

help2kids Malawi

Clinic Garden Project



Background

1. Problem

In rural areas of Malawi, 30.8% of women give birth without the supervision of a skilled birth attendant, often at home.ⁱ Births without a knowledgeable medical practitioner, sanitized supplies, and life-saving interventions are inherently more dangerous for both mother and baby. The maternal mortality ratio in Malawi is one of the highest in the world, at 574 deaths per 100,000 live births, while the neonatal mortality rate is 29 deaths per 1,000 live births.ⁱⁱ

Many unnecessary deaths could be prevented if all pregnant women gave birth at their local health center. One of the barriers preventing maternity patients from accessing healthcare, however is a lack of money. Among rural Malawian women, 55.4% reported financial constraints as a serious problem preventing them from seeking health care.ⁱⁱⁱ Since all forms of health care, including medication and care during labor and delivery, is free at government clinics such as Lifuwu Health Center, worries about finances are likely caused by transport costs from their home to the clinic and the need to bring their own supplies. Unlike hospitals in Western countries, Malawian health centers do not provide meals to their patients, so expectant mothers must bring all the cooking utensils, maize flour, cooking oil, and vegetables that they'll need for the duration of their stay. Since many patients are coming from rural areas and births don't always go as planned, many women stay at the health center for weeks or even a month waiting to deliver. Most of these women are from impoverished families, and cannot manage to buy or gather enough food to feed herself for a month, then carry it several kilometers to the health center. If a woman is unable to buy enough food for her stay at the health center, she'll often make the difficult decision to give birth at home, attended by only an unskilled traditional birth attendant or female family members.

2. The Garden



In late July 2015, a 10 m x 15 m fenced garden plot was established at the Lifuwu Health Centre for the purpose of supplying fresh vegetables to maternity patients. The first harvest, on 22 October, included green leafy vegetables and garnish vegetables high in vitamins and minerals essential during late pregnancy.

| Vegetables | Vitamins and Minerals | Importance during 3 rd Trimester of Pregnancy |
|--|-----------------------|--|
| Amaranth, Mustard greens, Rape, Swiss chard | Calcium | Prevents blood clots, helps muscle function |
| Amaranth, Chinese cabbage, Mustard greens, Pepper, Rape, Swiss chard, Tomatoes | Fiber | Prevents constipation |
| Amaranth, Chinese cabbage, Mustard greens, Rape, Swiss chard | Folates | Possible decreased risk of birth complications |
| Mustard greens, Rape, Swiss chard | Iron | Prevents iron-deficiency anemia |
| Amaranth, Mustard greens, Peppers, Rape, Swiss chard, Tomatoes | Vitamin A | Builds up the fetus' immune function |
| Mustard greens, Onions, Peppers, Tomatoes | Vitamin C | Helps Iron absorption, prevents high blood pressure, stimulates antibodies |

The garden is irrigated and able to produce food year round, which is critical during the hungry season from October through March, when many families practicing subsistence farming experience food shortages. Vegetables are picked daily and doled out to the maternity patients and their guardians, who prepare food for them and care for them during their stay.

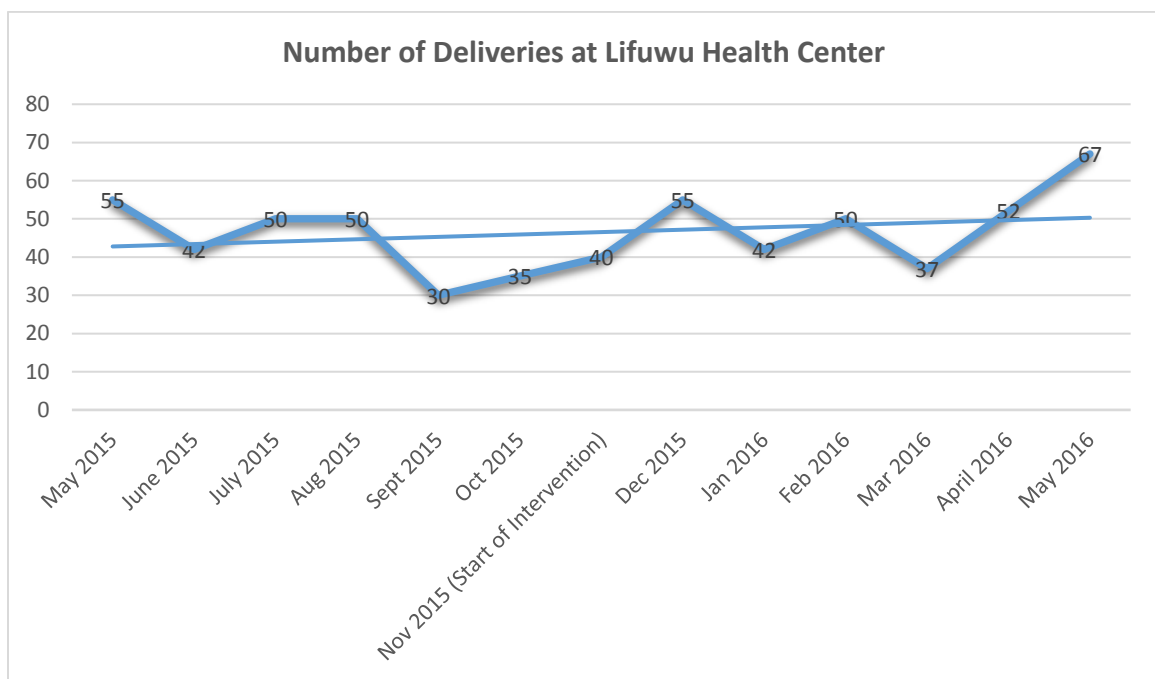
This garden was funded by [REDACTED] in the U.K., and managed by **help2kids** in partnership with the Lifuwu Health Center. The first year's start-up budget was USD 858.47.

