

Report

April 2012, "Etiopiens Børn" (EB) initiated a project with the aim of improving the HAB children's/residents' daily meals by providing them with more vegetables, fruits, and egg/meat. The project focused on (1) setting up a vegetable garden, (2) setting up a small poultry w. egg production, and (3) improving kitchen and cooking procedures. Marianne Lundemark Andersen and Per Geckler were requested to carry out the project. Both are members of EB. The field work took place 23 Nov. - 6 Dec. 2012 and 1 – 16 March 2013. Preparations in DK and Addis Ababa (together with Abraham) took approx. three weeks.

The project was funded by the KANA Fond (DKK 35.000), CarrotAid (DKK 5.000) and Ethiopiens Boern/EB (incl. private contributions of DKK 10.000). Further, the following companies provided material support (e.g. in the form of seeds): SeedCom A/S, Solsikken, and Flügger A/S. The costs and material inputs are listed in **appendix 1**.

1. Vegetable garden

Status November - December 2012:

Prior to arrival in Nov. 465 m² were partly prepared and laid out for gardening. During the field work additional 510 m² were cleaned, hoed and added to the vegetable garden. The netto area (excl. irrigation channels/furrows, paths etc.) is approx. 700 m². Approx. 85 plots (5-15 m² each) were completed (soil worked through, manure applied, seeds sown, potatoes and spinach planted). Two nurseries (seed beds w. tomato, green pepper etc.) were established and 10-15 plots prepared to receive the transplants when ready. A total of 17 different crops were introduced. Watering channels for irrigation were established or expanded.

The daily hands-on **training** of HAB residents (children from 10 – 18 yrs old) and the ongoing co-operation with the staff were supplemented with **meetings** to strengthen procedures (weeding, watering, transplanting, etc.) and overcome communication difficulties (English - Trigrinya). Three booklets were compiled in English: A. *Sowing guide* (6 pages), B. *How to grow tomatoes, onions, and spinach in details* (8 pages), C. *How to sow, grow and eat the 17 crops that have been introduced* (9 pages). Further, to ensure that the work would be carried on during the coming months and in the future, a **garden committee** was established: Teklay (employed, Head), Tesfay (employed), Haftom (boy, 18 yrs, Vice Head), Charkos (boy, 14 yrs), and Mekedes (girl, 13 yrs).

Status March, 2013:

Of the area prepared in 2012 approx. 75% appeared good (potato, onion, spinach, carrot, broad bean, spring onion, beetroot), fairly good (sweet corn) or acceptable (zucchini/squash). However, due to over-watering, plants had rotted away in the nurseries (tomato, pepper, berebere/chilli, etc.) and in the plots with green beans. Instead of re-sowing/-planting the failed crops, spinach was planted in all the plots prepared for tomatoes, green/red pepper, green beans etc. Further, plots with carrots, onions, beetroots, etc. that **should** have been thinned had **not** been thinned. Finally, crops that could have been harvested (carrots, potatoes, zucchini) had not yet been delivered to the kitchen.

The garden committee seems to have worked reasonably well in Dec. 2012. The children were watering the seed-beds/small plants with watering cans. However, as already indicated, without proper guidance the children were probably also watering too "well" (leading to rotted plants). Later, from late December/early January after irrigation had started once weekly by the furrow-system and regular weeding/thinning **should** have taken place, the committee practically stopped functioning. Since January 2013, Teklay (head) had mainly been left alone with all the work in the veg. garden, although day workers had been employed three times during the period to weed the garden. **Accordingly, the March 2013 activities of the project centered around:**

(a) Improving management/supervision/planning activities, including restructuring the committee and strengthening supervision and delegation procedures.

(b) Practical training (of children and adults) with regard to watering, weeding, thinning, mulching, application of manure and how to plan the utilisation of the plots so that the growing season (and harvest period) of various crops can be extended until the summer rainy season starts and makes gardening impossible (June - August).

(c) Preparing approx. 8-10 new beds/plots (digging, weeding, adding manure etc.) with carrots, green bean and zucchini and one nursery with tomato as it should be just possible to harvest before the rain will waterlog the garden.

(d) Improving the pigeon pea project (pigeon pea is a legume tree producing food for both people and cattle).

(e) Implementation of harvesting procedures and communication channels between the garden (Teklay) and the kitchen/Belaynesh ("mother").

(f) Net-working with the *Mekele Agricultural Extension Unit, Ayder District*. The unit has promised to provide (1) *supervision/advice* to HAB (Teklay, Fikre) regarding planning and maintenance of the veg. garden, and (2) *training* of selected children in vegetable gardening. Both activities form part of their governmental (regional) responsibilities/duties to improve agric. production in Ethiopia.

