

Project Formulation Survey" under the  
Governmental Commission on the  
Projects for  
ODA Overseas Economic Cooperation  
in FY2012

Summary Report

People's Republic of Bangladesh

Research for Introducing Euglena for  
Maternal and Child Health ODA  
Programs

March, 2013

Joint Venture of euglena Co., Ltd and  
Mitsubishi Research Institute Co., Ltd

## 1. Objective of the research

The objective of the operation is to improve maternal and child health and reduce infant mortality rate by providing euglena produced by euglena Co.,Ltd. , a small and medium enterprise, to the People's Republic of Bangladesh.

For this purpose, we will create a detailed proposal for an ODA and further, examine the expected positive effects and the issues faced.

## 2. Conducting the research

We have conducted research on the details of the maternal and child health issues in Bangladesh and projects in Bangladesh which aim to solve these issues in order to create various ideas for the ODA proposal.

Out of our various ideas, we have screened an ODA model that would have synergies effects with current projects, educate the workforce in a short period of time and create an effective organization.

Also, we have identified specific counterparties that could cooperate with our ODA and explained our image of our ODA and examined its potentials and issues.

The details of the operation are as follows

### (1) Identify the current status and needs for maternal and child health in Bangladesh

We have identified the current political and economic overview, current status and needs for maternal and child health, related projects in Bangladesh, (foreign) government policies, regulations by bibliographic and field surveys of local NGOs and governmental organizations and analyzed this information from the perspective of creating an ODA proposal.

### (2) Outlook for future business using euglena Co.'s products and technology

We have researched the local markets and similar products in order to identify the optimal price, design and method for distribution of euglena's products

We have also had discussions to develop a business plan and identify its risks with local food manufacturers and NGOs that have the potential to become a partner in the future.

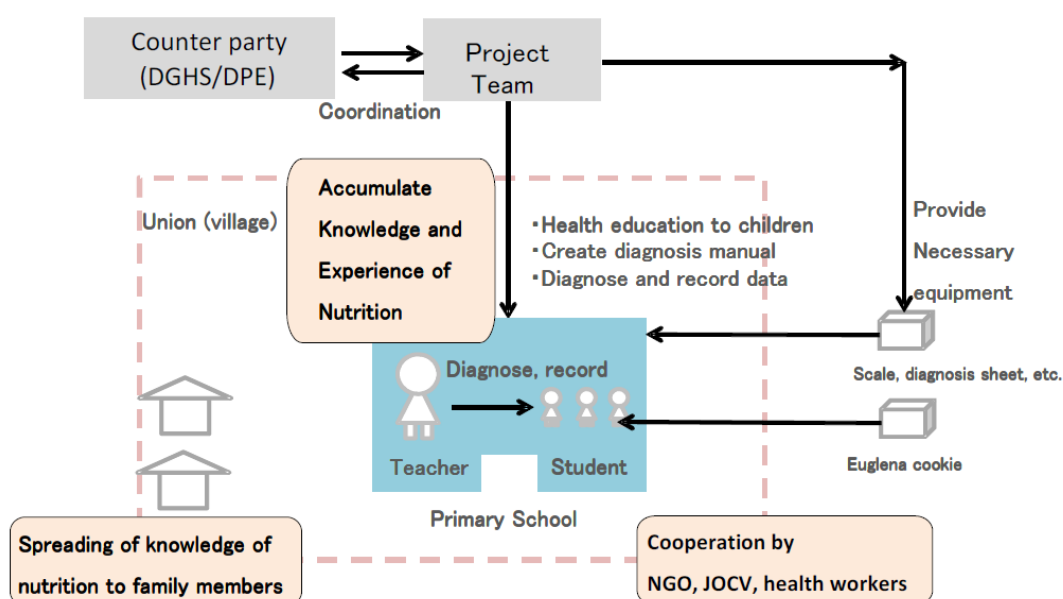
### (3) Detailed proposal for ODA

Our proposal, "Child nutrition service improvement project" would further improve child health by supporting the "Maternal child health/health system improvement project".

The ODA will be centered in some governmental primary schools and it will provide high nutrient food (cookies containing euglena and other necessary nutrients) to students while creating a system that would continuously monitor their health conditions (such as weight). The

knowledge and experience of taking in nutrition will have a ripple effect to their family members and it will create a mindset for improving nutrition in the community and the habit of taking nutrition will take root within the community.

In order to achieve this goal, we will carry out activities including, but not limited to the following: sending experts such as nutritionists and nurses to create a manual for improving nutrition and diagnosis, providing necessary equipment, giving seminars, and providing training in Japan. Also, we will ask for cooperation by local NGO and JOCV for activities in local communities.



**Figure1. Schematic of child nutrition service improvement project**

This cooperation scheme is a technical cooperation project aimed to create a community that could conduct nutritional activities in a sustainable and autonomous way by transferring knowledge related to nutrition, and recording and analyzing health related data such as weight.

