



Rotary Foundation Future Vision Global Grant for Clean Water in Ghana in West Africa and to Fight Buruli Ulcer and Other Waterborne Diseases

1. HOST PRIMARY PARTNER

Type: Club Sponsored

Name: Samuel Obour E-mail: samuelobour@yahoo.com Phone: 011 **233-20-8114082**

District number: 9100 Club name/number: Sunyani Central Rotary Club

2. INTERNATIONAL HOST PARTNERS

Type: Club Sponsored

Name: PDG Ross White E-mail: jrosswhite@shaw.ca Phone:

District: 5020 Club name/number: **Oak Bay Victoria, British Columbia, Canada**

Name: Ken Hammer E-mail: Ken.Hammer@viu.ca Phone:

District: 5020 Club name/number: **Nanaimo, British Columbia, Canada**

Name: John Nadolski E-mail: JohnN@water.cc Phone: 1-832-367-4083

District number 5890 Club name/number: **Sugarland, Texas Rotary Club**

Name: Walter Hughes Jr. E-mail: WalterKHughes@gmail.com Phone: 540-493-4715

District number 7570 Club name/number: **Rotary Club of Rocky Mount, VA**

Name: Kurt Bay (Rotary Cadre) E-mail: k.bay@nikko.ch Telephone: 540-493-4715

District number 1980 Club name/number: **Rotary Club of Aarau, Switzerland**

Name: Claude Laliberté E-mail: rotaryclaudel@sympatico.ca Phone:

District number: 7040 Club name/number: Club is in **Quebec, Canada**

Note: Our past grants have support from Rotarians in four countries and 12 US states.

3. What community needs have been identified?

The people in communities in Ghana have poor water supply and poor water quality. The people usually obtain water from surface water, wells, dams, local rivers and streams. Many of the water sources are contaminated from human waste, animal waste, diarrhea, typhoid fever and other water borne diseases. The communities also may only have a source of water in the rainy season while a river or stream is running. The community needs to have a reliable source of clean, safe water throughout the year. The communities also use more polluted sources of water as the dry season worsens near May.

The overall health of the community will greatly improve with clean, safe water. This water will be used for drinking, cooking, and keeping clean to avoid preventable illnesses. The entire population of a community and surrounding farms up to 5 kilometers away will benefit.

This global grant will target communities with Buruli Ulcer and other waterborne diseases. Buruli Ulcer is a disease that is found in the southern regions of Ghana and other West African countries. We want to tackle Buruli Ulcer in the same way that we eradicated Guinea Worm Disease within Ghana. (See Guinea Worm Disease section at end of grant.)

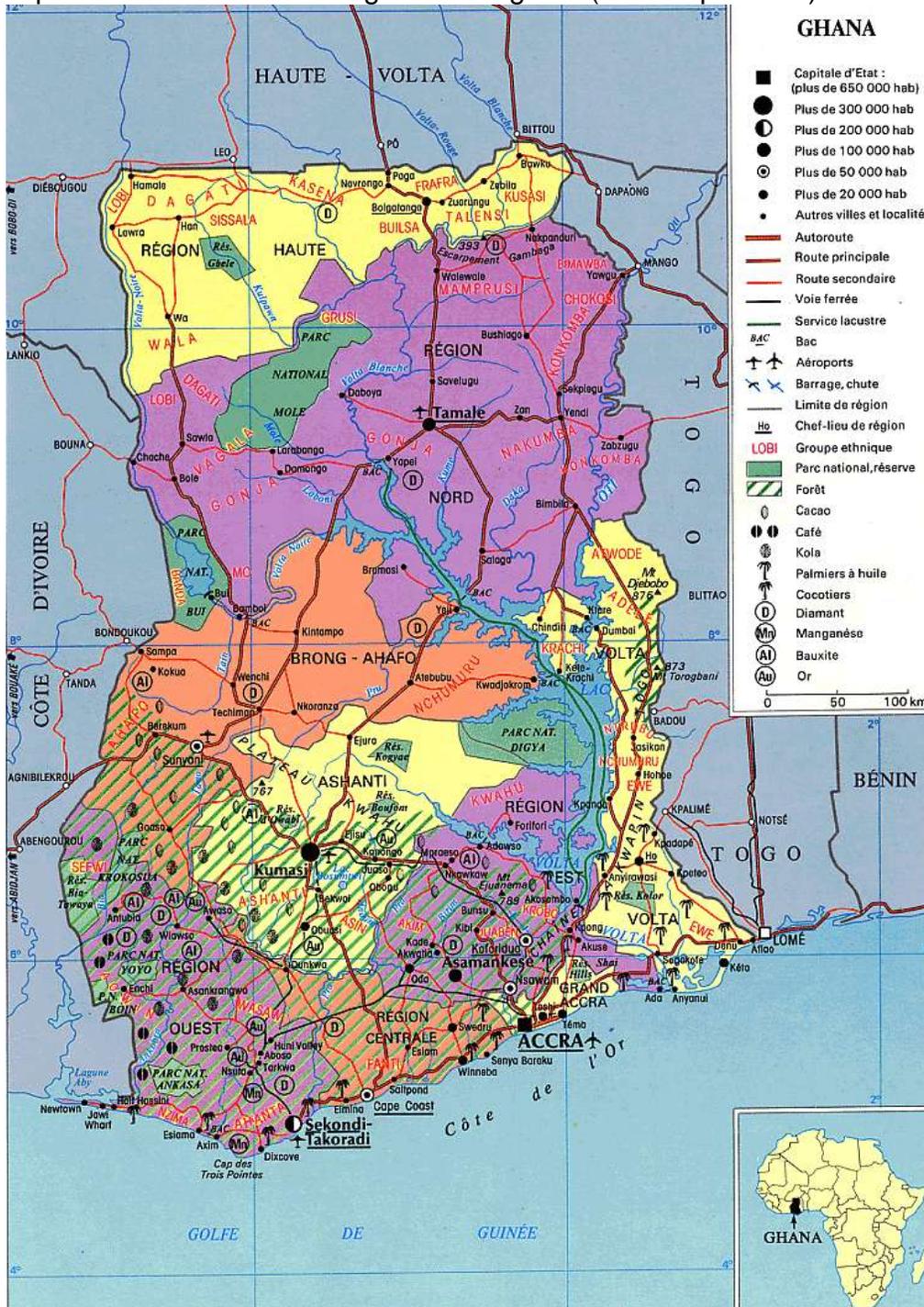
We also want to include hand washing stations for a few schools and market areas to improve sanitation along with household latrines and school latrines.



