

# **A WATER PROJECT PROPOSAL FROM THE MARAGOLI AREA COMMUNITY DEVELOPMENT FOUNDATION**

**PROJECT TITLE:** Lusiola (LEW-SHOR-AH) Environmental Group Water and Sanitation Project

**LOCATION:** Kenya, Western Province, Vihiga District, Vihiga Division, Mungoma Location, Lusiola Sub-Location, Vicedze (VEE-GAY-ZA) Village

**SUMMARY OF PROPOSAL:** The Lusiola Environmental Group seeks funding for improvements in water quality in Vicedze Village through the installation of rainwater harvesting (RWH) systems, the protection of 11 community springs, and improvements to latrines.

## **SPECIFIC PROJECT OBJECTIVES:**

- 1) Installation of rainwater harvesting systems (Ksh 200,750; US\$2808)
- 2) Protection of 11 springs (Ksh. 591,200; US\$8211)
- 3) Improvements of latrines (Ksh 139,200; US\$1,933)

Ksh = Kenyan Shilling

**ESTIMATED TOTAL COST OF PROJECTS:** Ksh. 889,950 (US\$12,228)

## **CONTACT PERSONS:**

Joyce Adisa Bunyoli, Project Coordinator  
Maragoli Community Development Foundation  
P. O. Box 40  
Vihiga, Kenya

Mr. Caleb Ongodi Amadi, Chair  
Lusiola Environmental Committee  
P.O. Box 398  
Vihiga, Kenya

## **General Background:**

Lusiola sub-location is located in the Vihiga District of the Western Province of Kenya, just northeast of Lake Victoria. Situated near the equator, the area is classified as sub-humid tropics, with an average temperature of 24 degrees Celsius. The landscape is comprised of intensely farmed 1-3 acre plots of land, nestled among undulating hills and valleys, and interspersed by a network of small streams. The Maragoli area receives enough rainfall (1800mm) via the “long rains” (March to June) and “short rains” (September to December) to support a variety of subsistence (maize, bananas, beans, cassava, kale) and cash crops (tea, coffee), as well as livestock (cattle, goats, chickens). Remittances from kin who work in the cities are also a major source of income for community members. According to the 1999 Population Census, the Vihiga District has one of the highest population growth rates in Kenya (3.3%); the average fertility rate is

5.1 children per woman, and 59% of the population is under 20 years of age. With up to 1200 persons per square kilometer, this region is one of the most densely populated rural areas in the world.

Culturally, the large majority of community members belong to Kenya's second largest ethnic group, the Luyha. Kin ties are still reckoned through patrilineal descent groups (the clan and lineage), and brides typically move to the homestead of the groom's family upon marriage. About 10% of marriages are polygamous. Because many men have gone to Nairobi or other cities in search of work, there is a high percentage (roughly 40%) of female-headed households. During the era of British colonialism, the Maragoli area was heavily missionized, and small Christian churches are now a defining feature of most villages. Free primary schooling is offered for 8 years, but roughly half of all children cannot afford to go to secondary school. Nevertheless, most young people are trilingual, speaking not only their native tongue (Kimaragoli) but also the lingua franca of East Africa (Kiswahili), as well as English, which is the medium of instruction in schools.

The rapid pace of change over the past century has produced many challenges in the community. The poverty rate (set by the Kenyan government as living below \$1 a day) stands at approximately 60%, and the mortality rate for children under the age of five is approximately 100/1000. Malaria, tuberculosis and HIV/AIDS have hit this area hard. For example, approximately 20% of children enrolled at Vicedze Primary School have lost one or both parents to AIDS. Blood sampling conducted in a nearby village showed that 43% had malaria parasites and that over 80% of the children were anemic. The demand for firewood for fuel has led to deforestation and problems with erosion. Because of soil depletion (primarily deficiencies in nitrogen and phosphorus), agricultural outputs do not meet their potential. A few households have grid electricity, but kerosene, charcoal and firewood account for most energy expenditures.

