



**THE ROTARY CLUB OF LIMBE,  
(DISTRICT 9210)  
(MALAWI, MOZAMBIQUE,  
ZAMBIA AND ZIMBABWE)**



# INVITES YOU TO BEFRIEND FRIENDS OF NKHUDZI BAY DEVELOPMENT COMMUNITY



**Sunrise at Nkhudzi-Bay Malawi**

# PROJECT BACKGROUND

Mwanyama Village in Nkhudzi Bay is characterized by low quality infrastructure, poor sanitation, lack of adequate social amenities and generally low standards of living.



**Provision of potable and treated water can prevent use of the water from the lake for Drinking, Washing of soiled clothing and Cooking utensils**



**Waterborne diseases are easily transmitted as people use water from the Lake for washing kitchen utensils as well as bathing**



**The Outer view of a Village HUT in Mwanyama Village**



**People use unsafe water for bathing**



**Toilets are constructed using grass and bamboos as such privacy is not guaranteed**



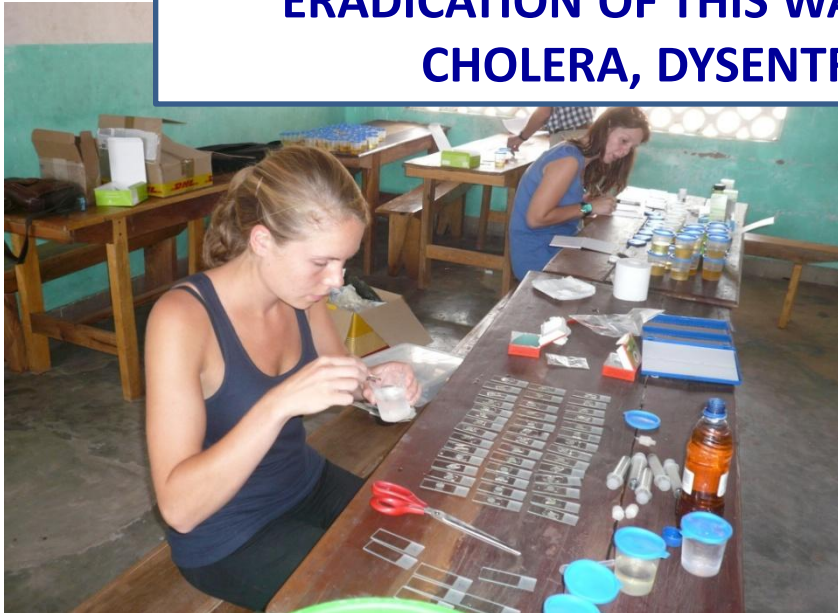
**A lady cooking on the open ground using untreated water**

# HEALTH PROGRAMME INITIATIVES

Bilharzia Control Program led by Prof AE Butterworth & assisted by College of Medicine volunteers (October 2011)

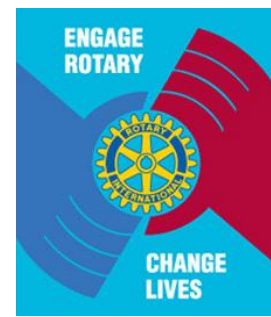


**ALONG WITH SUCH A PROGRAM THE WATER AND SANITATION PROJECT WILL CERTAINLY ASSIST IN THE ERADICATION OF THIS WATERBORNE DISEASE I.E. CHOLERA, DYSENTRY, BILHARZIA ETC**





## Schistosomiasis (Bilharzia) in Nkhudzi Bay (Mwanyama Village)



Schistosomiasis (bilharzia) is a common and important infection throughout much of Malawi, especially among children. It is caused by parasitic flatworms of the genus *Schistosoma*, which are transmitted by freshwater snails.

- *Schistosoma haematobium*, affecting the urinary tract
- *Schistosoma mansoni*, affecting the large intestine and liver

Heavy infections are seen in children, causing both local and systemic symptoms, including poor growth, failure to thrive, and poor cognitive development and performance. Severe long-term sequelae, leading to disability or death, are seen in some adults. It is a major public health problem that has received insufficient attention in Malawi. Adult worms in the urinary or intestinal tracts lay eggs, which are excreted in the urine or faeces. Upon contact with fresh water these eggs hatch, releasing free-living larvae which infect snails of certain restricted genera (*Bulinus* or *Biomphalaria*). The parasite multiplies within the snail, being released as a free-living, infective form, the cercaria. This penetrates directly through the skin of people who come into contact with water, migrating and maturing into a new adult worm. This is therefore a two-host parasite, very difficult to control and impossible to eliminate. An integrated and long-term approach to control is needed, involving:

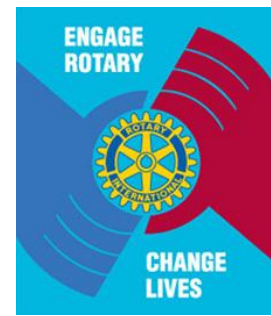
- Regular treatment of infected individuals, to reduce excretion of eggs. This is the basis of current WHO recommendations.
- Behavioural changes that lead to reduced contamination of, and exposure to, infectious waterbodies.

