe's farm

It is in this spirit that this Newsletter takes a look at the life of Mr. Andrew Osewe who in 2012 lost over Ksh. 350,000 when his watermelon plantation was washed away. In 2013 Mr. Osewe planted again watermelon which the floods washed away but Mr. Osewe had develop a contingency plan to enable resilience. He did not plant all the watermelon seedlings that he bought but reserved some seedlings in case there was occurrence of floods! The floods indeed washed away his farmland again but Mr. Osewe used the reserve seedlings for replanting. The major challenge with Mr. Osewe replanting was that the dry spell had set in and this in essence forces him to irrigate his farm. The dry spell also affects the wild animals leading to the hippopotamus to invade the farms near the rivers in search of food and this has forced the farmers to organize themselves in groups and erect tents in their farmlands and spend the night vigil in their farmlands to protect their farms by chasing away the marauding hippos.

ROLE OF WRUA IN FLOOD MANAGEMENT

The Water Resources Users Association (WRUA) are organizations that work closely with Water Resources Management Authority (WRMA) at community level. The WRUA are mandated by an Act of Parliament to be an organization at community level that is mandate in engaging in water resources management at sub-catchment level. Currently Flood Management is one of the mandate of WRMA and therefore by extension WRUAs.

The WRUAs operate within the WDC Module and are therefore required to develop Sub-catchment Management Plan (SCMP). It is therefore within the SCMP that the WRUAs are able to come up with strategy on how to manage floods within there sub-catchments. But in summary the role of WRUA in Flood Management entails:

Developing Community Flood Hazard Maps: It is salient this map be drawn for effective risk reduction strategies to be developed. These maps should clearly show local resources, routes of evacuation and tools used for interventions like evacuation signboards and places of medical care. In essence the hazard maps like Flood Hazard Map should assist in the preparing of plans which can reduce the danger in a community.

Coordination and communication during floods: This involves utilization of emergency communication network before, during and after disaster and the roles that each organization is active in. It also involves coordination procedures between the community and the District Disaster management Committee and the Relief Agencies in the area. The WRUA should be involved in Information dissemination and activity of stakeholders before, during and after the floods.

Contingency planning: This is defined as a forward planning process in a state of uncertainty or emergency whereby scenarios and objectives are agreed upon. In order to achieve this it will require that the managerial and technical aspects be defined and potential response systems put in place in order to prevent or have a better response to an emergency. The process involves: Analyzing potential emergencies and their humanitarian impacts; prioritizing potential emergencies; develop appropriate plans, including establishing clear goals, setting objectives, policies and procedures to deal with prioritized potential emergencies; and ensuring necessary preparedness measures and follow -up action taken.

Evacuation: This is defined as moving from areas affected by floods to raised dry places for safety purposes. The process of evacuations begins with the discovery of the impending floods or by occurrence of the floods in the area.

During these periods of floods the inundated water results at times results into epidermis especially waterborne diseases. WRUAs as community based association that are involved in the management of water resources have a big role to play during flood disaster. WRUAs can involve and engage the communities in preparation of flood disaster by carrying out evacuation drills.

Survey of the Structural measures in place: WRUA officials carry out a survey of the existing structures in the villages thereafter draw the contingency plan on how to improve the structures and thereafter engage other stakeholders in effort to commence improvement of these structures in readiness for floods. WRUA thereafter assist the communities in opening up Blocked Drainages and desilting of river channels and water pans, reconstruction of the breached dykes by sandbags and any other mutual assistance that WRUA can manage to help the communities with.

The Project currently is developing the capacity of WRUAs in the three pilot project area in flood prone to be effective in flood management within their sub-catchments.

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.008 25th July, 2013

INSIDE THIS ISSUE:

THE AFTERMATH OF FLOODS EXPERIENCES: DISEASES, RECONSTRUCTION AND REHABILITATION

The aftermath of flood is characterized by responding to diseases that affects the evacuees as a result of floods. It is also characterized by families returning back to their damaged homestead and carrying out reconstruction of their houses. It is also characterized by pupils going back to their schools and clean up their classroom to continue with their learning programmes. It is also characterized by plights of the flood affected families not covered by press, their rehabilitation and attempts to restore their daily livelihood.

It is in this post-flooding season that JICA Nairobi and JICA Project Team took a trip to Western parts of Kenya to access the distribution of the relief aid both medical and non food aid that were donated by JICA to the flood affected families. The donation was made through the Kenya Red Cross Society (KRCS) . The JICA delegation visited Kisumu and Busia County . In Kisumu County the JICA delegation visited Kisumu City where they paid a courtesy call to the WRMA-LVSC Regional Manager.

The delegation also visited KRCS Kisumu Branch and the KRCS Regional Office Warehouse where the relief aid was stored. Thereafter the JICA delegation visited Nyando River Basin and in particular Kamagaga Evacuation Centre. This is a centre that was constructed under Nyando Project which was funded by Japan Grant Assistance to Kenya on Climate Change.

The delegation thereafter visited Busia County specifically Budalangi district which falls in the Nzoia River Basin. Budalangi is one of the district that is heavily affected by floods in Kenya.

JICA delegation inspect the distributed relief aid stored at the KRCS warehouse in Kisumu

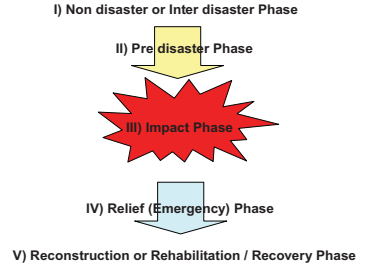
The major findings of trip to Western parts of Kenya was as follows:

JICA handed over relief aid to KRCS for distribution to the flood affected families. The relief aid consisted of Basic Unit and its supplementary, Medicine Unit and its supplementary ;

KRCS had distributed almost half of the received relief aid goods to Nyando and Budalangi; and

KRCS in collaboration with Ministry of Public Health organized a medical camp at Kamagaga evacuation centre. The medical camp had a big community turnout. Most of the people who turned out for the medical camp were ailing from waterborne diseases.

PHASES OF FLOOD DISASTERS



Source: Trainers training manual on flood disaster management

Flood disaster is divided into three major phases the pre-disaster phase which mainly entails preparation works in readiness for floods; the impact phase is the actual occurrence of the flood disaster that leads to relief emergency phase where various stakeholders respond to the impact of floods by mainly assisting the affected families; and the post-flood phase which mainly entails reconstruction, rehabilitation and recovery. The community resilience is noted in this phase.

POST-FLOODS: MEDICAL CAMP AT KAMAGAGA EVACUATION CENTRE

In May 2013 the Project Team visited Kamagaga Evacuation Centre where they found a group of people the young, the old both men and women, children and teenagers staying at the evacuation centre after being displaced by floods from their homes. The flood affected families at the evacuation centre complained of lack of medicine at the evacuation centre leading to human suffering. The evacuees pointed out that they had received food and non-food relief aid but they had not received any medical care. They pointed out that malaria was the major disease that was affecting them and also other waterborne related diseases and pneumonia. Based on this finding JICA-Kenya immediately mobilized relief aid which included medical supplies and gave the relief aid to KRCS to distribute and assist the affected families in the flood plagued areas.

Affected families staying at the evacuation centre at kamagaga village point out lack of medicine at the evacuation centre in May 2013

It was based on this availability of medical supplies that Kenya Red Cross Society Kisumu Region in collaboration with Public Health Department that a medical camp was organized at Kamagaga evacuation centre on 13th June 2013. The call for the medical camp was well responded to with Kamagaga Community-based Flood Management Organization (CFMO) taking the lead in mobilizing the community members from Kamagaga village that were affected by floods to attend. The CFMO also invited the neighbouring villages to be partakers of the noble medical camp.

KRCS team give medical care to affected families at the Kamagaga evacuation centre on 13th July 2013

Community members ailing from different afflictions attended the camp where they were treated and given medicine. The medical camp also trained the participants on proper nutrition. On 13th June 2013 therefore was a memorable day to community members of Kamagaga village and their neighbouring villages. In conclusion the whole activity can be summed up by the sentiments of one CFMO member as herein quoted: "This evacuation centre has indeed change our area! We were here at the evacuation centre when we stated medical challenges! But see now there is an immediate response to our plight!"

POST-FLOODS IN GUCHA MIGORI RIVER BASIN: LOGUMI SC

Floods in LOGUMI SC in April-May leading to longer inundation

The heavy floods that were in April and May 2013 came to an end in the mid of May 2013 and in June 2013 the LOGUMI SC entered into the post-floods phase. The post-floods experience to some of the affected members was a season they would rather forget than remember because of the untold suffering especially psychological pressure that they had to endure.

The heavy floods led to longer inundation period coupled with the porous nature of the soil in the area and the weak foundations of most houses in the area which led to dire consequences like some of the houses sunk in the soil by 50 to 100CM from the foundation. It was yet in this inhabitable housing conditions that the evacuees were forced out of the evacuation places back to their homes. Reason for evacuees forceful eviction out of the evacuation places was in order to allow the education programmes to proceed within these schools. The biggest complains by community members was based on the fact that they had discussed with the school management committee and agreed on the conditions that would have allowed the evacuees to stay at the evacuation places without interfering with education programmes but still the evacuees were ordered out of the evacuation place by the local chiefs. During the post-flood phases the following activities were noted in Nyora and Kabuto villages:

Houses sunk in by 50-100CM in Nyora Village

Reconstruction of houses

Community members replant their farmlands and thereafter engage in irrigation at Kabuto farmlands

1. The community members were reconstructing their houses. Some of the community members decided to raise the foundation of the house by about 50CM that was slightly above the flood depth within their homestead. It is important to note that depending on the location of the homesteads the flood depth varies in some area the flood depth goes slight above 120CM while in other places the flood depth is at 30CM;
2. The affected families moved back to their homes and where the houses were badly damaged these families erected tents in their homesteads as they carried out reconstruction works;
3. The community members were also engaged in replanting activities in their farms where they had lost crops and these community members pointed out that because the rains were scanty after the floods in the area therefore most the replanted crops purely relied on irrigation where the community abstract the water from R. Gucha Migori and irrigate their farms;
4. LOGUMI WRUA members were engaged in mobilizing and sensitizing riparian land owners and thereafter the WRUA members and riparian land owners were to carry out river pegging exercise. It is important to note that R. Gucha Migori eroded its bank and forcefully excision some of the farmlands during the recent floods especially among the riparian land owners;
5. The Kabuto Primary School, Nyora Primary School (evacuation places) and Kabuto dispensary (closed due to being marooned by flood water) were reopened;
6. Community members were harvesting the resources brought about by the R. Gucha Migori during the floods. The logs deposited within the channels and in the excision farmlands were harvested by community members as firewood. Some community members also were harvesting sand deposited in their now excision farmlands.