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4. Describe the benefiting community including its location using any relevant geographic and demographic information.

Ghana is located in West Africa. The need for clean water and sanitation is great in this area of Africa. The disease that we are prioritizing in this grant is only found in southern West Africa and Australia. Ghana is one of the worst countries in the world for the flesh eating disease called Buruli Ulcer. We will be targeting the districts and regions of Ghana where the Buruli Ulcer Disease is very bad. The Sunyani Central Rotary Club is located in the central part of Ghana in the Brong Ahafo Region. (See map below.)





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The map below indicates the most endemic Buruli areas between 2005 and 2009 in Ghana.

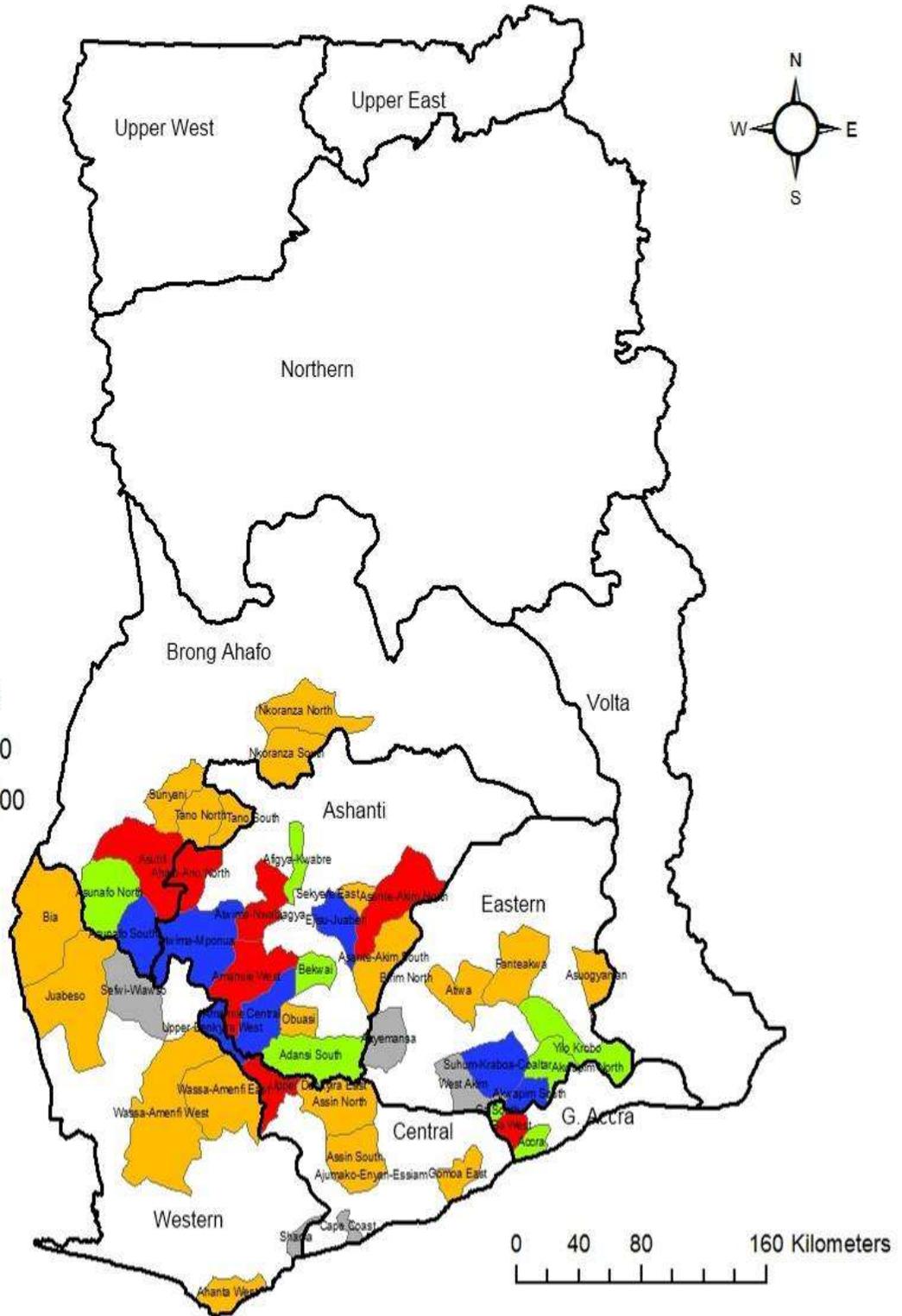
2005-2009 _Ghana_BU_Districts

Legend

Ghdist

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- 2.00
- 2.01 - 34.00
- 34.01 - 50.00
- 50.01 - 227.00
- 227.01 - 640.00





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While perhaps difficult to see on the map, this project will focus its activities in the area farthest west shaded dark blue and red. There are four districts in particular that interventions will be focused on. They are Asunate North, Asunate South, Asutifi Districts in Brong Ahafo Region and Upper Denkyura in Central Region.

These districts are selected for the following reasons:

- The presence of Buruli Ulcer
- The absence of clean water in many villages
- The relative geographic proximity to Sunyani and the local club
- The relative proximity to one another so as to reduce drilling costs

Villages from these four districts which had Buruli cases in 2009 are listed in Appendix A. It should be noted that this does not mean that this list will be the only eligible villages for project intervention. The final list of beneficiary communities will be derived nearer project start date and include additional information such the 2010 buruli endemic villages, a water survey to determine need and planned water facilities by other projects. It should be noted that AFD (French Aid) is currently looking at drilling boreholes in some villages in Brong Ahafo Region and USAID has recently begun a water project which includes Central Region. This is the same USAID project which is looking for ways to interface with Rotary International in Ghana. Hence, we believe there should be good opportunities to interface between this project and that project.

5. How are these needs currently being addressed with local resources and/or government agencies, NGOs, etc.?

Many organizations are working to provide clean water and sanitation for communities in Ghana. We have worked with many of them in prior Rotary matching grants. We've worked with Ghana Health Services, Ghana Guinea Worm Eradication Programme, UNICEF, W.A.T.E.R, and District Water and Sanitation Departments.

As mentioned earlier, USAID is working in an alliance with Rotary in regions in the southern part of the country including Central Region. NGO's from all over the world are assisting the effort to improve the water and sanitation situation in Ghana. Sanitation in particular is a problem in Ghana which ranks 4th from the bottom in sanitation coverage in Africa according to WATERAID. Ghana will not reach its MDG relative to sanitation.

We are always looking for additional partners in the government and private sectors in West Africa. We train Water and Sanitation Committees (WATSAN) to manage the boreholes and wells after the project is completed. We also encourage the local communities to provide labor, concrete or other resources to aid in completion of the project. In addition, the communities will bring food and water for the workers.



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6. Briefly summarize (250 words or less) the proposed activity including the needs served, the intended beneficiary, and the potential benefits to the community.

SUMMARY: “The 2011 Clean Water Global Matching Grant for Ghana objective is to provide clean, safe water to as many people in communities in Ghana as possible. This water will be used for drinking, cooking, and keeping clean to avoid preventable illnesses. We will tackle a dangerous flesh eating disease called Buruli Ulcer. Communities with the highest number of Buruli Ulcer cases will be prioritized. Household latrines will improve sanitation. Medical education and medical care will educate people about water borne illnesses and treat their diseases.”

