



**Project Title:**

Freshwater Ecosystem Functionality in Urban and Rural Kajiado



**Reporting Period:**

**01<sup>st</sup> February 2016-15<sup>th</sup> August 2016**

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## General information

Name of organization	Neighbours Initiative Alliance
Project title	Freshwater Ecosystem Functionality in Urban and Rural Kajiado
Sub Title	Improved Water Access and Functional Freshwater Ecosystem in Urban and Rural Kajiado
Report prepared by	Samwel Jakinda: Programme Manager
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## **Development context**

The year 2016 has been a good year for community development in Maasai land mainly because there has been less stress for pastoralists due to El-Nino type rainfall that was received early in the year. This enabled the beneficiary communities to concentrate on development projects being supported by development partners. During droughts, able bodied pastoralists mainly men move from place to place in search of pasture and water leaving only women behind. The women have limited powers to make decisions on behalf of the whole community and so most development work stalls during such times.

Although activities started late due to contractual processes, good traction has been made and the situation is not likely to change as there are indications that it may rain again soon.

There have been good relations with the County Government and other partners collaborating in the project. In particular, NIA has been working with the Department of Agriculture for capacity building of the farming community at Impiro and Enkorika. NIA has also collaborated well with AMREF and SASOL in the course of this project.

NIA intends to continue fostering closer relationship with the County Government and other development partners.

## **Executive summary**

SASOL has been building the capacity of Wash Alliance Kenya (WAK) partners to implement 3R technologies with support from RAIN foundation. This is to equip the WAK partners with relevant techniques and experience to be able to implement the 3R technologies on their own. NIA has so far implemented 8 sand dam projects with support from RAIN and Simavi.

NIA previously implemented a project titled “Enhanced Rainwater Harvesting for Multiple uses through Low Cost Technologies” which was supported by RAIN through SASOL. There were key gains achieved and lessons learnt during the implementation of this previous project. They formed the basis of the present project so as to safeguard the gains and build on the lessons learnt.

Key among the gains is the community appreciation of 3R for transformation of degraded lands and provision of clean and safe drinking water. However, given that technologies for 3R were not so developed in Kajiado, there was need to have a model place where most 3R structures can be demonstrated for interested community members and institutions in Kajiado to learn from. For sustainability and general acceptability, quick results needed to be shown, hence the exposure visits to communities already benefiting financially from 3R techniques.

## General objective

To contribute to increased access to and use of portable water amongst households in Kajiado County through 3R knowledge transfer, facilitation of 3R water infrastructure development for MUS and, development of useful linkages for WASH financing.

## Specific objectives

1. To increase access to and use of RWH technologies for provision and management of water for multiple use
2. To develop a model village for learning 3R techniques by facilitating 3R infrastructural development to further upscale the approach through amplified community investments.
3. To engage with the County Government and like minded NGOs to lobby and advocate for urban recharge and urban water handling improvement

## Overall progress to date

Excerpts from the proposal *with progress highlighted in red and in italics*

This project builds on the gains achieved and lessons learnt while implementing a programme titled “Enhanced Rainwater Harvesting for Multiple use through Low Cost Technologies” supported by RAIN through SASOL. NIA’s capacity to implement 3R solutions was enhanced through symposiums attended and also technical support received from SASOL, which was contracted by RAIN to build the capacities of local NGOs in Kajiado for construction of sand dams. NIA has since constructed 8 sand dams.

RAIN submitted a teaser to VIA water titled “Sponge City Kajiado” in which it seeks to recharge Kajiado aquifer to enhance the diminishing volumes of underground water due to increased demand for water for multiple uses. NIA is the lead implementing partner. This project complements the VIA water project by harvesting

rainwater and encouraging its usage at household level as safe drinking water (boreholes in the vicinity tested positive for nitrates, an indication that surface water flows into the aquifer).