PROGRESS OF WORKS LUMI RIVER BASIN

In Lumi River Basin the progress of works is per the schedule. In the month of June 2013 there was a lot of discussion with WRUA on the proposed structural measures including site survey on the feasibility of implementing such structures.

The Project intends to use the WDC Module in implementing the structural works and therefore the following committees attended the various meeting that were held in June: a) The members of the Executive Committee; the Finance Committee; the Procurement Committee; and the Monitoring Committee. The discussion entailed: the criteria for the project selection and how the project team came up with the improvement for an evacuation place at Eldoro Primary School; the design of the raised toilet to be constructed; the tentative scheduled for the construction period; and Organization of the project implementation and post construction maintenance.

On 28th July 2013 there was a Stakeholders meeting that was held at Green Park Hotel and it was attended by Project Team; WRMA HQ, Athi Regional office, and Nolturesh Lumi Sub-regional office; Upper Lumi WRUA, Lower Lumi WRUA among other stakeholders. The objective of this meeting was Collect opinions on draft Integrated Flood Management Plan (IFM) prepared by WRMA; and collect opinions on how to reduce the flood damage; and ensure that opinions of stakeholders are reflected to the plan. During the meeting the draft IFM Plan was discussed.

Meeting with Lower Lumi WRUA Committees

Feasibility survey for structure measure at Eldoro

The WRUA members also pointed out that they were impressed with flood management system that has been developed in the Nyando River Basin.

PROGRESS OF WORKS ISIOLO RIVER BASIN

Survey on the eroded river bank at Eastern Marania River

Isiolo Stakeholders Meeting in progress

In Isiolo River Basin the progress of works is per the schedule. In the month of June 2013 there were activities that were geared towards the proposed structural measures and they included: a) Detailed Preliminary survey; b) Access routes of the Construction Equipment; and c) Survey on the River Bank erosion.

Stakeholders meeting for exchange of opinion on Flood management for Isiolo river basin took place on June 26, 2013 at Isiolo. The objective of this meeting included the following:

1. To exchange ideas on the Draft Flood Management Plan;
2. To seek stakeholders opinion regarding the selection of Pilot Project; and
3. To exchange opinion on how to coordinate activities different actors in Flood Management.

During the meeting the draft IFM Plan for Isiolo was discussed. The Project Team leader explained the framework of the IFM Plan and the importance of having such a plan. Thereafter the stakeholders discussed the IFM Plan in details the main questions raised was the involvement of the stakeholders in developing IFM Plan; who will fund the implementation of IFM Plan and the role of the stakeholders in the implementation; and who the lead actor in the post flood phase.

PROGRESS OF WORKS GUCHA MIGORI RIVER BASIN

In Gucha Migori River Basin the progress of works is at per the schedule. In the month of June 2013 the Project Team was engaged in the following activities:

1. Post flood assessment in LOGUMI Sub-catchment;
2. The Project Team sensitized the LOGUMI WRUA on the efficacy of Community-driven Flood Management Organization (CFMOs) at the village level as it was witnessed in the Nyando Excursion Visit by LOGUMI WRUA members. The WRUA members thereafter engaged in community sensitization activities that led to six CFMOs being established with interim office bearers elected to the office. These organizations currently awaits developing by-laws and thereafter registering each CFMO with the Social Services Department;
3. The Project Team also discussed and came to an agreement with the District Education Officer for Nyatike on the possibility of implementing flood management education programmes in Primary Schools within Nyatike. The DEO issued a letter requesting all the schools within the Nyatike District to cooperate with the Project Team in realizing the noble Flood Management Education Programme; and
4. The Project Team assisted LOGUMI WRUA to review the Community-based Flood management Action Plan that was developed in March 2012. The LOGUMI WRUA members were impressed by the activities they observed in Nyando River Basin during the Excursion Visit to Nyando and therefore they requested for review of their plan to incorporate the good practices they noted in the Nyando.

Aftermath of floods: Damaged houses that are yet to be reconstructed

LOGUMI WRUA members keenly follow the proceeding during the review of Community-based flood management Action Plan

EFFORTS TOWARDS INCORPORATING FLOOD MANAGEMENT COMPONENT IN SUB-CATCHMENT MANAGEMENT PLAN (SCMP)

The Project for Capacity Development for Effective Flood Management is currently being implemented in the flood prone areas and there are three pilot project areas selected for purposes of implementation. The implementation agency of the Project is the Water Resources Management Authority (WRMA) whose one of the core mandate is the Flood Management. WRMA works closely with Water Resources Users Associations (WRUAs) at the community level. The WRUAs develop the Sub-catchment Management Plan (SCMP) a document that the WRUA uses for effective management of water resources at the Sub-catchment level. The SCMP therefore becomes the shopping basket that the WRUA engages to attract funding for their activities that are related to water resources management. Under the WRUA Development Cycle, Water Service Trust Fund (WSTF) is an avenue that the WRUA are able to attract funding for their activities. The funds from WSTF is in levels and each level attracts a package of particular sum of money.

LOGUMI WRUA members peruse ttherevised SCMP

Evacuation Centre at Kamuga Village in Winam SC

JICA Project Team in collaboration with WRMA-LVSC Southern Shoreline Kisii assisted the Lower Gucha Migori (LOGUMI) WRUA to develop Community-based Flood Management Action Plan. This plan has since been incorporated into the LOGUMI Sub-catchment Management Plan (SCMP) wherein the issues on flood management have been incorporated into the SCMP. Therefore LOGUMI WRUA can now use their SCMP to get funds from WSTF to fund some of the Flood Management Activities captured in the LOGUMI WRUA SCMP. WRMA-LVSC Kisumu Sub-regional Office when assisting Winam WRUA to develop a SCMP, ensured that Flood Management Activities were captured since Winam Sub-catchment is located in the flood prone area in Kisumu county. Some of the Community-based Flood Management Organizations (CFMOs) and flood management structures constructed under the Japan Grant Aid Project in Nyando River Basin are located within the Winam Sub-catchment. Some of these CFMOs in Winam Sub-catchment have since joined Winam WRUA as members.

IMPACT OF FLOODS ON AGRICULTURE IN LOGUMI SUB-CATCHMENT

Agriculture is one of the major economic activity in Gucha Migori River Basin including LOGUMI Sub-catchment. The floods affects the sub-catchment during the peak off agricultural activities i.e. When farmers engage in weeding of the planted crops. Therefore when the floods affects LOGUMI Sub-catchment the community members encounters heavy losses on their farmlands when the flood water washes away the planted crops and destruction of the stored food in the granaries. The table below indicates the losses encountered in Lower Gucha Migori Sub-catchment during the floods that occurred in April to June 2012. This is a clear call for building flood resilient communities within SC.

Floods affects farmlands in Nyora village

S/No	Affected Village names	Crops Damaged	No. Of Affected Farmers	Affected acreage	Value Lost In Kshs.
1. Karungu Division in Nyatike District	i. Sito valley ii. Upper Okayo iii. Alara. iv. Okero v. Ojawa vi. Riat vii. Osiri viii. Agulu ix. Wakine. x. Atonge. xi. Lower Okayo xii. Obware valley xiii. Along L. Victoria Shore.	Young Sorghum, Kales, Maize, Young Cassava, Beans, Tomatoes, Sweet Potatoes, Watermelon, Tree nurseries and tree seedlings, Local vegetables (e.g. Mrenda, Black night shade and Spider plant)	88	120	2.4 M
2. Nyatike Division in Nyatike District	i. Kabuto ii. Angugo iii. Modi iv. Luanda v. Kimai vi. Lower Magungu vii. Nyora		390	415	10.3M
3. Muhuru Division in Nyatike District	i. Ratieny Valley ii. Tagache/Kiambu iii. Lower Tito iv. Upper Tito. v. Lisori vi. Nyakumu		52	92	2.3M
Total			530	627 Acres	15.0M

Source: Nyatike District Agriculture Office

INTEGRATED FLOOD MANAGEMENT NEWSLETTER

THE PROJECT

ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.009 28th August, 2013

INSIDE THIS ISSUE:

THE SECOND INTEGRATED FLOOD MANAGEMENT COMMITTEE MEETINGS IN ISIOLO AND LUMI

The purpose of the Integrated Flood Management Committee (IFMC) is to give all stakeholders a platform where they can share their opinions through discussions. It is imperative that the shared stakeholders' opinions be reflected in the finalized Integrated Flood Management Plan for the River Basin.

The first Integrated Flood Management Committee for Isiolo and Lumi River Basin were held in January and February 2013 respectively. In the first IFMC meetings in the two river basins the stakeholders agreed that the JICA Project Team in collaboration with WRMA should prepare Integrated Flood Management Plan for the respective river basins.

The draft Integrated Flood Management (IFM) Plan for Isiolo and Lumi River Basin were thereafter prepared and in June and July the plans were shared with the stakeholders through the steering committee meetings in Isiolo and Lumi river basins respectively. It was thereafter agreed that the draft IFM Plans should be presented to the stakeholders during second IFMC meeting.

The second IFMC meeting for Isiolo and Lumi river basins were therefore held on 14th and 16th August 2013 respectively.

The expected output of the 2nd IFMC Meeting in Isiolo and Lumi river basins was that each IFMC reach a consensus by the respective stakeholders on the pilot project structural countermeasure that was going to be implemented in the respective river basin.. The stakeholders were to share their opinions on the integrated flood management plan. The stakeholders of the respective river basins were mobilized a week earlier before the dates of the 2nd IFMC meetings.

Various materials were prepared and distributed by JICA Project Team during the two meetings.

2nd Isiolo IFMC Meeting held on 14th August 2013

2nd Iumi IFMC Meeting held on 16th August 2013

WRMA staff from the headquarters makes closing remarks in which she delivered the goodwill message from WRMA CEO to stakeholders in all the pilot project areas

Among the materials distributed included: the IFM Newsletter Issue 008, JICA Kenya Newsletter, Nyando River Basin and Lower Gucha Migori Exchange Visit report, the IFMC Plan PowerPoint presentation, the list of structural countermeasures among other materials.

Both the Isiolo IFMC and Lumi IFMC were well attended by the various stakeholders with JICA Project Team led by the Team Leader and Chief Advisor, WRMA was led by delegation from Headquarter, JICA headquarters led by Ms. Kikuiri and JICA Kenya led by Ms. Fukai, WRUA members and in Lumi a representative of Taveta County Governor also attended. The stakeholders included the WRUA members, County Government, NEMA, community opinion leaders, concerned government line ministries and institution, and non-governmental organizations (NGOs).

