

Rotary Club of Melbourne

Project proposal: Lubang Island Water Project

Proposal:

Early this year the board approved in principle the funding to extent of \$5,000 for a District 9800 project initiated by RC Brighton Beach for the funding of a water project in the Lubang Islands of the Philippines. A budgeted amount of \$6000 has been made in 2010/2011.

Copy of earlier Board Proposal is attached.

Project Background:

The project involves pumping water from a well into an elevated water tank using wind turbines and solar panels. The water is then gravity fed through a piping system to around 30 water stations from which local residents can draw the water

Project Objectives:

Provide each household with year round access to clean water from a nearby cluster faucet. The benefit will be to improve the health and sanitary conditions for households and the health centre. Households will also have improved income from backyard gardening and increased livestock production.

Project Partners:

The RC's of Melbourne, Brighton Beach, Brighton North and Lubang Island together with 9800 District and the Rotary Foundation will fund the Project. SIBAT(a local engineering company) will supervise the construction, implementation of the project and the training of the residents in the proper use and maintenance of the water distribution system.

Project Timing:

Purchasing of materials in December 2010 trough to completion of distribution systems by June 2011

Project Risks:

Risks relate to the wind turbine design; the expertise, implementation and training skills of SIBAT and ability of the Peoples Organisation to manage and maintain the system. These issues are explained in greater detail in the earlier attached Board paper.

Required resources:

Melbourne RC to contribute USD5,500 of US14,000 funded by Rotary Clubs, district to fund \$8,500 with a contribution being sought of US24,000 as a global grant from the Rotary Foundation. Total funding of US46,000 Our contribution is expected by end of this calendar year.

Project Milestones:

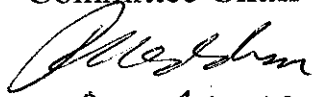
Approval of Global Grant
Final agreements and costings with contractors for engineering works
Determination of responsibilities for all associated parties

Impact Statement:

RC Brighton Beach is the International Sponsor for the project. Ruth Carlos-Martinez of this Club is a native of the Philippines and is very familiar with water projects in the Philippines and the economic and political issues involved.

Signatures:

Committee Chair


P M ADDISON

Director

Date

8/12/10

Board Decision:

Comments:

ROTARY CLUB OF MELBOURNE PROJECT PROPOSAL

Project proposal: Lubang water Project

Project Sponsor: International Programs Committee

Project Manager: Peter Addison, Juergen Schamp

Proposal:

The International Committee seeks board approval, in principle, for proceeding with a District 9800 project initiated by RC Brighton Beach for the funding of a water project on Lubang Island, Philippines.

Project background:

The project encompasses the laying of PVC pipelines from a well / water tank storage to the Sitio Pulili and Sitio Libis housing developments. Also an existing, but badly damaged wind turbine needs replacement to drive the wells pump. For procurement, construction and organization an estimated amount of AU\$ 50,000 is required. Of this total amount it is envisaged that \$11,000 will be funded by from District 9800, lead by the Rotary Clubs of Brighton Beach (RCBB) (\$3,000) and Melbourne (RCM) (\$5,000) with the balance expected from other Clubs in District 9800 such as Boorandarah, Camberwell and Brighton who have all supported RC Brighton Beach on similar projects in the past. District 3810 in the Philippines, through RC Lubang, will contribute \$1,000. The balance of the funding would be provided through the Rotary grants system from the newly established Future Vision Program (FVP), with \$10,000 in District Designated Grants, and \$22,000 in Global Grants.

A detailed description of the project is included as Appendix A.

Project objectives and target outcomes:

The proposed project will provide clean water and sanitation for approximately 3000 people in Lubang, Occidental Mindoro Philippines

A secondary aim is to enable households to partake in backyard gardening and to supplement their livelihood by providing access to water.

The provision of clean water and sanitation is a major international priority of Rotary International, and the Philippines fall within our area of activity. It is a sustainable project that will significantly improve the health of the affected population. The site visit conducted has confirmed that it is wanted by the target population, and they will be provided with the skills to enable the provision of the activity.

It therefore falls within the Criteria and guidelines agreed upon by the International Programs Committee, for major projects to be supported by RCM.