With 3 mature sand dams; a spring and undisturbed landscape, a functional fresh water ecosystem will be created at Enkorika, a site selected to be used as a model for learning 3R. This entails a demonstration of linkages of soil and water conservation efforts in a landscape approach environment to wholesomely benefit a watershed. This catchment approach will create relevant structures where appropriate in a watershed. *In preparation for making Enkorika a learning centre for 3R solutions, NIA facilitated a training for representatives of Enkorika cathment. The training centred on Integrated Water Resource Management (IWRM and 3R. The expectations from the representatives included to learn how to have clean water, how to work as a team in self help groups, learn how to prevent soil erosion, to gain knowledge on environmental issues, learn how to improve/develop their farms and learn how to get clean water from the environment. At the end of the training, most of these expectations were met. A total of 49 people were attracted to this training. The training methods included a case study of IWRM, slides, videos and discussions in plenary. In the case study, a case of conflict between upstream and downstream users in the Mt. Kenya region;, the community during reflections appreciated the need for IWRM in resolving conflicts between upstream and downstream users. The community were sensitized on the basic principles of IWRM. The 3R training was presented in the form of slides and videos originating from Ethiopia's Tigray region and Kenya's Makueni County. Participants were taken through the meaning of the R's in the 3R and they likened to the recharging of the phone battery which stores power and the cycle of usage and recharging continues. The participants were eager to learn more and start practicing 3R for more productivity and for soil and water conservation. They welcomed further trainings and promised to attend in large numbers the planned training on how to mark contours on their lands and how to create soil bunds and stone lines where applicable in their lands. The participants who were not in the pilot sites promised to start the practice on their own farms. .* Some of the interventions proposed here include intercepting sub surface flow to boost spring water at Enkorika, *With collaboration of AMREF, a technical assessment was carried out at Isinya Sampin well, the site of the spring at Enkorika.*





*Picture above: Technical assessment of the hand pump.*

*NIA sought permission to ensure functionality of the well which was granted, from German Agro Action, the initial funders of the shallow well. During the very preliminary visit, there were two hypotheses, (a) the hand pump was faulty and (b) the water was not entering into the infiltration well. The assessment confirmed that indeed it was the pump that was faulty as there was a lot of water in the well. We were able to fish out the pump, have it repaired with broken parts replaced and took caution to pump out all the water to enable fresh water enter the well again. The repaired pump was then fitted back into the well and it is functioning well. This saved us a lot given that we had prepared to recharge the well had we found that water was not entering the well.*

*promotion of roof rainwater harvesting at 50% subsidy towards this, NIA facilitated a training for technicians drawn from Enkorika on rainwater harvesting, during the training, the participants expected to learn new skills on how to harvest water, how to store roof water, sand dams, farm ponds and how to use water after harvesting. By and large, their expectations were met through both lectures and audio visual training. The participants were taken through the advantages of rainwater harvesting in light of dwindling freshwater resources and increasing population. They were also taken through steps of rainwater harvesting and appropriately sizing storage structures. Also discussed was innovative rainwater harvesting and storage structures for traditional huts as being promoted by African Wildlife Foundation. Lastly, participants were exposed to a design of a low cost underground cistern of capacity 7000L. The design takes the shape of a bottle with the top diameter being 80cm and going deep at 1m thereafter it takes an oval shape with the depth being 4m and the width at the centre of the oval tank being 1.8m. The participants who are mainly artisans with trades in masonry, roofing and excavation works costed the model and the total cost was Kshs 38,900.*



*Above left: Participants watching audio visual documentary. Above right: A participant asking a question.*

***Key conclusions/recommendations out of the meeting/training were as follows;***

- 1. Participants stated that water and sand will be contributed by the beneficiaries amounting to Kshs 18,500.00*
- 2. All selected households have iron sheet roofing (this was reality on the ground hence no need for innovative solutions for traditional hut)*
- 3. NIA aids in guttering costs.*

*The total costing/workings as done by the technicians is illustrated here below.*

No.	Item Description	Units	No. of units	Rate/Unit	Total
1	Excavation	Feet	15	800	12000
2	Cement	Bags	4	1000	4000
3	Water Proof Cement	Satchets	4	350	1400
4	Sand	Wheelbarrows	15	300	4500
5	Water	20L	250	50	12500
6	Labour (Mason)	Days	3	1500	4500
					38900

*additional infiltration well and hand pump at the upstream sand dam an infiltration well was successfully dug for the second time in a second site after the initial site failed to yield adequate water. The second site had so much water that pumping water out had to continue as water digging was continuing. The well was thereafter*



*equipped with a hand pump and it is functioning well. A picture from the well forms the picture on the cover page of this report.*



*Picture above: Two women loading water onto a donkey having just collected the water from the infiltration well fitted with a hand pump.*

and a demonstration site for 3R techniques i.e. contour bunds. *Together with a team from County Department of Agriculture, practical trainings were held in Enkorika and Impiro. The trainings focused on imparting practical skills to residents on how to mark contours in their lands in preparations for laying of 3R techniques like soil bunds, terracing etc. It was explained how soil and water conservation at farm level links with increased agricultural production and the women in attendance showed a willingness to improve their lives. The team ensured the community understood what a contour is as a basis for laying the structures in the field. A demonstration was done.*