At the end of the two IFMCs meetings the stakeholders reached a consensus on the countermeasure to be implemented. Mr. Sawa the Project Team Leader explained to stakeholders in the respective IFMC that implementation of the selected countermeasure would commence in early September 2013

INTEGRATED FLOOD MANAGEMENT COMMITTEE IN ISIOLO RIVER BASIN

The meeting was held on 14th Aug. 2013. It kicked off at 9:40 am with a word of prayer and thereafter the moderator led the participants through a session of self-introductions. Thereafter the Mr. Timothy Mutie representing the Regional Manager made the opening remarks where he explained the purpose of the Isiolo IFMC, the membership of the IFMC, the schedule for the forthcoming IFMC meeting and the expected output of the 2nd Isiolo IFMC meeting. He thereafter requested the stakeholders to offer maximum cooperation by engaging in active, productive and fruitful discussions.

The minutes of the 1st Isiolo IFMC meeting were read and the stakeholders acknowledged the minutes as the true reflection of what was discussed in the 1st IFMC meeting.

The Chief Advisor to the Project Mr. Kondo explained the progress of the Project for Capacity Development for Effective Flood Management. He explained to the stakeholders that a keen observation of the flood trends in Kenya indicated that floods incidences were on increase. He added that flood management was a mandate of WRMA.

Mr. Kondo thereafter explained to the stakeholders the Nyando Project in which he stated that its concept was integrated flood management wherein community members were involved and that it consisted of the structural and non-structural measures. He further stated that one major lesson learnt from the Nyando Project was the difficulty for JICA or even Government of Kenya to replicate the Nyando Project because of the high cost of the structures resulting from the high quality of the constructed structures in the Nyando. He therefore clarified that the current Project aimed at empowering WRMA by building the capacity of WRMA to manage floods in consideration of WRUA Development Cycle (WDC) model. He pointed out that in the 1st IFMC Meeting the Project Team were mandated with the task of developing the Integrated Flood Management (IFM) Plan for Isiolo River Basin. He added that the draft had been prepared and the 2nd IFMC meeting was for stakeholders to discuss and share their opinions concerning draft Isiolo IFM Plan.

The Chairman of Isiolo WRUA made a presentation on exchange visit to Nyando and Lower Gucha Migroi which he stated was an eye opener to the WRUA members. He stated their observations as follows: a) that Nyando was a flat plain with heavy floods leading to severe rate of evacuation people from their homes to evacuation centres; b) that in Nyando community members moved to evacuation centre which were relatively smaller compared to the number of affected families; c) that the model of raised structures of evacuation centre, toilets and borehole was not being replicated in the homes in the Nyando; d) that floods in Nyando affected people who lived both near and far away from rivers unlike in Isiolo where floods affected those who had encroached on the riparian land while in the Nyando, floods ; and e) that the education programme on flood management that was implemented in Nyando was impressive and that it had led to high level of sensitization on issues of floods amongst school pupils.

Opening remarks by Mr. Mutie

Explanation of progress of PCDEFM

Presentation on the Exchange Visit to Nyando river Basin and LOGUMI SC

PRESENTATION OF THE DRAFT ISIOLO RIVER BASIN IFM PLAN

Mr. Mutie presented the Isiolo draft Integrated Flood Management (IFM) Plan to the stakeholders. In his presentation he explained the role and responsibility of WRMA in IFM plan which included mainstreaming the measures in the IFM plan into the SCMP and also giving technical support on the implementation of the plan.

After the presentation there was a session of discussion that was moderated by Eng. Kimanga. During the discussions, Mr. Ben Opaa of NEMA pointed out that inter-ministerial task force had developed elaborate flood management measures and that there was need for Project Team to understand the recommendations of the inter-ministerial task force and synergize it with the Isiolo IFM Plan. He further stated that the draft IFM Plan was good but there was a need for the developers of the draft to consult with Environmental Impact Assessment (EIA) experts in identifying what countermeasures that requires an EIA and those that did not need EIA in order to come up with a comprehensive document.

SELECTION OF STRUCTURAL AND NON-STRUCTURAL MEASURES FOR PILOT PROJECT

Mr. Gitonga of WRMA presented on the selection of the Pilot Project on structural measures. He elaborated on the four countermeasures that had been prioritized. He also explain the criteria of evaluation of the shortlisted countermeasures and how they had been prioritized. He finalize his presentation by pointing out the selection of the countermeasure to be implemented lied solely with the stakeholders. He thereafter explained the three evaluation axes criteria and how those axes could be used to select the pilot project. Based on the evaluation axes the stakeholders selected implementation of River Bank Protection as pilot project.

Moderator leads a session on selecting of pilot project item

Mr. OI explains how to make simple rain gauge

Ms. Meri FUKAI of JICA-Kenya made a presentation on the non-structural measures in which she explained the Project Implementation Structures. She also explained that MOU between JICA, WRMA and Kenya Red Cross Society (KRCS) and stated that KRCS was going to undertake the non-structural measures and the duration of the works was five months. She explained the objective of the non-structural measures as aimed at building flood resilient communities. The components of non-structural measures includes: establishing Flood Early Warning, equip pupils with flood management skills, Evacuation Drills and Operation and Maintenance of flood management structures. She also pointed out that there were going to be various community meetings and workshops that were going to be held during the implementation of non-structural measures.

Mr. OI of JICA Tokyo explained how to make simple rain gauge for purposes of flood early warning at community level.

INTEGRATED FLOOD MANAGEMENT COMMITTEE IN LUMI RIVER BASIN

The meeting was held on 16th Aug. 2013. It kicked off at 9:30 am with a word of prayer and thereafter the moderator led the participants through a session of self-introductions. Thereafter the Mr. Stephen Ngao representing the Regional Manager made the opening remarks where he explained the expected output of the 2nd Lumi IFMC meeting. He concluded by challenging stakeholders to closely scrutinize the draft Lumi River Basin IFM plan and give objective opinions to enrich the plan.

The County Executive for water and irrigation, Eng. Joseph Mbogo representing the County Governor in his opening remarks appreciated Japan Government for previously assisting Taveta in water supply and currently JICA was assisting in flood management. He thereafter explained the various canal that are operational in Taveta district were dug in the colonial periods and early post colonial era, he therefore challenged the stakeholders that the past generations had done their part in making Taveta better and it was the time that this generation rises up to challenge and make Taveta a better place rather than an area that is affected by floods that causes negative impacts to the residents.

The minutes of the 1st Lumi River Basin IFMC meeting were read and the stakeholders acknowledged the minutes as the true reflection of what had been discussed in the 1st IFMC meeting.

The Chief Advisor to the Project Mr. Kondo explained the progress of the Project for Capacity Development for Effective Flood Management. In his presentation Mr. Kondo explained the background of the Nyando Project, the lesson learnt from the Nyando Project and the current direction that aims at building the capacity of WRMA and WRUA in flood management.

The Vice-chairman of Lower Lumi WRUA in his presentation stated that the visit to Nyando and Lower Gucha Migroi was impressive and that the Lower Lumi WRUA members that participated had greatly benefited from the visit.

Participants read the pasted posters on the wall in the hall

Opening remarks by representative of the County Governor

Explanation: progress of PCDEFM

Presentation : Nyando and LOGUMI SC exchange visit

He also explained the objectives of visit to Nyando and Lower Gucha Migori to the stakeholders. He elaborated on the site places that they had visited and what they had therein observed. He also explained the various lessons learnt from the excursion visit to Nyando and Lower Gucha Migori. He also observed that there were a lot of similarities between the type of floods that affect Nyando and Lower Gucha Migori and the type that affects Lumi River Basin. He concluded his presentation by stating that based on the lesson learnt from LOGUMI WRUA the Lower Lumi WRUA having formulated a SCMP they will review it in due process and that flood management issues were going to be implemented in the SCMP.

PRESENTATION OF THE DRAFT LUMI RIVER BASIN IFM PLAN

Mr. Ngao presents draft IFM plan to the stakeholders

Mr. Ngao presented the draft Lumi River Basin Integrated Flood Management (IFM) Plan to the stakeholders. In his presentation he explained the role and responsibility of WRMA in IFM plan which included mainstreaming the measures in the IFM plan into the SCMP and also giving technical support on the implementation of the plan. He concluded his presentation by giving the summary of the result of the evaluation of the countermeasures and he also explained the overview of the draft implementation schedule of the flood countermeasures in Lumi River Basin.

During the discussion the Taveta County Executive for Water and Irrigation wanted to know the agency that had prepared the wonderful draft Lumi River Basin IFM Plan document. He pointed out that County Government was in the process of developing a five (5) years integrated plan and one of the processes of developing the plan was seeking and collecting opinions from the public. He therefore stated that the County integrated Plan reflects community members' opinion and therefore if the draft IFM plan is to be incorporated in that plan then the latter plan must also reflect the community to avoid the two plans clashing in principle and in thought. He also inquired where or who was responsible for the 85% of funding if the community member contribution was only 15%. He further clarified that the County government was concerned with the element that allows flood activities to be predicated on handouts. He therefore challenged the concept of the draft IFM Plan and stated that the plan should at least rely on forty percent (40%) from government and sixty percent (60%) should be the community responsibility. Eng. Kimanga responded by explaining that the plan was collaborate effort of Government of Kenya and Government of Japan through the JICA Project Team. He also stated that stakeholders including the community members were involved in the IFM Plan development. The Taveta County Executive for Water and Irrigation . Mr. Maina of WRMA responded by explaining the concept of the WDC cycle and the funding procedure therein.

SELECTION OF STRUCTURAL AND NON-STRUCTURAL MEASURES FOR PILOT PROJECT

Mr. Maina of WRMA presented on the selection of the Pilot Project on structural measures. He explained the overview of the Lumi River Basin wherein he pointed out that the floods mainly occur in the Lower Lumi SC. He also explained the concept of the SCMP and that currently various stakeholders are engaging the WRUA using the SCMP he gave an example of the UNDP. Mr. Sawa pointed out that after primary screening narrowed down to five countermeasures out of the initial nine countermeasures. The stakeholders thereafter in mutual agreement selected environmental improvement of the evacuation camp and raised toilet scored as two countermeasures for implementation as pilot project.

Ms. Fukai of JICA in her presentation on the non-structural measures pointed out that KRCS was going to implement non-structural measures in the three pilot project areas. She added that the duration of implementation was five months. She clarified the objective of non-structural measures was to build flood resilient community

Presentation by Mr. Maina

Clarification by Mr. Maina

Presentation by Ms. Meri Fukai

WINAM WRUA SCMP DEVELOPMENT: PRESENTATIONS

After the field excursion visits the participants in their various groups discussed what they had observed in the field excursion exercise vis-à-vis the chapters of the SCMP as outlined by the WDC module. After the discussions each group made a presentation to the plenary on their findings.