Linked to the abovementioned activities four papers with guidelines were produced (in English): (i) Planning principles - part one: Seasonal planning (1½ p.), (ii) Planning principles - part two: preparing and maintaining the plots (1½ p.), (iii) Supervision, maintenance and harvesting / recording (1 p.), and (iv) Keeping Pigeon Pea (1 p.). The four papers refer to the three booklets/handouts from December 2012 (see above). They will all be translated into Triginya and then communicated orally (keypoints also in writing). Dr. Amanuel Haftu (Mekele Farms) and Atsbaha Morinoh have both taken this upon themselves as personal assignments.

2. Kitchen: Improved food for the children

Status November - December 2012:

The overall aim of the project is to improve the nutritional value of the HAB residents'/children's daily food. Therefore, we looked at the food items that had been bought in 2011/2012. The survey indicates that the food is sufficient with regard to energy (e.g. cereals, injera) and protein / amino acids (e.g. lentils, beans/peas), but poor with regard to vegetables/fruits. A profound lack of variety easily leads to shortage of different minerals and/or vitamins. Focussing on what the

future veg. garden would be able to provide, the Nov-Dec 2012 kitchen activities concentrated on using raw vegetables/fruits, e.g. by compiling a rather successful dish from carrots, beetroots, oranges, lemons, chilli, tomatoes, and banana. Cleaning and preparing vegetables take time (human resources) and put demands on various kitchen facilities (water, table-/cleaning-/cutting facilities). Therefore, it was suggested to establish a **kitchen support teams of children** supervised by Belaynesh ("Mother") and others to assist the cooks in preparing time consuming food.

Status March 2013:

Until 1 March 2013 little or nothing besides spinach was harvested in the vegetable garden. During the first weeks of March potatoes (15 kg), carrots (10 kg), onion (2 kg), zucchini (6 kg), beans (1 kg), spring onion, spinach (3-5 kg) and sweet corn (40 cobs) were provided, and more will be available until the rainy season starts in May (particularly potatoes, onions, carrots, beetroots, sweet corn and spinach).

The recommended kitchen support team seems to function quite well (supervised by Belaynesh). Since 1 March, the HAB residents have experienced very tasty and nutritious meals e.g. combining (i) potatoes, carrots, zucchini, onion, tomato, garlic (ii) rice with small carrots (coming from thinning procedures), (iii) carrots, spinach and a little zucchini and berebere/chilli, (iv) potatoes, carrots, spinach, onion leaves and green/pole beans, and (v) sweet corn. **Training and in-puts have centered around:**

(a) Support to Belaynesh ("mother") and discussions with her about the nutritional values of different crops,

(b) Contributions and support to Belaynesh's own, very realistic and good suggestions as to how the vegetables can be used,

(c) Implementation of clear communication procedures between the veg. garden (Teklay) and the kitchen (Belaynesh) re harvesting and delivery of vegetables to the kitchen, and

(d) Recording procedures for harvest and account: Teklay (garden) => Belaynesh (mother)/Desta (store, weighing the crops) => Rishan (recording at the agric. budget line).

3. Poultry

Status November - December 2012:

A chicken project was initiated with the aim of supplying eggs to the kitchen/HAB residents' food. Meetings were held at Mekelle (chicken) Farms and the HAB Orphanage. An 18-point document with procedures and approx. prices for the establishment of a small egg producing poultry was developed. The idea was to start with 25 one month old female chickens. Mekelle Farms agreed to train the HAB people responsible for these chickens/layers. The service would include consultancy, veterinarian support, vaccinations etc. A **committee** was established: Haftom (boy, 18 yrs, Head), Tesfay (employed, Vice Head), Mekedes (girl, 13 yrs).

Status March 2013:

The main construction of a chicken house and run was initiated in December. Since then the project has been hibernating, partly due to shortage of female chickens at Mekele farms, partly

due to a lack of decision-making at HAB. Therefore, new meetings were held and **the following implemented** during the follow-up mission in March:

(a) The house/run was improved (doors, windows), cleaned and sprayed (Malatine). Drinkers and feeders were constructed and installed.

(b) 26 two-month old male chickens were purchased and installed.

(c) Training of a restructured committee (Aleme (Head), Mikias, Mekedes) was initiated. Training and supervision will continue, conducted by Dr. Amanuel.

(d) A poultry budget line will be established (Rishan/Fikre).

