School Feeding Program Nutritional Assessment Study Report

Contact person
Mr. Tesfaye Melaku
Founding Director
Tel: 00251910669227
E-mail
lightethiopia2012@gmail.com / ewenu12@gmail.com
Addis Ababa, Ethiopia
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1. Executive summary

The Government of Ethiopia has officially endorsed Non-formal and Adult education program as viable methods of striving to reach the Millennium Development Goals. The program has been adapted in Ethiopia on a national large scale, by many Non-Governmental Organization as well as Regional Education Bureaus, and because though is target for children age 7 to 14, in many cases older youths up to age 18 and 19 participate in the program particularly in the most and extremely remote rural area of the country.

Light Ethiopia is a National Non-Governmental Organization and non-profit making development organization, which started its operation in Ethiopia before 2011 and re-registered in 2012 in accordance with the new charity and society proclamation number 621/2003. Light Ethiopia registered by the Federal Democratic Republic of Ethiopia Charity and Society Agency by the registration number 2805 to operate in all regional states primarily on Tigray, Amhara, Addis Ababa, Oromia and SNNPR. The major program components including Child and family support program, Agriculture and food security program, Education program, Health and HIV/AIDS program, Natural resources and environmental protection program and Clean drinking water supply and irrigation development program. In addition to the main registration from Charity and Society Agency Light Ethiopia signed an operational agreement with respective region such as Amhara and Oromia Regional States.

One of LIGHT ETHIOPIA’s Programs areas is targeted with-in Amhara Regional State, South Wollo Zone, Dessie Zuria, Kombolch and Dessie Districts located at a distance of 400 KM North of Addis Ababa on the way to Mekelle the capital city of Tigray Regional States.
The overall objectives for the assessment were, to analyze the status of the school feeding program, to identify the best possible suppliers and purchasing agreements, to establish calorie-standard recipes, to identify the exact “per unit” meal cost and making recommendations for further improvements with cost efficiency and capacity building of LIGHT ETHIOPIA’s staff related to the program to run the project activities by themselves.

To undertake Nutrition Assessment of School Feeding Program of LIGHT ETHIOPIA, a qualitative and quantitative data collection method was employed. The cooking process of the meal menu in another organization was physically visited and documented. These included the lentil soup, the macaroni soup and the vegetable soup preparations. Generally the dining place, plates and kitchen utilities status have been observed.

The weekly and daily meal cost was assessed it was found that the cost of the meal per children per day was 7.13 Birr for hot meals and 1.25 Birr for bread (Which is equivalent with 0.40 USD).

The average daily energy and protein intake was estimated in comparison with Recommended Daily Allowance recommended by World Health Organization (WHO). Accordingly it is found that the daily energy intake from the meal served by different organization in the form of soup contains an average of about 225 calories and seven grams of protein.

The market assessment of the raw material for the feeding program was carried out at Dessie, Kombolcha and Addis Ababa. From the assessment it was learned that there were big differences in lentil price among the three places assessed. Lentil is cheap in Addis than the other two places.

The school teachers indicated during the focus group discussions that the school feeding program is contributing a lot in the school’s drop-out rate. The retention rate and daily attendance are both very high.
The results focus group discussion with students revealed that they are happy with the school feeding program.

In general to evaluate how the program is effective in improving their short and long-term outcomes and or reduces daily energy or nutrient deficiency of participants, the total daily intake assessment is needed using the neighboring similar schools who are not using this program as control.

Experience shows that properly designed and effectively implemented School Feeding Programs can alleviate short-term hunger in malnourished or otherwise well-nourished school children, motivate parents to enroll their children in school and have them attend regularly, address specific micronutrient deficiencies in school-age children, increase community involvement in schools, particularly where programs depend on the community to prepare and serve meals to children. Schools with their communities behind them are more effective than schools with less community involvement. These are the facts that were observed from school feeding program. Even though the daily intake of the protein and energy intake from the meals to be served in LIGHT ETHIOPIA’s school feeding program should be to the standard, the positive impact of this program on over all school performance and dropout rates as well as increase enrollment has played and is playing great role and is contributing its part in achieving the MDG’s objectives of the country as a whole.