The assumed targets are 2000 students in 10 schools, of which, 5 each are located in Kurigram and Gaibandha in Rajshahi District in northern Bangladesh.

The output of the project shall be the following:

- Health records of the primary school students.
- Knowledge and experience related to nutrition by primary school students.
- Knowledge of nutrients and skill to measure and record physical conditions by primary school teachers.
- Lessons and experience from the project will be fed back to upper level organizations and will be used to make further improvements in the policy making of nutrition programs.

We will refer to the HPNSDP goal regarding children as the index and set indexes for measuring effects, set the baseline at the beginning of the project, and measure the resulting effects.

(Measurement through physical examination)

- Height
- Weight
- Blood pressure and others

(Measurement through surveys)

- Condition of the stomach
- Strength against flu, etc.

The commitments by Japan and Bangladesh are as follows:

**Figure2. Commitments**

Commitments by Japan	Commitments by Bangladesh
<ul style="list-style-type: none"> <li>• Experts (Chief advisor, management)</li> <li>• Short term experts (Create manuals for taking nutrients)</li> <li>• Provide equipment (Scale, notes, etc.)</li> <li>• Provide nutrition (euglena cookies)</li> <li>• Accept trainees (Primary school teachers, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide human resources (Central, District level)</li> <li>• Project HQ (Dhaka, related districts)</li> <li>• Costs (HQ, wages and other fees for Bangladeshi human resources)</li> </ul>

We expect the following to be our counterparties

- ① Director General of Health Service, NNS Director
- ② Directorate of Primary Health/ School Education
- ③ Health Education Bureau

The cost will be ¥100million per year, and a total of ¥300million for 3 years, which will be the period of this project.

In terms of coordination with other ODAs, this project can be coordinated with development subject 2-1 (subordinate goal): Maternal and child health/health system improvement program. It can also be coordinated with the following programs.

- ① Technical cooperation project “Maternal protection improvement program phase 2”

② JOCV “EPI, filarial counter measures, school health”

(4) The effects on Bangladesh’s development and euglena Co.’s business by implementing the ODA project.

After examining euglena’s products, technology and its conformity to local development issues, we have come up with the above proposal. In terms of the effect on euglena Co.’s business, it will allow the company to import euglena produced in Bangladesh to Japan.

(5) Conclusion and proposal

① List of potential counterparties

- MOH&FW (Ministry of Health and Family Welfare) DGHS (Directorate General of Health Services)
- MOH&FW DGFP (directorate general of family Planning)
- MPME (MPME : Ministry of Primary and Mass Education) DPE (Directorate of Primary Education)
- Local governments: District (Zila:States), SubDistrict (Upazillas/counties), Union (Villages)

Further discussions with DGHS, NNS which are related to the Ministry of Health, and organizations related to the Department of Education and local governments (Districts, Counties, Villages, etc.) that will actually be carrying out the plan will be required.

③ Proposal of plan for solving the problem

Bangladesh’s malnutrition rate was the highest in the “6th 5 year plan”. According to the report from IFPRI (International Food Policy Research Institute) , in 2009 40% of the children do not have enough body weight, which is the highest rate in the world. Therefore, our proposal is focused on children (primary school students above 5) and aims to solve the maternal and child health problem in Bangladesh.

Our proposal is based on the “Maternal health service improvement project” which has a strong track record but it also reaches out to children and develops a sustainable and autonomous community organization based on the knowledge and experience of nutrition. This proposal meets the needs of the Bangladeshi government and we also believe that it has significant meaning for Japanese International Aid Policies.

# Bangladesh: Research for Introducing Euglena for Maternal and Child Health ODA Programs

## Programs

### SMEs and Counterparty

- Name of SME: euglena Corporation
- Location of SME: 〒113-0033 Tokyo-to Bunkyo-ku Hongo 7-3-1 Tokyo University Entrepreneur Plaza 7F
- Survey Site ▪ Corporation : Bangladesh ▪ DGHS : Directorate General of Health Services

### Development Issue of Concern

- Maternal and child health Major issues and needs
  - Chronic malnutrition
  - Developmental disorders, stunting
  - Risks of infection

### Products and Technologies of SMEs

- Technology : Mass cultivation of euglena
  - Product : High euglena content
- Features of the food product
- 59 varieties of nutrients
  - Features of paramylon, substance unique to euglena
- Immunostimulation, enhanced growth, improves intestinal conditions

### Proposed ODA Projects and Expected Impact

- Create an system for supporting child and maternal health by providing nutritional education, skills for health checks and experience of improved nutrition in elementary schools.
- Autonomous system for improving nutrition can be expected by experiencing and accumulating the needs and knowledge for nutrition.
- Trust and familiarity to Japan and its technology can be fostered by coming in touch with Japanese technology from youth.

### Future Business Development of SMEs

- Create a new market for euglena in Bangladesh, which is expecting strong growth in Asia.
- Create the second production facility following Ishigaki Island for export to Asian countries.