Project partners:

The main partner in the project will be the Rotary Club of Brighton Beach with RCM participating in their considerable expertise in International water projects. RC of Brighton Beach has notified the mayor of Lubang in a letter dated 23rd December 2009 about our intent to fund a water project on Lubang Island based on the following findings from their site visit in December:

1. The dire need for a water distribution system is paramount

2. The source of water is stable and reliable
3. The technology offered by SIBAT has been tested, proven and reliable
4. The approval to proceed is granted by the LGU and District Water Authority
5. There is no impediment to right of way with the land and construction
6. And the Peoples' Organization is able, trained and willing to manage.

The local partner is the Rotary Club of Lubang Island, Philippines. The Club has received a letter from RC Brighton Beach president Ruth Carlos-Martinez about our planned activities and has expressed their will to participate in this new water project.

Key champions of the project will be:

- Mayor Johnny Sanchez - LGU, Mayor, Lubang Island, Philippines
- Leody Tarriela - President, Rotary Club of Lubang Island
- Peter Addison - Chairman, IS Water Project, RCM
- Neil Graham - Chairman, IS, RCBB
- And other members of RCs of Lubang Island, Brighton Beach and Melbourne

A formal agreement document needs to be set up, clearly defining the responsibilities within RCM and the other Rotary Clubs to ensure the outcomes are delivered and risks properly managed.

Project timing:

Potential timetable will be:

- February 2010: - Prepare the Matching Grant application
 - Prepare Memorandum of Agreement for all parties
 (Rotary and non Rotary)
 - Strategy of Implementation including timetable.
 - All partners (Clubs and District) to agree on way forward.
- March 5, 2010: - All signatures to be completed
- March 15, 2010: - Submit to TRF - Evanston, Illinois.

It is expected that funding will be required in the 2010/2011 year.

Risks and steps taken to alleviate them

Although the small wind turbine has been installed successfully for community development and commercial use in other countries, the technology is still relatively new to the Philippines. The turbine design is based on an appropriate technology design methodology ensuring ease of operation and maintenance. The LGU will cover monitoring expenses a SIBAT warrantee will cover costs of repair during the first year of operation. After this period the collection tariffs will sustain maintenance and repair. A local machine shop will be used whenever possible for repairing parts. SIBAT will provide technical assistance throughout the lifetime of the project.

Although the wind turbine is designed to withstand very high wind speeds, the frequency and strengths of typhoons can damage the wind turbine. The PO will be instructed to lower the turbine and stow safely during typhoons, usually about 5 a year in the area. The Municipal Disaster Coordinating council in the MPDO will inform the POs of approaching typhoons.

Failure of the PO to properly manage the technical and financial aspects of the project is a concern. Seven (7) members of the PO, including the two (2) technical

operators, and the Municipal Engineer will be trained during installation and monitoring visits in operation and maintenance of the system and have a manual for reference. This will ensure sufficient people have knowledge of the system, and enable a future change of operational staff. The MPDO will be empowered to make repairs and maintenance by supplying them with critical component specifications and engineering drawings. The PO will also be trained in project management to enable the development and sustainability of an appropriate and robust financial system. After the initial training the MPDO will support the strengthening of the PO through regular meetings and consultations.

Failure of individuals to make payments may lead to insufficient funds for repair parts. The community will be advised to set a penalty for households that do not pay the monthly tariff.

Global climate change will likely change the wind patterns over the next 20 years. Although there may be uncertainties, average wind speeds in many countries are likely to increase: a favorable change for the project. Large storms are expected to increase in frequency and strength, increasing the time the wind turbine has to be stowed out of operation.

Guidelines for International Water Projects

RCM's International Project Committee has studied the "Lessons Learned from past Rotary Club International Water Projects" which was published on October 2009 by the Environment Sub Committee of RCM in Melbourne.

While RCM has a rather large base of people highly experienced in all sorts of trades and vocations, RCM will benefit from working together with a Club which has direct experience in delivering major water projects. It was also acknowledged that many Australian Rotary Clubs have undertaken International Water Projects, but not all have been as successful as initially hoped. But a small number of Clubs and Rotarians have developed real expertise & experience in delivering International Water Projects.

Therefore it seemed sensible for the International Projects Committee to initially partner with another Rotary Club and/or project Champion with a track record in identifying and delivering water projects. The advantages of this strategy were seen in:

- getting involved quickly in a major water project,
- learn "how to do it",
- receive a transfer of knowledge, and
- making RCM seen as cooperating with other District Clubs

Cooperation with RC Brighton Beach

During the initial search for an acceptable and worthy project for RCM, a contact was established to the Rotary Club of Brighton Beach, a Rotary Club that has a successful history and track record in delivering water projects in the Philippines. While visiting a RC of Brighton Beach meeting, an initial contact could be made with Juan M. Sanchez, the mayor of the Municipality of Lubang in the Philippines. He spoke about the real need of a water project on Lubang Island and reassured us about the deep impact such a project would have on people's lives.