Given the growing emphasis on school meals as a channel for improving child health and educational outcomes, the encouraging and promotion of such program is paramount important.

Based on the assessment results, personal observation and searching experiences of various programs the following recommendations are critically important:

1. The efforts of LIGHT ETHIOPIA in its contribution to support of the government to achieve its Education Millennium goals has to be appreciated and its school feeding plan has to encouraged. The Amhara region, Zonal Line Department offices and District administration including Educational and Health Offices has
to acknowledge their efforts and support the overall activities of LIGHT ETHIOPIA in the region,

2. The total daily nutrient intake of school children needs to be studied in order to adjust the meal menu and recipe,

3. The proposed meal protein energy content is good relative to RDA.

4. The proposed meal recipe has to be tested in the school site and be incorporated in weekly menu plan,

5. Increasing community awareness about the feeding program has to be done for sustainability of the program, and to make the program participatory,

6. LIGHT ETHIOPIA has no vehicle for implementing all the program activities and need to have at least one vehicle,

7. School garden needs to be started and contribute its part to the planned feeding program for the sustainability,

8. LIGHT ETHIOPIA needs to develop additional project proposal and search for fund to cover the overhead including the administration and other cost for running school feeding and related program.
2. Overview

2.1. Profile of the Implementing Agency:

Light Ethiopia is a National Non-Governmental Organization and non-profit making development organization, which started its operation in Ethiopia before 2011 and re-registered in 2012 in accordance with the new charity and society proclamation number 621/2003. LE registered by the Federal Democratic Republic of Ethiopia Charity and Society Agency by the registration number 2805 to operate in all regional states primarily on Tigray, Amhara, Addis Ababa, Oromia and SNNPR. The major program components including Child and family support program, Agriculture and food security program, Education program, Health and HIV/AIDS program, Natural resources and environmental protection program and Clean drinking water supply and irrigation development program. In addition to the main registration from Charity and Society Agency Light Ethiopia signed an operational agreement with respective region such as Amhara and Oromia Regional States.

Accountability

The supreme organ of Light Ethiopia is the General Assembly consisting of 13 individual members. The next principal organ is the board of directors with six members consisting of five members elected from the general assembly for a term of four years and executive director of LE who is an ex-officio member.

The accountability of the organization is assured that through quarter based project and organizational based report, annual audit report and participatory monitoring and evaluation.
Vision and Mission

Vision

Light Ethiopia envisions self-sufficient and sustainable communities in Ethiopia.

Mission

Light Ethiopia is organized to provide tools for self-sufficiency and sustainability in distressed communities in Ethiopia. Light Ethiopia seeks to motivate, train, and assist people to improve the quality of life through provision of educational support for children who have no access for education due to poverty, supporting national motive to increase the food security status of the country, improve the environmental condition of the country and participation in the provision of quality social services in Ethiopia such as health and education. Light Ethiopia will accomplish its objective by focusing on different (at least five) region at the time. For the next three years Light Ethiopia will primarily work in Amhara and Oromia on the child and family support programs and empowering adolescent girls through education program.

“Distressed communities” such as OVC and their families, low-income urban neighborhoods and rural areas, as well as groups, such as low-skill workers, that exhibit high levels of unemployment or poverty will be the major target of Light Ethiopia.

Light Ethiopia will pursue its mission in 2012-2015 in two major ways:

1. Supporting urban and rural dwellers that are more affected and infected by serious poverty through providing quality socio-economic services.
2. Providing life skills training & after school activities for students in partnership with schools in underserved areas.