During the presentations each group managed to explain the problems and their possible solutions and it was quite impressive just like the adage "solutions are always within" the group presentation clearly indicated that the community members knew the problems within their Sub-catchment and they also had a grasp of the possible solutions to those problem. The presentations from all the groups were therefore regarded as commendable. The interesting part was during the plenary discussions wherein the presenting group 's solutions were challenged by the plenary and the groups were able to defend their position objectively and accepted the plenary opinion on other possible solutions.

Winam WRUA members engaged in group discussions

A group presenter clarifies a point during presentations

Mr. Boit makes his presentation on community flood hazard map

Mr. Boit thereafter made a presentation on Community Flood Hazard Mapping and its importance in flood prone areas. He further explained the role of the community flood hazard map to the community, to WRMA and to other stakeholders. He therefore challenged the Winam WRUA to work hard and develop the community flood hazard map since seven villages already had Community Flood Hazard Maps that were developed under the JICA Nyando Projects.

The Consultants pointed out that the WRUA members will develop the community flood hazard map and the map will be incorporated in chapter 9 of the Winam WRUA SCMP.

WINAM WRUA SCMP DEVELOPMENT: SCMP ADOPTION

The GIZ Technical Advisor Prof. Japheth Onyando in his opening remarks pointed out that Winam WRUA members have been diligent in the activities that had led to development of the Winam WRUA SCMP. He clarified that the stakeholders' involvement in Water Resource Management was important and highly appreciated.

Prof. Onyando thereafter led the participants through a session of recap of the workshop deliberations. The following issues revolved around the recap session:

- The Winam WRUA members actively responded by correctly stating what they had studied and agreed upon during the workshop for SCMP development.
- They also explained the various activities that they were engaged in during the SCMP development Workshop.

The hard copy of the draft Winam SCMP was distributed to Winam WRUA members and they perused through the document and thereafter Prof Onyando requested them to focus on Winam WRUA SCMP Implementation Matrix. The Winam WRUA members pointed out spelling mistakes on some of the names, while others stated that some of the names on the draft they were not acquainted with them. Some members pointed out that some of the rivers on water pollution activities were not captured in the SCMP.

It was therefore agreed as follows concerning the areas of dispute:

- That the WRUA members give the right names with correct spellings for all the areas that the members had raised questions;
- The appropriate names be given to the areas that the WRUA members had pointed out that they were not acquainted with names; and
- That all areas in the sub-catchment could not be visited during the transect walk but as the various committee will be discussing various activities and visiting those places ear-marked for the activities and that the committee will visit the areas of concern raised by members;
- That the Winam WRUA members should meet and elect the members of the Procurement Committee, Monitoring and Evaluation Committee, Finance Committee and Flood Management Committee; and
- Through voting the Winam WRUA SCMP was unanimously adopted by the Winam WRUA members.

Prof. Onyando makes his opening remarks

Recap session: WRUA members respond to questions

WRUA member explains to the plenary the errors noted in the draft SCMP

WRUA member through consensus building agree on various issues and thereafter adopted the SCMP

Integrated Flood Management Newsletter

THE PROJECT

ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.010 23rd September, 2013

INSIDE THIS ISSUE:

DAWNING OF A NEW DAY AS PROJECT TEAM MOVE TOWARDS NEXTLEVELS IN STRUCTURAL MEASURES IMPLEMENTATION

During the 2nd Integrated Flood Management Committee (IFMC) for Isiolo and Lumi River Basins the Project Team Leader stated that towards the twilight of August and Sun-rise of September 2013 the Project Team was going to engage in consultation meeting involving the respective WRUAs.

The Project Team therefore organized the Public Consultation Meetings in Isiolo and Lumi River Basins. On 28th August 2013 the Public Consultation Meeting was held in Isiolo River Basin. And on 5th September 2013 there was yet another Public Consultation Meeting in Lumi River Basin.

The Public Consultation Meeting in the two pilot Project Area were both successful wherein a consensus was arrived at between the Project Team, WRMA, WRUA, Community at large including specific schools.

Public Consultation Meeting at Eldoro School in Lumi River Basin

Public Consultation Meeting at Matunda Full Gospel Church in

During the two meetings the community enthusiasm was evident with community in both pilot project areas in mutual agreement to contribute fifteen percent of the Project either by providing labour or providing raw materials.

This concept of community contribution approach is in tandem with the WRUA Development Cycle (WDC) module.

The works in both places are expected to start at end of September 2013.

WINAM WRUA SCMP DEVELOPMENT WITH COMPONENT ON FLOOD MANAGEMENT INCORPORATED

Winam WRUA was established in March 2013 and has since been registered. Currently it has fifty five members and its membership is drawn from the R. Nyamasaria sub-catchment. The WRUA has an interim chairperson and executive committee.

In the Nyando Project there were six CFMOs that were established that fall under the Winam WRUA jurisdiction namely:

Capacity building exercise for Winam SCMP development

Participants during the Winam SCMP development Workshop pose for group photo

Oyola CFMO, Otera CFMO, Rae Kanyaika CFMO Mowlem CFMO, Kamuga CFMO and Bwanda CFMO. The SCMP Development capacity building exercise was held in July 23rd to 26th while SCMP development workshop was held between 29th July to 1st August 2013.

PUBLIC CONSULTATION IN ISIOLO RIVER BASIN

The meeting was held on 28th August 2013 in Isiolo River Basin and the venue was Matunda Full Gospel Church. The meeting was well attended with participants from all categories of the community in total there were eighty one (82) persons in attendance with about forty (40) of them being farmers, while twenty (20) were WRUA members while fifteen (15) others were persons just members of the community. Water Resources Management Authority (WRMA) had at least five (5) staffs in attendance while the Project Team members had three (3) members in attendance.

The language of discussion during the meeting was agreed upon to be Meru and Swahili languages because most of the community members were comfortable speaking in those two languages and for those who could not understand the two languages a WRMA staff was able to translate to English.

The following issues were therefore discussed and agreed upon:

1. There was a discussion on riverbank protection using gabion mattress wherein the participants agreed on the countermeasure and pointed out that they understood that the pilot project structural measure was a countermeasure against the river bank erosion by use of gabion mattress near the Matunda Full Gospel Church and next to the National Highway A2 Road.
2. There was also a discussion on the community contribution of fifteen percent as stipulated in the WDC module. After the explanation on the fifteen percent community contribution a consensus was reached.
3. There was thereafter a discussion on the type of the fifteen percent community contribution wherein a consensus was reached that the community members were going to collect boulders for the gabion mattress as the fifteen percent community contribution.
4. During the discussions it was also evident that the participants were interested in the interventions proposed against river bank erosion, and also they were interested in the interventions against soil erosion and sediment discharge.

WRUA chairman makes opening remarks

Public consultation meeting in progress

Participants seated in Church compound during deliberations

Participants visit the pilot site riverbank protection

5. After the community consensus on the countermeasures and the community contribution, the Project Team explained the construction schedule. The participants were informed that the contractor would be procured before the end of September 2013 and thereafter the construction works were schedule to commence in early October 2013 and finally that the construction works were targeted to be completed before the end of December 2013.
6. In conclusion it was agreed that it was imperative that memorandum of understanding (MoU) be signed amongst WRMA, WRUA and the Project Team.

PUBLIC CONSULTATION IN LUMI RIVER BASIN

WRUA chairlady makes opening remarks

Pupils of Eldoro Primary dramatize flood

Well attended meeting by various stakeholders

WRMA, WRUA and School Committee agree to cooperate

The meeting was held on 4th September 2013 in Lumi River Basin and the venue was Eldoro Primary School. The meeting was well attended with participants from all categories of the community in total there were eighty one (72) persons in attendance with about ten (10) of them being teachers from Eldoro Primary, while twenty (20) were school pupils and also twenty (20) from the Lower Lumi WRUA while seven (7) persons were members of the community. Water Resources Management Authority (WRMA) had at least ten (10) staffs in attendance with two (2) of them being top WRMA executive officers i.e. directors while the JICA Project Team members had five (5) members in attendance.

The language of discussion during the meeting was agreed upon to be Swahili language because most of the community members were comfortable speaking in Swahili and for those who could not understand the Swahili language a WRMA staff was at hand to translate to English.

The meeting was full of glamour, joy and celebration with pupils from Eldoro Primary School sing songs, reciting poems, dancing, dramatized the flooding menace as show of welcoming the participants to the school. This enthusiasm by pupils was an indication that they were ready for flood management education programmed in the schools.

The following issues were therefore discussed and agreed upon:

1. There was a discussion on the effects of floods including evacuation of community members to Eldoro School. It was therefore agreed that there was need for environmental improvement of evacuation camp at Eldoro Primary School which was to be undertaken as a pilot project.
2. There was also a discussion on the community contribution of fifteen percent as stipulated in the WDC module. After the explanation on the fifteen percent community contribution a consensus was reached.
3. After the Consesus had been reached the Project Team explained the construction schedule to the participants. In summary the Project Team explain that the procurement of the Contractor was going to be completed at the end of September, and that the construction works were going to commence in early October and completed at the end of December 2013.
4. Inconclusion it was agreed that an MoU between WRMA, WRUA and the Project Team should be made and signed.

WINAM WRUA SCMP DEVELOPMENT: CAPACITY BUILDING EXERCISE

Winam WRUA lies within Nyamasaria Sub-catchment and it was established in March 2013 and is duly and formally registered. Currently it has a membership of fifty five (55) members. There is an organizational structure in place with Winam WRUA having an interim chairperson and the Executive Committee.

During the implementation of the Nyando Project (2009 to 2011), there were six Community based Flood Management Organizations (CFMOs) established and within the jurisdiction of these CFMOs the Nyando Project constructed flood management structures like 2 evacuation centres, 2 ten compartment toilets, two boreholes, twenty six culverts and one footbridge and seventy signboards. All the six CFMOs were beneficiary of the Community-based Flood Management trainings and workshops. The CFMOs in the Sub-catchment includes Kamuga CFMO, Oyola CFMO, Otera CFMO, Mowlem CFMO, Rae Kanyaika CFMO and Bwanda CFMO. Among the six CFMOs two were mobilized i.e. Kamuga and Mowlem to attend the capacity building while the other four are expected to join during the SCMP development that will commence on 29th July to 1st August 2013.