In the following months, several detailed project proposals were received from the major which were most likely drafted by SIBAT engineers who work in the country for a long while. As the proposals were quite detailed, a lot of technical questions were already answered, but more questions remained, which were summarized in a letter to the mayor. The proposals contained several additions and expansions of existing or non-existing water systems in three different sites (Sitio Buli as the initial proposal with Sitio Libis as an expansion of the Buli scheme and Sitio Pulili as a separate project requiring a much larger funding amount due to the need to fund a new storage tank and a new wind turbine. Several meetings between members of RCM and RC Brighton Beach were held and details of the project discussed.

Finally, a site visit of the president of RC Brighton Beach – Ms. Ruth Carlos Martinez – on Lubang Island took place in mid December 2009. Her very positive report about the situation on the Island reaffirmed that this water project is along the lines of the Clean Water Save Lives project of Rotary and made both Club's International Committees to agree in principal to fund a water project on Lubang Island, pending approval by the respective boards.

Required resources

The proposal is for District 9800 Clubs to contribute \$11,000, which will result in a District designated Grant of \$10,000 and Global Grants totaling \$15,500. District 3810, through RC Lubang, will contribute \$1000, which will result in District Designated Grant of \$6,000 and further Global Grants of \$6500.

RC of Brighton Beach has had initial discussions with PDG John Davis about the eligibility of the project within Rotary's Future Vision Program (FVP). D9800 and D3810 (Manila) are two of 100 Rotary Districts that will be participating in a three year pilot phase of a new grant making model that will change how Rotarians participate in international humanitarian projects. The Lubang Island water project could be a candidate for participation in this new funding scheme. The minimum grant under the Future Vision Program is US\$ 15,000. A possible participation of the RC of Lubang Island needs to be evaluated too. Under the FV the host partner does not need to provide any financial support but would be required to be active within the project.

PDG John Davis has formally been advised of the proposal to seek funding for this project through the Future Vision Program and has given his enthusiastic approval to proceed. It is envisaged that draft applications for the grants will be prepared by the end of February. Neil Thomas of Brighton Beach is coordinating this in close collaboration with DG John Davis.

It will also be necessary for a memorandum of agreement to be developed for all parties (Rotary and non Rotary). A strategy for the implementation of the project including a detailed timetable needs to be developed.

Financial:

At present it is envisaged that RCM will contribute \$5,000, and that this will only be required in the 2010/2011 year. Assuming in principle agreement, this amount will be requested from the 2010/2011 budget.

Other resources:

Other resources may be required for site visits and other travelling expenses. It is envisaged that these will be privately funded, possibly making use of matching donations through RAWCS.

Project milestones:

Confirming funding from Clubs in District 9800 and 3810.

Approval for District and global grants

Agreement with contractors for engineering works.

Completion of works.

Report on project for Clubs, District and TRF.

Responsibility for the project:

It is envisaged that RCBB will be the lead Club for this project, although they have indicated that they would be prepared to relinquish this role if RCM wishes to assume the leadership position on the basis that it will be the major sponsor. The champion for the project overall and the champion for RCM still need to be agreed upon. The overall champion will need to undertake site visits (either in person or through a suitably qualified volunteer), monitor and prepare MOU's and review/prepare reports (operational and financial) inclusive of submission to TRF Illinois.

APPENDIX A

DETAILED PROJECT DESCRIPTION:

Sitio Pulili is situated on Lubang Island, part of the province of Occidental Mindoro, and is home to 150 people in 27 households. Mindoro Occidental is ranked as the 14th poorest province in the Philippines in the 2005 NSCB Poverty mapping project. Lubang Island is located 75 miles southwest of Manila and had a total population of app. 24,000 people in 2005.