| Item | Amount in USD | Percentage of Overall Budget |
|----------------------|---------------|------------------------------|
| Grass Fence Supplies | 296.19 | 34.5% |
| Gardening Tools | 191.33 | 22.3% |
| Organic fertilizer | 118.05 | 13.8% |
| Pesticides | 56.84 | 6.6% |
| Salary of Gardener | 150.39 | 17.5% |
| Seeds | 45.67 | 5.3% |

Impact

1. Increased Number of Pregnant Women Choosing a Safer Birth

We expected to see an increase in the number of deliveries at Lifuwu Health Center following our intervention, which began with the first harvest in November 2015. The actual increase is very slight. There is an average of seven additional births in the six months following the intervention, compared to the six months preceding the intervention. We were unable to account for other factors which may have influenced childbirth during this time, such as family planning utilization, food insecurity, or general fertility trends.



2. Strength for Childbirth

A healthy diet is important in the days or weeks before childbirth. Childbirth is physically demanding, and a well-nourished body is better able to maintain strength and stamina, which can help avoid the need for a cesarean section.

After the birth, nourishment aids in the mother's recovery, and helps her to provide breastmilk for the newborn.

3. Testimonials from Beneficiaries

*“Before this initiative we were facing many challenges, because some of us were coming from far. In this case we were giving birth on the way to the clinic, and we were also using the local birth attendants, which is not healthy to the patients. But now the doctors and nurses are able to monitor our status. We are thanking the **help2kids** organization for its support to feed us.”*

Lucy Mwinama

“When I was coming here at the clinic I was very weak, and my feet were swelling, but now everything has changed. One day my husband came to see me, he surprised when he saw me. I am now fat and healthy. All this is because of the feeding program.”

Latima Bulainati

4. Recognition by the Community

Most Malawian health centers cannot provide food for inpatients, so Lifuwu Health Center’s garden has gained attention from government officials. In November, prominent traditional authorities, local government representatives, and a representative from the Salima district health office toured the garden. The district health office expressed gratitude for the project, the only one of its kind in the district, and considers it to be a model for other health centers. That same month, Salima Member of Parliament Mr. Felix Jumbe mentioned the Lifuwu Health center’s garden during a Parliament meeting which was broadcast nationwide.

Proposed Expansion

After nearly one year since the establishment of the clinic garden, and having successfully fed 343 expectant mothers and over 300 health guardians at low cost, we’ve decided to further expand the project and our impact.

1. Possible Ideas for Expansion

We considered the possibility of growing maize or rice, to be able to provide grains to accompany the vegetables to make a complete meal. However, several factors dissuaded us from this decision:

A. Long Distance to Fields

Maize, the staple food of Malawi, cannot be grown close to the lakeshore because the soil is too sandy and the rainfall pattern is too unpredictable. The closest site suitable for growing maize is by the turn-off to Salima, 8 km from Lifuwu. This far distance means that we’d need to reimburse transport costs for the fieldworker, and that the unattended field would be vulnerable to theft.