We are prioritizing Buruli Ulcer and other water borne diseases such as typhoid fever, diarrhea and dysentery. Our goal is to raise awareness for these diseases and reverse the cases of Buruli Ulcer disease. We hope to repeat the success we’ve had eradicating Guinea Worm Disease.

This grant includes relationships and knowledge gained from Rotary competitive grants 65414, 69051 and 71926. The Host Club is Sunyani Central in the Brong Ahafo Region. The primary International Clubs are Sugarland, Texas Rotary Club and Rocky Mount Rotary Club. We have support from Rotarians in the USA, Canada, and Switzerland.

The project will drill boreholes, repair boreholes and wells, dig hand dug wells, and build household latrines. We will also provide medical intervention, education and medical care for the communities where water borne illnesses exist. The medical work will be in partnership with Ghana Health Services, District Health Departments, W.A.T.E.R. and the Carter Center.

7. List any cooperating organization(s) or educational institutions involved in the proposed project.

We will work with Edwin Ampadu, Program Manager for the National Buruli Ulcer Control Programme of Ghana Health Services with **Ghana Health Services (GHS)**. Dr. Ampadu will prioritize the communities with Buruli Ulcer. He will also implement the medical education, intervention, and medical care in this grant. Dr. Andrew Seidu of Ghana Guinea Worm Eradication Programme will also provide guidance and support for future GHS work.

We have been working with Jim Niquette, Director of the **Carter Center** to eradicate Guinea Worm Disease in the past. Now, we will partner with Jim Niquette to fight Buruli Ulcer Disease. Jim Niquette is also the director of W.A.T.E.R. which prioritizes clean water in Ghana.

We hope to work with Dr. Roland Gröbli, Director of The **Clean Water Foundation of Georg Fischer Inc.** in Switzerland. The Georg Fischer Clean Water Foundation hopefully will provide \$70,000 in matching funds for this grant. The Clean Water Foundation has a strong passion for clean water in Ghana. Rotary has the experience to partner with the Clean Water Foundation of Georg Fischer to deliver better water and sanitation for Ghana.



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We are starting a relationship with Aaron Fishman, First Secretary of **Regional Environment, Science & Technology Officer for West & Central Africa in the U.S. Embassy**, Accra, Ghana. The partnership is starting modestly with sanitation education related to matching grant 71926 to educate a Girls School on the need for sanitation.

Henrietta Bullinger of the **Millennium Water Alliance** is a new partner. Henrietta Bullinger introduced us to the US Embassy matching funds. She is also very helpful in proposing new matching grant funding sources. Our relationship with Millennium Water Alliance may lead to matching funds from Pepsi or Coke as an example.

John Nadolski of **Living Water** is also a wonderful resource. We use Living Water to drill some of the boreholes in the Brong Ahafo Region and the Northern Region of Ghana. Living Water also instructed the drill rig crew working in the Western Region. John Nadolski is also a Rotarian who helps to increase the partnerships of Rotary Clubs and Districts around the USA and the world. Living Water is an NGO dedicated to providing clean water around the world. Living Water has a tremendous amount of expertise for the Rotarians partnering on this grant.

8. Describe how the benefiting community will be involved in the activities. Provide specific examples.

We will work with the communities to raise funds for a bag of concrete for the base of the hand pump. The communities will be expected to clear the site for the hand dug well or borehole. The communities will be trained in water and sanitation so that they can run a Water and Sanitation (WATSAN) Committee.

The communities will be involved in the construction of the household latrines. We will also recruit volunteers in the communities who will report Buruli Ulcer Disease to Ghana Health Services. Buruli Ulcer is treatable if it is found early. Later, the disease requires amputation of the arm or leg with the ulcer is located.

Each community will be required to pay financially as well as in donated labor toward the clean water project. This is a normal requirement of the Ghana National Water & Sanitation Programs. Paying enables the people to value the clean water project more than if it was free. Some of the communities pay with free labor to clear the well site and helping with hauling of dirt, water, and concrete. Some cities bring food for the workers. The city of Nabari, Ghana was an excellent case study in the civic pride provided by allowing the community to assist in digging of the wells in every way possible.

9. Has the benefiting community confirmed that it would like the activities to take place? Explain.

We will be working in many communities to provide new boreholes, household latrines, and medical intervention related to Buruli Ulcer. Water borne illnesses cause severe health challenges in our communities.



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The chance for safe and clean water and reduced illnesses is very appealing to our communities. Once the final list of communities is chosen, these communities will be engaged as part of the WATSAN training process. Regional involvement will also be done through Community Water and Sanitation in the capital city of the benefiting Region.

The need exceeds the scope of this grant. We will be able to work in the communities most impacted by Buruli Ulcer and other water borne disease. The communities are pleading for our assistance. We hope to have additional future grants that supplement the work done by this grant.