For the time being Light Ethiopia will work in at least five regions such as Tigray, Amhara, Oromia, SNNPR and Addis Ababa, most of the food in secured and vulnerable children are found. However if the fund and other logistical problem have been solved and allow, Light Ethiopia will expand its services throughout the entire regions.
**Goal and Objectives**

**Goal:** To promote human dignity through responding developmental needs of the communities in Ethiopia.

**Development objectives:-**

1. To contribute to the socio economic and human development of the communities,
2. To contribute to poverty alleviation, reducing disaster vulnerability and mitigating the effects of disaster
3. To contribute for the efforts of government and development partners in solving the problem of food security and environmental degradation,
4. To facilitate and support community initiatives and self-help efforts towards sustainable development
5. To give special emphasis to gender and development issues and women empowerment
6. To assure quality education access to all social group,
7. To improve health service coverage and the quality of health care,
8. To ensure sustainable clean water supply,

**Values:-**

- Family life promotion
- Respect of the dignity of human person
- Dialogue
- Creating option for the poor and marginalized
- Transparency
- Participatory leadership
- Solidarity
- Stewardship
- Team working
- Integrity
- Excellence
- Innovation
The management of Light Ethiopia is expected to cultivate these values and internalized within the staff and make sure the values and adhered in the day today activities of the organization.

**Strategies**

To facilitate and ensure smooth implementation of the programs and/or projects within the organization to achieve the stated goal and objectives Light Ethiopia will adopt the following general strategies

1. **Institution Building:** At the on-set of the program establishment of Community Based Institutions (CBIs) is the basic program implementation strategy. Up on this at least half of the CBIs to be established by the programs under Light Ethiopia will be female representatives. These CBIs will be responsible for overall implementation of the programs, control and management of resources and proper handling of programs/project outputs.

2. **Participatory Approaches:** during the problem identification, planning, implementation, monitoring and evaluation of the program all stakeholder including the community, governmental line offices, donors and staffs of Light Ethiopia will be actively participated. In addition the community is expected to share at least 20% of the programs/projects cost by providing locally available materials and free labor.

3. **Targeting:** to effectively address the poor, the organization will adopt preferential targeting in order to direct the scarce resources to the most needy community members. In all its development efforts the organization will ensure that poor of the poor household in general and women and children in particular are properly addressed and participated in CBIs and smaller action groups that will be established for the purpose of the program/projects.

4. **Gender Equality:** In view of the prevailing socio cultural biased against women, consideration on gender equality will be an important strategy to be pursued to
ensure the participation of women in development activities so that they play a significant role in the economic and social affairs that affect their lives.

5. **Enhancing Community Knowledge and Practices:** - Participatory action research will be promoted by encouraging the communities to build their own ways of dealing with different development issues. Recognizing and popularizing those knowledge and experience of local communities in an immense potential for solving location specific problems.

6. **Introducing Improved Technologies and practices:** - In addition to the promotion of Indigenous knowledge and practices, the productivity enhancement intervention will take place by encouraging farmers and urban communities to use improved technology and practices that will be affordable by poor and adaptable to local situation.

7. **Enhancing Collaboration and Coordination:** - the organization would collaborate and coordinate its effort in its interventions with relevant government and nongovernmental organizations. Such coordinated effort would avoid duplication and enable delivery of appropriate support to the community.

8. **Capacity Building:** - capacity building of counterpart organizations and community based institutions at local, regional and national level is an important strategy to enable provision of adequate service to the community and sustain development interventions initiated by the program.

