

FAO TREADLE PUMP PROJECT DESCRIPTION MALAWI 2003

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1. INTRODUCTION

The Food and Agriculture Organisation (FAO) has received a grant from the Dutch Government to fund a treadle pump irrigation initiative in Malawi during the 2003 dry season. FAO approached Total Landcare (TLC) Malawi, a locally-registered NGO linked to Washington State University, for assistance in preparing and implementing a suitable irrigation project.

TLC has played a critical role in expanding the adoption of improved treadle pump irrigation practices by Malawian smallholder farmers over the last few years. This has been accomplished by the pioneering of a workable credit-based extension approach coupled with the development of quality extension and training materials and training of extension staff and farmers.

The Dutch grant totals US\$ 291,317 of which 75% (US\$ 219,000) is designated for the purchase of irrigation equipment involving an estimated 1,800 treadle pumps. This requirement has implications for the structure of the treadle pump programme as there are limited resources to cover implementation costs. Details of TLC's proposed strategy of implementation are presented below.

2. GOAL AND OBJECTIVE

The goal of the project is to increase food security, nutrition and income levels among smallholder farmers in the target areas. The objective is to increase the adoption of improved small-scale irrigation practices for production of high-value food and cash crops in selected districts of the country through the formation and support of village-level irrigation clubs.

3. IMPLEMENTATION PLAN

Strategy

The project strategy is to provide an enabling environment for farmers to progress from bucket irrigation methods to more productive and efficient systems of treadle pump irrigation. The FAO budget allows the purchase and delivery of approximately 1,800 treadle pumps with hose and spare part accessories.

In addition, FAO will help cover the following costs:

1. inspection of the equipment and parts to ensure fulfillment of the delivery contract for treadle pumps and accessories,
2. transport for delivering treadle pumps and accessories to district sites,
3. crop inputs of fertilizers and improved seed, properly packaged for individual farmers,
4. contribution of \$46,300 for TLC to provide training, supervision, monitoring and reporting activities.

Other implementation costs are expected to be borne by the contracting partner. TLC proposes to implement the program through a partnership approach with reputable organizations that have ongoing irrigation programmes. The terms of the partnership will be clearly defined and agreed to under memoranda of understanding (see below).

Partners and Target Areas

Approximately 80-100 irrigation clubs will be established in different districts during the 2003 dry-season. Each club will manage an Irrigation Revolving Fund (IRF) to enable the purchase of additional treadle pumps, accessories and crop inputs for new club members. The shared distribution of irrigation clubs and treadle pumps is shown below and in **Table 1**. This includes areas with flood damage during the current rainy season.

Central Region: 1000 pumps with 50 irrigation clubs for a total of 1000 farm families (6,000 beneficiaries) to irrigate 100 ha of land (0.10 ha/farmer). This will be divided between TLC and the EU Public Works Programme (PWP) as follows:

- 500 pumps through ongoing TLC programmes in Lilongwe and Dowa Districts.
- 500 pumps under the irrigation component of the EU Public Works Programme (PWP) in Mchinji, Kasungu and Ntchisi Districts.

Southern Region: 600 pumps with 30 irrigation clubs for a total of 600 farm families (3600 beneficiaries) to irrigate 100 ha of land (0.10 ha/farmer). This will be divided between ongoing NGO partner programmes as follows:

- 500 pumps under Catholic Relief Services (CRS): 200 in Phalombe District and 300 in Chikwawa District.
- 100 pumps through the Women Border Development Project (WBDP) in Phalombe District.

Northern Region: 200 pumps with 10 irrigation clubs in North Kasungu and South Mzimba Districts for a total of 200 farm families (1200 beneficiaries) to irrigate 20 ha of land (0.10 ha/farmer). This program will be implemented by the Livingstonia Synod.

TABLE 1: TARGETS BY REGION, PARTNER AND DISTRICT	Staff	Farmers / Staff	Total Clubs	Farmers/ Club	Total Farmers	Total Beneficiaries	Ha / Farmer	Total Ha
CENTRAL REGION								
Total LandCare								
Lilongwe District	2	100	10	20	200	1200	0.1	20
Dowa District	3	100	15	20	300	1800	0.1	30
EU Public Works Programme (PWP)								
Kasungu District	1	100	5	20	100	600	0.1	10
Mchinji District	2	100	10	20	200	1200	0.1	20
Ntchisi District	2	100	10	20	200	1200	0.1	20
Sub Total	10		50	100	1,000	6,000		100
SOUTHERN REGION								
Catholic Relief Services (CRS)								
Phalombe District	2	100	10	20	200	1200	0.1	20
Chikwawa District	3	100	15	20	300	1800	0.1	30
Women Border Development Project								
Phalombe District	2	50	5	20	100	600	0.1	10
Sub Total	7		30	60	600	3,600		60
NORTHERN REGION								
Livingstonia Synod								
North Kasungu	1	100	5	20	100	600	0.1	10
South Mzimba	1	100	5	20	100	600	0.1	10
Sub Total	2		10	40	200	1,200		20
Grand Total	19		90	200	1,800	10,800		180

4. PARTNERSHIP STRUCTURE

Criteria for Selecting Partners

1. Good track record in promoting/extending treadle pump irrigation in Malawi with ongoing programs similar to those of TLC.
2. Competent, motivated staff for effective training and extension activities with farmers.
3. Quality monitoring and reporting skills.
4. Financially viable.