B. Risk

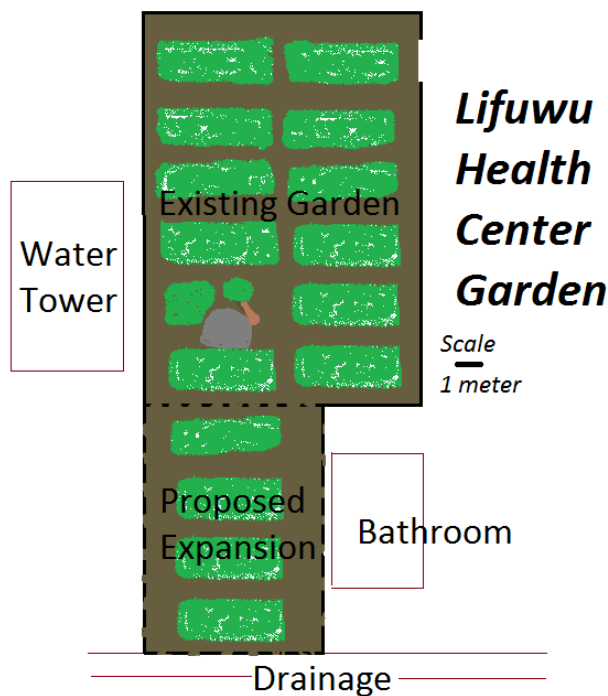
Both maize and rice crops have not been good for the past two years due to irregular rainfall patterns. In 2015, there was too much rainfall, which flooded the fields. In 2016, there was a drought which prevented the seeds from growing. Without regular rainfall or effective irrigation, a venture to grow grains is inherently risky. There is a big possibility that we could invest hundreds of dollars, with little result at harvest time.

C. Labor Intensive

Both maize and rice are labor intensive crops, which would demand significant time from a new employee. For about two months during the rainy season, the field worker would need to be at the field several times a week. The rest of the year would require twice monthly visits to monitor progress. Harvest is also time-consuming, as the crop would need to be collected without the use of machinery. This would also require a larger time investment from the field manager.

2. Proposal for Garden Expansion

Health Guardians' Hostel



Since growing grains would be impractical for several reasons, we decided to instead focus on improving the existing garden. The current 11m x 15m size of the garden does not allow for effective crop rotation. When a crop has been completely harvested, there's little to feed the maternity patients, so they must wait an additional 6-10 weeks for that crop to be planted and regrow. By expanding the garden, there would be additional space to have crops of varying levels of maturity, allowing for continuous harvest and a more reliable food source. We would like to expand the garden by 36 percent, or 54 square meters. This would bring the total size of the garden up to 204 square meters, and would allow us to cultivate an additional four beds.

A garden expansion would also allow a greater variety of food to be grown. To supplement the vegetables, we would grow cassava, which is an

effective crop because both the leaves and tuber can be eaten and can be harvested at all stages of growth.

Budget

1. Yearly Budget for Proposed Garden Expansion

| Item | Cost in MWK | Cost in USD |
|--|----------------|---------------|
| Grass Fence to Protect Against Destruction by Livestock | | |
| Grasses | 12,500 | 17.99 |
| Grass transport | 8,500 | 12.23 |
| Labor for poles | 5,000 | 7.19 |
| Linya rope | 3,200 | 4.60 |
| Labor | 15,000 | 21.58 |
| Bamboo | 11,250 | 16.19 |
| Bamboo transport from Salima to Lifuwu | 9,000 | 12.95 |
| Fertilizers and Pesticides | | |
| Transport of top soil and manure | 15,000 | 21.58 |
| Pesticides | 9,000 | 12.95 |
| Seeds | | |
| Seeds | 10,000 | 14.39 |
| Salary Increase for Gardener | | |
| Annual Salary | 36,000 | 51.80 |
| Reserve | | |
| Reserve | 20,550 | 29.57 |
| TOTAL | 155,000 | 223.02 |

2. Yearly Budget for Existing Garden (August 2016-August 2017)

| Item | Cost in MWK | Cost in USD |
|-----------------------------------|----------------|---------------|
| Fertilizers and Pesticides | | |
| Transport of top soil and manure | 82,010 | 118.00 |
| Pesticides | 34,750 | 50.00 |
| Seeds | | |
| Seeds | 34,750 | 50.00 |
| Gardening Tools | | |
| Gardening Tools | 69,500 | 100.00 |
| Salary for Gardener | | |
| Annual Salary | 104,440 | 150.22 |
| Reserve | | |
| Reserve | 39,462 | 56.78 |
| TOTAL | 364,912 | 525.00 |

ⁱ National Statistical Office (NSO) and ICF Macro. 2011. *Malawi Demographic and Health Survey 2010*. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro

ⁱⁱ USAID. 2015. *USAID Malawi Maternal, Neonatal and Child Health Fact Sheet*. Retrieved from <https://www.usaid.gov/malawi/fact-sheets/usaids-malawi-maternal-neonatal-and-child-health-fact-sheet-2012-13>

ⁱⁱⁱ National Statistical Office (NSO) and ICF Macro, 2011