### The Role of the Maragoli Community Development Foundation

The Maragoli Community Development Foundation (or MACODEF) was formed in 2004 to address these challenges through an integrated and bottom-up approach to development initially focused on the villages of Vicedze (VEE-GAY-ZA) and Vigena (VEE-GEE-NA). Our nine-member board of trustees (representing the U.S., Netherlands, Japan and Kenya) is primarily responsible for fund-raising, but our on-site project coordinator and local board of governors make crucial recommendations on project funding and oversee project implementation and evaluation.

In the first two years of operation, MACODEF raised nearly \$25,000 to fund projects in education, health care and micro-enterprise. For example, the following projects were funded over the past two years:

### 2004 Projects

Provided school uniforms and scholarships for AIDS orphans  
Repaired water tank and constructed new latrines at village primary school  
Provided funds for final phase of construction of a community meeting hall  
Funded equipment for science laboratory at Vagina Secondary School

### 2005 Projects

Began construction of a rural health clinic in Vignedze Village  
Provided small grants for medicine and food to individuals with AIDS  
Conducted AIDS awareness seminars via funding of the village soccer team  
Provided new desks for students and teachers at Vagina Primary School  
Funded school uniforms and scholarships to AIDS orphans  
Provided micro-loans to start a village grain bank  
Gave micro-loans to several local groups (physically challenged group, widow's support group, small farmer's association) for income-generating activities such as poultry-raising or the purchase of cattle.

Our major goal for 2006 is to maintain our previous commitments while expanding our project activities into the arena of environmental improvements. Our local board of governors has identified water quality and access to safe water as the highest priority in this area.

### Water Resources

In spite of adequate rainfall from March to December and the presence of many small streams and springs, most community members do not have access to safe water. The main sources of water are springs, streams and rainwater, but each of these is unreliable. Unless they are preparing tea, most people do not boil drinking water because of the scarcity of firewood. The preferred method of water storage is clay pots.

There are 11 springs in the Lusiola area, all of which are unprotected to varying degrees and thus subject to multiple sources of contamination. In two of these sites (We-Salano and Suguta), shallow wells have been dug by hand where the water comes up out of the ground, resulting in small ponds. At several other sites, pipes have been installed, but they are too small and the water flows around the sides. In general, the springs are not easily accessible. Some are surrounded by steep slopes and are very difficult to access while carrying a 15-20 liter container. Collecting water is seen as the work of women and children, who typically walk  $\frac{1}{4}$  to  $\frac{1}{2}$  a mile to and from the nearest water source.

Moreover, the springs tend to be contaminated with waste from both humans and livestock. Baseline water quality sampling in a nearby village, for instance, revealed high levels of fecal coliform bacteria. Informal reports from the local community point to a high frequency of diarrhea, and diarrheal diseases are known to be a major cause of mortality among infants and toddlers. Finally, some of the streams and springs dry up

during the dry season from January to March. Eucalyptus trees that grow near the springs are partially responsible for this, as their root systems require large quantities of water.

Unfortunately, very few homes are equipped with water catchment systems. As a result, most rain water is wasted. Because thunderstorms are often quite intense, rain storms often wash away top soil and cause erosion as well.

### **Three Project Proposals:**

#### *Project One: Rainwater Harvesting (RWH)*

In order to minimize the number of people going to streams to collect water, we propose the installation of rainwater harvesting systems for 33 “semi-permanent houses” with tin roofs. Depending on the season and the number of people in the household, rooftop gutters draining into a 1000-liter water tank can meet between 25%-75% of a household’s water needs during the rainy season. Water collected in this way prevents long lines from forming at the springs; it saves backbreaking work for women and children; and it is especially useful for older men and women who cannot go to the rivers or springs. Rainwater can also be given to animals. After the rainwater has been collected, it will be treated with chlorine so that it is safe for drinking.

Water tanks and gutters will be purchased from the nearby towns of Majengo or Kisumu, and dealers will transport them to where they are needed. The secretary, treasurer and two group members will conduct the purchasing. It only takes one day to assemble this system, and the labor will be donated by committee members.