Terms for Partner Participation

The terms for participation by the partners specified above are as follows:

- Agreement to follow the basic structure of TLC's community-based credit scheme and revolving fund.
- Provision of own funds for administering the program, including farmer training and extension activities.
- Production of monthly and end of season reports.

5. PARTNER PLAN OF ACTION

Implementing this strategy with identified partners will entail the following activities (details are provided in **Figure 1**):

Procurement/Delivery and Assembly of Treadle Pumps and Accessories

- Organize, inspect, transport and assemble pumps for respective partner sites.
- Procure and package crop inputs for delivery with treadle pumps to clubs if not provided by FAO.

Recruitment and Training of Staff

- Recruit additional field technicians as required.
- Conduct intensive staff training of partners by TLC on the proper assembly, maintenance and use of the treadle pumps in the field.

Field and Club Activities

- Select suitable sites and sensitize villages/farmers in prospective target areas.
- Form irrigation clubs at the village level with training on club and member responsibilities.
- Establish a credit scheme similar to that of TLC with an Irrigation Revolving Fund (IRF) and MRFC account managed by each club.
- Deliver treadle pumps and input packs to clubs.
- Train farmers on use/maintenance of pumps, and provide relevant extension materials.
- Track loan recoveries.
- Implement and supervise irrigation activities.

Monitoring and Reporting Activities

- Develop simple community-based survey instrument to track the use and application of treadle pumps by each club.
- Train TLC/Partner staff in the CBM&E system
- Conduct and document CBM&E surveys.
- Conduct bi-weekly staff meetings with partners.
- Produce monthly financial reports.
- Produce quarterly progress reports.
- Conduct stakeholder review meeting on results.
- Produce end of season report.

6. TIMEFRAME

The proposed timeframe requires delivery of 1000 treadle pumps and accessories to Lilongwe by March 31st 2003. The balance of 800 pumps will be delivered to Lilongwe not later than April 30th 2003. This will be followed by inspection and assembly of the treadle pumps and accessories with onward delivery to partner sites after reporting missing components/parts. Full implementation will be conducted and reported over the winter cropping season through November 2003.

7. BUDGET

FAO will arrange for the purchase and delivery of the pumps, which will include transport costs to the respective warehouse/storage points of the implementing partners. The breakdown of the budget is shown in **Annex 1**.

Specifications for the treadle pumps and accessories, along with a short-list of local suppliers are provided in **Annex 2**.

Annex 2: Treadle Pump Suppliers, Malawi

Supplier	Contact Person	Address	Contact Numbers
SAIFRO Limited	Mr. J. Kumwenda, Manager – Customer Relations	P.O. Box 681, Lilongwe, Malawi	Tel: +265 9205927 or +265 9208880 E-mail: saifro@lycos.com
Shire Limited	Mr. Bala Govindan, Sales/Marketing Manager	P.O. Box 5491, Lilongwe, Malawi	Tel: +265 1 757600 or +265 1 754 875 Cell: 265 9 950324 Fax: +265 1 643403 or +265 1 645225 E-mail: shireltd@globemw.net
Delt-Tech Engineering Company	Mr. K. Sreenathan, General Manager	P.O. Box 1259, Lilongwe, Malawi	Tel: +265 1 757767 Fax: +265 1 757745 or +265 1 753006 E-mail: delttech@sndp.org.mw

Annex 2: Treadle Pump and Accessory Specifications

Description/Specification	Quantity	Unit
Treadle pumps complete: hot-dipped galvanized with dual cylinders (107mm internal diameter), intake and discharge pipes suitable to fit 50mm suction/delivery hoses, piston rods and seals, valve flaps and gasket, iron pulley and handle, polypropylene rope, two hardwood treadles, hardwood baseboard, all woodwork coated with preservatives and drilled to suit pump assembly, set of spares and tools consisting of three double-ended open spanners (18 x 19 mm, 12 x 13 mm and 10 x 11 mm), one 10 x 11 mm box spanner, one spare polypropylene rope, two spare piston seals, two spare flap valves. Pump and accessories properly packed.	1,800	Sets
Accessories:		
50 mm PVC flexible reinforced suction hose	10,000	Metres
50 mm reinforced layflat delivery hose	100,000	Metres
50 mm metal hose clips (jubilee clips)	4,000	No.
Flat screwdriver (suitable for use on hose clips)	2,000	No.
Extra piston seals	4,000	No.
Extra flap valves	4,000	No.
Extra pulleys	100	No.