**Intervention areas**

- Child and family support program
- Agriculture and Food Security Program
- Education Program
- Health and HIV/AIDS Program
- Natural Resources and Environmental Protection Program
- Clean Drinking Water and Irrigation Development Program
Light Ethiopia is a member of

- Union of Ethiopia Women Charitable Association
- Girls Not Bride- Global Partnership to End Child Marriage
- Global Giving

Current Partners of Light Ethiopia

- Children of the Sun
- Enfant Avant Tout
- Sweden Government
- Initiative Africa

3. Background and Justification

3.1. The Need of School Feeding Program in School:

School feeding program is believed to be implemented that is very important and need to be applied particularly in primary schools and other education Centers because of the following important reasons:

- If school children’s are well feed and get proper and sufficient diet they become healthy, not exposed to hungry and they can able to attend their class properly and they will have high attention and interest to the class,
- If they can able to get proper diet with the supply of proper feed supply and ingredient school children’s are more likely to enroll and attend their class regularly as a result there will be less likely school dropout,
- To day’s school children’s are tomorrow leaders, scientists, professionals and parents for tomorrow children therefore they need to be properly and well feed,
- Well and proper feed child can able to develop and bring innovative ideas, thought and valuable information and inputs to the society as well as to the community,
The general truth states that if and only if a child can grow well, healthy and have better understanding if he can properly get appropriate diet at the needed time and his growing age.

There are three most important things that seriously affect the growth of a child during his school age includes:

a. The nutritional status of a child which is directly related to:
   - How they get appropriate and proper diet at their younger age,
   - The current child diet condition and state,
   - Whether the child has a heavy worm or other related diseases

b. Lack or having insufficient amount of energy, protein, iodine deficiency or iron deficiency which can affect the child learning. Even Vitamin A deficiency can affect seriously the child sight, which have a direct impact on learning process.

c. Short-term or temporary hunger for a given period of time for a child due to lack of getting enough food can bring in reducing his concentration and attention to give to the class and can not able learn properly.

3.2. Objectives of the Proposed School Feeding Program

School Feeding Program has been proposed by Light Ethiopia with the objectives:

- To increasing school enrolment rate of the school aged children within and surrounding of the intervention program area.
- To reduce student dropouts,
- To improve academic performance and
- To enable students to continue their education to higher levels.
3.3. The Project Area:

South Wollo Zone of Amhara Regional State, Ethiopia is characterized by multi-sector socio-economic problems including the spread of HIV/AIDS pandemic, as it is located on the main highway from Addis to Mekelle. This brought the increasing number of Orphan and Vulnerable Children (OVC) and thereby the number of street children is increasing at an alarming rate. The baseline survey conducted by the organization in 2011 in three Kebeles of Dessie town indicates that the proportion of female household heads (the majority are widows) is greater than 56% with education level dominated by illiterate ones and the vast majority is unemployed with little or no income to support their family. The rate of illiteracy in the rural areas is worse than the urban areas. The project areas under consideration are frequently affected by drought each year. Most families are victims of food shortage and have no enough income to support their families throughout the year. They always suffer from food shortages.

Limited knowledge of the families on modern living practices and other related problems like lack of assets hinder the community in the area to send their children to school. They only focus on the routine in-house activities accomplished by their children than sending them to school for learning. As a result, most families are forced to rent out their small residents to other at very cheap prices for the sake of survival only. Therefore, these families are not able to satisfy the needs of their families either their daily meals or educational needs as desired as possible.

On November 12 and 13, 2014, a many stakeholders, including Light Ethiopia were visited some primary schools in Dessie and Kombolcha, to gauge whether school feeding is important or not. During the visit, we found that there is a big need of the school feeding program at least at four centers primary schools.
To implement these recommendations and in light of limited human resources and LIGHT ETHIOPIA’s limited experience with school feeding programs, there is a need to undertake nutrition assessment on School Feeding Program to start the school feeding program in all aspects. The cost per meal per child including startup capital and other administration and supervision cost.

This program will be achieved its goal through minimizing the school dropping out rate from 174 students of last year to 0 after the feeding started.

3.4. Staffs and Personnel of LIGHT ETHIOPIA:

Currently LIGHT ETHIOPIA is having a total of 16 permanent and temporary staff in the managing of the projects under the organization. These all together with schools administrators and governmental counterparts will have the responsibility for the close follow-up and management of the school feeding program too.

