2017

Southwest Madagascar Drip Irrigation Program

Pastor David Lerseth

Friends of Madagascar Mission

12/27/2017

TITLE: South West Madagascar Drip Irrigation Program Description
DATE: July 2017
BY: Friends of Madagascar Mission (FOMM)

1. THE NEED

A Reuters headline on Thursday, October 20, 2016 states: "**Madagascar drought: catastrophe looms as 850,000 go hungry, says UN"**

Nearly 850,000 people in drought-hit southern Madagascar are experiencing "alarming" levels of hunger, and more aid is needed to prevent a dire situation from becoming a "catastrophe", UN agencies said on Thursday.
This is the latest warning by the agencies who have been scaling up their response to a crisis affecting more than half the population in the south of the island nation. Some 20% of households in the affected areas are now experiencing emergency levels of hunger, according to the latest food survey. "Emergency" is phase four of a five-point scale used by food agencies, where five is famine.
Chris Nikoi, regional director of the World Food Program, said: "What I saw in the south of Madagascar earlier this month alarmed me. These are people living on the very brink. Many have nothing but wild fruits to eat. We must act together now to save lives," he said in a statement.

Many households have resorted to begging, selling their land or possessions, and eating vital seed stocks in order to survive, the UN agencies said. Some 90% of Madagascar's population lives on less than $2 a day, and almost half of children are chronically malnourished or stunted – which results in them being short for their age – the agencies said. Many children in the south have been taken out of school to look for work, food, wood, and water during the crisis. "We can and must do better for these children," said Leila Gharagozloo-Pakkala, regional director for eastern and southern Africa at the UN children's agency UNICEF.
The drought in the whole region of southern Madagascar needs coordination and assistance from the United Nations and large government entities. For example, the United States is the largest provider of food to the people of the region during droughts. FOMM does not pretend to be able to provide a solution for the southern region, but what can we do in our small corner of Madagascar?

The idea of introducing drip irrigation as a farming technique into the areas where FOMM works seems like an idea worth exploring and introducing. If we can save one family at a time from starvation, it will be a worthwhile endeavor.

2. The Methodology

There are two existing Malagasy Lutheran Church institutions in the region where FOMM is currently introducing this farming technique to save people from starvation: Ejeda Hospital and Manasoa Bible School.

Ejeda Hospital: In Madagascar families come with a patient to the hospital to provide and prepare the patient's meals. Often families do not have an adequate supply of food and so FOMM supports the Ejeda Nutrition Program and the Emergency Ejeda Nutrition Program. This program managed by a hospital employee, determines who qualifies to receive food, how much and how often. This program encourages the poor people to come to the hospital for medical care, even when they do not have an adequate food supply. A doctor indicates that more people die in the hospital from starvation than for medical reasons.

In this context, the families at the hospital may be introduced to the Drip Irrigation farming technique by participating in maintaining the drip irrigation garden. The produce of the garden would then be shared with the patient and their family. The long-term outcome is that these families would go back to their home and begin to use the drip irrigation technique to help feed their family during the dry periods.

Manasoa Bible School: The school has a student population of between 24– 28 students each year. The students would be taught how to manage a drip irrigation garden and the produce would be equally shared with all those who work and care for the garden. When these evangelists go to serve and live in a village, they would maintain a drip irrigation garden and teach the people of the village this farming technique. In this way, the drip irrigation farming technique would become more acceptable.

3. The Cost

The equipment needed for each system: A 5-gallon bucket (19 liter), 100 meters of hose and a supply of emitters used to water a specific plant. The estimated cost of one kit is $18.00. With an estimated use of 4 years, the average cost per year is $4.50. A platform about 4 to 5 feet above the ground to hold the bucket is built from local materials. By gravity flow the hose would bring water to each plant in the garden. Number plants in each garden depend on the variety grown. A quote from the Patrakala Company is included (Exhibit #1)

We are currently working on the idea of purchasing all needed supplies in Madagascar. This is the best way to proceed so we do not have to deal with import taxes, permits, etc. We have also received some irrigation hose free and are planning to send it with people traveling to Madagascar, carrying in one case at a time.

4. Sharing the cost of equipment

It is yet to be determined, but the ideal program would be to have the farmers share in some way the cost in purchasing the equipment. It will be best to consult with the Malagasy people responsible for supervising this program about this issue. The farmers are poor and also operate basically on a cashless system. So there may be some way that they are able to provide work assistance, etc.

5. Managing the Drip Irrigation Program

At both institutions, a staff person would be assigned by the institution to manage, teach and train the farmers and/or Bible School students. That assigned person would be responsible for compliance to follow the FOMM Drip Irrigation guidelines and maintain detailed work hours and financial records.