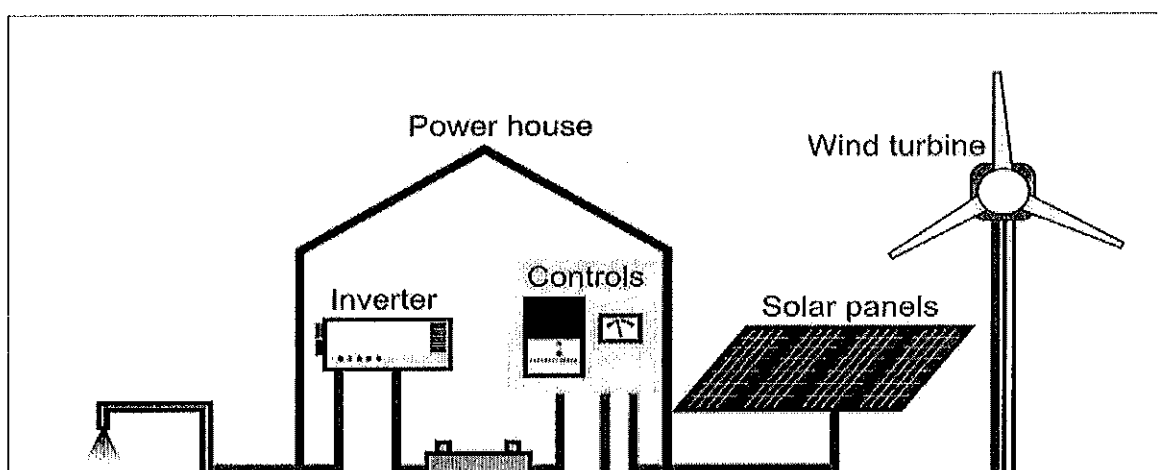
Currently the community members draw water in buckets from an 11m deep well using a pulley system. It is then carried in large containers to their homes, up to a kilometer from the well site. This activity is usually carried out by men and older children and takes significant amount of community time and effort, as a number of trips must be made every day.

The project's aim is to provide water on tap close to homes, improving health and sanitation conditions by enabling the communities to increase water usage. Secondary aims include enabling households to partake in backyard gardening by providing access to water and increase the time available for more productive activities, as well as, longer study time for the children.

The system will use renewable energy to power the pump, as diesel fuel and its transportation on and to the island is very expensive. Diesel powered pumps are for this reason rarely used. Therefore the use of renewable energy will increase community self-sufficiency and with increased environmental awareness the project will be visible to the local community and visitors. Site inspections revealed no hydro power potential, hence this project aims to provide renewable energy for water pumping using a hybrid wind + solar energy generation system.

The proposed basic design comprises of:

- 1 x 1 kW Small Wind Turbine
- 6 x 75 Wp solar PV panel
- 1 x 1 kW Grundfos SQflex submersible pump
- 1 x 50m³ steel tank on a 12m tower
- Level 2 PVC water piping to identified household clusters
- Powerhouse
- Grid back-up



Basic diagram of the proposed water pumping system

The installation of the power generation units, powerhouse, water pump, water tank and pipe distribution systems are the major components of the project. The wind turbine is manufactured locally based on an appropriate technology design. Six units of solar panels will be sourced to provide additional power.

SIBAT Organizational Support

Siblo ng Agham at Teknolohiya (SIBAT) is a non-government organization engaged in the promotion of appropriate technology in the Philippines. Established as network of regional and national-based organizations that pioneered technical development in the country, now it works as an NGO with a number of partner organizations. The organization is composed of multidisciplinary teams (sustainable agriculture and renewable energy experts coupled with social scientists), implementing community-based projects and utilizing participatory technology development processes.

SIBAT engineers will provide designs and components for the wind/solar and water system, devise a work plan and supervise the installation of the systems.

Peoples Organization (PO)

SIBAT will monitor and evaluate the technical performance of the system for a period of 2 years after installation. During this period a People Organization (PO) will be trained to maintain and repair the system. SIBAT will continue to be available for technical support for the lifetime of the project.

The PO will formulate and implement management policies and a financial system through a workshop-training from SIBAT. The PO will be responsible for raising / lowering of the wind turbine in the event of necessary maintenance or approaching typhoons. In the event of failure the PO will inform the Municipal Engineer who may repair the system, or inform SIBAT.

A flat water collection tariff will be set by the PO under the advice of SIBAT to cover the operation, maintenance and repair costs of power generation and the water pumping system. Each household that collects water will pay the same tariff.

The operating costs are the salaries of the PO members who operate the system and collect the tariffs. The maintenance and repair costs including replacing old or broken components and will include batteries (after 8-10 years, if well maintained), the

submersible pump (after 10-12 years), the wind turbine bearing (after 5-20 years depending on the wind regime), the wind turbine blades (after 10-20 years depending on the wind regime) and some electrical ancillaries (dependent on failures, lightning strikes and corrosion).