After two months' training/practise with the male chicken (broilers) they will be slaughtered and provided to the kitchen (food for the HAB residents). During April-May 2013, they will be replaced by approx. 30 **female chickens** for future egg production (soon providing at least 20 eggs per day as an average throughout the year). Dr. Amanuel has guaranteed supply of these female chickens. The first four one-month old female chicken has arrived, 1 April 2013.

4. Cows and milk production

Status November - December 2012:

Since 2008, the HAB orphanage has kept about 7 cows, 1 heifer and 3 calves for milk-production (and now and then meat for holidays). The overall idea was to produce quality milk for the children / residents of the orphanage and to sell some milk as a supplement to the always income-lacking budget. In 2011/12 the cows provided approx. 500 litre of milk for the HAB residents and provided an additional income from milk-selling (10 Birr/litre, approx. 1.500 litre) and the selling of manure-bricks (200 Birr/m³). The income supported the salary of 4 persons at HAB (out of a total of 21 salaries). Until 2011 feed for the cows has primarily been provided from 6 ha of occupied land, close to the orphanage. This land is no longer available as it has become far too expensive to rent from the government on a yearly basis. Accordingly, the Nov-Dec 2012 visit clearly indicated that the cows were lacking food, in spite of the fact that Teklay (the cow- and veg. garden responsible person at HAB) puts huge efforts into feeding the cows by his daily collections of branches from legume trees and cuttings of alpha-alpha (lucerne) as a supplement to now and then bought hay. The milk production had almost stopped in December 2012.

Status March 2013:

The March 2013 visit proved that the feeding situation had grown worse. Hay prices had increased, the cows had far too little to eat and had, accordingly, stopped giving milk all together. Meetings and consultation were held with Dr. Amanuel Haftu (Mekele Farms), who is also an expert on cows (milk production, synchronising of insemination, etc.) and with Harageweyni Teklu and Angesom Teka from the Mekele Agricultural Extension Unit, Ayder district. The latter have previously visited the cows and strongly recommended to the HAB management that the feeding conditions be improved. Dr. Amanuel Haftu agreed. Also, we all agreed to the fact that it was important to keep some of the cows as an important source of quality milk (milk bought at the market is often of a bad quality, e.g. supplemented with water).

We have recommended to reduce the number of cows (to half the actual number), develop a plan for better feeding (including purchase of fodder when it is least expensive) and introduce an organised insemination programme. Dr. Amanuel has agreed and volunteered to follow up on these plans and to provide further supervision of this cow-project. He will do this in addition to his official work in relation to the poultry (supervision, training, etc.). Feeding cost for **proper feeding** (rouffage, urea, fruska, fatala, hay to supplement alpha alpha and branches) amounts to 840 Birr/cow/month. That is, approx. 10.000 Birr/year for one cow (or three calves) or more or less twice the present costs (expenditures). The veg. project has bought hay and other fodder as a contribution to the abovementioned feeding project.

This cow-program will now be tried out for a couple of months and the quality and amount of milk be tested. Thereafter, decisions about reduction of the number of cows should be made.

5. Additional

A priority list for potentially future improvements at the orphanage have been negotiated, prioritized and developed. In relation to this specific assignments have been delegated: Belaynesh / Morinoh concerning the children in need of medical assistance, Fikre concerning improvements of kitchen and tutorial classroom, Yohannes concerning sanitation, sewage systems, water, bath and toilet facilities (including light). A meeting with the World Food Programme (WFP), Mekele, revealed that support for garden and animals are not possible. However, it appeared that the HIV/AIDS-affected children (which include healthy children of late parents/family who died from AIDS) in the orphanage (approx. 75%) qualify for governmental support (food items, school books, etc.) paid by WFP. An application has been produced and forwarded to Health/Social affairs.

6. Conclusions/summary

Etiopiens Børn aimed at improving the daily food/nutritional status of the 70 children/residents and staff at the HAB orphanage. The main target points were to establish (a) a vegetable garden, (b) a small poultry (egg production), and (c) implement procedures that would improve the composition and variety of the daily meals. Further, the idea was to include the children / residents in the food production and in this way increase their awareness and knowledge about nutrition and working procedures in relation to farming and cooking.