The preparation works entailed mobilizing community members and Winam WRUA. The WRMA-LVSC Community Development Officer and GIZ staff mobilized the CFMOs located within Winam Sub-catchment and the Winam WRUA members. The GIZ also procured Polyview hotel as the venue for the capacity building workshop meetings.

The expected output of this capacity building exercise was that Winam WRUA members' capacity in SCMP development be developed wherein the Winam WRUA members are able to understand the concept of WRUA, the WDC module, the WRUA funding process through the WSTF and clear understanding of the purpose and functionality of the Sub-catchment Management Plan (SCMP).

The Regional Manager, Mr. Edalia made the opening remarks wherein he explained the concept of WRUA, importance of WRUA in a sub-catchment and the integration of the community based organizations that deal with water resources into the WRUA. He further explained the importance of the SCMP and called the participants to participate wholeheartedly and actively in developing the SCMP.

Winam WRUA attentively listen to a facilitator

GIZ Technical Advisor makes the opening remarks

WRMA-LVSC Regional Manager makes the opening re-

WRMA Kisumu Sub-regional Manager facilitates a session

The following subjects discussed water resources problems in the Winam sub-catchment, management approaches, water balance, water allocation and use, resource protection, catchment protection, community based flood management, institutional development, infrastructure development, right based approach and poverty reduction, monitoring, financing and implementation. Facilitation during the discussion was done by GIZ and WRMA staffs and JICA Project Team Gucha Migori Supervisor.

WINAM WRUA SCMP DEVELOPMENT: SCMP WORKSHOP

Mr. Kondo makes opening remarks

Ms. Odinga makes opening remarks

The Winam WRUA SCMP Development Workshop was held in Kisumu City Polyview Hotel from 29th July to 1st August 2013.The following CFMOs Kamuga, Oyola, Bwanda and Mowlem joined Winam WRUA and they therefore attended the Winam WRUA SCMP development workshop. The workshop was attended by Winam WRUA members, Kisumu County government representatives, Maseno University representative, WRMA-LVSC, GIZ and JICA represented by Chief Advisor to the Project for Capacity Development for Effective Flood Management.

The JICA Chief Advisor Mr. Castro KONDO in his opening remarks gave the background of the JICA Projects on Flood Management. He explained the Nyando Master Plan Study and the Nyando Grant Aid Project. He pointed out the various facilities and structures that were constructed in the Nyando. He also explained the shortcoming of the Nyando Project which included the implementation of the Project outside the WDC module and therefore the CFMO cannot be able to get funds from the WSTF unless the CFMO joined the WRUA.

The Chief Guest during the opening of the workshop was the Deputy Governor Kisumu County Ms. Ruth Odinga. In her opening remarks she thanked GIZ for funding the Winam SCMP Development. She also thanked JICA for undertaking the Nyando Project that has transformed Nyando River Basin in Flood Management. She also pointed out that the Kisumu County Government was going to financially support the water catchment management activities and also will seek other donors to fund such activities. She pointed out that if such support is achieved the daily livelihood of the communities will be improved and the water catchment properly managed.

WINAM WRUA SCMP DEVELOPMENT: FIELD EXCURSION EXERCISE

In the course of SCMP development workshop the participants were required to go for field excursion exercise wherein the participants were divided into five groups. The Nyamasaria Sub-catchment is divided into three zones and it was agreed that at least all the five groups at least cover each of the three zones. Thereafter each group was instructed where to visit in a particular zone.

The key purpose of the site visit was to note the resources within those areas, thereafter the water related problems that affects those area, and to note the water infrastructures that have been developed in the area.

The facilitators including the consultants and WRMA staff also participated in the field excursion visit. The observers like JICA Chief Advisor to PCDEFM Project also participated in the educative, lesson learning excursion visit to Nyamasaria Sub-catchment.

A woman wades through water to access the markets in Okana

Winam WRUA members appreciate evacuation centre constructed under JICA nyando Project

GENERAL INFORMATION OF THE PROJECT

The Implementation Agency

Recipient : Government of the Republic of Kenya represented by Water Resources Management Authority (WRMA), Ministry of Water and Irrigation (MWI).

The Employer

Implementing Agent : Japan International Cooperation Agency (JICA)

The Consultants

Name : NEWJEC Inc.

Project

Name : The Project on Capacity Development for effective Flood Management in Flood Prone Areas

JICA Project Team Offices

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Implementation of Structural and Non-structural Measures Pilot Projects in the Project Area Commences

After the public consultation meeting in Isiolo River Basin the Isiolo WRUA Procurement Committee assisted by WRMA and JICA Project Team started the process of procuring the contractor to undertake the riverbank protection works. The steps of procuring the contractor for the works were as follows:

⇒List of contractors from County Procurement Office and Ministry;
⇒Expression of Interest (EOI) letters sent to eligible firms;
⇒11 No firms submitted interests;
⇒Evaluation of interested firms carried out on 20th September 2013;
⇒5 No firms shortlisted for bidding; and
⇒Bidding documents sent out to be returned on 4th October 2013 with Bid opening same day at 14:00 hrs;

The bids were thereafter opened on 4th October 2013 and thereafter evaluation of the submitted bids.

After evaluation of all the bids Waso Building and Road Works emerged the winner to undertake the riverbank protection works in Isiolo. The duration of the works is expected to be twelve weeks.

Public consultation meeting having been held in Taveta town in Lumi River Basin the Lower Lumi WRUA Procurement Committee assisted by WRMA and JICA Project Team started the process of procuring the contractor to undertake the Environment Improvement of the Evacuation Place at Eldoro Primary School. The steps for procuring the contractor are as indicated below:

⇒A list of contractors registered by MEWNR and other Government departments was obtained from the District Water Office in Taveta.
⇒It was confirmed by the Procurement office and the WRMA SRO office.
⇒The Project Team, WRMA SRO and WRUA Procurement Committee thereafter sent letters requesting for the EOI from the said contractors.
⇒A total number 6(six) of contractors thereafter submitted their documents
⇒The documents were evaluated by the Lower Lumi WRUA Procurement Committee assisted by WRMA and the JICA Project Team
⇒Based on the results of the evaluation reports the three contractors were shortlisted for the next stage of bidding.
⇒The Bid documents were thereafter distributed to the shortlisted contractors.
⇒Thereafter WRUA Management Committee approved the evaluation criteria for shortlisting the contractors.
⇒On 31st October 2013 the prospective contractors submitted their bid and after evaluation FRANJI ELECTRICALS & GENERAL SUPPLIES LTD emerged the winner to undertake the works in Lumi River Basin.

In Gucha Migori River Basin the KRCS organized a Kick-off meeting for commencement of the Non-structural measures. The meeting was held on 25th September 2013 and it was attended by Nyatike District Commissioner, Deputy District Education Officer, District Water Officer, WRMA Kisii among other stakeholders.

Non-structural measures Kick-off meeting organized by KRCS

Integrated Flood Management Newsletter

THE PROJECT
ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.011 3rd November, 2013

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The fourth JCC Meeting: Progress of the Project

Joint Coordination Committee (JCC) Meeting was held on 8th October 2013 at Utalii Hotel and the Chief Guest was Mr. John Nyaoro Director of Water Resources in Ministry of Environment, Water and Natural Resources Mr. Nyaoro in his opening remarks thanked participants for attending the 4th JCC meeting. He pointed out that the fourth JCC meeting should give direction to where the Projects is heading to. He added that floods is big problem in the country but yet the country lacked an authority that deals with disaster and that the leading institutions were putting up in place systems to manage floods. He observed that WRMA had already dispatched flood management officers at the Sub-regional offices. He pointed out that the WRMA trainings were on course and that trainees should learn experiences from Japan on flood management.

Eng. Kinyua Technical Manager WRMA in his opening remarks pointed out that the JCC meeting purpose was to retrospect the 2 ½ years the Project had been on-going 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 on-going. 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 were available for Flood Early Warning and developing operational centres for dissemination of information at regional and sub-regional level.

Mr. Nyaoro makes opening remarks

Mr. Eguchi makes opening remarks

Eng. Kinyua makes opening remarks

Mr. Eguchi Chief Representative JICA Kenya in his opening remarks pointed out that the Project was a technical cooperation project and three pilot sites had been selected which entailed also the 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 70000 volunteers and that KRCS experience was a value addition to the Project. He pointed out the serious earthquake in 2011 that led to Tsunami where over 21,000 people lost their lives. He gave analogy captioned in one of media in Japan of a woman who survived the disaster with her baby. He explained that the woman is reported as having been taught of survival skills by her grandmother on early warning. He explained that the woman having observed the early warning she left all her valuables and carried her child and moved to raised place and thereby surviving 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.

WORKING GROUP MEETING: PREPARATION FOR JCC

Working Group meeting was held on 19th September 2013 at NHIF Building WRMA Boardroom. The meeting was attended by the WRMA Flood Management Unit, JICA Project Team, JICA Kenya Nairobi Office and KRCS.

During the meeting and the Sub-regional Managers from the three pilot project areas were able to make presentation on the progress of works in their respective project area. The two Sub-regional managers from Lumi and Isiolo river basins explained the IFMC meeting and the public consultation meeting in Lumi and Isiolo respectively. While the Sub-regional Manager for Gucha Migori explained the reason for the delay in the IFMC meeting and clarified the progress of developing Integrated Flood Management Plan.

PROGRESS IN ISIOLO RIVER BASIN

SRM Isiolo makes his presentation

Mr. Kinyanjui Sub-regional Manager (SRM) WRMA Isiolo made a presentation wherein he highlighted the Progress of Works in Isiolo river basin. He explained the characteristics of Isiolo River Basin. He also explained tha 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 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 he 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 non-structural measures which include education, clean up of R. Marire, FEW, training in sandbag, afforestation in the upper catchment, restriction on land use on the steep slopes.
He explained the IFMP Isiolo 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 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 WDC module. He thereafter explained the procurement procedures of contractor that led to Waso Building and Road Co. was procured 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 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.

The Implementation of the structural measures in Isiolo and Lumi River Basin is on course

PROGRESS IN LUMI RIVER BASIN

Mr. Maina made a presentation on the Progress of Works up to October 2013 wherein he pointed out that Integrated Flood Management (IFM) Committee had been established and draft IFMP, Shared IFM Plan with Governor and procurement of the contractor for the works which is currently on going.
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 up of 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 he also explained the purpose of the public consultation meeting. He also pointed out that the Project Team met with 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 the Project Team.

Presentation on Progress in Lumi River Basin

PROGRESS IN GUCHA MIGORI RIVER BASIN

Participants keenly listen to the Presentation on Progress in Gucha Migori River Basin

Mr. Njihia representing the 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 SCMP and 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 Lower Gucha Migori (LOGUMI) WRUA activities and also their activities in Flood Management.
Eng. Koki the deputy director of Water Resources in the Ministry of Water and Irrigation observed that the Gucha Migori presentation was scientific and therefore easy to understand.