Both in the Program and Filed Office:

1. An Executive Director
2. A Senior program Officer
3. Two Project Officers
4. A Finance Head
5. Two Accountants
6. A Field Supervisor
7. Two Coordinator
8. Five Social Workers
9. A Cashiered and Secretary
3.5. **Why the needs of the study for nutritional assessment?**

For the successful implementation of the program Light Ethiopia initiate to conduct the study on the school feeding program nutritional as well as the availability and cost of the feedstuff to be identified. In this connection, LIGHT ETHIOPIA hired senior and highly experienced professional nutritionist and health consultant as a freelance consultant with the objectives of:

- Analyzing /observing the status of the school feeding program in Ethiopia,
- Market assessment of food ingredients and Identifying the best possible suppliers,
- Establishing calorie-standard recipes,
- Identify the exact “per unit” meal cost and making recommendations for further improvements with cost efficiency.
- Capacity building of LIGHT ETHIOPIA’s staff related to the program to run the proposed project activities by themselves.

3.6. **Scope of the work**

The scope of the work includes assessment report writing inline with the above objectives and formulation of recommendation to improve the feeding program in four proposed primary schools at Dessie and kombolcha City, South Wollo Zone of Amhara regional State, Ethiopia. Additionally it is also expected to give the short term technical support and training for LIGHT ETHIOPIA staffs prior to starting the program working on school feeding program as well as produce process documents including recommendations for LIGHT ETHIOPIA.
3.7. Objective the study

The overall objectives for the assessment were:

- Analyzing /observing the status of the school feeding program in Ethiopia,
- Identifying the best possible suppliers and purchasing arrangement,
- Establishing calorie-standard recipes,
- Identify the exact “per unit” meal cost and making recommendations for further improvements with cost efficiency.
- Capacity building of LIGHT ETHIOPIA’s staff related to the program to run the project activities by themselves.

4. Methodology

To undertake Nutrition Assessment of the proposed School Feeding Program of LIGHT ETHIOPIA, a qualitative and quantitative data collection method was followed. These include auditing existing facilities, key informant interviews, focus group discussions with project staff and community representatives and site visits in each of the four proposed primary schools, market assessment, and cost analysis per meal, recipe evaluation for protein and energy intake from the meal.

5. The major activities of the assessment

The assessment was focused on the following areas:

1. Data on the amount and types of food proposed by LIGHT ETHIOPIA, the nutritional values of the meals focused the protein and energy contents for all primary schools.
2. Compare the nutritional value of the meals results with standard recommended calorie/dietary daily intake of school children.
3. Conduct market assessment in Dessie, Kombolcha and in Addis Ababa in terms of cost effectiveness, logistic and continuous supply.
4. Evaluate the existing recipe and analyze cost per meal
5. Develop recipe options

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E-mail: lightethiopia2012@gmail.com
6. Formulate recommendations based on the overall assessment results.

6. Results and Discussions

6.1. **Cooking Processes of the meals**
For the all four primary schools Light Ethiopia should establish a feeding center like a tent and Kitchen to be prepared by the school administrator. Related to the personnel Light Ethiopia is expected to hire eight cooks, two for each center, program coordinator, guards and two social workers. They all will be recruited and paid by the project. Each of them will train on how to cook each meal based on the developed menu.

From others experience and nutritional assessment of the food it is recommended to use the following meal menu for the school feeding program:

<table>
<thead>
<tr>
<th>Type of food to be served</th>
<th>DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mon</td>
</tr>
<tr>
<td>Vegetable soup With bread</td>
<td></td>
</tr>
<tr>
<td>Lentil soup With bread</td>
<td></td>
</tr>
<tr>
<td>Macaroni soup With bread</td>
<td></td>
</tr>
<tr>
<td>Rice With bread</td>
<td></td>
</tr>
<tr>
<td>Spaghetti With bread</td>
<td></td>
</tr>
</tbody>
</table>