10. Which Area(s) of Focus is the proposed activity aligned? Check the box(es) that apply.

- 1) Peace and conflict prevention/resolution ____
- 2) Disease prevention and treatment
- 3) Water and sanitation
- 4) Maternal and child health
- 5) Basic education and literacy ____
- 6) Economic and community development ____

11) Describe how the activities will address the goal(s) of the area(s) of focus.

We will tackle three areas of focus with this Rotary matching grant: disease prevention and treatment, water and sanitation, and maternal and child health.

The core area of focus is **water and sanitation**. We will be drilling new boreholes and digging hand dug wells to provide clean water to replace unsafe water which carries disease and illnesses. The communities will help in the construction of the boreholes and will be taught how to maintain their hand pumps.

We will reduce and **prevent Buruli Ulcer disease** wherever we implement this project. We will also reduce other water borne illnesses by having clean water to drink. The household latrines will be implemented in communities and at schools to improve sanitation in these communities.

Children's health is greatly impacted by Buruli Ulcer. 67% of the cases of Buruli Ulcer in Ghana occur in children 15 and under. We will provide medical care and medical interventions in partnership with Ghana Health Services to treat patients with water borne illnesses. We will also educate the communities how to identify water borne illnesses early to minimize the impact of these diseases.

We will use the expertise of each partner to ensure sustainability of our project. The most impact task to ensure sustainability is the creation of a Water and Sanitation Committee (WATSAN). The WATSAN will be responsible for the day to day maintenance of the water project.



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The community will also have a part in the creation of the new borehole or hand dug well. It will be their project and not something provided by Rotary.

12) What will be the immediate and long-term outcomes of the activities?

People will have clean water to drink and latrines for basic sanitation immediately. The individuals in the communities will have less chance of water borne disease. It is our hope that the number of Buruli Ulcer Disease cases will decline as we move from city to city providing new boreholes and medical interventions. It is our plan that we can generate enough interest and support to have a major impact on Buruli Ulcer Disease just like we've done with Guinea Worm Disease.

13) Explain how all involved parties will act to ensure the sustainability of the activities.

Proposed Start Date: September 2010

Proposed completion date December 2011

PROPOSED BUDGET in US\$ 277,650

- a. Medical supplies \$5,000 (estimated)
- b. Training materials \$4,000 (estimated)

17. PROPOSED FINANCING

- a. DDF Amount in US\$ \$102,000
- b. Rotarian Cash Amount in US\$ \$2,100
- c. Additional Outside Funding in US\$ 70,000
- d. Requested TRF Match in US\$ \$102,550



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Proposed Partners for Global Grant

Host Rotary club inside the project country must provide at least US\$100.	Cash (US\$)	DDF (US\$)	DRFC Chair	DRFC Chair Authorization	District Governor	District Governor Authorization
Sunyani Central RC	\$100					
International Rotary clubs or district outside the						
Rocky Mount VA \$1,000**						
Various Clubs in 7570	***					
District 7570 Eastern TN and Virginia		\$25,000				
District 7550 Southern West Virginia	***	\$5,000				
District 7610: Northern Virginia	***	\$25,000				
District 7850 in Quebec, Vermont, and New Hampshire	***	\$5,000				
District 1980 Switzerland		\$30,000				
District 5890 Texas		\$2,000				
District 7040 Eastern Ontario, Western Québec and Northern NY, Nunavut	***	\$10,000				
San Leandro, CA	\$1,000					
West Seneca, NY	\$1,000					
Subtotals, Cash & DDF	\$3,100	\$102,000				
Total Funds Requested from TRF		\$102,550				
Total Earmarked Rotary Funds		\$207,650				
Additional Outside Funding (not matched by or forwarded to TRF)		\$70,000	Note: West Seneca, NY cannot be matched by TRF.			
Total Project Financing (must equal budget)		\$277,650				

Note: All non-pilot DDF will be donated to the designated Future Vision District's District Designated Funds. The non-pilot districts will not appear on the final Future Vision financing page. Clubs who provide cash contributions will not be matched by the Rotary Foundation if it is a non-pilot club.



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Proposed Summary Budget for Grant

Total Project Costs	Quantity	Per Solution USD	Grand Total	GHS Total Cedis
Boreholes (Solution 1)	25	\$6,015	\$150,369	214,125
Total Hand Dug Wells (Solution 2)	3	\$5,214	\$15,643	22,275
Total Household Latrines (Solution 3)	179	\$204	\$36,454	51,910
Total Repair Wells and Boreholes (Solution 4)	13	\$1,531	\$19,902	28,340
Education to Eradicate Buruli Ulcer & Other Water Borne Diseases (Solution 5)	4	\$10,048	\$40,192	57,233
Total Monitoring and Medical Care (Solution 6)	10	\$1,404	\$14,045	20,000
Travel Costs		\$1,046	\$1,046	1,490
Grand Total for Clean Water Grant			\$277,650	214,125

Note: This budget includes funds from non-Rotary sources as well.