WRMA Flood Management Training Course in Kenya and Japan

Chief Advisor to the Project 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 establishes a library and WRMA staff trains WRUA. He explained that WRUA members would be trained based on WDC Flood module. He explained that the stage 1 will commence on 14th October, he stated on 18th October the lecture will open up to other officer from other ministries, on 20th Oct. move to Kisumu and observe the experiences in the Nyando river basin.
He explained the training in Japan would consist of 20 staffs from WRMA including 3 members from the WRUA. He added that in Japan the main activity was going to be site visits.
He explained the open lectures in October 2013, he stated that Mr. OOI will make key note presentation he added that the open lecture was open to all JCC members.
He explained rain gauge and water level gauge developed by Mr. OOI who will explain and capacity build on how to develop the Rainfall and River Gauging devices. Thereafter Mr. OOI will move to Isiolo and Taveta and install the gauges.

Eng. Kondo makes a presentation on training program

Eng. Kinyua clarifies a point

4th JCC Meeting adopted in totality the proposed changes on the Project Design Matrix (PDM)

Project Design Matrix and Work Plan

The Project Team Leader, Eng. Sawa in his presentation explained the modification of Project Design Matrix (PDM) and the Work Plan.
He explained the Project Outputs and the verifiable indicators as per the PDM.
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:

⇒ *That 25 staffs in 1st stage, 2nd stage 15 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 390 staffs.*

⇒ *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.*

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.

Eng. Sawa makes a presentation on PDM and work plan

Non-structural Measures in cooperation with KRCS in Project areas

Mr. Shadrack Musyoka of 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 on going activities which included in site for installation of EWS, develop plan with WRUA, identification of schools and also designing of school drama, song and games. He pointed the upcoming activities conducting training volunteers and WRA, establish KRCS clubs.

Eng. Koki the deputy director of Water Resources in the Ministry of Water and Irrigation pointed out that in the KRCS had declared an interest 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.

Mr. Nzyko of WRMA Flood Management Unit pointed out that the rain gauges that KRCS intended to install were purposefully targeting the community flood early warning and they were going to be used as a community based flood early warning tool.
Mr. Musyoka of KRCS responding to the issue at hand clarified to the participants that KRCS was not working in isolation but with WRMA and JICA and that the installations of rain gauges was a collective responsibility with stakeholders including WRMA and WRUA.

Mr. Musyoka of KRCS makes a presentation during 4th JCC

Type of rain gauges that are used for community Flood early warning

GENERAL INFORMATION OF THE PROJECT

The Implementation Agency

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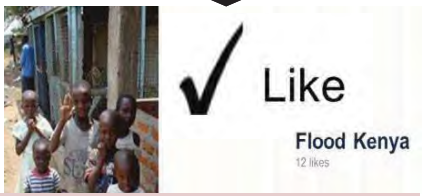

OPEN LECTURE ON COMMUNITY BASED FLOOD EARLY WARNING AND INSTALLATION OF WATER GAUGE GADGET

JICA Project Team organized a community based flood early warning workshop in from 15th to 18th October 2014 held at KEWI in Nairobi. The keynote lecturers were Dr. Omachi and Mr. Ooi from Japan. The two had worked extensively in the area of disaster (flood) management. The two lecturers had vast experience in working with the communities in Asia and Latin America. During the open lecture JICA Project Team facilitated WRUA members from Gucha Migori (LOGUMI WRUA), Isiolo (Isiolo WRUA) and Lumi (Lower Lumi WRUA) river basins. WRMA staff from headquarters, the Lake Victoria South, Athi and Ewaso Ng'iro North catchments also attended.

During the lectures the participants were taught on how to make rain gauges and river water levels gadgets using locally available resources. Thereafter the participants were also taught on the importance of coordination between the downstream and upstream for effective community based flood early warning. Mr. Ooi narrated a story of a woman in Costa Rica in Latin America played a pivotal role in flood early warning. The woman an observer in the upstream accepted an alarm to installed in her home and she would warn communities in the downstream to evacuate anytime the alarm rings. She added that despite of her role the communities in the downstream did not even who she was! She pointed out that she would meet with downstream community members in the market but yet they did not even know who she was and the role she plays in issuance of flood early warning and thereby reducing the impacts of the floods in the downstream. Mr. Ooi further narrated that the woman observer did not need an accolade for her role but all she desired was that someone in the downstream to just say thank you or show gratitude to those in the upstream who sacrifice their time to help the people in the downstream!

The flower beauty of this narrative is the fact that there are those people who are in the shadows in the phases of floods but yet play important roles in saving human lives and reducing human suffering and casualties during occurrence of floods. The lesson we draw from the narrative is that the little effort that one puts towards flood management in area may not be recognized by many but the impact touches many lives!

After the lectures Mr. Omachi and Mr. Ooi assisted communities in Isiolo and Lumi to set up the community based early warning. While in Lower Gucha Migori Eng. Kondo led a team that included WRMA-LVSC Regional and Kisii Sub-regional office that assisted LOGUMI WRUA to set up and install the community based Flood early warning wherein the water level gadget was installed at Wath Onger on 5th and 19th October 2014. LOGUMII WRUA members utilized the skills they had acquired during the open lecture to install the water level gauge gadget and its sensor.

Setting up of equipment

Testing of water level gadget

WRUA members dig trench to lay in cabling pipes that links the gadget at the river and alarm at observer's house

Group photo after installation of water level gadget at Wath Ongrr 1KB05

Integrated Flood Management Newsletter

THE PROJECT

ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.012

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FIRST GUCHA MIGORI IFMC MEETING

Gucha Migori River Basin is a unique basin. Its peculiarities stems from the fact that it is a vast basin stretching across five counties i.e. Nyamira, Kisii, Narok, Homabay and Migori counties. Because of its uniqueness the preparation for the first Gucha Migori Integrated Flood Management Committee Meeting started in earnest in August 2013 and eventually the meeting was held on 18th December 2013 at Migori Teachers Training College in Migori County. The meeting was attended by various relevant stakeholders in the river basin.

The purpose of this first Gucha Migori IFMC was as follows: 1) To get understanding on flood situation and flood management within Gucha Migori River Basin among the relevant stakeholders. 2) To understand necessity of river basin wide flood management plan. 3) To request relevant stakeholders to assist and cooperate with WRMA and WRUAs formulation of flood management plans. sub-regional level.

The meeting was also attended by JICA Project Team led by the Team Leader Eng. SAWA and JICA Chief Advisor to Project Eng. KONDO. WRMA Headquarters was represented by Flood Management Unit members i.e. Mr. NZYKO and Eng. KIMANGA.

Mr. Maturwe acting Regional Manager WRMA-LVSC made the opening remarks where he described the overview of the Lake Victoria South Catchment Area. He explained the importance of integrated approach in the management of the river basin. He welcomed the stakeholders to the first Gucha Migori IFMC and thereafter gave a brief overview of the Lake Victoria South Catchment.

Ms. Everlyne Onyango representing the County Government in her opening remarks stated that the County Governor and the Executive for Environment and Disaster were engaged in the Migori County Government Cabinet Meeting.

Mr. Maturwemakes opening remarks

She pointed out that the County Government was appreciative of JICA effort in flood management in the Migori County. She challenged the education sector to incorporate flood and disaster management in the schools. She added that the Ministry of Environment and Disaster are engaged in reforestation in the County and also riverbank protection. She challenged the stakeholders to be generation minded and stated that starts with developing futuristic plans like the intended Gucha Migori Integrated Flood Management Plan. She finalized her remarks by pointing out that the County Government was ready to cooperate with other stakeholders in the management of floods disaster.

Eng. Kondo the JICA Chief Advisor to the Project gave the key note address where he address the objective of IFMC and purpose of the first IFMC.

Eng. Kondo makes key-note address

He thereafter explained the Nyando Project and lesson learnt wherein he explained that the Nyando Project implementation was expensive and difficult for community to implement on their own or even under the support of the government. He clarified that the current Project aims at capacity development in flood management for WRMA and WRUA. He explained that Flood Management was currently the mandate of WRMA and sixteen Flood Management Officer had been dispatched to the sub-region offices.

Mr. Leonard Masafu the Sub-regional Manager WRMA-LVSC Gucha Migori made a presentation on progress of IFM Plan for Gucha Migori River Basin. Mr. Joshua Ouma made a presentation on Lower Gucha Migori Flood Management vis-à-vis Japan Experience. He explained the background of the Lower Gucha Migori. He thereafter gave the flood history in Gucha Migori. Mr. Elly Onyango made a presentation on KRCS current activities in LOGUMI SC. Mr. Richard Onsongo CAAC member from the upstream made a presentation on human activities in the upstream the impact negatively the downstream.

Mr. Nzyuko made the closing remarks wherein he pointed importance of integrated approach in management of floods.

WRMA STAGE ONE TRAINING

WRMA Stage One Training was held on 14th to 25th October 2013 at KEWI in Nairobi and Sunset Hotel in Kisumu respectively. It is predetermined by the Project Design Matrix that WRMA staffs be trained in effective flood management. The trainings are divided into three stages i.e. stage one trainees are trained in effective flood management, stage two the qualified trainees train other WRMA staffs and thereafter the training spreads across to all the sub-regional offices and WRUAs are also trained. The stage one training was segmented into two phases: phase one was held in Nairobi while the phase two was held in Kisumu.

The training in Nairobi commenced in earnest on 14th October 2014 and the training was officially opened by Technical Manager WRMA HQ Eng. Kinyua representing the Chief Executive Officer (CEO) and the Financial Manager WRMA HQ who both made the opening remarks.

Eng. Kinyua makes the opening remarks

The training in Nairobi was theoretical in nature and entailed understanding the concepts in flood management and modalities of achieving effective management of floods. Facilitation during this phase was through a workshop mode of approach which entailed PowerPoint presentations and thereafter questions and comments from the trainees and in some cases there were group discussions and thereafter group presentations.

There were also various lecturers engaged during the Stage One Training and they included leading Kenyan Professors, Japanese Experts and Project Supervisor Gucha Migori.

The participants were WRMA staffs mainly from the Flood Management Unit in the Headquarters and the three Project Areas inclusive of the Regional Offices that the Project Areas fall under.

Stage One Participants keenly follow the lecture proceedings

WRMA Stage One Training in Nairobi and Kisumu held from 14th 25th October 2013

A participant to the training states his expectations

During the Stage One Training the participants agreed to be time conscious and to maintain high level of disciple through out the training period.