- (a) A vegetable garden of netto 700 m² has been established. It produces well with regard to potatoes, sweet corn, carrots, beetroot, onions, zucchini, spinach etc. – although shortcomings clearly have been experienced, particularly with regard to management of seedbeds/nurseries, transplantations, thinning procedures etc. and supervision / guidance of the involved children. The soil is good and 2-3 harvests are possible (Sept. – May)
- (b) A poultry has been established and is running (pt with 30 chickens, broilers and potential layers)
- (c) The daily meals have been improved with regard to variation and from March 2013 with a regular inclusion of a variety of vegetables from the vegetable garden

- (d) A feeding programme for the cows and calves has been developed with the aim to reduce the number of cows but maintain a production of quality milk for the children

Taking into account that most of the children/residents *and* staff had very little, if any, experience with regard to farming procedures, the abovementioned aims and ideas were rather ambitious. Difficulties related to communication (English vs Tigrinia, reading/writing etc.) should here be added.

A group of ten children (10 – 18 yrs old) has in Nov-Dec 2012 and March 2013 been through all the practical procedures of gardening etc. (clearing land, preparing plots/seed beds, sowing/planting, weeding, mulching, thinning, transplanting, watering, etc.). It goes without saying that regular supervision and guidance is needed to keep such a group of young people going. Only one adult/employee at HAB has farming experiences (cows, chicken, vegetable production), namely Teklay. He does not speak/read/write English, but he works 12-14 hrs a day 7 days a week and keeps in this way the initiated projects going. He is of course also dependent on managerial support and regular assistance in supervising the children. Accordingly, in March 2013 major efforts were put into establishing and ensuring local support from the (governmentally run) Agricultural Extension Unit in Mekele/Ayder District and to commit other local Ethiopian experts (particularly Dr Amanuel) on a voluntary basis. So far, these initiatives seem rather promising. They are, however, also absolutely necessary as an important supplement to the relatively weak, although committed, HAB management.

7. Constraints/ Recommendations

Management (delegation and supervision) must have a high priority at the HAB orphanage if the initiated projects are to be maintained and further developed.

The high inflation rate puts the HAB finances under an enormous pressure, not only with regard to food for the children and fodder for the animals. Lack of finances leads to crisis management.

There is an urgent need for major inputs to water supply and sanitation: A kitchen with dirt floor and without water and cleaning space (tables); none of the toilets/showers for the boys and girls are working; out of 25 taps only four are working, partly due to spoiled plastic pipes (eaten by rats). When the rainy season starts (within 1-2 months) there is a huge risk of serious health problems at the orphanage.

The fence around the vegetable garden is in need of maintenance, but there is no money to spend on this. Therefore, theft of vegetables from the garden is possible and takes place.

Teklay sleeps with the cows without any kind of privacy.

The abovementioned problems/constraints might all jeopardize the possibilities for improved meals for the children and weaken the overall working spirit amongst staff and residents.

Åshøj, 18.04.2013: Marianne Lundemark Andersen, Per Geckler

Appendix 1

Costs			
	Travel expenses		41.930
1	Air tickets (Nov-Dec 2012)	15.000	
2	Air tickets (March 2013)	15.100	
3	Hotels (Nov-Dec 2012)	4.160	
4	Hotels (March 2013)	4.615	
5	Visa (Nov-Dec 2012)	230	
6	Visa (March 2013)	230	
7	Medicine/vaccinations (Nov-Dec 2012)	1.500	
8	Transportation (Nov-Dec 2012), Mekele	620	
9	Transportation (March 2013), Mekele	475	
	Garden tools etc.		2.660
10	Garden Tools (Nov-Dec, 2012): 3 spades, 2 forks, 3 hoes, 3 rakes, 1 wheel barrow, 5 watering cans, string/rope, poles, etc.	1.900	
11	Garden Tools (March 2013): 11 Gardena hand tools for weeding/transplantation etc.	760	
12	Seeds etc. sponsored by Solsikken, SeedCom A/S, Flügger A/S: approx.	3.000	
	Kitchen / Food		1.420
	Kitchen equipment (Nov-Dec 2012)	260	
	Food items (Nov-Dec 2012)	300	
	Cooking books etc. (left in Ethiopia)	860	
	Salaries		900
	HAB salaries to staff (to keep the project running, Nov-Dec 2012)	900	
	Salary increase for 2013 (to be paid by EB)	4.000	
	Chicken project		5.950
	Materials (Nov-Dec 2012): house, run, food, chickens	3.290	
	Materials (March 2013): house, run, food, chickens	860	
	Spraying equipment and cleaning materials (March 2013)	1.800	
	Cow/Milk project		1.450
	Cow feed (March 2013)	1.450	
	Total costs		54.310
	Materials (donations from sponsors) and extra costs for EB in 2013	7.000	