These include:

- Improved water supplies
- Improved sanitation
- Health education



## Schistosomiasis (Bilharzia) in Nkhudzi Bay (Mwanyama Village)



*Continued 2/2*

Schistosomiasis is particularly prevalent along the shores of Lake Malawi, where the snail populations thrive. I now restrict myself to a detailed description of the situation in Nkhudzi Bay, where:

- I was struck by anecdotal reports of infection and disease during my early visits in 2009/10
- In October 2011, I carried out a prevalence survey. I found very high levels of infection in primary school children:
  - 71% infected
  - 60% with immediate clinical signs (haematuria)
  - 8% with heavy infections, likely to lead to severe long-term sequelae

However, treatment alone will be insufficient to achieve “control”. I strongly support ROTARY CLUB OF LIMBE plans for improving sanitation and water supplies in the Nkhudzi Bay area. Please also note:

- The aim is not to “eliminate” bilharzia, but rather to reduce transmission to acceptable levels
- These plans would have a beneficial impact on water-borne diseases other than bilharzia.

This is a summary document. Please feel free to contact me if you need further information or references.

**AE Butterworth**

Professor AE Butterworth, BA, MA, MB, BChir, PhD, FRS  
Honorary Professor, College of Medicine, University of Malawi  
Honorary Professor, London School of Hygiene and Tropical Medicine



## PROPOSED PROJECTS



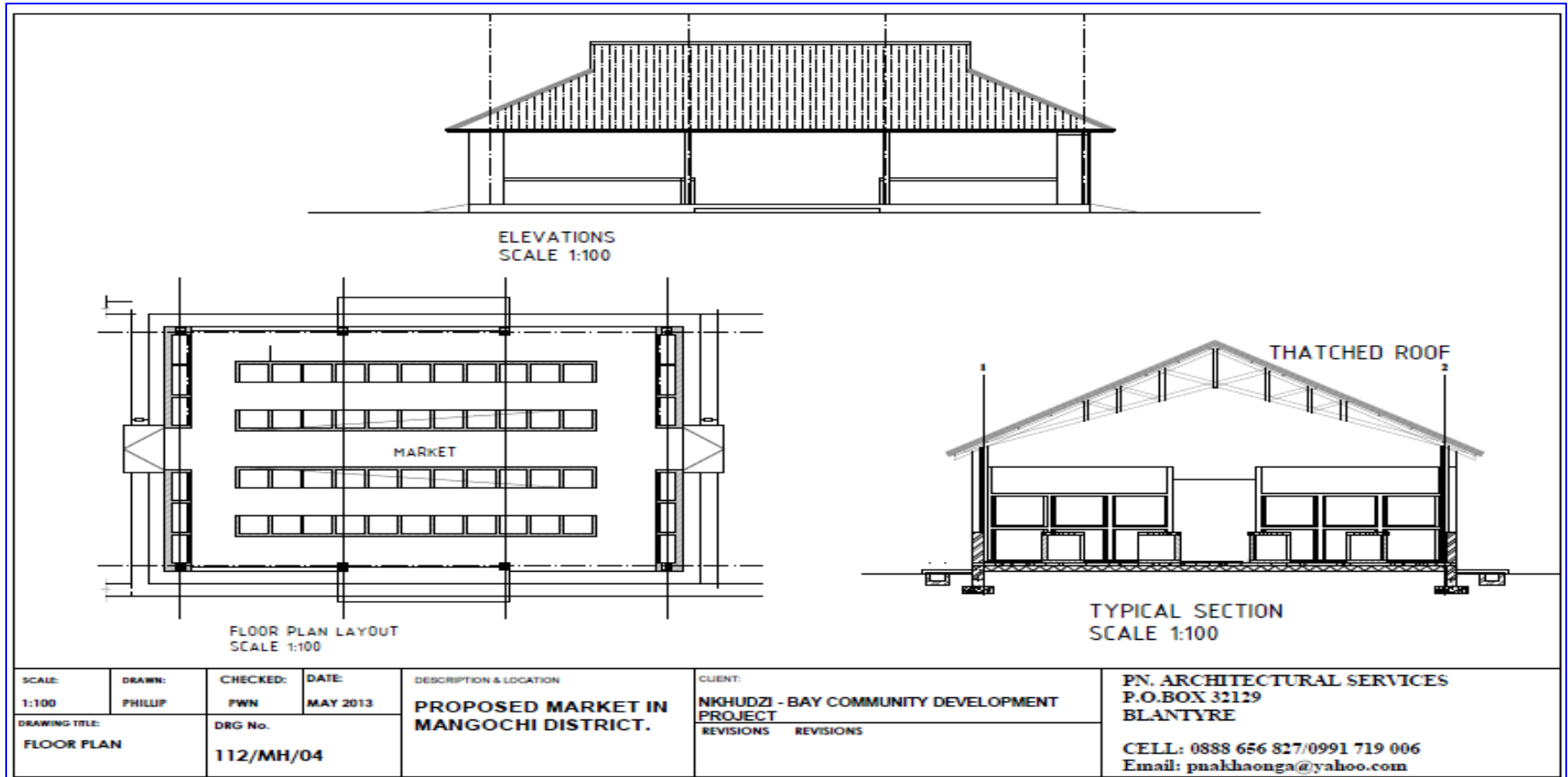
The Project concept adopts an integrated approach model:

- Water for irrigation farming to promote Income Generating Activities (IGA)
- Livestock rearing ie goats and chicken for resale and their manure for organic farming
- Treated Water Supply for the Community and possibly Commercial Vending (IGA)
- Market Centre
- Health Centre



# Market Centre (Along the Mangochi-Monkey Bay Road)

- Allow farmers to display and sell farm produce i.e. Produce Fruits & Vegetables as well Curios, Mats, Art Painting etc products as an Income Generating Activity through self-sustenance
- Location of Construction along the Mangochi – Monkey Bay Road





## HEALTH CENTRE



- To be managed professionally by Health Officials from the Ministry of Health
- Health Centre to be comprised of an Outpatient Department, Laboratory, Maternity wing, Placenta pit & Incinerator, Double Pit Latrines, Staff Houses, Electricity and Running Water
- Location of Construction: Along Mangochi-Monkey Bay Road TO SERVE MORE THAN 15,000 RESIDENTS INCLUDING MWANYAMA AND NEIGHBOURING VILLAGES



## 2013 HARVEST WITH RAIN FED WATER



CASH CROPS i.e. Groundnuts and Soya ENHANCING INCOME  
GENERATING ACTIVITIES





# WATER SUPPLY & LAYOUT



- \* Population served: 3000 plus sell to Cottage Owners / Lodges for IGA
- \* Storage: 120m<sup>3</sup> Tank
- \* Water Source: Lake
- \* Power : Solar or Escom
- \* Treatment: Filtration & Chlorination





## SUSTAINABILITY OF THE PROJECT



- Each household member pays a fee of MK 1000 to own a plot of land kindly donated by the Village Headman for the entire project
- Identification of Local Management Team from the Community (plus 2 Rotarians)
- Equipping the Team with Management and Operational skills
- Collection of User-Fee Contributions
- Encouraging more household connections as well as commercial connections of water

NB: These are part of the viability of the project that will ensure project continuity and further enhancement i.e. Water hole for wild animals from the adjacent Lake Malawi National Park, upgrading of the Nkhudzi Bay Primary School etc



The Rotary Club of Limbe along with District 9210 would like to join hands with Rotary Clubs and their Districts with Rotary International (The Global Grant) plus Wasrag and Smart Partners from the International Donors and local Private Sector



# Acknowledgement on Billboard/s off the main road

<b>FRIENDS OF NKHUDZI BAY DEVELOPMENT COMMUNITY</b>		
<b>PROMOTER: ROTARY CLUB OF LIMBE / ROTARY CLUB OF .....</b>		
<b>SMART PARTNER/S:.....</b>		
<p><b>DONORS</b></p> <ul style="list-style-type: none"> <li>• BLANTYRE PRINT &amp; PACKAGING</li> <li>• MATSONS</li> <li>• FDH BANK</li> <li>• ARKAY PLASTICS</li> <li>• FARGO LTD</li> <li>• SUNCREST GROUP</li> <li>• RSC LTD</li> <li>• THE SEED CO.</li> </ul>	<p><b>PROJECTS</b></p> <ul style="list-style-type: none"> <li>■ INCOME GENERATING ACTIVITIES THROUGH IRRIGATION</li> <li>■ TREATED WATER &amp; SANITATION</li> <li>■ MARKET CENTER</li> <li>■ HEALTH CENTER</li> </ul>	<p><b>DONORS</b></p> <ul style="list-style-type: none"> <li>• HTD LTD</li> <li>• COMBINE CARGO</li> <li>• MAPETO DWS</li> <li>• DEEKAY SUPPLIERS</li> <li>• FARGO STAFF</li> <li>• SPEEDYS GROUP</li> <li>• TRANSMARITIME</li> <li>• FERSONS LTD</li> <li>• KANENGO SER. STATION</li> </ul>



# Malawi

Famous for its beautiful landscapes & warm, welcoming hospitality is indeed a hidden haven located in Central Africa, we are referred to as

***“The Warm Heart of Africa”...***

Many wonders and beautiful sceneries are promised when planning a visit to our cozy sanctuary...