Group Photo

Opening Session of the training

WRMA STAGE ONE TRAINING PROCEEDINGS IN NAIROBI

During the entire training period in Nairobi the participants showed highest level of discipline and more importantly they were all keen with their studies with an average of 99% attendance in all the lectures.

The lecture room was electrifying and glowed with hunger for knowledge from the participants and passion for sessions by the lecturers. Just like they say "accounting for every drop of water" the participants were accounting for every minute of the lecture by their attentiveness, raising issues of concern, participating in group works making presentations and answering every question asked. It was awesome!

The modules covered during stage one training included: Cause and effect of floods; Understanding flood management; Flood disaster management; Rainfall observation; Rainfall Data and Statistical Processing; Integrated River Basin Flood Management (IRBFM); Community managed Flood Disaster Risk Reduction (DRR); Vulnerability assessment; Developing a Community Flood Hazard Map; Flood Early Warning System; Community Based Flood Early Warning; Introduction to Integrated Flood Analysis System (IFAS) and

Presentation on Progress in Lumi River Basin

Global Flood Alert System (GFAS); Evacuation Planning; Evacuation Centre Management; Capacity for Transmitting and Communication Skills; Communication on Desired Information to Schools; Effective Public Awareness Raising on Flood; Planning and design of flood damage mitigation measures; Flood Damage Mitigation Non-Structural Measures including Community Based Measures; Flood damage mitigation structural measures including community-based measures; Co-operation and Co-ordination between Upstream and Downstream ; Role of Co-operation and Coordination; Co-operation with County Government, WRUA and DDMC; Role of District Disaster Management Committee (DDMC).

Keen attention during training

Group discussion in progress

Training in progress

Presentations after Group discussion

WRMA STAGE ONE TRAINING PROCEEDINGS IN KISUMU

The training in Kisumu was held at Sunset Hotel and it involved both theoretical and practical engagement. In theory sessions the participants were given lectures on effective flood management and the lecturers used PowerPoint Presentation mode.

Thereafter a field excursion exercise on community flood hazard mapping was carried out. The Winam WRUA played host to the training wherein the WRUA benefited by being part and parcel of Community Flood Hazard Map development. The areas visited that fall under the jurisdiction of Winam WRUA were Okana and Nyamware areas and two Community Flood Hazard Maps for the two areas were developed.

There was also a site visit to rainfall station at Ahero National Irrigation Board Compound and also observation of high flow measurements at R. Nyando. The participants also visited Kamagaga Evacuation Centre a structural measure constructed under the Japan Grant Aid Nyando Project.

Briefing meeting at Rabuor

Field excursion to Okana village

Sketching of hazard map on ground

Transfer of map to manila paper

TRAINING IN JAPAN

Disasters mainly earthquake, Tsunami and floods have occurred in Japan over centuries. This disaster occurrence has not led to submission of the people but in the spirit of the nation and her people Japan has exerted resilience that has seen the nation rising up from the horrors of history of disaster to become one of the most developed nation in the world.

Therefore the training in Japan by WRMA staffs on Effective Flood management was timely.

The training in Japan entailed of 20 staffs from WRMA including 3 members from the WRUA. During the training in Japan the participants were taken to various sites in Japan but during the sites visits there were observations that indicated culture shock and the amazement of the melting pot characteristics of Tokyo City. The following were noted:

A) Timeliness which is a strong characteristics of Japan the City Shuttle leave on time and the smallest delay by a passenger means missing the Shuttle! Let's put in a context, "The welcome was very warm and the staff had prepared everything it made us forget the jetlag we were all suffering from. Fast forward and the next day some of us missed breakfast and that was lesson number 1: that in Japan, allocated time for activities is strictly adhered to!" Mrs. Elizabeth Diego.

Other notable issues were work ethics, sea food, hospitability. Humility etc. For more do not miss the next month issue of IFM Newsletter!

Group Photo during the training in Japan

Osaka train station: time is strictly adhered to

Eng. Matagaro receives a 3D Map

SITE VISITS IN JAPAN

The training in Japan was characterized with numerous site visits. In the next month Issue of the IFM Newsletter Training in Japan will be revisited. Do not miss your copy!

From Tokyo to Osaka we made several site visits to rivers, dams, museums, forest and had a close view of Mt . Fuji on our way from Tokyo to Osaka in a Shinkasen. A site visit to Arakawa river and we could not believe that this was a flood-way i.e. a man made river that was built purposely to control floods. The river is well managed and there is heavy investment by Ministry of Land, Infrastructure and transport that in each of their offices for the class A rivers managed there is Disaster Information system that comprises of equipped offices with Fibre optic cables, CCTV,C-Band radar ,TV broadcasts. Data collected is real time which is relayed on the screens in the office this has empowered the Japanese in management of all kinds of disasters without causing wide spread destruction.

The management of rivers in Japan is anchored in River Law which is adhered to by the citizens and implemented to the letter.

For every river there is a dedicated river museum and its history is preserved, the rivers are continuously maintained, and we observed a multi purpose dam that was first constructed in 616 AD and is in perfect use to date over the centuries they have been building more embankments. In every place we went the welcoming was warm and thanks to NEWJEC for the entertainment the dinners, sushi, beef bowl and all the cold drinks that came in ice. More will be in the next issue of this newsletter but I leave you with this quote: "The greatest lesson is enhancement of disaster prevention with focus on ability by people needs; 'ji jyo' 'kyo jo' 'ko jyo' meaning " myself" each other" public"

R. Arakawa flood-gates

Yodo Gawa weir

Amagase Multipurpose dam

Dinner: Sea food delicacies

COMMUNITY BASED FLOOD EARLY WARNING SYSTEM (CBFEWS)

The workshop on CBFEWS took place on 12th to 14th May 2014, as per the planned schedule. The purpose of the workshop was to assemble CBFEWS which would be used in the next phase of the project and also for the WRUAs to acquire skills on how to assemble the FEWS. The Workshop was attended by 3 Isiolo WRUAs, 3 LOGUMI WRUAs, 3 Lower Lumi WRUAs, 1 Kabarnet WRUA, 1 Nairobi WRUA, 1 JICA Volunteer and 3 WRMA members.

It is imperative to note that even before the workshop the observers for the Flood Early Warning System were had been trained on the monitor and the gauge. With the assistance from KRCS, the observers were trained on how to take and keep records. A tool set for the maintenance of the CBFEWS was given to Isiolo, Lower Lumi and LOGUMI WRUAs.

In Gucha Migori for example it was noted that the observer stationed at Emuria Dikiri in Narok County relayed information by sending an sms to WRMA Kisii SRO, LOGUMI and Upper Magor WRUAs' Secretaries.

River gauges and rain gauges with accessories of a sensor and alarm were installed in the three pilot areas.

In Gucha Migori 4 rain gauges and 1 river gauge were installed. KRCS and Migori County participated in some of the installation. During the Taveta IFM Forum observer from Gucha Migori was considered the best observer and was rewarded.

It is imperative to note that the cooperation and coordination between the upstream and downstream is of uttermost importance to ensure the success of the CBFEWS.

WRUA members are being trained on assemble of the CBFEW gadgets and installed CBFEW in Isiolo

Description : Teachers and students participate in the installation of the rain gauge and the sensor

Description : The sensor having been installed is being tested and also explanation to the observer on how to operate and manage the sensor

Installation of rain gauge at Kiong'ongi Highin Middle Gucha WRUA jurisdiction

Description : Explanation to the teachers and students during the installation of the rain gauge and the sensor

Description : The rain gauge is fitted in its holder at the weather station to enable its draining after every rainfall in the area.

Installation of rain gauge at Emuria Dikiri High in Upper Magor WRUA jurisdiction

Description : Installation of the rain fall gau ge gadget sensor

Description : The rain gauge is fitted in its holder at the Iterio Girls, the co ntainer will be drained after every rainfall in the area.

Installation of rain gauge at Iterio Girls High in Upper Riana WRUA jurisdiction

TAVETA INTEGRATED FLOOD MANAGEMENT FORUM: SITE VISIT

Day one of Taveta IFM Forum entailed presentations. Mr. Karimba of Isiolo WRUA made a presentation on the situation report of community based flood early warning (CBFEWS) in Isiolo, Mr. Joshua Ouma of LOGUMI WRUA made a presentation on the situation report of (CBFEWS) in Gucha Migori River Basin, Mr. Fred Reuna of Lower Lumi WRUA made a presentation on the situation report of (CBFEWS) in Lumi River Basin. There were presentations by the respective Pilot Project Area WRMA SRO. Mr. Kinyanjui of WRMA Isiolo presented on Riverbank Protection in Isiolo, Mr. Njihia presented on implementation of non-structural activities in Gucha Migori and Mr. Musau presented on evacuation centre in Lumi river basin.

There were presentations from WRMA HQ with Mr. Mwangi presenting on recommendations for nationwide expansion of (CBFEWS). Ms. Orina presented on draft manual for non-structural measures against floods. Mr Maina of WRMA Loitoktok presented on draft manual for structural measures against floods.

There were also group and plenary discussions in the course of two days event. The group discussions entailed the theme of the future activities of the WRUAs and plan of expansion of flood management in other 12 flood prone areas.

Day one of the Taveta IFM Forum also entailed site visit to Eldoro primary School that culminated with the handing over ceremony of the completed structures. During the site visit the pupils dramatized a flood occasion in Taveta that surrounded the theme of early warning, evacuation, response and relief distribution. The head teacher led the participants to the raised road, the installed culvert, the raised evacuation hall and toilets.

The participants were therefore able to observe and have an understanding of community-driven flood management activities that can be undertaken in flood prone areas.

Awarding of certificates to observers Explanation of raised road

Official opening of evacuation hall Official opening of raised toilet

Eldoro pupils dramatize a drama with a flood theme on flood led community evacuation during handover ceremony

Integrated Flood Management Newsletter

THE PROJECT

ON CAPACITY DEVELOPMENT FOR EFFECTIVE FLOOD MANAGEMENT IN FLOOD PRONE AREAS

IFM Newsletter Issue No.013 30th July, 2014

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FOURTH GUCHA MIGORI IFMC MEETING

The fourth Integrated Flood Management Committee (IFMC) for Gucha Migori was held on 24th July 2014 at IFAD Hall in Migori County.

The fourth IFMC for Gucha Migori was unique because it was largely organized by WRMA-LVSC Southern Shoreline Gucha Migori. The preparatory works entailed developing presentations, procure the hall for the meeting and inviting all the stakeholders to attend. On 24th July the meeting was therefore held and it was attended by various stakeholders.