*A facilitator demonstration principle of a level where water finds its level*



*Practical training on marking contours on the ground*

*The tools chosen were simple tools that the communities could use easily. They included a line level comprising of spirit level, pair of levelling boards, cotton string and tape measure. The demonstration plots were chosen by the communities for both Enkorika and Impiro areas and fenced off. These will be complemented with an attitude change process to influence the community to adopt good sanitation and hygiene practices through CLTS approach to ensure integrity of the water quality from upstream to the downstream users, funded by Simavi **This component has not taken off as the County Government new guidelines has temporarily stopped all triggering of new villages choosing to focus on following up of previously triggered villages to achieve Open Defecation Free (ODF) status..***

## **Project achievements**

### **Objectives/activities for the current reporting period (see table below)**

<b>Planned Activities</b>	<b>Status of implementation</b>
Community meetings for sensitization and awareness creation on 3R benefits and selection of sites for demonstration of 3R infrastructures	Completed
Identification and selection of beneficiaries of roof rainwater harvesting infrastructures	Completed
Identification and selection of suitable soil and water conservation structures according to the landscape & Demo farm(s)	Ongoing
Sensitization and mobilization meetings for beneficiary contribution	Ongoing
1 Day 3 R Training at Enkorika (50 pax)	Completed; 47 persons trained
4 Day Practical on site Training on Marking contours & digging of contour soil bunds & construction of stone lines	Training completed. Field supervision to continue
Training of technicians on roof water harvesting (One day)	Completed
Facilitate knowledge transfer missions (Exchange visits to Enkorika for WRUAs based in Kajiado and other groups)	Planned
Exchange visits for Enkorika WRUA, Water Point Management Committees, Farmer groups to similar projects in Kitui (Coordination with SASOL)	Planned for 29 <sup>th</sup> and 30 <sup>th</sup> August 2016
Water Committee Management Trainings with emphasis on Tariffs setting and water safety (45pax for 3 days)	Planned.



## Challenges

Uncertainty on the status of Kajjado Sponge City proposal to VIA Water casts doubts on meeting the specific objective 3 “To engage with the County Government and like minded NGOs to lobby and advocate for urban recharge and urban water handling improvement”

## Approaches

The main approaches used in this project are Community Conversation (CC), Community Led Total Sanitation (CLTS), Integrated Water Resources Management (IWRM) and promotion of rainwater Retention, Recharge and Re-use (3R). These three approaches are useful in implementation of community anchored environmental and WASH projects.

## Lessons learnt

For pastoral areas, community dialogues takes the largest proportion of time compared to construction of the structures for which the dialogues are held. However, development in pastoral areas cannot be done otherwise if sustainability is to be achieved in the long run. Once the dialogues are completed, there is strong communal ownership of the initiative.

## Outcomes/impact of the activities

Given that a baseline survey was carried prior to commencement of the project, there are indications that good outcomes may be recorded and eventually desired impacts. It is hoped that this may be measured when the right time comes.

## Project effects on gender relations

Within a short period of time, there has been enhanced availability of water in the sand dams at Enkorika ensuring steady supply of water even during dry periods. This ensures that women do not walk long distances in search of water hence availing more time for the women for investing in other income generating or social activities. Accessing clean and safe water closer means less likelihood of water borne diseases, clean people and more happy homes hence it is promoting harmonious interactions between women and men.

### **How to sustain the results**

NIA will sustain the results achieved so far by ensuring that it continues monitoring the progress of these projects and backstopping where necessary. This is to be done even after the end of the current project period.

### **Project management and administration**

There were no major management and administration changes during the project implementation period.

### **Institutional capacity development**

NIA programme manager was able to travel to Europe for a resource mobilization mission to France and Netherlands. Besides visiting NIA partners Breizh Solidarite Maasai who are partnering with NIA in small water renovation projects, two organizations expressed an interest to work with NIA on addressing water quality challenges and addressing solid waste. The Netherlands visit saw the programme manager have meetings to foster good partnerships with Simavi &RAIN and also attend proposal feedback meetings with Dick Bouman of VIA Water/Aqua for All.

These are all geared at ensuring continuity of the work NIA is doing hence assuring that NIA remains relevant.

### **Staff capacity development**

John Lekishon, NIA Programme Officer attended an Advanced Capacity Building Course on Rainwater Harvesting and Irrigation Management supported by AFRHINET, University of Nairobi, World Vision, ICRAF and Kenya Rainwater Harvesting Association.