***A place we call home!!!***





# Tourist Sites

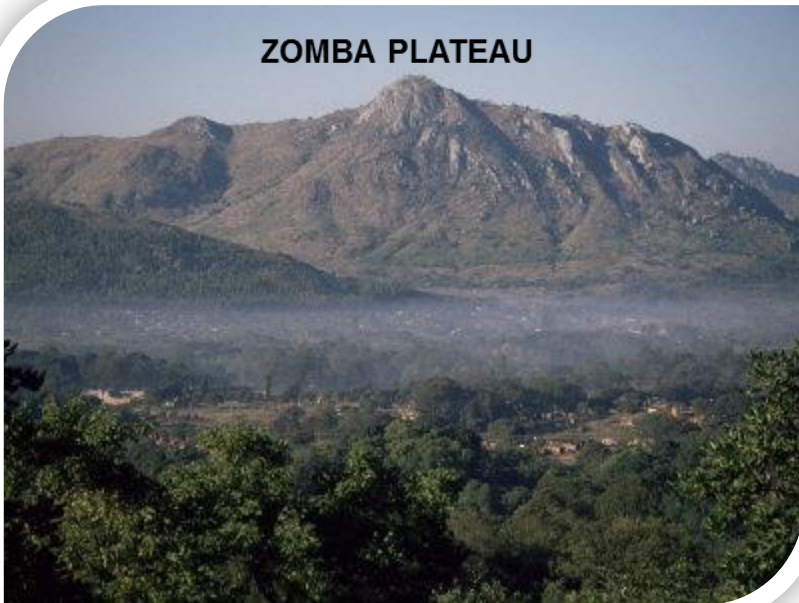
**NYIKA PLATEAU**



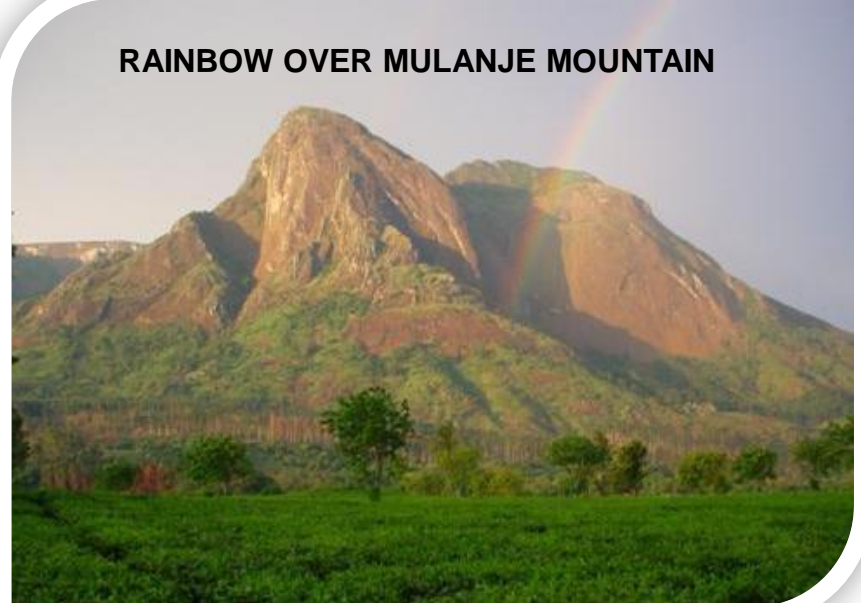
**VWAZA MARSH**



**ZOMBA PLATEAU**



**RAINBOW OVER MULANJE MOUNTAIN**



**Rotary Club of Limbe invites fellow Rotarians and well wishers to support this project for an ideal Role Model Village which can be replicated throughout the Country.**

*Combine your visit to Malawi for a relaxing holiday and give a helping hand to the*

*Friends of Nkhuzi Bay Development Community*



Reflection of sunset East off Nkhudzi Bay





*For further details contact:*

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*Zikomo...(Thank You)*