In the opening remarks session the JICA Project Team Leader Eng. Hideki SAWA speech was read by Project Supervisor for Gucha Migori Mr. NGIDA. In the speech the JICA Project Team Leader congratulated Gucha Migori IFMC for holding its 4th meeting which he referred to as the 1st post-project IFMC meeting. He therefore wished the IFMC well and stated that it was JICA Project Team that such meetings will be continuous and the developed IFMP would be implemented through the IFMC effort. He concluded his speech by stating that the good success will be when the IFMC structures will be replicated in other flood prone areas.

Eng. Matagaro makes opening remarks

Eng. MATAGARO DTCM in charge of floods from WRMA HQ in his opening remarks stated that the IFMC was noble committee that must be all inclusive and integrated in nature. He explained the purpose of the 4th IFMC and stated that at the end of meeting it was expected of the IFMC members to critical examine the IFMP, make comments and mutually agree on the document and thereafter adopt it. WRUAs formulation of flood management plans. sub-regional level.

The Zero Draft IFMP was presented and discussed and the countermeasures evaluated and prioritized by the participants. The lesson learnt extracted from the Project was also presented to the participants.

In closing remarks Eng. MATAGORO stated that the 5th IFMC was important because the comments of the IFMC members would have been factored into the IFMP. He added that the IFMC will be tasked also with identifying the actors to implement the IFMP thereafter he declared the meeting closed.

TAVETA INTEGRATED FLOOD MANAGEMENT FORUM

Taveta IFM Forum was held on 24th and 25th June 2014 at Greenpark Hotel Taveta County. The Forum was graced by the WRMA CEO Eng. Philip OLUM, WRMA Director Hon. Jackson Mwalulu, the Taveta and Meru County government representatives, JICA Kenya Ms. Meri Fukai JICA Chief Advisor Eng. KONDO, JICA Project Team led by Eng. SAWA WRMA staff from the HQ, the three pilot site and all Flood Management Officer (FMO) and also the WRUAs from the three pilot project areas. In his opening remarks the WRMA CEO pointed out the importance of involvement of the County governments in flood disaster management. He elaborated that through the JICA Project structures had been constructed and O&M was critical and therefore he called for cooperation between WRUA, WRMA and respective County government. He also thanked the Japan Government for the continuous support and assistance that Japan Government has offered to Kenya on flood management.

The Chief Officer Taveta County on her part stated that Taveta County government was going to implement more structural measures. She also clarified that she was going to share Taveta IFMP with Taveta County Executive in order to strengthen flood management.

Eng. KONDO in his opening remarks explained the JICA Projects on flood management in Kenya. He further explained the scope of PCDEFM Project. He clarified that through the Project the institutional framework had been strengthened. He appreciated WRMA for deploying FMO in all the flood prone areas in the country.

WRMA CEO Eng. Olum makes opening remarks

WRMA Board Director Hon. Mwalulu appreciated JICA efforts in Flood Management in Taveta. He called for stakeholders cooperation in flood management.

He stated that as a member of WRMA Board he was going to request WRMA to strengthen flood management department. He thereafter declared the Forum official opened.

WRMA STAGE THREE TRAINING

Capacity development for WRMA and WRUA entailed trainings. The WRMA Stage One Training was predetermined by the Project Design Matrix that WRMA staffs be trained in effective flood management by JICA Project Team. Stage two entailed the qualified first stage trainees training other WRMA staffs from other flood prone regions. Stage three entailed trained WRMA staffs training the WRUAs. The third stage training was therefore held in Migori County wherein LOGUMI WRUA and representatives of Middle Gucha, Upper Magor and Ongoche WRUAs also participating. The training commenced on 19th May 2014 and ran for one week i.e. it was completed on 25th May 2014.

The third stage training was officially opened by Eng. Matagaro from WRMA HQ. In his opening remarks he pointed out that the WRUA were the institution that were actively involved in flood management at the grassroots. He therefore stated that for WRUA to be effective in engaging in flood management activities there was need for the WRUA members to be trained. He concluded his speech by stating that the WRUA members selected for the training were just but a few and it was expected that the trained members share knowledge and information with other WRUA members that did not actively participate in the third stage training.

WRMA staff lectures as trainees keenly listen

There were five WRMA staffs that were involved in the actual training of the WRUAs. The staffs prepared PowerPoint presentations based on the revised WDC Manual that had a module of flood management incorporated therein. The training entailed lectures in a workshop environment, site visits to LOGUMI SC and group discussions and presentations.

Lecturer explains concepts to eager for knowledge trainees

WRMA STAGE THREE TRAINING PROCEEDINGS: SITE VISITS

WRMA Stage three Training in Migori County held from 19th to 25th May 2014

Relentless lecturers during 3rd stage training

During the Stage Three Training the participants agreed to be time conscious and to maintain high level of disciple through out the training period.

Lecture at KB05 stn Wath Onger

WRUA member explains operation of CBFEWS

During the entire training period the participants showed highest level of discipline and more importantly they were all keen with their studies with an average of 100% attendance in all the lectures.

The lecture room was electrifying and glowed with hunger for knowledge from the participants and passion for sessions by the lecturers.

Just like they say "accounting for every drop of water" the lecturers and participants were accounting for every minute of the lecture by their attentiveness, raising issues of concern, participating in group works making presentations and answering every question asked. The WRUA members raised pertinent issues concerning flood management and the lecturers were apt in their response. The lecturers were creative in ensuring that the trainees do not miss out on the knowledge. One example to note was Mr. Rueben Ngessa creativity in ensuring a technical oriented lecture on IFAS and modelling was simplified and understandable to the trainees. The lecturers used English, Swahili and sometimes Luo as language of instruction. The sessions were awesome! This actually indicates that flood management in Kenya has been taken by horns and both WRMA and WRUA were up to the noble tasks.

The site visits were equally awesome experience. The trainees were trained on understanding the importance of accurate data collection, purpose of the river gauge stations and the installed community based flood early warning gauges. There were transect walks in Sere and Angugo Villages that culminated by the trainees drawing the community flood hazard maps for these two village. During the transect walk JICA Kenya representative Ms. FUKAI who was in attendance walked through the tough terrains with the lecturers and trainees. It was an awesome experience.

Trainees draw community-based flood hazard map

Day two of the site visit entailed execution of an evacuation drill at Nyora. The drill was executed in collaboration with KRCS Migori branch which was an indication of the future stakeholders cooperation. It is important to note that the Migori County government also implemented an evacuation drill a week later in Kabuto.

Teacher explain the raised toilet at Nyora

Wrap up meeting after a successful execution of evacuation drill

KRCS staff explain execution of drill

Execution of an evacuation drill

KRCS staff demonstrates basic first aid during the Nyora execution of drill

WORKING GROUP MEETING IN MACHAKOS

The Working Group Meeting was held at WRMA-Athi Regional Office Hall in Machakos Town on 4th and 5th June 2014. The objective of the Working Group Meeting was to carryout post-project capacity assessment of WRMA.

The evaluation was based on the previous assessment that had been carried out during the 1st and 2nd working group meeting that was held in 2012 and it was premised on the following thematic viewpoints: to develop a system for collecting and analysing information/data with respect to flood phenomena; to analyse cause and effects of floods by using related information/data; to coordinate relevant stakeholders for better flood management in the communities; to technically advice WRUAs in developing the SCMPS; to formulate and update training manuals on flood management and to conduct training seminars for staffs in HQ, ROs and SROs; and to introduce the concept of river basin flood management plan (RBFMP) which should be set between CMS and SCMP.

Working Group Participants in deep discussion on assessment

THIRD IFMC MEETING LUMI RIVER BASIN

The third Integrated Flood Management Committee (IFMC) for Lumi River Basin was held on 10th April 2014 at Greenpark hotel in Taveta County.

The meeting was well attended by stakeholders within the basin. Lower Lumi and Upper Lumi WRUA were well represented. WRMA HQ, WRMA Athi and WRMA Loitotok was well represented in the meeting. JICA Project Team was also adequately represented. The Taveta County government was also represented.

During the meeting there were various presentations that mainly aimed at effective flood management. After the confirmation of the previous minutes, Mr. Joseph Maina FMO presented the overview of IFMP for finalization. In his presentation he explained that the 4th IFMC meeting was scheduled for August 2014 and thereafter the meetings will be held annually. Eng. Kondo clarified the importance of understanding the role of WRUA, WRMA and Taveta County government in the implementation of the IFMP. He also presented on discussion on current improvement and future revision of the IFMP.

Mr. Robert Owaga, JICA Project Supervisor for Lumi River Basin presented on Report on the countermeasures at Eldoro Primary School and CBFEWS operation in Lumi River Basin. During his presentation Eng. Kondo pointed out the importance of CBFEWS as experienced in Isiolo where floods occurred but because the upstream community issued a warning the flood damage in terms of human lives losses was averted.

Presentation on IFMP Finalization

Mr. Clement Ngida, JICA Project Supervisor for Gucha Migori River Basin presented on Establishment of CFMO in LOGUMI SC. In his presentation he explained the difference of the CFMOs in LOGUMI SC and Nyando River Basin. He thereafter explained the current activities of the CFMOs. After his presentation the Lower Lumi WRUA requested that the presentation which was in English be translated to Swahili that they may use to establish CFMO in their own area.

Plenary session during IFMC

THIRD IFMC MEETING ISIOLO RIVER BASIN

The third Integrated Flood Management Committee (IFMC) for Isiolo River Basin was held on 21st May 2014 at Rangeland hotel in Isiolo County.

The meeting was well attended by stakeholders within the pilot area river basin. Isiolo WRUA were well represented. WRMA HQ, WRMA RO and WRMA SRO was well represented in the meeting. The Isiolo and Meru County governments were also represented.

The main objectives of the meeting were: finalization of IFMP, discussion on IFMC constitution and report on river bank protection and FEWS installation and operation.

During the meeting, the following discussions were made: review of Isiolo SCMP to incorporate flood management activities, IFMP to be incorporated in ENNCA CMS, enhancement of monitoring network for collection of more reliable data in relation to flood management. There was need to escalate the activities identified in draft IFMP as finalization of the Plan is underway. In the composition of stakeholders for the IFMC, the members agreed to include media, this will ensure the effective flow of information relating to the floods to the intended target communities. The implementation of riverbank protection was a success amidst challenges like low community participation during implementation, lack of community incentives. The members a greed to change clause on ' education on disaster prevention' to 'education on disaster management'. The proposed constitution for IFMC was to be amended by the members and relevant clause be included. The adoption of the constitution was scheduled for the next IMFC meeting.

Mr. Mutie presents the previous minutes to the participants

Participants in the 3rd Isiolo IFMC meeting held on 21st May 2014 at Rangeland Hotel