SEED FOUNDATION

SCHWEIZER AGRI

Prime the Pump™

Prime the Pump™

About

Vision
To provide external irrigation interventions focused on improving water use efficiency and management.

Objective
To boost food production in dryland areas and resilience against climate change by concentrating on farmer-led irrigation, using small solar pumps and bamboo pipes obtained locally where possible.

Table Of Content

Prime the Pump™

What we offer:

Hope for Africa™
- Teaching self-realisation
- Building capacity

Aid for Trade™
- Providing inputs for agricultural start-ups and cooperatives
  - Seeds, fertilisers, chemicals, ploughs and water

Prime the Pumps™
  - Irrigation services
- Finding underground water
- Water storage
- Solar-powered submersible water pumps

Appropriate Technology™
- Microbes and Micro-nutrients
- Environmental technology

Do it yourself Technology™
- Biogas
- Solar reewable projects
- Solar irrigation kits

SEED Cooperatives™
- Addressing issues of :
  - Gender
  - Inheritance
  - Land rights
  - Property rights
  - Productivity

SEED Clubs™
- Conservation
- Environment
- Tree planting

Background

Prime the Pump is a division of Schweizer that focuses on the underground water and irrigation to help small holder farmers to have access to year round water. It help small-scale farmers to improve their agricultural productivity by overcoming water scarcity. This is done by drilling water reservoirs pumped by solar submersible pumps to facilitate year-round farming.

Prime the Pump™ focuses on networking for rural water conservation and preservation; knowledge transfer and smallholder capacity and awareness-building through communities, SEED Foundation cooperatives and school club activities such as:

- Workshops, Seminars and Conferences
- Water Sponsorships/Scholarships
- Social media communication and relationships
- Newsletters/Articles
- Public Affairs and Community Relations

Prime the Pump™ addresses issues of climate change, pollution from mining-impacted water, acid mine drainage, MIW/AMD and population growth as they relate to water usage and availability for agriculture purposes. Our goal is to become a regional advocate for sustainable groundwater resource extraction.

Irrigation

Irrigation is essential to boosting farm production in dryland areas, especially given the increased fallibility of rainfall patterns due to climate change. Rather than invest in debt-inducing, large-scale "white elephant" schemes, we support farmer-led irrigation projects, using small pumps and locally bought pipes.

We believe that external interventions should be focused on improving water use efficiency and management.

Objectives
To provide water supply resources in impoverished communities for year-round irrigation in order to improve food security, public and environmental health, and sanitation;
To introduce simple but effective irrigation solutions;
To devise appropriate, sustainable and tailormade solutions for each project;
To facilitate the equitable distribution of water; and
To allocate a SEED Foundation Prime the Pump™ agronomist to help each individual farmer.

Three Solutions that promise a fresh start for water

To help southern African farmers emulate their counterparts in countries like Egypt, we are proposing to build about 200 small reservoirs. These will be used to irrigate approximately 125 000ha of land for the cultivation of Ten (10) different specific crops by smallholder contract farmers.

The 10 identified crops are:

1. Tilapia 200 fish ponds per district,
2. Macadamia nuts 25, 000ha
3. Legumes (soybeans, sunflower and sugarbeans), 25, 000hpa,
4. Citrus crops 25, 000ha,
5. Irish Potatoes 12, 000hpa,
6. Horticultural crops (onion, cabbage, cucumber e.t.c) 25, 000hpa

We propose to build and develop dams at each site as follows:

a) 3 x 360 000 litre ponds
b) 1 x borehole at each pond depending on discovered water capacity
c) 1 x solar pump to pump water from the borehole to the pond
d) 1 x solar pump to pump the water from the drainage pipe in the
e) base of the pond to a 1ha dragline
f) 1 x 1ha dragline system per pond which can be used to irrigate:
   a. 3ha of horticulture crops (onions, cabbage etc),
g) 2.5ha of "insurance" cash crop
   a. 2.5ha oil crops (sunflower or soybeans)
   b. Field or insurance crops (Macadamia nuts, citrus crops)

Prime the Pump™ Solution #1: Recovering water from wastewater

A water meter enables you to control water bills.

Worldwide it has been shown that consumers who pay for their water services tend to use less water as they value the resource more highly. By actually monitoring your monthly consumption you can save water and be alerted to leaks. The average person uses approximately 150l/day x 4 people x 30 days/1000 = 18k/month.

One cubic meter (1 000l or 1 000kg) of water is sufficient for:

a) 13 baths; or
b) 14 washing machine loads; or
c) 28 showers; or
d) 33 dishwasher loads; or
e) 111 toilet flushes.

Africa already imports most of its processed food requirements (approximately US$35 billion in value per year). There is a clear and present need to reverse this trend by producing sufficient food here in Africa. Reduced food imports can help to boost countries' foreign currency reserves while improving food security.