This is a Living Water Borehole Rig and the Crew. This photo represents Solution 1 to drill new boreholes.



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We will use several solutions to provide safe and clean water to communities:

Solution 1: We will drill deep boreholes in communities up to 150 feet deep. The borehole cost can be close to \$5,000 per well if the low cost drill rig can be used as pictured in the photo below. The cost can increase to \$15,000 if rock is in the area. The well will include a concrete pad, hand pump, and a tap to be used for supplying the water.



Solution 2: We will dig hand dug wells that will serve specific communities where a well can be dug by hand. In some cases, the only solution for a community is a hand dug well because the roads are not accessible or we actually have more success when digging a well by hand.



These are pictures of the work needed to dig hand dug wells. The woman in the upper left is bringing water to the workers. The local community cleared the land & dug the well down six feet.



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He is pouring concrete using the round frame to create the concrete lining.

Solution 3: Basic sanitation can be achieved with the building of a simple household latrine which can be used outside of the grouping of family homes or schools. Household latrines will also help to improve water quality and reduce disease in the city. Household latrines are external toilet blocks or commonly known as “outhouses in the US.” This solution will not entail the installation or upgrade of plumbing facilities within existing buildings or homes.





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Solution 4: We will repair existing boreholes. The hand pump or the plumbing in the well connected to the hand pump usually go bad. In this solution, a known water source is available if the borehole repair can be made. We will educate the community and encourage them to start a Water and Sanitation Committee (WATSAN) so that the well maintenance will continue after the life of this grant.



Solutions 5 & 6: We are **educating people to identify the signs of water borne illnesses and skin diseases** early enough that they are able to get treatment. We also want to train communities how to maintain and support the water projects. We will fund Buruli Ulcer interventions to explain the need to report Buruli Ulcer cases and to get treatment early in the course of the disease so that amputation can be prevented. We want to increase awareness of Buruli Ulcer in a similar way that we increased awareness of the guinea disease by the Carter Center and Ghana Health Services. The water projects give communities an incentive to learn how to prevent water borne illnesses like Buruli Ulcer. We will also provide medical care for Buruli Ulcer Disease.

What is Buruli Ulcer?

Buruli Ulcer is an emerging chronic debilitating skin disease that eats up the flesh and causes extensive skin and soft tissue destruction. In some cases, it may affect the bone leading to severe and permanent contracture. An early detection and treatment of Buruli Ulcer disease is a priority and the project will work in the highest priority communities with a high number of Buruli Ulcer cases and poor water quality. The project will also involve a 2-weekly screening of community members and a 3-monthly surgical intervention. This intervention is a WHO recommended strategy for dealing with Buruli Ulcer disease.

Solution 5 & 6 will involve screening of community members will be preceded by a night video show, community sensitization and health education. Its main purpose is to provide free outreach, education, screening, treatment and surgical services to the community.

Services also include screen testing for participants with other skin conditions and abnormalities; educational sessions provided in the community for the different skin diseases; outreach services providing patient education for persons with abnormal results; one-on-one counseling and case



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management services as needed; help with transportation and emotional support and follow-up post-diagnosis treatment.

People in the communities will be screened for Buruli Ulcer and other related skin diseases, 300 shall be treated with antibiotics and out of this close to 90 will be offered with surgical and physiotherapy interventions. Buruli Ulcer, a flesh eating disease has remained largely a neglected condition in local settings and the international arena.

Few people die from Buruli Ulcer disease but certainly destroy people's lives. The debilitating effects of the disease; limbs amputations, numerous disabilities, disfigurement and social stigma of patients are large and prominent in areas where the disease occurs and where access to basic health care is limited or non in existence.

Mostly children (less than 15 years old) from poor remote rural communities with little or no access to health services are affected. By providing an opportunity for these community members to be screened, educated and treated for Buruli Ulcer disease, a lot of devastating deformities and debilities would be avoided.

Our goal is to increase the awareness of Buruli Ulcer disease in Western Africa.

We are taking the lessons learned fighting guinea worm disease and directing it toward Buruli Ulcer. Our dream is fight this disease before it threatens more lives in a greater area of Ghana.

We will focus on communities in the Brong Ahafo, Ashanti, and Central Regions where Buruli Ulcer cases are found. We will increase awareness so that other Rotary grants can include an emphasis on Buruli Ulcer. We will also prioritize the other water borne illnesses as well.