#### Budget

33 1000-liter water tanks @ Ksh 5000 (US\$70) each	Ksh 165,000 (US\$2310)
330 Gutters @ Ksh 75 (US\$1) each	Ksh 24,750 (US\$345)
110 kg of chlorine@Ksh 100 each	Ksh 11,000 (US\$153)
Total	Ksh 200,750 (US\$2808)

#### *Project Two: Spring Protection*

We propose to improve water quality at the 11 springs by building or repairing cement foundations, installing efficient pipes and protecting the springs from livestock. Community members will provide food, sand and stones for each project. These in-kind contributions will total Ksh 275,000 (US\$3,819), or approximately one-third of the total cost of the project. The remaining cost is approximately \$700 per spring, as shown below.



community who have tin (rather than thatched) roofs on their houses. The establishment of RWH systems, however, will indirectly benefit others in the community by reducing demand for water from the springs.

### Preparation and Training

The planning for these projects is proceeding through several stages. In early June of 2006, MACODEF's local board of governors invited 100 individuals (representing a cross-section of the village) to a first-ever seminar on environmental priorities in the community. Just over 80 people attended the day-long "stakeholders' meeting," which generated a list of high priority projects in the village. Water quality, sanitation and deforestation/soil erosion were at the top of this list.

Out of this process, the Lusiola Environmental Group was formed to coordinate efforts towards environmental protection centered on the village of Vicedze. Representatives of this group, whose officers and members are listed at the end of this proposal, met several times to finalize and draft the specific project proposals which are described above.

MACODEF has also received an invitation from the United Nations Millennium Village Project to visit Sauri, Kenya for additional training. The UN Millennium Villages Project applies the Millennium Development Goals—specific targets for reducing poverty by 2015, agreed upon by all countries of the world in 2000—as a holistic package of site-specific interventions for 12 impoverished villages around the world. As luck would have it, Sauri, Kenya (a mere stone's throw from Maragoli) was chosen as the first Millennium Research Village. Sauri shares many of the problems we see in Maragoli, and the MVP's efforts to improve water quality in Sauri are very consistent with the projects described above. Dr. Patrick Mutuo, coordinator of the Sauri Village Project, will host representatives from both our board of trustees and our local board of governors, as well as key members of the Lusiola Project, in September of 2006.

In addition to this visit, MACODEF will provide funds for several committee members or relevant persons to attend a training session on installation of RWH systems and on protection of springs prior to the start-up of our project.

### Monitoring and Evaluation

Monitoring of the project will be conducted at three levels. First, the assistant chief and the headman of Lusiola sub-location, along with the chief officers of the Lusiola Group, will take responsibility for overall implementation of the project. They will provide receipts for all material purchases. Second, representatives from MACODEF's local board of governors will make regular site visits and confer on a weekly basis with the Lusiola group to insure steady progress on the projects. Finally, at least one member of MACODEF's international board of trustees will make a site visit to

verify completion of the funded projects. Documentation of completed work will be provided through photos and in a written report.

## Appendix A: The Lusiola Environmental Group

### Officers

- |                     |                         |
|---------------------|-------------------------|
| 1. Chairperson      | Caleb Ongodi Amadi      |
| 2. Vice-Chairperson | Eric Mahagwa            |
| 3. Secretary        | Joan Mmbone Mirembo     |
| 4. Vice-Secretary   | Henry Muyeyia           |
| 5. Treasurer        | Hadah Kavaya Mikuzi     |
| 6. Vice-Treasurer   | Abisago Afwande Bunyoli |

### Members

7. Fanuel Babu
8. Joel Mahugi
9. Joel Vonyoli
10. Dishon O. Lihugu
11. David Osango Njoro
12. Ezina Muhonja Aganda
13. Robai Kimanya
14. Sarah Osiako Omega
15. Priscilla Savulane Oburo
16. Sabeti Musimbi Obora
17. Richard Ahusi Yeda
18. Miriamu Anamanda
19. Jescah Mmbone Daudi
20. Rinicah Adisa Onzere
21. Everylne Caleb Onga'di
22. David Asava Onzere
23. Triphena Vusha Egunza
24. Eshimael Javaya Imbugi
25. Pennina Mmbone Lugonzo
26. Silas Njoro
27. Jonifer Kavosa Mbaranya
28. Dorothy Modani
29. Respa Ayima
30. Selina Kihami
31. Jotham Matiti
32. Gerishom Ogada
33. Nicholas Kibanda Chegoshi