The production of these crops can help rural communities meet their dietary needs far more easily. The second facet of this project involves fish farming. It is envisaged that fish will be grown in environmentally friendly dams under the supervision of a qualified management team.

Initially, fingerlings (very young fish) will be imported, but eventually they will be produced onsite. It is projected that 40 000 fingerlings will be placed per week and that each fish will attain an average mass of 0.5 kg in 36 weeks when they will be ready to be sent to market. The fish harvest will be promoted and sold as fresh whole fish as well as processed fish products such as fillets, fish fingers e.t.c.

It is projected that 50% of the fish will be marketed live and 50% will be slaughtered on site. Annually, just over 2.08 million fingerlings will be placed. Taking a typical 3.63% mortality rate into account, it is projected that 2 million fish of 0.5kg each will be marketed.

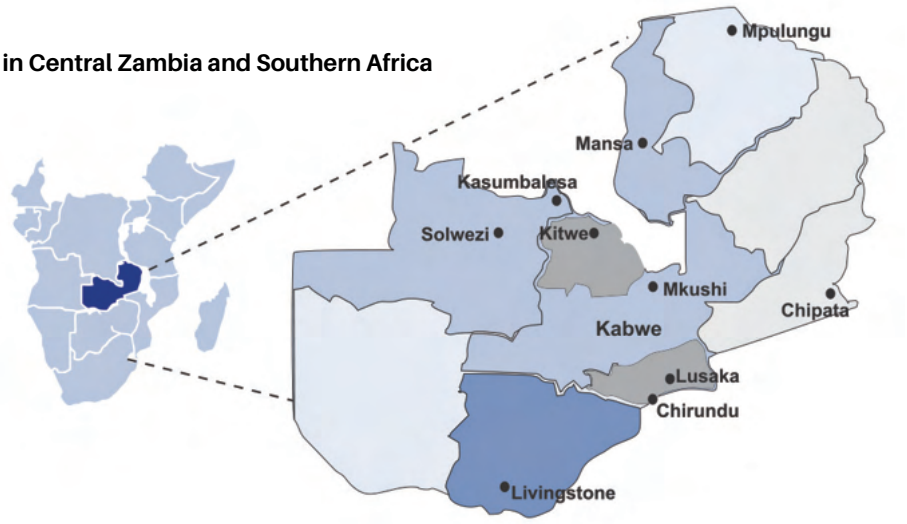
Some will be sold live, some will be processed into fillets and other fish products for human consumption, and still other will be turned into fishmeal for agriculture and other by-products such as fish oil.

Once the needs of the local market have been met, any excess production will be exported to neighbouring countries, thereby earning much-needed foreign currency.

Objectives of the project

- To establish an intensive smallholder farmer irrigation scheme across the country's main agricultural hubs.
- To help the country achieve improved output levels of the aforementioned crops.
- To improve national food security.
- To establish intensive aquaculture, fish and cash crop farming businesses that produce high quality outputs through better water management.

Strategically located in Central Zambia and Southern Africa



UCIZ
UNITED CHEMOLIDE INDUSTRIES (Z) LTD.

KSB

Sturdy, Durable & Dependable KSB Pumps

United Chemolide Industries (Z) Ltd celebrating **36 YEARS** of sturdiness, durability with quality service that brings **KSB products** and **Water Technology** for your residential, tourism, agricultural, industrial and mining activities.

For more information, contact:

+260 97 152 7826 / +260 97 602 3126 / +260 96 675 0938

unitedchemolide@gmail.com

Plot No 7154 Mukatasha Road,
Light industrial Area, **Lusaka, Zambia**

KSB Pump
SALES MARKETING

Mr Njawa Siwale
+260 97 7371146

Mr Dominic Chisanaga
+260 96 1000009

Kachi
Agri Micro Finance

KACHI AGRI MICRO FINANCE

"SUPPORTING AGRI-BUSINESS THROUGH TAILOR MADE FINANCIAL SOLUTIONS"

ABOUT US

- WE ARE PROVIDERS OF AGRICULTURAL FINANCIAL SERVICES AND PRODUCTS TO FARMING ENTERPRISES LARGE AND SMALL

OUR CORE FOCUS IS TO PROMOTE WOMEN AND YOUTH LED FARMING ENTITIES

OUR PRODUCTS

- PROVISION OF DIGITAL FINANCIAL SERVICES TO FARMING COMMUNITIES
- CROP INPUT FINANCE
- LIVESTOCK FINANCE
- AQUACULTURE FINANCE
- TRACTOR FINANCE

HOW TO QUALIFY

- MUST BE A REGISTERED ENTITY E.G CO-OPERATIVE OR BUSINESS ENTITY WITH PROVEN TRACK RECORD

EASY ACCESS

FLEXIBLE REPAYMENT TERMS

FLEXIBILITY SECURITY/ COLLATERAL CONDITIONS

WHERE TO FIND US
St. Eugene Office Park, Plot # 37/1P,
Suite No 9, Lake Road
P.O. Box 320009

Email: malone.chanda@kachiagrifinance.co.zm
Cell: +260 970 759 630 / 0967 922 113

Prime the Pump™ Solution #2: Smart use of groundwater and replenishment through aquifer technology and recovery (ATR)

This is also known as managed aquifer recharge (MAR) and involves storing water for the future while minimising evaporation offtake.