We believe that HIV/AIDS could have been fought in the early stages easier than waiting until it was a household name. We also believe that Buruli Ulcer can be better fought now rather than waiting until it is a well known disease with thousands of victims within Ghana. The patients with Buruli Ulcer can fight the disease if they are educated about the stages of the disease and go for treatment in the early stages when antibiotics can effectively treat the disease.

Districts by Region with Highest Concentration of Buruli Ulcer in Ghana

Region	District	Number of Cases
Ashanti	Atwima Nwabiagya	105
Ashanti	Asante Akim North	103
Ashanti	Amansie West	97
Ashanti	Ahafo Ano North	79
Accra Metro	Ga West	66
Central	Upper Denkyira	212
Eastern	Suhum Kraboa Coaltar	27
Eastern	Akuapim South	25
	Other Cases	272
	Total Highly Concentrated Cases	714 out of 986



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The boys in the photos above are in serious risk because their disease was not caught early enough to prevent this late stage of the disease. Amputation is a risk at this stage of the disease.

Buruli Ulcer cases above are in stage III where the children above are at risk of amputation. 46.8% of the cases reported have progressed to the most dangerous stage III level. Buruli Ulcer is a disease that is spreading quickly in the southern parts of West Africa.

Roles and responsibility for Solution 5 & 6

Rotarians shall be involved in the planning, monitoring and supervision of the project. Community members shall be involved in the planning, follow-up and treatment support for patients. District Health Directorate shall be responsible for planning, organizing, oversee day-to-day running of the project and supervision of Solution #5.

National Buruli Ulcer Control Programme of Ghana Health Services will be responsible for coordinating and provision of technical assistance. Ghana Health Services will contribute about \$1,500 in addition to the funds spent by Rotary on Solution #5.



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Please see the table below for the 2008 totals. Buruli Ulcer has increased over the last ten years. We will target water projects in Brong Ahafo, Central, and the Ashanti Regions to reduce Buruli Ulcer disease in Ghana.

Region	Number of New Cases In 2008
Ashanti	538
Central	233
Eastern	82
Greater Accra	66
Brong Ahafo	41
Western	26
Total Cases	986

The World Health Organization (WHO) Buruli Ulcer Fact Sheet can be found at <http://www.who.int/mediacentre/factsheets/fs199/en/index.html> . A CDC February 2002 article tells about Buruli Ulcer: <http://www.cdc.gov/ncidod/eid/vol8no2/01-0119.htm>





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Team Has Success Fighting Disease with Our Partnerships

Our prior Rotary clean water grants contributed to the effort to make it possible to reduce **Guinea Worm Disease** from 4,136 cases in 2006 to 8 cases year-to-date in 2010. We are ready to celebrate the eradication of Guinea Worm Disease very soon!

Guinea Worm Disease is a painful parasite that is transmitted by unsafe water. Cleaning up the water source helps to eliminate the Guinea worm parasite. We partnered with Ghana Health Services and Carter Center to achieve these results.



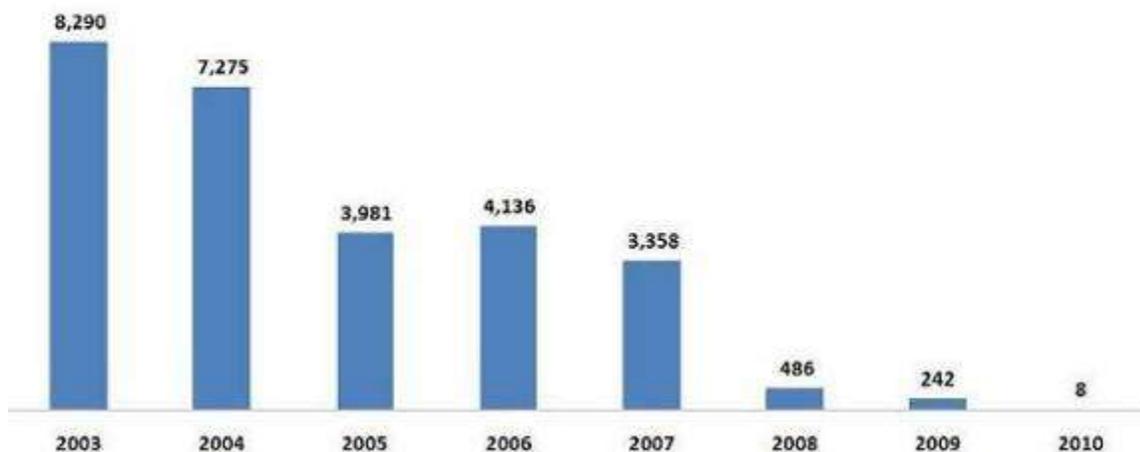
Left: Bottle of Guinea Worms removed from children at the Containment Center in 2007.