6.2. **Assessment of weekly and daily meal costs**
The assessment of the weekly and daily meal cost was assessed. The total numbers of children getting the meal from Monday through Friday will be 500. The following table shows the amount of raw food weekly needed for the three different menus for the children. From the total amount weekly needed and from the price of items assessed during the survey it was found that the cost of the meal per children per week was 7.13
Birr for hot meal and 1.25 ETB for bread which is equivalent to 0.4 USD. (This is excluded center establishment, purchase of kitchen utensils, administration and Supervision cost)

**Amount of Food items weekly required for 500 children (1 Birr = 20.80 USD)**

<table>
<thead>
<tr>
<th>No</th>
<th>Food item</th>
<th>weekly needed amount in kilogram</th>
<th>Average price in Birr per kilogram in ETB</th>
<th>Total cost per item per week in Birr</th>
<th>Cost per children per week in Birr</th>
<th>Cost per children per day in Birr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lentil</td>
<td>100</td>
<td>24</td>
<td>2,400</td>
<td>4.80</td>
<td>0.96</td>
</tr>
<tr>
<td>2</td>
<td>Potato</td>
<td>92</td>
<td>10</td>
<td>920</td>
<td>1.84</td>
<td>0.37</td>
</tr>
<tr>
<td>3</td>
<td>Carrot</td>
<td>74</td>
<td>19</td>
<td>1,476</td>
<td>2.95</td>
<td>0.59</td>
</tr>
<tr>
<td>4</td>
<td>Oil</td>
<td>50</td>
<td>48</td>
<td>2,400</td>
<td>4.80</td>
<td>0.96</td>
</tr>
<tr>
<td>5</td>
<td>Macaroni</td>
<td>100</td>
<td>24</td>
<td>2,400</td>
<td>4.80</td>
<td>0.96</td>
</tr>
<tr>
<td>6</td>
<td>Cabbage</td>
<td>25</td>
<td>14</td>
<td>350</td>
<td>0.7</td>
<td>0.14</td>
</tr>
<tr>
<td>7</td>
<td>Tomato</td>
<td>60</td>
<td>16</td>
<td>960</td>
<td>1.92</td>
<td>0.38</td>
</tr>
<tr>
<td>8</td>
<td>Bread</td>
<td>2500 pieces</td>
<td>1.25 per piece</td>
<td>3,125</td>
<td>1.25</td>
<td>0.25</td>
</tr>
<tr>
<td>9</td>
<td>Onion</td>
<td>60</td>
<td>15</td>
<td>900</td>
<td>1.80</td>
<td>0.36</td>
</tr>
<tr>
<td>10</td>
<td>Garlic</td>
<td>20</td>
<td>28</td>
<td>560</td>
<td>1.12</td>
<td>0.22</td>
</tr>
<tr>
<td>11</td>
<td>Salt</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>12</td>
<td>Spices</td>
<td>5</td>
<td>100</td>
<td>500</td>
<td>1</td>
<td>0.20</td>
</tr>
<tr>
<td>13</td>
<td>Fire Wood</td>
<td>LS</td>
<td></td>
<td>1700</td>
<td>3.40</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td>Spaghetti</td>
<td>250</td>
<td>17</td>
<td>4250</td>
<td>8.50</td>
<td>1.70</td>
</tr>
<tr>
<td>14</td>
<td>Sanitation</td>
<td>LS</td>
<td></td>
<td>500.00</td>
<td>1</td>
<td>0.20</td>
</tr>
<tr>
<td>15</td>
<td>Contingency (5%)</td>
<td></td>
<td></td>
<td>1,122.8</td>
<td>2.00</td>
<td>0.40</td>
</tr>
</tbody>
</table>
### 6.3. Total Required budget for one year program

- **Food Cost** …………… 0.4 USD per day per child* 500 Children * 215 School Feeding Days = 43,000 USD
- **Center Establishment Cost for the purchase of tent** ……….. 4 Tents * 1,500 USD per tent = 6,000 USD
- **Kitchen Utensils and Furniture in Lump Sum** ……………………………7,000 USD
- **Personnel Cost for one Year** ………………………………………..10,000 USD
- **Visibility of the project** …………………………………………..…….2,000 USD