Wastewater options
The wastewater from the ponds will have elevated solid organic matter and nutrient levels and is best used for irrigating crops or growing aquatic plants to feed to the fish.

Economic impact of our proposals
The 200 proposed reservoirs will yield positive results for farmers, government and the general economy, including:

- Year-round, aseasonal cultivation;
- More yield per litre of water used;
- Increased outputs and farm revenues;
- Improved standard of living;
- Economic stimulation through increased demand for products and services;
- Boost to downstream industries, including job creation;
- Increases national output of the targeted crops; and
- Reduced food importation requirements.

“

REVITALISE THE SOIL AND LEAD TO LONGER-TERM YIELD INCREASES

Prime the Pump™ Solution #3: Desalination for coastal cities and cities overlying saline aquifers

Social impact of our proposals

- Farmers will be encouraged to increase the area of land under cultivation – this will create a need for more labour;
- Consequently, unemployment rates will be reduced, and people will acquire skills;
- With more opportunities in rural areas, migration to overcrowded cities will decline; and
- Increased household income will help address social issues including fragmentation of families.

Environmental impact of the proposed dams

The availability of water throughout the year will make it possible for farmers to rotate crops, rather than being restricted to the traditional growing seasons of specific staple crops. Crop rotation (including leaving some land fallow to recuperate) will revitalise the soil and lead to longer-term yield increases.

Combined container sewage treatment system

This is also known as managed aquifer recharge (MAR) and involves storing water for the future while minimising evaporation offtake.

1. Sewage water collecting tank
2. Anaerobic treatment system
3. Aerobic treatment system
4. Deep aerobic treatment systems
5. Blower

Sewage treatment capacity: <200m3 of raw sewage per day for the illustrated system (3 * 20ft containers)

Application
The Combined Container Sewage Treatment System is designed to handle from 20 -1 000 m^3 of domestic sewage or other organic wastewater per day. It is suitable for houses, hotels, apartments, resorts and holiday villages requiring a sewage water treatment solution, and for food factories livestock farms and abattoirs needing a wastewater treatment solution.

Structure
The Combined Container Sewage Treatment System comprises three key elements:
- An anaerobic treatment system (anaerobic tanks);
- An aerobic treatment system (aerobic treatments); and
- A deep aerobic treatment system (aerobic treatment and a blower)

The sewage passes first through the anaerobic treatment system, then the aerobic treatment system and finally the deep aerobic treatment system.

The biogas produced during the anaerobic treatment process can be collected, purified and stored as a fuel, while the treated grey water and the sludge can be used for gardening and irrigation.

Advantages
- High quality treated water
  - Colourless and odourless; suitable for gardening and flushing toilets
- Easy to install and maintain
  - Rapid installation and automatic operation
- No unpleasant smell
  - All the biogas produced is collected and used as fuel

Schweizer Agriculture opportunity in Zambia / Provincial irrigation project

Layout of the 10ha seed foundation cooperative farm project.

- 2.5ha Expansion Space
- Macadamia nuts or citrus crops
- 0.5ha Water Source
- 0.5ha Nursery
- 2.5ha Field Crop
- 1ha Vegetables
- Land Tenure

Land tenure security can be assured through issuing 99-year leases for larger land-reform farms and permits for smaller farms. This should be complemented by clear regulations to avoid land concentration and to facilitate women's access to land. This can be achieved through a multiform tenure system based on trusted, secure property relations.

Prime the Pump™ Finance

Improving the flow of private bank finance is essential. Bankable leases will help, as will the acceptance of a greater range of forms of collateral by finance institutions. State assurances and the building of trust will be key.

“SOMEONE IS SITTING IN THE SHADE TODAY, BECAUSE SOMEONE PLANTED A TREE A LONG TIME AGO”

WARREN BUFFETT

Prime the Pump™

How much water do we use?

The average person uses approximately 150 litres of water per day. A household of four people will therefore use 600l per day, which adds up to some 18 000l per 30-day month.

Prime the Pump™

Contact Information
Schweizer Agriculture
St. Eugene Office Park, Suit #9,
Plot # 37/1P Lake Road, Kabulonga
Lusaka, Zambia.
Tel: +260-964-33-9927/+260-972-82-9907
info@schweizeragriculture.co.zm