Center: Children in Savelugu, Ghana are sick with Guinea Worm Disease in early 2007.

Right: The same children in 2008 are healthy without the Guinea Worm Disease. They are in school only 100 yards away from the clinic in the center photo. We provided clean water and one year later in Oct. 2008, the clinic was empty (center) with NO Guinea Worm Disease!

The chart below shows the reduction in the total number of Guinea Worm Cases in Ghana. The people in Ghana suffered with 179,556 cases in 1989. Rotary joined the effort in 2006. November 2009 was the first month without any cases of Guinea Worm Disease! We want to have the same success with Buruli Ulcer that our partnership had with Guinea Worm Disease.

Number of Guinea Worm Cases by Year in Ghana from 2003 to 2010
Year-to-Date Cases as of 17 May 2010





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Appendix A

Buruli Case Counts are from 2009 data

District	Community	Number of Cases
Upper Denkyira East	Dunkwa	9
Upper Denkyira West	Ayanfuri	8
Upper Denkyira East	Dominase	7
Upper Denkyira West	Jameso Nkwanta	6
Upper Denkyira West	Treposo	6
Asutifi South	Acherensua	5
Asutifi	Hwidiem	5
Asunafo South	K' Flowers	5
Asunafo South	Kwapong	5
Upper Denkyira West	Maudaso	5
Asutifi	Hwidiem	3
Upper Denkyira West	Anwiawia	3
Upper Denkyira West	Breman	3
Upper Denkyira West	Diaso	3
Asunafo South	Kukuom	3
Asunafo North	Kwahu	3
Upper Denkyira West	Nkotumso	3
Upper Denkyira West	Nkronua	3
Upper Denkyira West	Ntom	3
Upper Denkyira East	Pokukrom	3
Upper Denkyira West	Abora	2
Asutifi South	Acherensua	2
Upper Denkyira West	Ampabena	2
Upper Denkyira East	Amponyase	2
Upper Denkyira East	Atechem	2
Upper Denkyira West	Betenase	2
Asunafo South	Camp No. 1	2
Asutifi	Dadieasoaba	2
Upper Denkyira West	Fobinso	2
Upper Denkyira East	Mbradan	2
Asunafo South	Mmeso	2
Asunafo South	Noberkaw	2
Asunafo South	Oppongkrom	2
Asunafo South	Pafo	2
Asutifi South	Kenyase	1
Asutifi South	Nkasem	1



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District	Community	Number of Cases
Ahafo Ano North	Twabidie	1
Tano North	Yamfo	1
Upper Denkyira West	A. Breman	1
Upper Denkyira West	Abesewa Gyaman	1
Asunafo South	Aboum	1
Asunafo South	Adomako	1
Upper Denkyira West	Akrofrom	1
Upper Denkyira East	Akyempim	1
Upper Denkyira East	Amoafo	1
Upper Denkyira East	Ankwaso	1
Asunafo South	Anwiam	1
Asunafo South	Asibrem	1
Upper Denkyira East	Asikumah	1
Upper Denkyira West	Besease	1
Asunafo South	Bosompam Sankore	1
Upper Denkyira East	Buabinso	1
Upper Denkyira East	Buabinso	1
Upper Denkyira West	Dankwakrom	1
Upper Denkyira East	Danyaase	1
Upper Denkyira East	Denkyira Asikuma	1
Upper Denkyira West	Denkyira Essuogya	1
Upper Denkyira West	Denkyira Obuasi	1
Upper Denkyira East	Denyase	1
Asunafo South	Domeabra	1
Upper Denkyira East	Dunkwa Asikuma	1
Asunafo South	Fawoman	1
Upper Denkyira West	Gyaman	1
Upper Denkyira East	Homgyebre	1
Upper Denkyira East	Kyegyewere	1
Upper Denkyira West	Mensahkrom	1
Upper Denkyira East	Mfansteman	1
Upper Denkyira East	Nfoum	1
Upper Denkyira West	Nkroful	1
Upper Denkyira West	Nkronua/South	1
Asunafo South	Nomerkaw	1
Upper Denkyira West	Nyinawusu	1
Asunafo South	Oseikrom	1
Asunafo South	Oseikrom	1
Asunafo South	Sankore/Denyasi	1
Upper Denkyira East	Sofo Akurase	1
Upper Denkyira West	Subin Hills	1



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District	Community	Number of Cases
Upper Denkyira East	Toll Bridge	1
Upper Denkyira West	Wampeam	1
Upper Denkyira West	Wampeim	1
Upper Denkyira West	Wompam	1
Asutifi South	woronso, Hwidiem	1
Asunafo South	Yankye	1