**Total Cost in USD** ……………………………………………………….68,000 USD

### 6.4. Results of FGD with the teachers

The school teachers indicated during the focus group discussions that the school feeding program is contributing a lot in the school’s drop-out rate. The retention rate and daily attendance are very high compared to their school to other school which has a school feeding program. The schools administrators are committed to involve in the feeding program by monitoring that all children wash their hands before meal, monitoring the cleanliness of the feeding room and watching and reporting if cooks are not properly functioned.
6.5. **Results of FGD with the students**
The focus group discussion was held with randomly selected students from each class, 1 child from each of 0-5 grade. During the discussion the students raised that they have an interest to have a school feeding program in their school. They assure their hunger in the class room and pressurized to quite their class to fetch the food from the town. Concerning the proposed menu they are very happy with all meal to be delivered throughout the entire week.

6.6. **Over all benefits of the School Feeding**
Information collected through focus group discussions indicated that the school children can get benefit from the school meals and that they get enough food. The children mentioned that almost always they come to school without eating for various reasons. Some said that they do not eat breakfast because there is no food at home due to household food insecurity while for some is due to lack of time to eat as they are in a hurry to leave for school. Other children do not eat mainly due to lack of appetite in the morning and they also know they will eat when they get to school. This further emphasizes the importance of school meals to school children.

Apart from the children the administrators of the schools also explained that feeding has had impact on school attendance. The findings show that there has been a general improvement in attendance since the introduction of feeding program.

Parents in their focus groups discussions also highlighted a number of benefits from school meals. It was cited that some children including orphans and children from very poor families get a balanced meal or even daily meals from school feeding only. School feeding attracts more children to attend school. School children also have better concentration in class when they get food at school. Some people mentioned that school feeding reduces hunger vulnerability among the children as they get enough food from school. Children are also no longer getting sick due to food shortage is another advantage alluded to. It was also indicated that school feeding does not only benefit school children. It has helped to improve the lives of cooker through the money they get.
from salary. School feeding also helps to supplement the food stocks in the household because children take only the evening meal at home after they have had lunch at school.

Results from our careful studies show that in-school meals program improved school attendance of enrolled students where initial attendance was low. Often the primary objective of school feeding programs is to increase school participation; these programs have been a common tool in developing countries seeking to establish universal primary education. However, the use of food rather than cash as the form of transfer acknowledges that hunger plagues many poor students at school, which may discourage school attendance and also impede learning. Many developing-country governments and international organizations implementing school feeding programs have recognized that, by fortifying the food with protein and key micronutrients, they may also be able to improve child nutritional status and reduce morbidity, and so have an additional positive effect on regular school attendance and learning.

Given the growing emphasis on school meals as a channel for improving child health and educational outcomes, the encouraging and promotion of such program is paramount important.

The economic motivations for investing in the education and nutritional status of primary-school-aged children are well established. Moreover, investments in both of these forms of human capital are likely to benefit from substantial complementarities. However, in developing countries, poor and credit constrained households routinely invest less in education and nutrition than is privately or socially optimal. Food for education programs, including meals served in school and take-home rations conditional on school attendance, attempt to improve these investments by subsidizing the cost of school participation through providing food that could improve nutrition and learning.

Panel data on nutrient intake and long term health indicators such as height for age of participants and non-participants would also be helpful in determining whether the impact of school feeding programs are permanent or transitory.
The effect of in-school feeding on grade repetition, drop-out rates, learning achievement, and school performance are all interrelated. This effect works through two mechanisms: attendance and nutrition. The attendance channel can be described as follows. In-school feeding improves children’s attendance, so they spend more hours learning in school. This attendance impact should allow them to learn more and, as a result, improve their school performance, decreasing their likelihood of repeating a grade or dropping out. This mechanism is dependent on the level of school quality, including teacher/student ratios; the availability of schooling inputs, such as textbooks and pencils; and teacher quality. If school meals increase enrollment rates and attendance, as expected, classrooms may become overcrowded, and teaching quality may decrease. Similarly, if school feeding represents a significant burden on the teachers’ time, learning time may be reduced. Thus, unless additional financial and human resources are available, school feeding programs have the potential to worsen school performance and increase drop-out rates and grade repetition. As with school participation, the effect of in-school feeding on other measures of school retention and performance may be enhanced through improved nutrition. This mechanism operates through two channels. The short-term impacts of providing children with a meal during the school day may alleviate hunger and help them to concentrate and learn better, thereby improving school performance and retention. The longer run effects are conditional on in-school meals improving the nutritional status of children and on nutritional status affecting the ability to learn. Furthermore, the impact of in-school feeding on education will vary, depending on the initial nutritional status of the child. Experience shows that properly designed and effectively implemented SFPs can:

- Alleviate short-term hunger in malnourished or otherwise well-nourished school children. This helps to increase the attention and concentration of students producing gains in cognitive function and learning.
Motivate parents to enroll their children in school and have them attend regularly. When programs effectively reduce absenteeism and increase the duration of schooling, educational outcomes (performance, dropout, and repetition) improve.

Address specific micronutrient deficiencies in school-age children. Most important of these are iodine and iron, which directly affect cognition. Meeting the iron and iodine needs of school-age children can translate into better school performance.

Increase community involvement in schools, particularly where programs depend on the community to prepare and serve meals to children. Schools with their communities behind them are more effective than schools with less community involvement.

7. Conclusions

Poor nutrition and health among schoolchildren contributes to the inefficiency of the educational system. Children with diminished cognitive abilities and sensory impairments naturally perform less well and are more likely to repeat grades and to drop out of school than children who are not impaired; they also enroll in school at a later age, if at all, and finish fewer years of schooling. The irregular school attendance of malnourished and unhealthy children is one of the key factors in poor performance. Even temporary hunger, common in children who are not fed before going to school, can have an adverse effect on learning. Children who are hungry have more difficulty concentrating and performing complex tasks, even if otherwise well nourished.

Research and program experience shows that improving nutrition and health can lead to better performance, fewer repeated grades and reduced drop out. These are the facts that were observed from other NGOs school feeding program. Even though the daily intake of the protein energy amount intake from the meals served is relatively low, the positive impact of this program on over all school performance and drop out rates as
well as increase enrollment has played and is playing great role and is contributing its part in achieving the MDG’s objectives of the country as a whole.

8. Recommendations
Based on the assessment results, personal observation and searching experiences of various programs the following recommendations are critically important

1. The efforts of LIGHT ETHIOPIA in its contribution to support of the government to achieve its Education Millennium goals has to be strongly appreciated and its school feeding plan has to be encouraged and supported. Governmental Counterparts has to acknowledge their efforts and support the overall activities of LIGHT ETHIOPIA in the respective program areas,

2. The total daily nutrient intake of school children needs to be studied in order to adjust the proposed meal menu and recipe,

3. The proposed meal protein energy content is a little bit far below RDA, and until the total nutrient intake of these children is studied, it is recommended to double the quantity currently served,

4. Increasing community awareness about the feeding program has to be done for sustainability of the program,

5. The effect of this school feeding on grade repetition, drop-out rates, learning achievement, and school performance are all need to evaluated and there should be monitoring and evaluation plans,

6. LIGHT ETHIOPIA has currently has no Vehicle in order to implement the entire task in the program area so it is better to have at least a vehicle.

7. School garden needs to be started from the coming rainy season and contribute as much as possible its part to the on going feeding program,

8. LIGHT ETHIOPIA needs to develop a new project proposal and search for fund to cover the administration cost of running school feeding program,