TITLE: Job Description for Director of S.W. Madagascar Irrigation Project At Ejeda and at Manasoa
DATE: July 2017
BY: Friends of Madagascar Mission (FOMM)

1. Title of Persons in Charge of Drip Irrigation Program
   - National Coordinator: The Patrakala Company will manage the training of staff at Ejeda and Manasoa and provide the irrigation kits.
   - Each Drip Irrigation site would have a Site Manager:
     - Ejeda: Babany (responsible and reports to Dr. Justin)
     - Manasoa: TSIHAHIA (responsible & reports to Pastor Sambo Mahaliny) (Salary of Site Manager to be determined by each site)
   - National Communication Coordinator: Mr Rabenasolo Lanto of SALFA (Sampana Fahasalamana Fiangonana Loterana) will visit each training site to assist with reporting process and Dr. Justin and Pastor Sambo Mahaliny will submit quarterly reports to him.

2. Qualifications for site manager
   - Knowledge of the drip irrigation system to be implemented at each site,
   - Ability to teach local participants in the program,
   - Ability to manage the program:
     - keep records
     - manage the inventory of equipment and
     - write accurate reports on the program.

3. Job Description
   - Select a secure site to store the equipment for the Drip Irrigation Program and keep a detailed record of all supplies, how they are used and when to order more supplies, etc.
   - Select the site for the initial Drip Irrigation Garden(s). See Exhibit #2 for typical layout of a garden.
   - Enclose the garden area with a fence made with locally provided materials.
   - Determine the source and storage for the water.

- Select people to participate in the program and begin training them
- Determine a system for sharing the produce from the garden(s).
- Establish a decision-making system about who receives a Drip Irrigation Kit for setting up their personal garden. A priority will be given to those who have worked in the garden.
- Receiving the first kit will be those who work in a garden. Their payment will be to share the produce with others, introduce the technology and speak positively about this program in their community
- Follow up with those who have been given a Drip Irrigation Kit to encourage continue using this program, how much produce has been grown and have they given some of their produce to others.

4. Reports

- On a monthly basis the site managers will submit a written report on their work to either Dr. Justin (Ejeda) and Pastor Sambo Mahaliny (Manasoa).
- This report should show the number of hours the Site Manager has worked, number of workers involved in the gardens, number of startup Drip Irrigation, kits given away and any other information helpful to report on the program.

5. Accountability

- Dr. Justin (Ejeda) and Pastor SAMBO MAHALINY (Manasoa) are ultimately responsible for the management of the Drip Irrigation Program at their site.
- Dr. Justin and Pastor Sambo will submit quarterly reports on their program to Rabenasolo Lanto who will send them to FOMM.
- Each program site will work with FOMM regarding any changes or additions to the program. They shall submit an annual budget each fiscal year to FOMM. The budget should include: equipment supplies, seeds, salary, etc.
- Funds for the programs will be submitted by FOMM to Ejeda Hospital and

Manasoa Bible School directly. FOMM will need to be contacted to request additional funds between the submitted budget requests.

- The policy of FOMM will be to have an audit of each program FOMM supports by a professional auditing company in Madagascar.

6. Examples of a Typical Family Drip Irrigation Garden

Exhibit # 1

Patrakala
rapprocher l'homme et la nature

DEVIS
N°: 25/2017

Destination : Monsieur Andry RANAIVOSON
Objet : Maroloharano

OPTION 1 : Kit avec gaines à valves

Désignation	Unité	Nombre	Prix unitaire (Ar)	Prix total (Ar)
KIT ET TRANSPORT				
Maroloharano 50 m2 (5m x 10m) - Rampe apparente et gaine à valves	Kit	50	55 500	2 775 000
Transport Tanà - Tuléar	Fft	1	1 250 000	1 250 000
Manutention Tana et Toliara	Fft	1	100 000	100 000
Transport Toliara - Ejeda	Fft	1	550 000	550 000
Total kit				**4 675 000**
FORMATION				
Per diem et hébergement techniciens: 2 techniciens avec 2 jours par site et 2 jours de déplacements	Jour	16	40 000	640 000
Déplacement taxi brousse: 2 techniciens Aller/retour en une seule fois	A/R	4	25 000	100 000
Total formation				**740 000**
SUIVI				
Per diem et hébergement techniciens: 2 techniciens avec 2 jours par site et 2 jours de déplacements	Jour	16	40 000	640 000
Déplacement technicien en taxi brousse: 2 techniciens Aller/retour en une seule fois	A/R	4	25 000	100 000
Honoraires techniciens	Jour	8	60 000	480 000
Coût Administratif pour le Suivi (Coordination et supervision - Communication)	FFt	1	183 000	183 000
Total suivi				**1 403 000**
TOTAL GENERAL				**6 818 000**

Comments regarding the quote from Patrakala:

Two options were given by this company and FOMM chose Option 1 which summarized below (OPTION 1: Kit avec gaines à valves and OPTION 2: Kit avec gaines à microtube)

Table above (Option 1) is summarized below:

Drip irrigation kit and transportation to sites:	Ar. 4,675,000	(USD 1,508)
Training:	Ar. 740,000	(USD 239)
Follow-up:	Ar. 1,403,000	(USD 453)

(average exchange rate @ 1.00 USD = Ar. 3,000).

Signature Section

On behalf of FOMM

Pst. David Lerseth

Date:

On behalf of Patrakala

Mme Nirinasoa Rakotovelo

Date: