



**3<sup>rd</sup> REVISED IEE Report for BelGa Myanmar  
Hatchery Plant in MyaungDagar Industrial Zone,  
Hmawbi, Myanmar**

**Prepared for: Bel Ga Myanmar Limited**

**Prepared by: Social & Environmental Associates –  
Myanmar (SEAM) CO., Ltd.**

**Date: 29<sup>th</sup> September 2022**



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## LIST OF ABBREVIATIONS

%	Percentage
°C	Degrees Celsius
°F	Degrees Fahrenheit
cm	Centimeter
dB(A)	Decibel unit
Kg	Kilogram
km	Kilometer
KVA	Kilo Volt Ampere
KW	Kilowatt
mg/l	Milligram per Liter
ml	Milliliter
mmHg	Millimeter of mercury
mph	Miles per hour
mV	Millivolts
μS/cm	Micro Siemens per Centimeter
BOD	Biochemical Oxygen Demand
CID	Card Identification Number
CaCO <sub>3</sub>	Calcium Carbonate
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
COC	Chain of custody
COD	Chemical Oxygen Demand
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
DOC	Day-old Chicks
ECD	Environmental Conservation Department
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan



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ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FIL	Foreign Investment Law
GAD	General Administration Departments
GPS	Global Positioning System
IEE	Initial Environmental Examination
IZ	Industrial Zone
LAeq(dBA)	Equivalent Continuous Level Maximum
Max	Maximum
MIC	Myanmar Investment Commission
Min	Minimum
MOAI	Ministry of Agriculture and Irrigation
MOECAF	Ministry of Environmental Conservation and Forestry
MONREC	Ministry of Natural Resources and Environmental Conservation
MSDS	Material Safety Data Sheets
NEQEG	National Environmental Quality (Emission) Guidelines
N.NO <sub>3</sub>	Nitrate
NH <sub>3</sub>	Ammonia
NTU	Nephelometric Turbidity Units
pH	Potential of Hydrogen
PM <sub>10</sub>	Particulate Matter less than 10 micron
PM <sub>2.5</sub>	Particulate Matter less than 2.5 micron
PPE	Personal Protective Equipment
ppt	Parts Per Trillion
SO <sub>2</sub>	Sulfur Dioxide
SO <sub>x</sub>	Sulfur Oxides
temp	Temperature
US\$	United States Dollar
WHO	World Health Organization

**Letter of Commitment by the Project Proponent**

To.

Director General  
Environmental Conservation Department

Date: 27 September 2022

**Subject: Letter of Commitment for the Initial Environmental Examination (IEE) of Belga Myanmar Hatchery Plant in Myaung Dagar Industrial Zone, Hmawbi, Myanmar**

Bel Ga Myanmar Limited: a wholly owned foreign investment from the Netherlands as the Project Proponent, plans to build a chicken hatching plant with 2.16 ha of total area at plot no.312, 313, and 314 in Myaung Dagar Industrial zone of Hmawbi Township, Yangon Region. The project aims to “Production, Distribution, and sales of Day-old Chicks (DOCs)” and total capital investment for the project is US \$4.7 million.

In conformity to the requirements prescribed in the Clause (62) of Environmental Impact Assessment Procedure (2015), the Project Proponent, Bel Ga Myanmar, hereby always pledges to conduct Initial Environmental Examination (IEE) to prevent, minimize, and mitigate environmental and social adverse impacts, ensures to strictly comply with the relevant clauses of the laws, regulations, treaties, and policies described in the legal session, and undertakes to meet all the obligations stated in environmental and social management plan (ESMP) and monitoring plan to the fullest extent.

Moreover, the Project Proponent ascertains that any significant shift in planned activities will trigger updating and modification of environmental management plan accordingly and that all these detailed developments and updates in EMP will be reported to ECD in timely manner.

Sign -   
Name - Ben Cliteur  
Position - Managing Director  
Organization - Bel Ga Myanmar Limited



**LETTER OF COMMITMENT BY THE CONSULTANT**

To.

Director General  
Environmental Conservation Department  
Ministry of Natural Resources and Environmental Conservation

Date: 20 September 2022

**Re: Letter of Commitment for the Initial Environmental Examination (IEE) of Belga Myanmar Hatchery Plant Project in Myaung Dagar Industrial Zone, Hmawbi, Myanmar**

Dear Sir,

Social and Environmental Associates – Myanmar (SEAM) would like to confirm that the whole conduct of the initial environmental examination for Belga Myanmar Hatchery Plant Project strictly complies with the Article (35) of Environmental Impact Assessment Procedure (2015) and all other applicable guidelines including but not limited to Environmental Impact Assessment Guidelines and National Environmental Quality (Emission) Guidelines.

In the preparation of the IEE, the consultant team upholds the highest standard of accuracy, completeness, and relevancy with the best of its capacity so that the IEE reflects the reality of the situation on the ground and the measures in the EMP will effectively maximize prevention, optimize minimization, and improve mitigation for the related project activities.

The consultant team affirms solemnly that specialists with relevant background capacity have contributed for the development of the IEE for the said project and undertakes without hesitation that any new developments will be incorporated into the EMP as soon as they emerge.

Yours faithfully,

-----  
Josiah Bowles

Environmental Consultant

Social & Environmental Associates - Myanmar



## 1. EXECUTIVE SUMMARY

### 1.1 Executive Summary English Version

#### 1.1.1 Introduction

Bel Ga Myanmar Limited proposed to conduct the chicken hatching project in accordance with the Section 13 (b) of the Republic of the Union of Myanmar Foreign Investment law, at plot no.312, 313, and 314 in Myaung Dagar Industrial zone of Hmawbi Township, Yangon Region. The total area of the project is 2.16 ha and the plant building will occupy about 2800 m<sup>2</sup> (0.28ha).

The Myanmar Investment Commission (MIC) issued the permit on the proposal for investing in “Production, Distribution, and sales of Day-Old Chicks (DOCs)” under the name of Bel Ga Myanmar Limited as a wholly owned foreign investment from the Netherlands in May 2017. As per the environmental approval from the Ministry of the Natural Resources and Environmental Conservation (MONREC), the project requires to meet an IEE of Myanmar Environmental Conservation Law.

Bel Ga Myanmar Ltd. has commissioned Social & Environmental Associate – Myanmar (SEAM) to conduct the Initial Environmental Examination (IEE) study report for the project.

#### 1.1.2 Project Background and Overview

Myanmar, an emerging economy with growing demands, offers great potentials for reliable supply of high-quality hatching eggs with modern hatching technology of Petersime Belgium which is one of the world leaders in incubation with proven management skills and 80 years of know-how to produce day-old chicks.

Among many alternative locations in Myanmar, the current site - Myaung Dagar Industrial zone of Hmawbi Township - provides strategic advantages in receiving raw materials, access to electricity, built environment specifically aimed for industrial activities, relatively easy transportation routes to and from upper and lower parts of the country, necessary labor pool with technical capacity, and available land suitable for the purpose. Bel Ga prefers the modern hatchery over the customary hatching applications. Bel Ga Myanmar will apply the most modern hatchery methods in combination with the use of high-quality imported eggs to minimize pathogenic contamination and maximize the protection of day-old chicks.

#### Production Process

In the production process, high quality and disease-free hatching eggs, which are certified by the National Veterinary Department of the Netherlands, will be imported. Upon arrival, the eggs will be placed in plastic setter trays and stored to provide the rest period for the eggs. Then, these high-quality hatching eggs will be disinfected in the fumigation room before sending to setter room. Fumigated eggs spend 18 days of incubation in the setter room before going through the candling process. Inspecting eggs in the backdrop of strong and bright light, called candling, provides the ability to remove unfertile eggs. Fertile eggs



will be then placed in plastic hatch boxes on the trolley and moved to hatching machine section, where day-old chicks (DOC) will hatch in three days. In the chick processing room, DOC will be separated from the eggshells, checked for deformities, and given vaccination before transferring to carton boxes for delivery to customers. The production capacity will be maximum of 150,000 DOCs per week in the earlier period but can be upgraded to 382,000 DOCs per week in the later period if necessary. The number of Hatching Eggs per day is currently around about 33,500 HE. **The production process flow diagram is described in Figure 3.**

The operation process will perform with great care on the reduction of biological waste and wastewater, and noise protection system. The whole production process is mainly depending on the electricity supply, water supply and computerized main control system for 24 hours. There will be about 35 operation workers, 1 hatchery manager and 1 operation manager for the whole production system.

### **1.1.3 Identification of the Project Proponent**

Bel Ga Myanmar Ltd. has newly established in Myanmar as a fully foreign owned company from the Netherlands. The Myanmar Investment Commission (MIC) issued the permit on the proposal for investing in “Production, Distribution, and sales of Day-Old Chicks (DOCs)” under the name of Bel Ga Myanmar Limited in May 2017. The total capital investment is US\$ 4.7 million and will valid for 50 years.

### **1.1.4 Identification of the IEE Experts**

Social & Environmental Associate – Myanmar (SEAM) is a newly established national consulting firm but its strong team possesses extensive and distinguished experiences in the traits. In addition, SEAM offers utmost emphasis and attentive priority for social and environmental assessments and conservation measures to negate potential social and environmental impacts caused by the project’s activities.

### **1.1.5 National Legal Framework and Relevant Policies**

The objectives of the national legal framework and the relevant policies are to ascertain avoidance of environmental and social adverse impacts as much as possible, to make proactive mitigation measures as early as applicable, and to maximize positive effects of the project throughout its life. It highlights the project with regards to environment, working conditions, and welfare of workers.

This Initial Environmental Examination (IEE) for Bel Ga’s project has been conducted strictly in line with the existing EIA rules, regulations, and procedure of Myanmar.

According to the EIA Procedure, developed under Section 32 of the Environmental Conservation Law, specification described in Annex 1 Agriculture, Livestock, and Forestry Development, for poultry manufacturing, the proposed day-old chicks hatching plant with the highest capacity of 382,000 DOCs per week accounts for 2.5 tons per day production as average weight of a chick is around 40 grams as per various researchers for hatchery.



Therefore, the production quantity is much less than IEE requirement of 50 tons per day specification, but Bel Ga has determined to satisfy IEE.

The Project will be undertaken in line with a number of national laws and standards.

**Key local laws relating to IEE include:**

Environmental Conservation Law (2012);  
Environmental Conservation Rules (2014);  
National Environmental Quality (NEQ) (Emission) Guidelines (2015);  
Environmental Impact Assessment Procedure (2015);  
Conservation of Water Resources and Rivers Law (2006); and  
National Environmental Policy (1994) Key local laws to relating to social include:  
Law on Health and Safety in the Workplace (2014);  
Public Health Law (1972)  
Minimum Wage Law (2015);  
Factories Act 1951.  
The prevention and control of communicable disease law (1995)  
The workmen compensation act (1951)  
Payment of wages law (2016)  
Social security law (2012)

Bel Ga has not only met the requirements from Myanmar National EIA requirements but also carried out in line with the requirements from IFC and the World Bank. Bel Ga's environmental policy commits to meet IFC's policy statement PS 1 to 5 and World Bank's policy operation procedure OP 4 series. Besides, Bel Ga has conducted environmental and social assessments including prior informed consultations were conducted ahead of the construction process. The environmental policies of Bel Ga rigorously follow IFC's PS 5 "Land Acquisition and Involuntary Resettlement" and the World Bank's OP 4.12 "Involuntary Resettlement". Bel Ga has made sure that land acquisition was made in proper transition for its project and that no involuntary resettlement was involved. Moreover, in accord with the IFC's EHS 2.0 occupational health and safety policy and EHS 3.0 community health and safety, Bel Ga takes seriously for health and safety of its workers and community by all possible means. Bel Ga always makes sure that all necessary precautionary measures are implemented to prevent adverse impacts on both workers and nearby communities. Bel Ga plans to employ resource conservation, structural safety of the project's infrastructure, fire prevention and safety, and emergency preparedness and response programs in the plant.

**1.1.6 Description of the Surrounding Environmental and Social Conditions**

The existing Environmental baseline information for soil, water, air quality, noise and vibration level were collected at the proposed project site for onsite measurement in 2017. The ecological conditions were also assessed by the available information. Surface water, wastewater and soil samples were collected properly and sent to respective laboratories. The lab results can be seen in Annex (2 and 3).

The existing socioeconomic conditions, physical and biological environmental conditions were collected as a part of base line data gathering. The infrastructure and



demographic condition of Hmawbi Township were gathered officially from Hmawbi Township Government Administration Department (GAD). The weather conditions of the proposed project located area are obtained from the approximate weather station of weather webpage. In the IEE study, the potential environmental impacts caused by various activities of the project were identified and judged by site surveying with checklists, meeting with client teams, including plant manager and quality control supervisor, representatives from Bel Ga Myanmar Limited, and assessing the environmental and social baseline information for operation under study, and decommissioning phase along with its mitigation measure.

### **1.1.7 Assessment of Environmental and Social Impacts and Mitigation Measures**

The rationale and methodology to carry out the IEE is based on the Myanmar ECD's Procedures. As a component of the IEE study, environmental and social impacts of the project are assessed and projected.

The study includes the investigation of the existing environmental and social conditions, examining the project's production processes and pollution generating potentials, and thorough the investigation of the project's environmental pollution control systems. It also includes social management plans such as working environment, health and safety measures. In brief, every stage of the project life cycle, namely, construction phase, operation phase, and de-commissioning phase, has been envisaged and measured to formulate effective environmental and social management plan (ESMP).

The project proponent provides all necessary information including but not limited to project background details, project planning schedule, project development activities and operation processes, its environmental control systems, waste management program together with relevant environmental and social safeguards policies. These data together with background data from the field surveys lead the environmental team to conduct project environmental and social impact assessment. Comprehensions of these impacts enable the team to work together with the project proponent to develop meaningful ESMP.

Secondary information necessary to use in the impact assessments has been obtained from various reliable sources. Desktop studies provide the general description regarding the proposed project area and the following activities have been carried out to obtain the required information in formulating the process for the environmental and social impact assessment.

- Air quality monitoring survey
- Noise quality monitoring survey
- Vibration monitoring survey
- Soil quality survey
- Water quality monitoring
- Ecological baseline information
- Social, economic and demographic survey

#### **Mitigation measure for Construction Phase**

To measure potential environmental and social impacts during construction phase, Bel Ga carefully tendered and selected the construction firm with the track record of



environmentally conscientious approaches for the construction of the plant. The tender agreements were thoroughly laid out the necessary measures to prevent environmental and social issues proactively. Bel Ga also promotes hiring of workers from the local communities as many as possible. Bel Ga requires that the contractors keep the crews in their worker camps with tight supervision of in and out activities. In addition, the contractors have to listen and address the communities' complaints with regards to their presence. Detail extents of these measures are tabulated in the environmental and social management plan.

### **Mitigation measure for Operation Phase**

In the operation phase of the project, Bel Ga pledges not to contribute to any environmental degradation. It adopts and implements mechanisms to efficiently deal with raised issues. It will make every effort to resolve these issues early. In addition, Bel Ga pays attention to the welfare of its employees and will listen to their issues. It will encourage employees to speak up and speak out without fear of reprisal. Detail extent of these implementation mechanisms are also tabulated in the environmental and social management plan.

#### **1.1.8 Public consultation**

Bel Ga pledges to comply with environmental and social obligations necessitated in accordance with the Myanmar environmental conservation laws. Having developed its core environmental and social principles, values, regulations, and procedures, Bel Ga is committed to avoid adverse environmental and social impacts from its operations. Bel Ga would proactively seek mitigation measures to negate its footprints in early stage of the project.

### **Results of the Public Participation and Consultation Process**

As part of Initial Environmental Examination (IEE), a few individual public consultations were carried out in compliance with the Myanmar National Environmental Impact Assessment Procedures (2015). The discussion was led by a representative from the plant and a group of consultants from SEAM. The role of the consulting firm, Social & Environmental Associate – Myanmar (SEAM), is to capture the fundamental aims of the public consultation in strict compliance with the Procedure.

SEAM identified that the key stakeholders involved in this process are villagers from nearby Kan Kalay, Kone Kalay, and Asu Lay Villages, representative(s) from relevant local administrative departments, shop owners and squatters from the surrounding areas, representative(s) from the regional Environmental Conservation Department (ECD Yangon), and representative(s) from the Myaung Dagar Industrial Zone Management Committee.

Random groups were selected for interviews and discussions from the broader number, including villagers, shop owners and squatters from the surrounding areas. In the public consultation discussion, information related to the project was introduced by a consultant from SEAM, and then, the representative from the plant explained briefly the operation of



the plant, production process, job opportunities, working conditions, the plant's social and environmental commitment, and its core values. The villagers were asked to express their voices, views, complaints, concerns, needs and measures that the project has planned for the upcoming project's activities. The plant's representative answered the questions raised by the participants and eased their need and concern. Some important key issues and concerns on the following items raised by the villagers can be viewed as follows:

Employment

Waste management

Pollution control (air, noise, and odor)

Social-economic networks

Safety and health and

Potential social tension against migrants.

In addition, relevant local representatives of general administrative department and Myaung Dagar Industrial Zone management committee were met separately to receive their suggestions and concerns. In general, the results from the public consultation and public participation indicate that the proposed project has received favorable support from local people and other stakeholders.

The issues and concerns captured during the public consultation activities have been incorporated into the development of IEE process. The information has been used to inform the impact identification and assessment process as well as the identification of management measures and monitoring activities.

The summary of the meeting is described in detail in the report and the attendance of the audience and photos of the meeting events are presented in Annex 5.

## **CSR program**

Bel Ga makes the commitment to share its profits with the communities by its CSR programs for the development of co-existing communities' developments. Bel Ga pledges to contribute (2%) percentage of the profit that will be set aside for CSR and the fund will be provided to the communities for their needs such as diasater relieve for flood, and fire accident, transportation improvement, and education development for the locals.

### **1.1.9 Environmental and Social Management Plan (ESMP)**

Environmental and Social Management Plan (ESMP) addresses all potential adverse effects of project related activities and its associated risks, and measures adopted to avoid, prevent or mitigate to the best possible extent. It includes monitoring frequency and budget allocation. The associated risk level is classified into four levels namely: -Low-Medium-High-Severe. The classification mainly depends on the severity of impacts.

ESMP shows that there are 15 low impacts and 17 medium impacts during construction phase while 10 low impacts and 6 medium impacts in the operation phase. Detail measures adopted to mitigate the risk and impacts, to monitor the frequency and to allocate budget can be found in section eight of the main report.



The hatchery plant project has been running his operation since 2018. Therefore, the project proponent will implement the Environmental and social management plan and monitoring plan for the Operation Phase and Decommission/Disclosure phase of the project. The estimate budget for the implementation of the ESMP including monitoring plan is about 7,200 \$ during the operation phase and 500\$ during decommission/ disclosure phase. However, when the allocated budget for ESMP is not enough, the plant will be trying to use more budget as per necessary for the implementation of the mitigation measures leading to the sustainable environment.

The following environmental conservation committee of the hatchery plant project will take the responsibilities to be implement the ESMP including the monitoring plan together with environmental consultant team which will be hired by later. In the implementation of the mitigation measures and monitoring plan of ESMP, the project will follow up the monitoring frequency for every potential adverse effect in accord with ESMP. Then the project owner committed to submit the monitoring report in every six months to ECD as per monitoring frequency of ESMP. Currently, the Belga Myanmar's Hatcher Plant is planning to do the monitoring at the plant in November then the monitoring report will be submitted to ECD in December,2022.

**Committee for Environmental Conservation at the Factory; Hatchery Plant\_Belga Myanmar**

No.	Name	Position in the Committee	Address
1	Ben Cliteur Managing Director	Leader	Yangon Ph:09761532548 Email: ben.cliteur@belgaasia.com
2	Dr. Hay Man Oo Operation Manager	Health and Safety Manager	Myaung Dakar Industrial Zone Ph:09797906848 Email: jessie.hay@belgaasia.com
3	Daw Poe Ei Soe Senior Accountant	Member	Myaung Dakar Ph:09967959814 Email: jenny.poe@belgaasia.com
4	Mr. Randy Hatchery Manager	Member	Hatchery Plant Industrial Zone Ph:09958446081 Email: randy.villanueva@belgaasia.com
5	Dr. Aung Kyaw Htet Assistant Hatchery Manager	Member	Hatchery Plant Ph:09971323399 Email: felix.aung@belgaasia.com
6	Dr. Zaw Zaw Htat Senior QC Officer	Member	Myaung Dakar Industrial Zone Ph:09762478236 Email: alex.zaw@belgaasia.com
7.	-	Environmental Consultant Organization	The environmental consultant team will be assigned by later.



## **Monitoring and Reporting Procedure**

The plant will carry out regular monitoring while an independent contractor will jointly do the environmental monitoring. A reliable environmental firm will be contracted to carry out environmental quality monitoring for ambient air quality, noise and vibration, and water quality. Results of findings will be regularly reported to ECD bi-annually and corrective actions will be developed as required based on the conclusion of the findings.

## **Emergency Management Plan**

Bel Ga's emergency management plan covers all possible emergencies that can be encountered at the plant. This plan serves as the primary tool to deal with emergencies when one occurs.

## **Accidental Chemicals or Hazardous Materials Spill**

Bel Ga has rigorous principles for storage of chemicals and hazardous materials, and regular and semi-annual renewal training for handling of chemicals and hazardous materials. It provides the strict rules that chemicals and hazardous materials must be handled only by trained and experienced personnel. Sufficient documentation procedures for chemicals and hazardous materials will proactively prevent or at least minimize the spill incident. Spill response procedures are visibly posted on walls.

As soon as a spill incident is reported, the area will be isolated and non-essential personnel will be restricted from access to the area. If required, all employees except those who will respond to contain spills will be asked to move to the assembly point until the clear signal is given to get back to the work. If the accident causes injuries and needs medical attention, this incident will also trigger medical emergency. Injuries and medical attention needs will be handled strictly in line with the plant's medical emergency guidelines.

Showers and eye wash stations are set up to rinse/clean spilled materials from the human body. Spill control materials, material safety data sheets for all relevant chemicals, and emergency contact numbers will be made readily available near the storage for chemicals and hazardous materials and the places, where these materials are utilized.

Incident report and follow-up assessment are required for every incident big and small. Scientific laboratory grade face masks, sufficient ammonium, and high-power blower will always be kept ready to contain accidental formalin spills.

## **Fire Outbreak**

Bel Ga has incorporated fire exits, fire alarms, fire extinguishers, and fire management plan in its operation. Flammables are required to store properly. Fire extinguishers maintenance, annual fire response training, regular inspection from the fire department, and fire drills will be carried out. Fire related contact numbers will be placed on walls. Smoke detectors are put in place and are checked regularly for their performance. Smokers will have a designated smoking area.



In case of fire, fire escape routes will be lit, all employees have to exit the buildings and are required to report at an assembly point. Headcounts will be performed and identify missing person at the assembly point.

The security team will contact fire department as soon as the alarm goes off. First responder team will check buildings to assess the degree of the fire. Containment will be executed if feasible. As soon as the fire department arrives the site, the first responder team will brief the fire department. No one will be allowed back until safe signal is given by the fire department. A thorough fire investigation will follow after an incident for a lesson and for improvement of fire safety. Fire safety evaluation will be carried out yearly and improvement will be made in the plant to prevent fire outbreak.

### **Medical Situation**

When an employee falls sick or gets injured, regardless of appearance - serious or not - the emergency medical situation will be triggered. The patient will be attended by a designated trained medical person and escorted immediately to the nearest health care provider. The plant will cover the cost of medical emergency and treatment as required by recommendation of a physician. If it is a work-related injury, the plant will cover all medical cost and lost days.

If sickness is detected in more than one-person, the necessary emergency assessment will be carried out. Only after thorough assessment and inspections, will the employees be allowed to get back to the work or plant.

#### **1.1.10 Conclusion and Recommendation**

The results of the IEE study show that the proposed project will not result to significant adverse **social** and environmental impacts and that the impacts are primarily confined within the site. **Social** and Environmental mitigation measures have been outlined in the ESMP to address any adverse impacts during the various phases of project implementation. The ESMP also presents the institutional responsibilities for the implementation of the mitigation measures.

As being the facts of existing in the industrial zone, it would be less impacts to society, but for the human in the factory, the protective measurements, equipment and procedures have been set up to address any adverse impacts if appeared, for least affects to the working environment. According to the baseline study and monitoring results of IEE study for the hatchery plant, the proposed project could be operating without taking any significant adverse impacts to society and environment in and around the project site.

In compliance with the requirements of EIA procedures, it is required to prepare and submit monitoring report bi-annually. During the operation, the main impacts identified are hazards to occupational and community health, safety and generation of domestic and hazardous waste materials. These impacts are manageable with proper implementation of the health and safety guidelines. Moreover, the monitoring will be frequently done especially



at the chemicals' storage room to less of spill over affect, and at the hazardous waste disposed area to dispose regularly once a week with the trained employees, leading not to have the adverse social and environmental impacts. The mitigation measures in the ESMP will be surely implemented and the monitoring frequency for all social and environmental issues will be continually done in accord with the ESMP. The resulted monitoring report will be submitted to the concerned department: ECD biannually by following up the ESMP.

In the ESMP, it is recommended that management team will continually review, update and upgrade its Occupational Health and Safety Plan including the Emergency Response Plan to prevent occupational risks. Refresher trainings are also recommended for employees in the aspect of operational safety and emergency response preparedness.

In conclusion, it is suggested that the effective implementation of environmental, health and safety, and social responsibilities should be done throughout the whole life span of Bel Hatchery Plant project. Therefore, it is strongly recommended that the project proponent should strictly follow the guidelines provided by the ECD. Moreover, it is essential to prove with actual implementation and work of the project when the IEE report is approved by the concerned authorities. The management of Bel Ga Myanmar Ltd should efficiently undertake the task of "Appointing well experienced and knowledgeable HSE personnel(s)" as one of their main important tasks. The most important recommendation is that the project proponent is better to follow the environmental policies, laws, rules, and procedures, and other relevant policies issued by the Republic of the Union of Myanmar.



## 1.2 Executive Summary Myanmar Version

### ၁.၂.၁ နိဒါန်း

ဘလ်ဂျီ-မြန်မာကုမ္ပဏီလီမိတက်သည် ကြက်ဥအကောင်ဖောက်စက်ရုံလုပ်ငန်းကို ရန်ကုန် တိုင်းဒေသကြီး၊ မှော်ဘီမြို့နယ်၊ မြောင်းတကာစက်မှုဇုန် မြေကွက်အမှတ် (၃၁၂)၊ (၃၁၃) နှင့် (၃၁၄) တို့တွင် မြန်မာနိုင်ငံ၏ နိုင်ငံခြားရင်းနှီးမြုပ်နှံမှု ဥပဒေ- အခန်း ( ၁၃-ခ ) ပါ လမ်းညွှန်ချက်များနှင့်အညီ အကောင်အထည်ဖော်ဆောင်ရွက်ရန် အဆိုပြုတင်ပြခဲ့ပါသည်။ လုပ်ငန်းဆောင်ရွက်မည့် အဆိုပြု စီမံကိန်း၏ဧရိယာမှာ စုစုပေါင်း (၂.၁၆ ) ဟတ်တာ ကျယ်ဝန်းပြီး စက်ရုံအဆောက်အဦများသည် (၂၈၀၀) စတုရန်း မီတာခန့် နေရာယူမည်ဖြစ်သည်။

နယ်သာလန်နိုင်ငံအခြေစိုက် ဘလ်ဂျီ-မြန်မာ ကုမ္ပဏီလီမိတက်သည် အပြည့်အဝနိုင်ငံခြားသားရင်းနှီးမြုပ်နှံသည့် ကုမ္ပဏီလုပ်ငန်းတစ်ခုဖြစ်ပြီး တစ်ရက်သားအရွယ် ကြက်ပေါက်ကလေးများကိုစက်ဖြင့်ဖောက်ပြီး ဒေသတွင်း ကြက်မွေးမြူရေးလုပ်ငန်းများသို့ ဖြန့်ဖြူးရောင်းချခြင်းလုပ်ငန်းဆိုင်ရာ စီမံကိန်းအဆိုပြုလွှာကို မြန်မာနိုင်ငံ ရင်းနှီးမြုပ်နှံမှုကော်မရှင်သို့ တင်ပြလျှောက်ထားခဲ့ရာ ၂၀၁၇ ခုနှစ်၊ မေလတွင် အကောင်အထည်ဖော်ဆောင်ရွက်ရန် ခွင့်ပြုမိန့်ရရှိခဲ့ပါသည်။ အဆိုပြုစီမံကိန်းသည် မြန်မာနိုင်ငံသယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနမှ ချမှတ်ပြဌာန်းထားသော သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၏ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်းများအရ လုပ်ငန်း၏ထုတ်လုပ်နိုင်စွမ်းပေါ်မူတည်၍ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းလုပ်ငန်း (IEE) ကို လိုက်နာဆောင်ရွက်ရမည်ဖြစ်သည်။

သို့ဖြစ်ပါ၍ ဘလ်ဂျီ-မြန်မာ ကုမ္ပဏီလီမိတက်သည် စီမံကိန်းလုပ်ငန်းဆောင်ရွက်ရာတွင် လိုက်နာဆောင်ရွက်ရန် လိုအပ်သည့် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းလုပ်ငန်း(IEE)ဆိုင်ရာလေ့လာမှုအစီရင်ခံစာကို ပြုစုရေးသားရန် လွတ်လပ်သော တတိယအဖွဲ့အစည်းဖြစ်သည့် Social and Environmental Associate- Myanmar (SEAM)ကို လုပ်ငန်းအပ်နှံခဲ့ပါသည်။

### ၁.၂.၂ စီမံကိန်းသမိုင်းကြောင်းနှင့် လုပ်ငန်းစဉ်အကျဉ်း

မြန်မာ့စီးပွားရေးကဏ္ဍ ကြီးမားကျယ်ပြန့်လာသည်နှင့်အညီ တိုးတက်လာနေသော ဝယ်လိုအားလိုအပ်ချက်များကို ဖြည့်ဆည်းပေးနိုင်ရေးအတွက် ပြည်ပမှတင်သွင်းလာသည့် အရည်အသွေးပြည့်ကြက်ဥများကို ဘယ်လဂျီယံနိုင်ငံ၏ ကြက်ဥဖောက်စက်လုပ်ငန်းတွင် နှစ်ပေါင်း (၈၀)ကျော် အတွေ့အကြုံရှိသော ကမ္ဘာ့ထိပ်တန်း ဦးဆောင်သူစာရင်းဝင် Petersime Belgium ၏ ခေတ်မီနည်းပညာနှင့် စက်ကိရိယာများ အသုံးပြု၍ ကြက်ပေါက်ကလေးများဖောက်လုပ်ပြီး ယုံကြည်စိတ်ချစွာဖြင့် ဒေသတွင်းဈေးကွက်တွင် ဖြန့်ဖြူးရောင်းချနိုင်ရန် မြန်မာနိုင်ငံသည် ကြီးမားသောဈေးကွက်အလားအလာရှိပါသည်။

မြန်မာနိုင်ငံရှိ အခြားသော စီးပွားရေးအလားအလာရှိသည့် ဒေသများစွာအနက်မှ အဆိုပြုလုပ်ငန်းအတွက် မှော်ဘီမြို့နယ်၊ မြောင်းတကာစက်မှုဇုန်၏ လက်ရှိစီမံကိန်းတည်နေရာကို ရွေးချယ်ရခြင်းအကြောင်းမှာ လုပ်ငန်း၏အခြေခံအကျဆုံး လိုအပ်ချက်ဖြစ်သော ကုန်ကြမ်းရရှိနိုင်မှု လျှပ်စစ်မီး



ရရှိနိုင်မှု၊ စက်မှုလုပ်ငန်းများအတွက် အထူးသင့်လျော်သည့် ပတ်ဝန်းကျင်ရှိခြင်း၊ မြန်မာနိုင်ငံ အထက်ပိုင်းနှင့် အောက်ပိုင်းများသို့ ကုန်ပစ္စည်းတင်ပို့ရောင်းချရန် ဆက်သွယ်သွားလာရလွယ်ကူသော တည်နေရာဖြစ်ခြင်း၊ နည်းပညာစွမ်းဆောင်ရည်ရှိသည့် လုပ်သားများရရှိနိုင်ခြင်းနှင့်လုပ်ငန်း လည်ပတ်အကောင်အထည်ဖော်နိုင်ရေးအတွက် သင့်လျော်သော မြေနေရာရရှိနိုင်ခြင်းစသည့် လုပ်ငန်းအကောင်အထည်ဖော်ရေးအတွက် မဟာဗျူဟာကျသည့်နေရာတစ်ခုအဖြစ် ရွေးချယ်ခဲ့ပါသည်။ ဘယ်လ်ဂျီ-မြန်မာသည် ကြက်ဥအကောင်ဖောက်ခြင်းလုပ်ငန်းကို သမားရိုးကျနည်းလမ်းမဟုတ်သည့် ခေတ်မီနည်းပညာသုံးစက်ကိရိယာများဖြင့် ပြည်ပမှတင်သွင်းလာသည့် အရည်အသွေးပြည့် မျိုးသန့်ကြက်ဥများကို အကောင်ဖောက်ခြင်းဖြစ်ရာ အလေအလွင့်နည်းပါးပြီး အရည်အသွေးကောင်းမွန်ကာ ရောဂါကင်းလွတ်သည့် ကြက်အကောင်ငယ်လေးများရရှိခြင်းဖြင့် အကျိုးအမြတ်များရရှိနိုင်မည်ဖြစ်ပါသည်။

**ထုတ်လုပ်မှုလုပ်ငန်းစဉ်**

ထုတ်လုပ်မှုလုပ်ငန်းစဉ်တွင် နယ်သာလန်နိုင်ငံ တိရိစ္ဆာန်မွေးမြူရေးနှင့် ဆေးကုသရေးဌာန၏ အသိအမှတ်ပြုခြင်းခံရသည့် အရည်အသွေးမြင့်မားပြီး ရောဂါကင်းလွတ်သည့် ကြက်ဥများကို ပြည်ပမှ တင်သွင်းလာမည်ဖြစ်သည်။ စက်ရုံတွင် အဆိုပါကြက်ဥများအား ကြက်ဥစီသည့် ပလတ်စတစ်ဗန်းများဖြင့် ထည့်၍ ခေတ္တသိုလှောင်ထားပြီးနောက် အကောင်ဖောက်မည့်အခန်းထဲသို့ မပို့မီ ပိုးမွှားများသန့်စင်ခန်းတွင် ဆွေးငွေ့မှုိုင်းတိုက်၍ ပိုးမွှားရောဂါများသန့်စင်အောင် ပြုလုပ်ရမည်ဖြစ်သည်။ ပိုးမွှားသန့်စင်ပြီး ကြက်ဥများကို ဥဖောက်ခန်းထဲတွင် စီ၍ (၁၈)ရက်ကြာမျှ တည်ငြိမ်စွာထားရှိရမည်။ ထို့နောက် အဆိုပါကြက်ဥများကို နောက်ခံအရောင်ကင်းအောင် ဖန်တီးထားသောအခန်းထဲတွင် အလွန်စူးရှတောက်ပသည့် အလင်းရောင်ဖြင့် ဖြတ်သန်းစေကာ အောင်မြင်သောဥနှင့် မအောင်မြင်နိုင်သောဥတို့ကို စောစီးစွာစစ်ဆေးခွဲထုတ်ရပါမည်။ ထို့နောက် ဆက်လက်၍ အောင်မြင်သောဥများကို အကောင်ဖောက်ရန် ပလတ်စတစ်သေတ္တာများတွင် ထည့်၍ အကောင်ဖောက်စက်ထဲသို့ ပို့ပေးရပါသည်။ ထို့နောက် (၃) ရက်ခန့်အကြာတွင် ကျန်းမာပြီးသန်စွမ်းသော ရက်သားအရွယ် ကြက်ပေါက်ကလေးများကို ရရှိမည်ဖြစ်သည်။ဥခွံမှ ထွက်လာသောရက်သားအရွယ် ကြက်ပေါက်ကလေးများကို ဥခွံများနှင့်ခွဲထုတ်ခြင်း၊ ပုံသဏ္ဍန်မမှန်သည့် ကြက်ပေါက်ကလေးများကို ရွေးချယ်စိစစ်ပယ်ထုတ်ခြင်း၊ ရွေးချယ်ပြီး အရည်အသွေးပြည့်မီသည့် ရက်သားကြက်ပေါက်လေးများကို ဖြန့်ဖြူးတင်ပို့မည့် စက္ကူကတ္တူပုံးများအတွင်းသို့ထည့်မီ လိုအပ်လျှင် ရောဂါကာကွယ်ဆေးများပေးခြင်းစသည်တို့ကို ကြက်ပေါက်ဝယ်ယူသူများထံသို့ မပေးပို့မီ အဆင့်ဆင့် ဆောင်ရွက်ရပါသည်။ လုပ်ငန်းစတင်လည်ပတ်သည့် ပထမပိုင်းအစမ်းကာလတွင် အမြင့်ဆုံးအားဖြင့် တစ်ပတ်လျှင် ကြက်သားပေါက်အကောင်ရေ (၁၅၀,၀၀၀) ခန့် ထုတ်လုပ်နိုင်မည်ဖြစ်ပြီး လိုအပ်ချက်ပေါ်မူတည်၍ တစ်ပတ်လျှင် ရက်သားကြက်ပေါက်အကောင်ရေ (၃၈၅,၀၀၀) ခန့်အထိ တိုးတက်ထုတ် လုပ်နိုင်ရန်ဆက်လက်ဆောင်ရွက်သွားမည်ဖြစ်သည်။ တစ်နေ့ကြက်သားပေါက်အကောင်ရေဖောက်မည့် Hatching Eggs ပမာဏမှာ (၃၃,၅၀၀) ခန့်ရှိပါသည်။ ကြက်သားပေါက် ထုတ်လုပ်မှုလုပ်ငန်းစဉ် အဆင့်ဆင့်ကို ( ပုံ-၃ ) တွင် ဖော်ပြထားပါသည်။



ထုတ်လုပ်မှုလုပ်ငန်းစဉ်များမှ ဇီဝအကြွင်းအကျန်များနှင့် စွန့်ပစ်ရေဆိုးများ ထုတ်လွှတ်မှု လျော့နည်းရေးနှင့် အသံဆူညံမှုမရှိစေရန် ကာကွယ်ရေးစနစ်များ အသုံးပြုရေးတို့ကို အထူးအလေး ထားဆောင်ရွက်သွားမည်ဖြစ်သည်။ ထုတ်လုပ်မှုလုပ်ငန်းစဉ် တစ်ခုလုံးသည် ( ၂၄ ) နာရီလုံးပတ်လုံး လျှပ်စစ်မီးနှင့် ရေရရှိနိုင်မှုအပေါ်မှီတည်နေပြီး အဓိကအားဖြင့် ကွန်ပျူတာထိန်းချုပ်မှုစနစ်ဖြင့် ဆောင် ရွက်မည်ဖြစ်သည်။ လုပ်ငန်းလည်ပတ်ရေးအတွက် လုပ်သား ( ၃၅ ) ဦးနှင့် စက်ရုံမန်နေဂျာ ( ၁ ) ဦးနှင့် လုပ်ငန်းမန်နေဂျာ ( ၁ ) ဦးတို့ ခန့်ထားမည်ဖြစ်သည်။

**၁.၂.၃ စီမံကိန်းလုပ်ငန်းရှင်ဆိုင်ရာအချက်အလက်များ**

ဘယ်လ်ဂျီ-မြန်မာ ကုမ္ပဏီလီမိတက်သည် နယ်သာလန်နိုင်ငံအခြေစိုက်လုပ်ငန်း၏ လုပ်ငန်းခွဲ တစ်ခုဖြစ်ပြီး အပြည့်အဝနိုင်ငံခြားသားရင်းနှီးမြုပ်နှံသောကုမ္ပဏီအနေဖြင့် မြန်မာနိုင်ငံတွင် စတင် အခြေချသောလုပ်ငန်းတစ်ခုဖြစ်သည်။ မြန်မာနိုင်ငံရင်းနှီးမြုပ်နှံမှုကော်မရှင်သည် ရက်သားကြက် ပေါက်ကလေးများ ထုတ်လုပ်ခြင်းနှင့် ဖြန့်ဖြူးရေးလုပ်ငန်းကို ဘယ်လ်ဂျီ-မြန်မာလီမိတက် အမည်ဖြင့် ထုတ်လုပ်ရောင်းချနိုင်ရန် အဆိုပြုတင်ပြခြင်းအား ၂၀၁၇ ခုနှစ်၊ မေလတွင် ခွင့်ပြုမိန့်ထုတ်ပေးခဲ့ပါ သည်။ အဆိုပြုလုပ်ငန်းကို စုစုပေါင်းရင်းနှီးမြုပ်နှံမှုအနေဖြင့် အမေရိကန်ဒေါ်လာသန်းပေါင်း (၄.၇) ဖြင့် နှစ်ပေါင်း (၅၀) ကြာမျှ ဆောင်ရွက်သွားမည်ဖြစ်သည်။

**၁.၂.၄ သဘာဝပတ်ဝန်းကျင် ကနဦးဆန်းစစ်လေ့လာမှု ကျွမ်းကျင်ပညာရှင်အဖွဲ့**

Social & Environmental Associates-Myanmar အကြံပေးအဖွဲ့သည် ဒေသခံ ပညာရှင် များနှင့်ဖွဲ့စည်းထားသော အကြံပေးအဖွဲ့အသစ်ဖြစ်သော်လည်း ကျယ်ပြန့်ပြီး မတူကွဲပြားခြားနား သော အတွေ့အကြုံများဖြင့် ထူးခြားသောအရည်အသွေးများပိုင်ဆိုင်ထားသော ပညာရှင်များဖြင့် ဖွဲ့ စည်းထားသည့် တောင့်တင်းခိုင်မာသောအဖွဲ့ဖြစ်သည်။ SEAM အကြံပေးအဖွဲ့သည် စီမံကိန်းလုပ် ငန်းများကြောင့် လူမှုစီးပွားနှင့်သဘာဝပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ လျော့နည်းပပျောက် စေရေးတို့အတွက် လူမှုရေးနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာ အကဲဖြတ်လေ့လာမှုများနှင့် ပတ်ဝန်းကျင်ထိန်း သိမ်းရေးနည်းလမ်းများကို အထူးအလေးထား၍ ဦးစားပေးဆောင်ရွက်သည့်အဖွဲ့ဖြစ်သည်။

**၁.၂.၅ အမျိုးသားအဆင့်ဥပဒေမူဘောင်နှင့် ဆက်စပ်မူဝါဒများ**

သက်ရောက်မှုများထိန်းချုပ်ခြင်းဆိုင်ရာအမျိုးသားအဆင့် ဥပဒေမူဘောင်နှင့် ဆက်စပ်မူဝါဒ များ၏ အဓိကရည်ရွယ်ချက်များမှာ လုပ်ငန်းများ အကောင်အထည်ဖော်ဆောင်ရွက်ခြင်းကြောင့် သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားရေးတို့အပေါ် ဖြစ်ပေါ်လာနိုင်သော ဆိုးရွားသောသက်ရောက်မှု များကို အတတ်နိုင်ဆုံးရှောင်ရှားနိုင်စေရန်၊ ထိခိုက်နိုင်မှုများမှ လျော့ပါးသက်သာစေသည့် နည်းလမ်း များကို စောနိုင်သမျှစောစွာ ကြိုတင်စီစဉ်ဆောင်ရွက်ရန်၊ စီမံကိန်းသက်တမ်းတလျှောက် စီမံကိန်း ကြောင့် ဖြစ်တည်လာသော အကျိုးသက်ရောက်မှုကောင်းများကို တိုးပွားစေရန်နှင့် ရေရှည်တည် တံ့စေရန် ရည်ရွယ်သည်နှင့်အညီ ဆက်စပ်မူဝါဒများသည် စီမံကိန်းဆိုင်ရာ သဘာဝပတ်ဝန်းကျင်၊ လုပ်ငန်းအခြေအနေများနှင့် အလုပ်သမားများ၏အကျိုးစီးပွားတို့ကို ဦးစားပေးဆောင်ရွက်စေရန် ရည်



ရွယ်ပါသည်။

ဘယ်လ်ဂျီ-မြန်မာသည် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှုလုပ်ငန်းကို မြန်မာနိုင်ငံ၏သယံဇာတနှင့်ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ တည်ဆဲဥပဒေများ၊ စည်းမျဉ်းစည်းကမ်းမူဘောင်များနှင့် နည်းဥပဒေများအတိုင်းထိရောက်စွာ လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်သည်။

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ ပုဒ်မ ၃၂ ကိုအခြေခံ၍ ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်းပါ လိုက်နာဆောင်ရွက်ရမည့် လုပ်ငန်းသဘာဝဆိုင်ရာ သတ်မှတ်ချက်များအရ အဆိုပြုထားသည့် ကြက်ဥဖောက်စက်လုပ်ငန်းသည် စိုက်ပျိုးရေး၊ မွေးမြူရေးနှင့် သစ်တောဆိုင်ရာဖွံ့ဖြိုးရေးစီမံကိန်းလုပ်ငန်းများ အုပ်စုကြီးတွင်ပါဝင်ပြီး ကြက်၊ဘဲနှင့် အခြားစီးပွားဖြစ် ငှက်မွေးမြူရေးလုပ်ငန်းကဏ္ဍနှင့် ကြက်၊ ဘဲအသားထုတ်လုပ်ခြင်းလုပ်ငန်းများတွင် အကျုံးဝင်ပါသည်။ ဘယ်လ်ဂျီမြန်မာ၏ အဆိုပြုလုပ်ငန်းသည် တစ်ကောင်လျှင် အလေးချိန် (၄၀) ဂရမ်ခန့်ရှိသည့် ရက်သားကြက်ပေါက်အကောင်ရေအားဖြင့် သီတင်းတပါတ်လျှင် စုစုပေါင်း (၃၈၂၀၀၀) ခန့်၊ အလေးချိန်အားဖြင့် တစ်ရက်လျှင် (၂.၅)တန်ခန့်သာ ထုတ်လုပ်ဖြန့်ဖြူးမည့် လုပ်ငန်းအမျိုးအစားဖြစ်သည်။ သို့ဖြစ်ပါ၍ လုပ်ထုံးလုပ်နည်းလမ်းညွှန်ချက်ပါ ထုတ်လုပ်မှုစွမ်းအင် သတ်မှတ်ချက်များအရ Bel Ga သည် နိုင်ငံတော်၏အောက်ပါဖော်ပြထားသော ဥပဒေစံနှုန်းများအရကို လိုက်နာဆောင်ရွက်မည်ဖြစ်သည်။

အဓိကကျသောပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေများ

- ပတ်ဝန်းကျင်ထိန်းသိမ်းစောင့်ရှောက်ရေးဥပဒေ ( ၂၀၁၂ )
- ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးစည်းမျဉ်းစည်းကမ်း ( ၂၀၁၄ )
- အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) ညွှန်ကြားချက်များ(၂၀၁၅) နှင့်
- ပတ်ဝန်းကျင်ထိခိုက်မှု စမ်းစစ်ရေး လုပ်ထုံးလုပ်နည်း ( ၂၀၁၅ )
- ရေအရင်းမြစ်များနှင့် မြစ်များ ထိန်းသိမ်းရေးဥပဒေ ( ၂၀၀၆ )
- အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ ( ၁၉၉၄ )

အဓိကကျသောလူမှုရေးဆိုင်ရာ ဥပဒေများ

- လုပ်ငန်းခွင်အန္တရာယ်ကင်းရှင်းရေးနှင့်ကျန်းမာရေး ဥပဒေ ( ၂၀၁၄ )
- ပြည်သူ့ကျန်းမာရေးဥပဒေ ( ၁၉၇၂ )
- အနိမ့်ဆုံးလုပ်အားခငွေ ဥပဒေ ( ၂၀၁၅ )
- စက်ရုံများ နည်းဥပဒေ ၁၉၅၁
- ကူးဆက်ရောဂါ ကြိုတင်ကာကွယ်ရေးနှင့် ထိန်းသိမ်းရေး ဥပဒေ ( ၁၉၉၅ )
- အလုပ်သမားလျော်ကြေး နည်းဥပဒေ ( ၁၉၅၁ )
- အခကြေးငွေပေးချေရေးဥပဒေ(၂၀၁၆)
- လုပ်ခလစာပေးမှုဥပဒေ ( ၂၀၁၆ )



➢ လူမှုဖူလုံရေးဥပဒေ ( ၂၀၁၂ )

ဘယ်လ်ဂျီမြန်မာသည် အဆိုပြုလုပ်ငန်းကို အကောင်အထည်ဖော် ဆောင်ရွက်ရာတွင် မြန်မာနိုင်ငံ၏ အမျိုးသားအဆင့်ချမှတ်ပြဋ္ဌာန်းထားသော ပတ်ဝန်းကျင်ထိခိုက်မှု စမ်းစစ်လေ့လာခြင်းဆိုင်ရာဥပဒေ၊ နည်းဥပဒေများအတိုင်းသာမကဘဲ အပြည်ပြည်ဆိုင်ရာ ငွေကြေးရန်ပုံငွေအဖွဲ့ IFC နှင့် WB ကမ္ဘာ့ဘဏ်တို့မှ ချမှတ်ပြဋ္ဌာန်းထားသော နည်းလမ်းဥပဒေများကိုပါ လေးစားလိုက်နာဆောင်ရွက်သွားမည်ဖြစ်သည်။ ဘယ်လ်ဂျီမြန်မာ၏ ပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒသည် အပြည်ပြည်ဆိုင်ရာငွေကြေးရန်ပုံငွေအဖွဲ့ IFC ၏ မူဝါဒကြေငြာချက် PS အမှတ် ၁ မှ ၅ အထိကိုလည်းကောင်း၊ WB ကမ္ဘာ့ဘဏ်၏လုပ်ငန်းဆောင်ရွက်မှု မူဝါဒလက်စွဲစာဆောင် OP အမှတ်စဉ် ၄ နှင့် သက်ဆိုင်သော အခန်းကဏ္ဍများအလိုက် ချမှတ်ပြဋ္ဌာန်းထားသော မူဝါဒများကိုလည်းကောင်း တိကျစွာလိုက်နာဆောင်ရွက်မည်ဟုကတိပြုပါသည်။ ထို့အပြင် ဘယ်လ်ဂျီမြန်မာသည် ၎င်း၏လူမှုစီးပွားနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ရေးမူဝါဒအရ ဆောက်လုပ်ရေးလုပ်ငန်းများ မဆောင်ရွက်မီကပင် ဒေသခံလူထုအား အဆိုပြုလုပ်ငန်းနှင့်ပတ်သတ်သည့် သတင်းအချက်အလက်များကို လုပ်ငန်းတည်နေရာတွင် လုပ်ငန်းပိုစတာများ၊ လုံခြုံရေးဆိုင်ရာ လမ်းညွှန်ချက်များဖြင့် သိသာမြင်သာစွာ ချပြအသိပေးထားသည်။ မြေယာရယူခြင်းနှင့် ပတ်သက်၍လည်း အပြည်ပြည်ဆိုင်ရာ ငွေကြေးရန်ပုံငွေအဖွဲ့ IFC ၏မူဝါဒအမှတ်စဉ် ၅ အရ လည်းကောင်း ကမ္ဘာ့ဘဏ်၏ မူဝါဒ ၄.၁၂ အရလည်းကောင်း တိကျစွာလိုက်နာဆောင်ရွက် ရယူထားပါသည်။ အဆိုပြုလုပ်ငန်းအတွက် လုပ်ငန်းမြေနေရာရယူခြင်းနှင့်ပတ်သက်၍ သင့်တင့်စွာလွှဲပြောင်းရယူထားပြီး မြေရှင်ကို မိမိသဘောဆန္ဒ မပါဘဲ ရွှေ့ပြောင်းနေရာချထားပေးခြင်းရခြင်း ကိစ္စများ မရှိခဲ့ပါ။

အဆိုပါမူဝါဒများအပြင် IFC၏ ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားလုံခြုံရေးဆိုင်ရာမူဝါဒ EHS အမှတ်စဉ် ၂ နှင့် လုပ်ငန်းခွင်လုံခြုံရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးဆိုင်ရာမူဝါဒ EHS အမှတ်စဉ် ၃ တို့အရ ဘယ်လ်ဂျီမြန်မာသည် ၎င်း၏ဝန်ထမ်းများ၊ အလုပ်သမားများအားလုံးနှင့် နီးစပ်ရာကျေးရွာလူထုတို့အပေါ် ဆိုးရွာစွာသက်ရောက်လာနိုင်သောအခြေအနေများအတွက် ကြိုတင်၍ လုပ်ငန်းခွင်ဘေးကင်းလုံခြုံရေးနှင့် ကျန်းမာရေးတို့အတွက်လိုအပ်သောကာကွယ်မှု အစီအစဉ်များကို ဖြစ်နိုင်သမျှ ထည့်သွင်းတပ်ဆင်ဆောင်ရွက်သွားမည်ဖြစ်သည်။ သဘာဝအရင်းအမြစ်များ ထိန်းသိမ်းခြင်း၊ ဆောက်လုပ်ရေးနှင့် စက်ရုံလည်ပတ်စဉ်ကာလတည်ဆောက်ရေးဆိုင်ရာ အဆောက်အဦများ၏ ဘေးကင်းလုံခြုံရေး၊ မီးဘေးအန္တရာယ်ကြိုတင်ကာကွယ်ရေးနှင့် အရေးပေါ်ကိစ္စရပ်များအတွက် တုံ့ပြန်မှုအစီအစဉ်များကိုလည်း ထည့်သွင်းစဉ်းစားတည်ဆောက်သွားမည်ဖြစ်သည်။

**၁.၂.၆ စီမံကိန်းတည်နေရာ၏ ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားရေးအခြေအနေများ**

အဆိုပြုစီမံကိန်းတည်နေရာတိုက်၏ အခြေခံသတင်းအချက်အလက်များဖြစ်သော သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ မြေအခြေအနေ၊ ရေအရည်အသွေး၊ ပကတိလေထုအရည်အသွေးနှင့် အသံဆူညံမှုတုန်ခါမှုအဆင့်တို့ကို မြေပြင်တွင် လက်တွေ့တိုင်းတာဆန်းစစ်ခြင်း၊ မြေနှင့်ရေမူနာများကို စနစ်



တကျကောက်ယူပြီး သက်ဆိုင်ရာ ဓါတ်ခွဲခန်းအသီးသီးသို့ ပေးပို့စစ်ဆေးခြင်းတို့ကို ၂၀၁၇ ခုနှစ် တွင် ဆောင်ရွက်ခဲ့ပါသည်။ ဓါတ်ခွဲခန်းရလဒ်များကို နောက်ဆက်တွဲ( ၂ ) ၊ နောက်ဆက်တွဲ ( ၃ ) ဖြင့် ဖော်ပြ ထားပါသည်။

လူမှုစီးပွားအခြေအနေ၊ သဘာဝနှင့်ဇီဝဗေဒပတ်ဝန်းကျင် အခြေအနေများကိုလည်း လေ့လာ ဆန်းစစ်ခဲ့ပါသည်။ အဆိုပြုလုပ်ငန်းတည်ရှိရာ ရန်ကုန်တိုင်းဒေသကြီး၊ မှော်ဘီမြို့နယ်၏ ဒေသဆိုင် ရာ အခြေခံအဆောက်အအုံနှင့် လူမှုစီးပွားဆိုင်ရာ အခြေခံသတင်းချက်အလက်များကို မှော်ဘီမြို့ နယ်ရှိ အထွေထွေအုပ်ချုပ်ရေးနှင့် စီမံခန့်ခွဲရေးဌာနမှ တရားဝင်ထုတ်ပြန်ထားသည့် မှတ်တမ်းများနှင့် ရာသီဥတုဆိုင်ရာ သတင်းအချက်အလက်များကို အနီးစပ်ဆုံးမိုးလေဝသစခန်းမှ ရယူဖော်ပြနေသည့် ယုံကြည်လက်ခံနိုင်လောက်သော သတင်းဝက်ဆိုဒ်များမှ ကောက်ယူစုဆောင်းခဲ့သည်။ ပတ်ဝန်းကျင် ဆိုင်ရာ ကနဦးဆန်းစစ်လေ့လာမှုများ ပြုလုပ်ရာတွင် အဆိုပြုလုပ်ငန်း၏များစွာသော လုပ်ငန်းဆောင် ရွက်ချက်များကြောင့် လူမှုစီးပွားနှင့် သဘာဝပတ်ဝန်းကျင်အပေါ် ထိခိုက်လာနိုင်ရန် အလားအလာ ရှိသော သက်ရောက်မှုများကို စာရင်းဇယားဖြင့် ကွင်းဆင်းစစ်တမ်းကောက်ယူခြင်း၊ စက်ရုံတာဝန်ရှိ သူများ၊ အရည်အသွေးဆိုင်ရာ ထိန်းချုပ်ကြီးကြပ်သူများနှင့် ဘလ်ဂါ-မြန်မာ ကုမ္ပဏီမှ ကိုယ်စားလှယ် များအပါအဝင် တာဝန်ရှိအသင်းအဖွဲ့များနှင့် တွေ့ဆုံဆွေးနွေး အဖြေရှာခြင်းတို့ကိုဆောင်ရွက်ခဲ့ပါ သည်။ သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ အခြေခံသတင်းအချက်အလက်များကို အခြေခံ၍ လုပ်ငန်း လည်ပတ်မှုအဆင့်နှင့် လုပ်ငန်းပိတ်သိမ်းသည့် အဆင့်များအတွက်ပါ ဖြစ်ပေါ်လာနိုင်ခြေရှိသည့် သက်ရောက်နိုင်ခြေများကို အကဲဖြတ်ဆန်းစစ်လေ့လာခြင်း၊ လျော့ပါးသက်သာစေသည့် နည်းလမ်း များကို လုပ်ငန်းဆောင်ရွက်မှုအဆင့်ဆင့်အတွက် ကြိုတင်ပြင်ဆင်ခြင်းတို့ကို ခွဲခြမ်းစိတ်ဖြာ၍ သုံးသပ် ဆောင်ရွက်ခဲ့ပါသည်။

**၁.၂.၇ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုစီးပွား သက်ရောက်မှုများကို ဆန်းစစ်လေ့လာခြင်း နှင့်ထိခိုက်မှု လျော့နည်းစေနိုင်သောနည်းလမ်းများ**

အဆိုပြုလုပ်ငန်းအတွက် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ ကနဦးဆန်းစစ်လေ့လာခြင်းလုပ်ငန်း ကို မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ နည်းဥပဒေများကို အခြေခံသော နည်းလမ်း များနှင့်ကြောင်းကျိုးဆက်စပ်မှုများကို အခြေခံ၍ ဆောင်ရွက်သွားမည်ဖြစ်သည်။ ကနဦးပတ်ဝန်းကျင် စမ်းစစ်လေ့လာမှု၏ ကဏ္ဍတစ်ခုအဖြစ် ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားဆိုင်ရာ သက်ရောက်မှုများကို အလေးထားစိစစ်သုံးသပ်ပြီး ဖြစ်နိုင်ခြေများကို ပုံဖော်၍ လေ့လာဆောင်ရွက်ခဲ့သည်။

အဆိုပြုလုပ်ငန်း၏ လက်ရှိပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားရေးအခြေအနေများ၊ စီမံကိန်း၏ ထုတ် လုပ်မှုလုပ်ငန်းစဉ်များအလိုက် ညစ်ညမ်းမှုကိုဖြစ်စေရန် အလားအလာရှိသည့် အရင်းအမြစ်များနှင့် ၎င်းညစ်ညမ်းမှုကို ဖြစ်စေသော အရင်းအမြစ်များကို လုပ်ငန်းစဉ်အလိုက် ထိန်းချုပ်နိုင်သည့် နည်းစနစ် များကို စူးစမ်းရှာဖွေခြင်းဖော်ထုတ်ပြီး သက်သာလျော့ပါးစေသည့် နည်းလမ်းများကို ရေးဆွဲနိုင်ရန် လေ့လာမှုပြုခဲ့သည်။ ထို့အပြင် လူမှုစီးပွားဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်တွင်လည်း လုပ်ငန်းခွင် အခြေအနေ၊ ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနည်းလမ်းများစီစဉ်ထားရှိမှု စသည့်လူမှုရေး



ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်များကို ထည့်သွင်းဖော်ပြထားသည်။ အချုပ်ဆိုရသော် လုပ်ငန်းဆောင်ရွက်မှု ကာလတစ်လျှောက်လုံးအတွက် ထိရောက်သော ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွား ဆိုင်ရာစီမံခန့်ခွဲမှု အစီအစဉ်များကို ဆောက်လုပ်ရေးကာလမှစ၍ လုပ်ငန်းလည်ပတ်သည့်ကာလနှင့် လုပ်ငန်းရပ်စဲသည့် ကာလအထိ စသည့်စီမံကိန်း လုပ်ငန်းအဆင့်ဆင့်၏ ထိခိုက်ရန်အလားအလာရှိသော သက်ရောက်မှုများကို စူးစမ်းလေ့လာတိုင်းတာ၍ ရေးဆွဲအဆိုပြုထားပါသည်။

အဆိုပြုစီမံကိန်းကို အကောင်အထည်ဖော် ဆောင်ရွက်သူများကလည်း စီမံကိန်းဆိုင်ရာ သတင်းအချက်အလက်များ၊ လုပ်ငန်းနောက်ခံသမိုင်းကြောင်းများနှင့် စီမံကိန်းဆောင်ရွက်ခြင်းဆိုင်ရာ ရည်ရွယ်ချက်များ၊ လုပ်ငန်းစဉ်အဆင့်ဆင့်ဆိုင်ရာ အစီအစဉ်များနှင့် စီမံကိန်းလည်ပတ်မှု လုပ်ငန်းစဉ်များ၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ထိန်းချုပ်လေ့လာစောင့်ကြည့်မည့် နည်းစနစ်များ စီမံခန့်ခွဲမှု အစီအစဉ်များ စသည့်လိုအပ်သော အသေးစိတ်အချက်အလက်များကို ညှိနှိုင်းပံ့ပိုးဆောင်ရွက်ပေးပါသည်။ အဆိုပါသတင်းအချက်အလက်များနှင့် ကွင်းဆင်းစစ်တမ်းကောက်ယူခြင်းမှ ရရှိခဲ့သော အခြေခံသတင်းအချက်အလက်များကို အခြေခံ၍ စီမံကိန်းဆိုင်ရာ ကနဦးပတ်ဝန်းကျင်နှင့် လူမှုစီးပွား ရေးသက်ရောက်မှုများကို အစီရင်ခံစာရေးဆွဲတင်ပြထားပါသည်။ အဆိုပါ သက်ရောက်မှုများကို သိရှိနားလည်ခြင်းဖြင့် ထိရောက်သော ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွားဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်များကို အကောင်အထည်ဖော်လိုက်နာဆောင်ရွက်နိုင်မည်ဖြစ်ပါသည်။

သက်ရောက်မှုများကို ဆန်းစစ်လေ့လာရာတွင် အခြေခံကျပြီး အရေးပါသော ဒေသဆိုင်ရာ သတင်းအချက်အလက် ( Secondary data ) များကို စီမံကိန်း၏ ယေဘုယျအခြေအနေများနှင့် စီမံကိန်းမှ လူနှင့်ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများအား ဆန်းစစ်ရာတွင် အောက်ဖော်ပြပါ လေ့လာမှုလုပ်ငန်းများကို ဆောင်ရွက်ခဲ့ပါသည်။

- လေထုအရည်အသွေးစောင့်ကြည့် လေ့လာစစ်ဆေးခြင်း
- ဆူညံသံကို စောင့်ကြည့် လေ့လာစစ်ဆေးခြင်း
- တုန်ခါမှုအား စောင့်ကြည့်လေ့လာစစ်ဆေးခြင်း
- မြေဆီလွှာအရည်အသွေး တိုင်းတာစစ်ဆေးခြင်း
- ရေအရည်အသွေး တိုင်းတာစစ်ဆေးခြင်း
- ဂေဟဗေဒဆိုင်ရာ မြေပြင်သတင်းအချက်အလက်များကောက်ယူခြင်း
- လူမှုရေး၊ စီးပွားရေးနှင့် အိမ်ထောင်စုအချက်အလက်များအား စစ်တမ်းကောက်ယူခြင်း
- လူထုဆွေးနွေးပွဲများကျင်းပပြီး လူထုဆန္ဒသဘောထားရယူခြင်း တို့ဖြစ်ပါသည်။

ဘလ်ဂါ-မြန်မာကုမ္ပဏီသည် မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေပါ စံသတ်မှတ်ချက်များအရ လမ်းညွှန်ထားသည့် ပတ်ဝန်းကျင်နှင့် ထိန်းသိမ်းရေးဆန်းစစ်မှုလုပ်ထုံးလုပ်နည်းများနှင့်အညီ လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုလုပ်ငန်း၏ ခိုင်မာဖွံ့ဖြိုးသော ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားရေးဆိုင်ရာမူဝါဒများ၊ မူဘောင်စည်းကမ်းများ၊ လုပ်ထုံးလုပ်နည်းများနှင့်အညီ ၎င်းစီမံကိန်း



ဆောင်ရွက်ခြင်းကြောင့် ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွားအပေါ် ထိခိုက်မှုများ ဆိုးဆိုးရွားရွား မဖြစ်စေရန် လိုက်နာဆောင်ရွက် အကောင်အထည်ဖော်သွားမည်ဟု သဘောတူညီပါသည်။ ဘယ်လ်ဂါကုမ္ပဏီ သည် စီမံကိန်းအစောပိုင်းကာလမှစ၍ သက်ရောက်မှုများကို လျော့ပါးသက်သာစေမည့်နည်းလမ်း များကို ကြိုတင်ပြင်ဆင်ပြီးမှသာ ၎င်းတို့၏ လုပ်ငန်းကို အကောင်အထည်ဖော်မည်ဖြစ်သည်။

**ဆောက်လုပ်ရေးကာလတွင် ထိခိုက်နိုင်မှု လျော့ကျစေနိုင်သောနည်းလမ်းများ**

ဆောက်လုပ်ရေးကာလတွင် ပတ်ဝန်းကျင်နှင့်လူမှုထိခိုက်မှု လျော့နည်းစေရန်အတွက် Bel Ga မှ ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချရေးကို အလေးပေးဆောင်ရွက်သော ဆောက်လုပ်ရေးအဖွဲ့ကို စနစ် တကျ စီစစ်ရွေးချယ်ခဲ့ပါသည်။ ဆောက်လုပ်ရေးလုပ်ငန်းစာချုပ်တွင်လည်း ပတ်ဝန်းကျင်နှင့်လူမှုရေး ထိခိုက်မှုကာကွယ်ရန် ထည့်သွင်းဖော်ပြခဲ့သည်။ Bel Ga မှလည်း ဆောက်လုပ်ရေးလုပ်ငန်းများ အတွက် ဒေသခံအလုပ်သမား ငှားရမ်းရန် တောင်းဆိုခဲ့သည်။ ဆောက်လုပ်ရေးအလုပ်သမားများကို လည်း အလုပ်သမားတန်းလျား စည်းကမ်းများထားရှိစေသည်။ ထို့အပြင် ဆောက်လုပ်ရေးအဖွဲ့ကို လည်း ဒေသခံပြည်သူများ၏အကြံပေးစာ/တိုင်စာများကို ဖြေရှင်းရန် တောင်းဆိုထားပါသည်။ အသေး စိတ်အချက်အလက်များကို ပတ်ဝန်းကျင်နှင့်လူမှုစီမံခန့်ခွဲမှုတွင် ဖော်ပြထားပါသည်။

**လုပ်ငန်းလည်ပတ်ရေးကာလတွင် ထိခိုက်နိုင်မှု လျော့ကျစေနိုင်သောနည်းလမ်းများ**

လုပ်ငန်းလည်ပတ်ရေးကာလတွင်လည်း Bel Ga မှ ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် ဆောင် ရွက်ရန် ရည်ရွယ်ထားပါသည်။ လုပ်ငန်းခွင်ဆိုင်ရာ ကျန်းမာရေးလူမှုရေး၊ ဒေသခံဆိုင်ရာ ထိခိုက်မှု အတွက် စိုးရိမ်ပူပန်မှုများ ထိရောက်စွာ ဖြေရှင်းနိုင်သော နည်းလမ်းများကို လိုက်နာကျင့်သုံးမည်ဖြစ် သည်။ ထိုအခက်အခဲများကိုလည်း အမြန်ဆုံးဖြေရှင်းရန် ကြိုးစားမည်ဖြစ်သည်။ Bel Ga အလုပ်သမား များ၏ လိုအပ်ချက်များကိုလည်း အစဉ်အမြဲဦးစားပေးစဉ်းစားမည်ဖြစ်သည်။ အလုပ်သမားများ၏ လိုအပ်ချက်ကို ပွင့်လင်းမြင်သာစွာ လွတ်လပ်စွာ တောင်းဆိုခွင့်ပေးမည်ဖြစ်သည်။ အသေးစိတ်အ ချက်အလက်များကို ပတ်ဝန်းကျင်နှင့်လူမှုစီမံခန့်ခွဲမှုတွင် ဖော်ပြထားပါသည်။

**၁.၂.၈ လူထုဆွေးနွေးပွဲ၏ ရလဒ်များနှင့် ဆွေးနွေးမှုလုပ်ငန်းစဉ်များ**

ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှုလုပ်ငန်း၏ တစ်စိတ်တစ်ပိုင်းအနေဖြင့် လူထုသဘောထား အမြင် များ ရယူခြင်းဆိုင်ရာ ဆွေးနွေးပွဲများကို အမျိုးသားအဆင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) နှင့်အညီ ဒေသခံတစ်ဦးချင်းစီထံသို့ သွားရောက်တွေ့ဆုံဆွေးနွေးခြင်း၊ သက်ဆိုင်ရာ ကျေးရွာအုပ်ချုပ်ရေးမှူးရုံးသို့ ဖိတ်ကြား၍ ပါဝင်ဆွေးနွေးညှိနှိုင်းစေခြင်းတို့ကို ဆောင် ရွက်ခဲ့ပါသည်။ အဆိုပါဆွေးနွေးပွဲများတွင် လူထုဆွေးနွေးပွဲများဆောင်ရွက်ရခြင်း၏ အဓိကရည်ရွယ် ချက်များကို ဦးစွာရှင်းလင်းတင်ပြပြီး ပတ်ဝန်းကျင်အကြံပေးအဖွဲ့ဖြစ်သော SEAM ၏ အခန်းကဏ္ဍနှင့် လုပ်ငန်းတည်ထောင်သူ၏ တာဝန်ယူလိုက်နာဆောင်ရွက်ရမည့် အခန်းကဏ္ဍများကို နိုင်ငံတော် အဆင့် ချမှတ်ပြဋ္ဌာန်းထားသောစံနှုန်းများ၊ လုပ်ထုံးလုပ်နည်းများနှင့် အညီချပြဆွေးနွေးခဲ့ပါသည်။



လူထုတွေ့ဆုံဆွေးနွေးပွဲတွင် အဓိကပါဝင်ပတ်သက်သည့်သူများအဖြစ် ဖိတ်ခေါ်ဆွေးနွေးရာ တွင် ကန်ကလေးကျေးရွာ၊ ကုန်းကလေးကျေးရွာနှင့် အစုလေးကျေးရွာတို့မှ ကိုယ်စားပြု ရွာသူ/သား များ၊ ဒေသဆိုင်ရာစီမံခန့်ခွဲမှုဌာနမှ အုပ်ချုပ်ရေးတာဝန်ရှိသူများ၊ ဈေးဆိုင်ရှင်များ၊ စက်မှုဇုန်ပတ်ဝန်း ကျင်တွင် ကျူးကျော်နေထိုင်သူများ၊ ဒေသဆိုင်ရာ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဌာန (ရန်ကုန်) မှ တာဝန်ရှိသူနှင့် မြောင်းတကာစက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီတို့နှင့်တွေ့ဆုံ ဆွေးနွေးခဲ့ပါသည်။

ဒေသခံများအား တစ်ဦးချင်းလူတွေ့မေးမြန်းမှုများနှင့် ဆွေးနွေးမှုများပြုလုပ်ရာတွင် အဆိုပြု စက်ရုံနှင့်မြောင်းတကာစက်မှုဇုန် အနီးအနားပတ်ဝန်းကျင်ရှိဆိုင်ရှင်များ၊ ကျူးကျော်နေထိုင်သူများ နှင့် ကျေးရွာသူကျေးရွာသားများ အပါအဝင်အခြားဆက်စပ်အဖွဲ့အစည်းများမှ လူပုဂ္ဂိုလ်များအား ကိုယ်စားပြုနိုင်စေရန် ကျဘန်းစနစ်ဖြင့် ရွေးချယ်ပြီး တွေ့ဆုံမေးမြန်းကာ စစ်တမ်းများကောက်ယူခဲ့ သည်။ လူထုသဘောထား ရယူခြင်းဆိုင်ရာဆွေးနွေးပွဲတွင် SEAM မှ စီမံကိန်းဆိုင်ရာသတင်းအချက် အလက်များကို လူထုအား မိတ်ဆက်ရှင်းလင်းခြင်း၊ စက်ရုံကိုယ်စားလှယ်မှ စက်ရုံလည်ပတ်မည့် လုပ်ငန်းစဉ်အဆင့်ဆင့်ကို ရှင်းလင်းတင်ပြခြင်းတို့ကို ဆောင်ရွက်ပြီး အဆိုပြုစက်ရုံလည်ပတ်ခြင်းမှ ဖြစ်ပေါ်လာနိုင်သော အကျိုးဆက်များနှင့် ၎င်းတို့ကို ကြိုတင်ကာကွယ်ရန်နှင့် သက်သာလျော့နည်း စေရန် စီစဉ်ဆောင်ရွက်ထားမှုများကို ရှင်းလင်းတင်ပြခဲ့ပြီး ဒေသခံလူထု၏ စိုးရိမ်ပူပန်မှုများကို ပါဝင် ဆွေးနွေးအကြံပြုရန် ဖိတ်ခေါ်ခဲ့သည်။

အဆိုပါလူထုတွေ့ဆုံ ဆွေးနွေးပွဲ၌ လုပ်ငန်းအဆိုပြုသူ၏ တာဝန်ရှိ ကိုယ်စားလှယ်တစ်ဦး လိုက်ပါလျက် စက်ရုံလည်ပတ်မှုဆိုင်ရာအခြေအနေများ၊ ထုတ်လုပ်မှုဖြစ်စဉ်အလိုက် ညစ်ညမ်းမှုမရှိ စေရန် စီစဉ်ထားရှိမှုအခြေအနေများ၊ အလုပ်အကိုင်အခွင့်အလမ်းများနှင့် အလုပ်သမားများ အတွက် အန္တရာယ်ကင်းသော လုပ်ငန်းခွင်အခြေအနေများ၊ စက်ရုံ၏လူမှုစီးပွားနှင့်ပတ်ဝန်းကျင် ဆိုင်ရာ ကတိ ကဝတ်များနှင့် စက်ရုံလည်ပတ်ခြင်း၏ အဓိကရည်ရွယ်ချက်များကို ချပြဆွေးနွေးခဲ့သည်။ ထို့ နောက် လူထုအား၎င်းတို့၏ အဆိုပြုစက်ရုံအပေါ် ထင်မြင်ယူဆချက်များ၊ စိုးရိမ်ပူပန်မှုများနှင့် အမြင် သဘောထားများကို ပါဝင်ဆွေးနွေးကြရန် ဖိတ်ခေါ်ခဲ့ပြီး တက်ရောက်လာသူများ၏ မေးခွန်းများနှင့် ဆွေးနွေးချက်များကို စီမံကိန်းမှ တာဝန်ရှိကိုယ်စားလှယ်က ပြန်လည်ဖြေကြားခဲ့သည်။ အဓိကအား ဖြင့် အလုပ်အကိုင်အခွင့်အလမ်း၊ စွန့်ပစ်အမှိုက်များ စီမံခန့်ခွဲမှုအခြေအနေ၊ ဆူညံ သံ၊ အနံ့နှင့် လေထု ညစ်ညမ်းမှုထိန်းသိမ်းရန် တာဝန်ယူဆောင်ရွက်မည့်အစီအစဉ်များ၊ လူမှုစီးပွားကွန် ယက်ဖြန့်ကျက်မှု၊ လုံခြုံရေးနှင့် ကျန်းမာရေးဆိုင်ရာကိစ္စရပ်များ၊ ရွှေ့ပြောင်းလုပ်သားများကြောင့် ဖြစ်ပေါ်လာနိုင်သော လူမှုရေးဆိုင်ရာ အငြင်းပွားမှုများ စသည်တို့ဖြစ်ကြပါသည်။

ထို့အပြင် ဒေသဆိုင်ရာကိုယ်စားလှယ်များ၏ စိုးရိမ်ပူပန်မှုများနှင့် အကြံပြုချက်များ ရရှိရေး အတွက် အထွေထွေစီမံခန့်ခွဲမှုဌာနနှင့် မြောင်းတကာစက်မှုဇုန် စီမံခန့်ခွဲမှုကော်မတီနှင့်လည်း တွေ့ဆုံခဲ့ ပါသည်။ ယေဘုယျအားဖြင့် အဆိုပါတွေ့ဆုံဆွေးနွေးမှုများအရ ဒေသခံများသည် ၎င်းတို့ဒေသများ သည် ၎င်းတို့ဒေသဖွံ့တိုးတက်ရေးနှင့် ဒေသခံလူငယ်များ အလုပ်အကိုင်အခွင့်အလမ်းများရရှိနိုင်ရေး တို့အတွက် စိတ်အားထက်သန်မှုများနှင့် အဆိုပြုလုပ်ငန်းအပေါ်တွင် အပြုသဘောဆောင်သော



ဆွေးနွေးမှုများကို ပါဝင် ဆွေးနွေးတင်ပြကြသည်။

လူထုတွေ့ဆုံဆွေးနွေးပွဲကာလအတွင်း ဆွေးနွေးဖြေရှာခဲ့ကြသော ပြဿနာရပ်များနှင့် စိုးရိမ်ပူပန်မှုများကို လုပ်ငန်း၏ ကနဦးပတ်ဝန်းကျင် ဆန်းစစ်လေ့လာမှုတွင် ထည့်သွင်းရေးဆွဲနိုင်ခဲ့ပါသည်။ အဆိုပါ ဆွေးနွေးချက်များသည် သက်ရောက်မှုများ ဆန်းစစ်လေ့လာခြင်းကို အထောက်အကူပြုပြီး စီမံခန့်ခွဲမှုအစီအစဉ်ရေးဆွဲခြင်းနှင့် စောင့်ကြည့်လေ့လာစစ်ဆေးမှုများအတွက် များစွာ အသုံးဝင်ပါသည်။ လူထုဆွေးနွေးပွဲရလဒ် အကျဉ်းချုပ်နှင့် ဆွေးနွေးတင်ပြခဲ့သည့်အကြောင်းအရာ စုဝေးတက်ရောက်လာသူများ စာရင်းနှင့် မှတ်တမ်းဓာတ်ပုံများကိုလည်း အစီရင်ခံစာတွင် နောက်ဆက်တွဲ ( ၅ ) အဖြစ်ထည့်သွင်းဖော်ပြထားပါသည်။

**ဒေသခံပြည်သူများ၏ဖွံ့ဖြိုးမှုအစီအစဉ်**

Bel Ga တွင် လူမှုအကျိုးပြုလုပ်ငန်း (Corporate Social Responsibility - CSR) အစီအစဉ်အား လူမှုအသိုင်းအဝိုင်းနှင့်အတူ အမြတ်ငွေကိုမျှဝေဖို့ သတ်မှတ်ထားပါသည်။ Bel Ga သည် အမြတ်အစွန်း ၂% ကို CSR အတွက် ရန်ပုံငွေထားပြီး လူမှုအသိုင်းအဝိုင်းမှ လိုအပ်ချက်များကို ဖြည့်ဆည်းဖို့ သတ်မှတ်ထားပါသည်။ Bel Ga ၏ CSR အစီအစဉ်များကို လူမှုအသိုင်းအဝိုင်းများအတွက် လိုအပ်ချက်များ၊ ရေဘေး၊ မီးဘေး၊ လမ်းပန်းဆက်သွယ်ရေးနှင့် ဒေသဖွံ့ဖြိုး၊ ပညာရေးတို့အတွက် ထည့်သွင်းစဉ်းစားထားပါသည်။

**၁.၂.၉ ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားစီမံခန့်ခွဲမှု အစီအစဉ်**

ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွားဆိုင်ရာစီမံခန့်ခွဲမှုအစီအစဉ်သည် စီမံကိန်းဆိုင်ရာလုပ်ငန်းဆောင်ရွက်ချက်များကြောင့် ဖြစ်ပေါ်လာနိုင်သည့် ဆိုးရွားသော သက်ရောက်မှုများနှင့် ဘေးအန္တရာယ်များအားလုံးကို ဖြေရှင်းဆောင်ရွက်ရာတွင် ဆက်စပ်ဆိုးကျိုးများကို ရှောင်ရှားနိုင်ရန်၊ ကြိုတင်ကာကွယ်ရန်နှင့် လျော့ပါးသက်သာစေရန်ရည်ရွယ်၍ အကောင်းဆုံးဖြစ်နိုင်ချေရှိပြီး လက်တွေ့တွင် လိုက်နာဆောင်ရွက်နိုင်မည့်နည်းလမ်းများ၊ စောင့်ကြည့်လေ့လာစစ်ဆေးရမည့်ပါရာမီတာများ၊ စစ်ဆေးရမည့်အကြိမ်ရေနှင့်ရန်ပုံငွေခွဲဝေအသုံးပြုခြင်းများကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်တွင် ထည့်သွင်းရေးဆွဲထားသည်။ ဖြစ်ပေါ်လာနိုင်သော သက်ရောက်မှုများ၏ ပြင်းထန်မှုအဆင့်များကို ထိခိုက်နစ်နာနိုင်မှုအနည်းအများပေါ် မူတည်၍ ဆိုးကျိုးအဆင့် အနည်းဆုံး၊ အလယ်အလတ်၊ ပြင်းထန်နှင့် အပြင်းထန်ဆုံးဟူ၍ အဆင့်များခွဲခြားသတ်မှတ်ခဲ့သည်။

ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွား စီမံခန့်ခွဲမှုအစီအစဉ်အရ တည်ဆောက်ရေးကာလတွင် သက်ရောက်မှုအနည်းဆုံးအဆင့် (၁၅) ခုနှင့် အလယ်အလတ်အဆင့် (၁၇)ခုရှိပြီး လုပ်ငန်းလည်ပတ်မှု ကာလတွင် သက်ရောက်မှုအနည်းဆုံး (၁၀)ခုနှင့် အလယ်အလတ် အဆင့်သက်ရောက်မှု (၆)ခု ရှိကြောင်း တွေ့ရှိရသည်။ ဆိုးကျိုးနှင့်ထိခိုက်မှုများ လျော့ပါးသက်သာစေရေး စောင့်ကြပ်ကြည့်ရှုရမည့် အကြိမ်ရေနှင့် ရန်ပုံငွေခွဲဝေရေးဆိုင်ရာ အသေးစိတ်အချက်အလက်များကို အစီရင်ခံစာ၏ အခန်း(၈)တွင် အသေးစိတ်ဖော်ပြထားပါသည်။



စက်ရုံသည် ၂၀၁၈ ခုနှစ်ကတည်းက ကုန်ထုတ်လုပ်မှုလုပ်ငန်းများ လည်ပတ်ဆောင်ရွက်နေပြီ ဖြစ်၍ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့်စောင့်ကြပ်ကြည့်ရှုမည့်အစီအစဉ်တို့ကို စက်ရုံလည်ပတ်မှု အဆင့်နှင့်စက်ရုံပိတ်သိမ်းသည့်အဆင့်တို့တွင် အကောင်အထည်ဖော်ဆောင်ရွက်သွားမည်ဖြစ်သည်။ အဆိုပါအစီအစဉ်တို့ကို စက်ရုံလည်ပတ်မှုအဆင့်တွင် အကောင်အထည်ဖော်ရန်အတွက် ခန့်မှန်းခြေ အသုံးစရိတ်မှာ (၇,၂၀၀)ဒေါ်လာခန့်ဖြစ်ပြီး စက်ရုံပိတ်သိမ်းသည့်အဆင့်တွင် ဒေါ်လာ (၅၀၀)ခန့် အသုံးပြုသွားမည်ဖြစ်သည်။ သို့သော်လည်း ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့် ရှုမည့်အစီအစဉ်အတွက် ခွဲဝေချထားပေးသော အသုံးစရိတ်ငွေ(ဘတ်ဂျက်)မလုံလောက်သည့်အခါ ရေရှည်တည်တံ့ကောင်းမွန်သော သဘာဝပတ်ဝန်းကျင်ဖြစ်စေရန်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ပါးသက်သာစေရေးဆိုင်ရာ ဖော်ပြပါအစီအစဉ်များကို အကောင်အထည်ဖော်ရန်အတွက် စက်ရုံ မှအသုံးစရိတ်ကို လိုအပ်သလို ထုတ်ယူသုံးစွဲသွားမည်ဖြစ်ပါသည်။

စက်ရုံအနေဖြင့် သက်ဆိုင်ရာပတ်ဝန်းကျင်အကြံပေးအဖွဲ့ကို ငှားရမ်း၍ အောက်ဖော်ပြပါ စက် ရုံ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာကော်မတီအဖွဲ့မှ ဦးဆောင်၍ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီ အစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမည့်အစီအစဉ်တို့ကို အကောင်အထည်ဖော်ဆောင်ရွက်သွားမည်ဖြစ်ပါ သည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ပါ လျော့ပါးသက်သာစေရေးအစီအစဉ်များနှင့် စောင့်ကြပ် ကြည့်ရှုမည့်အစီအစဉ်များကို အကောင်အထည်ဖော်ဆောင်ရွက်ရာတွင် အစီရင်ခံစာ၏ ပတ်ဝန်းကျင် နှင့်လူမှုရေးရာစီမံခန့်ခွဲမှုအစီအစဉ်(ESMP)ပါ ဖြစ်နိုင်ချေရှိသော ထိခိုက်သက်ရောက်မှုတိုင်းအတွက် စောင့်ကြပ်ကြည့်ရှုမည့်အကြိမ်အရေအတွက်(Monitoring Frequency)အတိုင်း လိုက်နာဆောင်ရွက် ၍ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ အစီရင်ခံစာတင်ပြဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။ လက် ရှိတွင် စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ငန်းကို နိုဝင်ဘာလတွင် လက်တွေ့တိုင်းတာဆောင်ရွက်ပြီး ဒီဇင် ဘာလတွင် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ တင်ပြဆောင်ရွက်သွားရန် စီစဉ်ထားရှိပါသည်။

**Hatchery Plant:Belga Myanmar၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးလုပ်ငန်းများဆောင်ရွက်ရေးအဖွဲ့**

No.	Name	Position in the Committee	Address
1	Ben Cliteur Managing Director	Leader	Yangon Ph:09761532548 Email: ben.cliteur@belgaasia.com
2	Dr. Hay Man Oo Operation Manager	Health and Safety Manager	Myaung Dakar Industrial Zone Ph:09797906848 Email: jessie.hay@belgaasia.com
3	Daw Poe Ei Soe Senior Accountant	Member	Myaung Dakar Ph:09967959814 Email: jenny.poe@belgaasia.com



4	Mr. Randy Hatchery Manager	Member	Hatchery Plant Industrial Zone Ph:09958446081 Email: randy.villanueva@belgaasia.com
5	Dr. Aung Kyaw Htet Assistant Hatchery Manager	Member	Hatchery Plant Ph:09971323399 Email: felix.aung@belgaasia.com
6	Dr. Zaw Zaw Htat Senior QC Officer	Member	Myaung Dakar Industrial Zone Ph:09762478236 Email: alex.zaw@belgaasia.com
7.	-	Environmental Consultant Organization	The environmental consultant team will be assigned by later.

**စောင့်ကြည့်ခြင်းနှင့်အစီရင်ခံခြင်း လုပ်ထုံးလုပ်နည်း**

စက်ရုံမှ ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားစီမံခန့်ခွဲမှု အစီအစဉ်၏ သတ်မှတ်ချက်အရ အချိန်မှန် စောင့်ကြည့်လေ့လာ၍ လွတ်လပ်သောအဖွဲ့အစည်းမှ ပတ်ဝန်းကျင်လေ့လာမှုကို ဆောင်ရွက်မည်ဖြစ်သည်။ ထိုအဖွဲ့မှ လေထုအရည်အသွေး၊ ဆူညံမှုနှင့်တုန်ခါမှု၊ ရေအရည်အသွေးတို့ ပြောင်းလဲမှုရှိမရှိတို့ကို စောင့်ကြည့်လေ့လာမည်။ ရရှိသောအဖြေတို့ကို ECD သို့ ၆ လတစ်ကြိမ် အစီရင်ခံ၍ လိုအပ်မှုရှိလျှင်ခေတ်မှီသော နည်းပညာများကို အစားထိုး၍ အသုံးပြုမည်ဖြစ်သည်။

**အရေးပေါ် စီမံခန့်ခွဲမှုအစီအစဉ်**

ဘယ်လ်ဂျီ-မြန်မာ ကြက်ဥဖောက်စက်ရုံသည် စက်ရုံလည်ပတ်နေစဉ်ကာလတလျှောက်တွင် ဖြစ်ပေါ်လာနိုင်ချေရှိသော အရေးပေါ်အခြေအနေများအားလုံးကို ခြုံငုံမိစေရန်နှင့် အရေးပေါ်အခြေအနေများကို တုန့်ပြန်ဖြေရှင်းရန် အရေးပေါ်စီမံခန့်ခွဲမှုစီမံချက်ကို ရေးဆွဲပြင်ဆင်ထားသည်။ ၎င်းစီမံချက်သည် အရေးပေါ်အခြေအနေများနှင့် ဆက်စပ်၍ ဆောင်ရွက်ရမည့် အခြေခံစီမံချက်တစ်ခု ဖြစ်ပါသည်။

**ဓာတုပစ္စည်းများနှင့် အန္တရာယ်ရှိသော ပစ္စည်းများ မတော်တဆယိုဖိတ်ခြင်း**

ဘယ်ဂျီသည် ဓာတုပစ္စည်းများနှင့် အန္တရာယ်ရှိသောပစ္စည်းများ ထိန်းသိမ်းကိုင်တွယ်ရာတွင် စည်းကမ်းများ တင်းကျပ်စွာချမှတ်ထားပြီး ဝန်ထမ်းများကိုလည်း ၎င်းပစ္စည်းများ ကိုင်တွယ်အသုံးပြုရေးနှင့်စပ်လျဉ်းသည့် ပုံမှန်သင်တန်းနှင့် မွမ်းမံမှုသင်တန်းများလည်း ( ၆ ) လ တစ်ကြိမ်ပို့ချပေး သွားမည်ဖြစ်သည်။ ဓာတုပစ္စည်းများနှင့် အန္တရာယ်ရှိသည့်ပစ္စည်းများကို သင်တန်းတက်ရောက်ပြီးသည့် ကျွမ်းကျင်သူများသာ ကိုင်တွယ်ခွင့်ပြုရန် စည်းကမ်းချမှတ်ထားပါသည်။ အဆိုပါအန္တရာယ်ရှိသော ပစ္စည်းများ ကိုင်တွယ်ရေးနှင့်စပ်လျဉ်းသည့်မှတ်တမ်းများနှင့်လိုက်နာဆောင်ရွက်ရမည့် နည်းလမ်းများသည် မတော်တဆ ယိုဖိတ်လွှင့်စင် အန္တရာယ်ဖြစ်စေနိုင်မှုကို အနည်းဆုံးဖြစ်စေရုံသာမက ၎င်းတို့ကို ကြိုတင်ကာကွယ်ရာလည်း ရောက်ပါသည်။မတော်တဆ ယိုဖိတ်စင်နိုင်သည့် အခြေအနေနှင့် အကြောင်းအရာများကို တုန့်ပြန်ကာကွယ်မည့် လုပ်ထုံးလုပ်နည်းများကို ဝန်ထမ်းအားလုံးသတိပြုမိစေရန်နှင့် အများပြည်သူ သိသာမြင်သာစေရန် စက်ရုံ၏ဝန်ထမ်းများ အသိပေးကြော်ငြာဘုတ်တွင်



ဖော်ပြထားမည်ဖြစ်သည်။

ဓာတုပစ္စည်းများ မတော်တဆ ယိုစိမ့်ဖိတ်စင်ခြင်းကိစ္စ ဖြစ်ပေါ်သည်ဟု သိလျှင်သိချင်း အဆိုပါ ယိုစိမ့်ဖိတ်စင်ခဲ့သည့် နေရာများကို တာဝန်ရှိပုဂ္ဂိုလ်များမှလွဲ၍ အခြားမသက်ဆိုင်သူများ ဝင်ရောက်သွားလာထိတွေ့ခြင်းမှ တားမြစ်ထားပြီး ဧရိယာသီးသန့် ခွဲခြားသတ်မှတ်ထားရမည် ဖြစ်သည်။ လိုအပ်ပါက ယိုစိမ့်ဖိတ်စင်သည့်အရာများကို တုန့်ပြန်ရှင်းလင်းရန် တာဝန်ရှိသည့်သူများမှ လွဲ၍ ကျန်လုပ်သားအားလုံးကို ယိုစိမ့်ဖိတ်စင်မှုများ အပြီးတိုင်ရှင်းလင်းပြီးသည့်အချိန်အထိ အလုပ် သမားများစုဝေရာနေရာတွင် စုစုစည်းစည်းရှိစေပါမည်။ အကယ်၍ မတော်တဆမှုမှ ရုတ်တရက်လွှင့် စင်လာသည့်အရာများကြောင့် ထိခိုက်ဒဏ်ရာရရှိခြင်းများဖြစ်ပေါ်လာလျှင် လိုအပ်ပါက အရေးပေါ် အခြေအနေသတ်မှတ်ပြီး သင့်တော်သော ဆေးကုသမှုပေးရန် စီစဉ်ဆောင်ရွက် ရမည်ဖြစ်သည်။ အဆို ပါကိစ္စရပ်များကို စက်ရုံ၏ အရေးပေါ်တုန့်ပြန်မှု လမ်းညွှန်ချက်များနှင့်အညီ ထိရောက်စွာ လိုက်နာ ဆောင်ရွက်သွားရန် လမ်းညွှန်ထားပါသည်။

ဝန်ထမ်းများ အန္တရာယ်ရှိသော ဓာတုပစ္စည်းများ ကိုင်တွယ်ရာတွင် ယိုဖိတ်လွှင့်စင် ထိတွေ့ မိသည့် ကိစ္စရပ်များဖြစ်ပေါ်လာပါက သန့်စင်ဖယ်ရှား ဆေးကြောရန်အတွက် ရေချိုးခန်းများနှင့် ဆေးကြောရန် နေရာများကို လုံလောက်စွာ ဆောက်လုပ်ထားရှိမည် ဖြစ်သည်။ ထို့အပြင် ဓာတုပစ္စည်း များနှင့် အန္တရာယ်ရှိသောအရာများကို သိုလှောင်ထိန်းသိမ်းထားရာနေရာနှင့် ကိုင်တွယ် အသုံးပြုမည့် နေရာတို့အား မတော်တဆကိစ္စရပ်များအတွက် ထိန်းချုပ်ကိုင်တွယ်နိုင်သည့် အရေးပေါ်သုံးပစ္စည်း များ အဆင်သင့်ထားရှိခြင်း၊ ဓာတုပစ္စည်းအမျိုးအစားအလိုက် တုန့်ပြန်ဖြေရှင်းရမည့် လမ်းညွှန်ချက် များပါသည့် စာရွက်စာတမ်း (MSDS) များ အဆင်သင့်ရှိစေခြင်း၊ အရေးပေါ်အခြေအနေ တစ်စုံတစ်ရာ ကြုံတွေ့လာပါက အရေးပေါ်ဆက်သွယ်ရမည့် တာဝန်ရှိသူ၏ ဖုန်းနံပါတ်များစသည်တို့ကို အလွယ်တ ကူရရှိစေရန် ထားရှိခြင်းတို့ကို ဆောင်ရွက်ရမည်ဖြစ်သည်။

မတော်တဆဖြစ်သည့် ကိစ္စကြီးငယ်တိုင်းအတွက် အစီရင်ခံစာမှတ်တမ်းနှင့် နောက်ဆက်တွဲ စီစဉ်ဆောင်ရွက်မှုတိုင်းအတွက် စိစစ်အကဲဖြတ်မှုမှတ်တမ်း ထားရှိရမည်။ ဖော်မလင်ဖိတ်စင်လွှင့်ပါ ထိတွေ့မှုကို ထိန်းချုပ်နိုင်ရန် အရည်အသွေးမီတာ ဓာတ်ခွဲခန်းသုံး မျက်နှာဖုံးအကာအကွယ်များ၊ လုံလောက်သော အမိုးနီးယန်းနှင့် စွမ်းအားမြင့်လေမှုတ်စက်တို့ကို အဆင်သင့်ထားရှိရမည်ဖြစ်သည်။

**မီးလောင်မှုဖြစ်ပွားခြင်း**

ဘလ်ဂါမြန်မာ ကုမ္ပဏီသည် မီးလောင်မှုဖြစ်ပေါ်လာပါက ဘေးကင်းရာသို့ အလွယ်တကူ လူစုနိုင်စေရန် အရေးပေါ်ထွက်ပေါက်များကို သိသာထင်ရှားစွာ လမ်းညွှန်ပြသထားခြင်း၊ အရေးပေါ် မီးသတိပေးချက်များ တပ်ဆင်ထားခြင်း၊ လုံလောက်သော မီးသတ်ဆေးပူးများနှင့် မီးလောင်မှုကြိုတင် ကာကွယ်ရေး စီမံခန့်ခွဲမှုအစီအစဉ်တို့ကို စက်ရုံစတင်တည်ဆောက်စဉ်ကပင် ကြိုတင်ထည့်သွင်းစီမံ၍ တည်ဆောက်ထားပါသည်။ မီးလောင်လွယ်သော အရာများကို သင့်တော်သလို စနစ်တကျသိုလှောင် သိမ်းဆည်းရန် စီစဉ်ဆောင်ရွက်ထားပါမည်။ မီးသတ်ဆေးပူးများကို အချိန်မှန်ပြုပြင်ထိန်းသိမ်းခြင်း၊ မီးဘေးအန္တရာယ် ကာကွယ်ရေးနှင့် မီးငြိမ်းသတ်ရေးဆိုင်ရာ သင်တန်းများ နှစ်စဉ်ပို့ချပေးခြင်း၊



မီးသတ်ဌာနမှ ပုံမှန်စစ်ဆေးမှုများ ဆောင်ရွက်ခြင်းနှင့် ဝန်ထမ်းများအား မီးဘေးကြိုတင်ကာကွယ် ရေးလေ့ကျင့်ခြင်းများ ပုံမှန်ပြုလုပ်ဆောင်ရွက်သွားမည်ဖြစ်သည်။ မီးလောင်မှုဖြစ်ပွားပါက မီးသတ် ဌာန နှင့်ဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များကိုလည်း စက်ရုံ၏ သတိပေးကြော်ငြာသင်ပုန်းတွင် ဖော်ပြ ထားမည် ဖြစ်သည်။ မီးခိုးငွေ့ အာရုံခံစနစ်များလည်း စက်ရုံ၏ သင့်တော်ရာနေရာများတွင် တပ်ဆင် ထားပြီး ၎င်းတို့၏ လုပ်ငန်းဆောင်ရွက်ချက်များကို ပုံမှန်စစ်ဆေးသွားမည်ဖြစ်သည်။ စက်ရုံတွင် ဝန်ထမ်းများ ဆေးလိပ်သောက်နိုင်သည့် နေရာတစ်ခုကိုလည်း သီးသန့်သတ်မှတ်ပေးထားပါမည်။

မီးလောင်မှုဖြစ်ပွားပါက အလုပ်သမားအားလုံးသည် အရေးပေါ်ထွက်ပေါက် လမ်းကြောင်း များမှ အဆောက်အဦအပြင်ဘက်သို့ ထွက်ခွာရမည်ဖြစ်ပြီး လူအများစုဝေးရန် ကြိုတင်သတ်မှတ် ထားသောစုရပ်နေရာသို့ အသီးသီးလာရောက်စုဝေးကာ ရောက်ရှိကြောင်း သတင်းပို့ရန်လိုအပ်သည်။ သို့မှသာ စုရပ်နေရာတွင် ဌာနအသီးသီး၏ခေါင်းဆောင်များမှ မိမိတို့ဝန်ထမ်းများ စက်ရုံထဲတွင် ကျန်ရစ်ခဲ့ခြင်း ရှိမရှိကို စိစစ် စစ်ဆေးနိုင်မည်ဖြစ်သည်။

တာဝန်ရှိပေးအပ်ထားသော လုံခြုံရေးအဖွဲ့သည် မီးလောင်မှုသတိပေးချက် ရလျှင်ချင်း မီးသတ်ဌာနနှင့်ချိန်ဆက် ဆောင်ရွက်မည်ဖြစ်သည်။ မီးငြိမ်းသတ်ရေးကို ပထမဆုံးတာဝန်ရှိသည့် အဖွဲ့မှ မီးလောင်မှုအဆင့်ကို အကဲဖြတ်ပြီး အဆောက်အဦကို စစ်ဆေးမည်ဖြစ်သည်။ ထိန်းချုပ်မှု များကို အတတ်နိုင်ဆုံး ထိထိရောက်ရောက်ဖြင့် ပြီးမြောက်အောင် ဆောင်ရွက်ရမည်ဖြစ်သည်။ မီးသတ်ဌာနမှ မီးလောင်မှု ဖြစ်ပွားသည့်နေရာသို့ ရောက်လျှင်ရောက်ချင်း မီးငြိမ်းသတ်ရေး တာဝန်ရှိ သူများမှ မီးသတ်အဖွဲ့သို့ မီးလောင်မှုအခြေအနေအကျဉ်းကို ရှင်းလင်းအသိပေးရမည်ဖြစ်သည်။ သက်ဆိုင်ရာမီးသတ်ဌာနမှ မီးလောင်ရာနေရာအား ငြိမ်းသတ်ပြီးနောက် လုံးဝအန္တရာယ်ကင်းပြီဖြစ် ကြောင်းအသိပေးမှီအချိန်အထိ မည်သူမျှအဆောက်အဦအတွင်းသို့ ဝင်ခွင့်မပြုရပါ။ မီးဘေး အန္တရာယ်ကင်းရှင်းမှုဆိုင်ရာ ကြိုတင်ကာကွယ်ရေးနှင့်သင်ခန်းစာရယူရေးအတွက် မီးလောင်မှုစုံစမ်း စစ်ဆေးခြင်းများကို ပြည့်ပြည့်စုံစုံဆောင်ရွက်မည်ဖြစ်သည်။ မီးဘေးအန္တရာယ်ကင်းရှင်းစေရေး အချိန် မှန်စစ်ဆေးခြင်းကို နှစ်စဉ်ပြုလုပ်မည်ဖြစ်ပြီး စက်ရုံအတွင်း မီးလောင်မှုကိုကာကွယ်ရန် မီးဘေး အန္တရာယ်ကင်းရှင်းမှုဆိုင်ရာ အစီအမံများ ဖွံ့ဖြိုးတိုးတက်ရေးကိုလည်းဆောင်ရွက်သွားမည်ဖြစ်သည်။

**ဆေးကုသခြင်းနှင့်ဆိုင်သော အခြေအနေ**

အလုပ်သမားများ ဖျားနာသည့်အခါ သို့မဟုတ်ဒဏ်ရာအနာတရဖြစ်သည့်အခါများတွင် ဖြစ် ပေါ်သည့် အခြေအနေများစီစဉ်ဆောင်ရွက်ပေးမည်ဖြစ်သည်။ လူနာအား ကျွမ်းကျင်သည့် ဆေးဝန် ထမ်းမှ ဂရုစိုက်ပြုစုရမည်ဖြစ်ပြီး ပြင်းထန်မှု အပေါ်မူတည်ကာ အနီးဆုံးကျန်းမာရေးဌာနသို့ ချက်ချင်း ပို့ဆောင်နိုင်ရန် စီစဉ်ပေးရမည်ဖြစ်သည်။ လုပ်ငန်းခွင်အတွင်းရရှိခဲ့သည့် ထိခိုက်ဒဏ်ရာခြင်းနှင့် ဖျားနာခြင်းတို့ကို ဆေးကုသရပါက သက်ဆိုင်ရာဆရာဝန်၏ ဆေးထောက်ခံချက်ဖြင့် ဆေးကုသမှု ကုန်ကျစရိတ်အားလုံးနှင့် အလုပ်ပျက်ရက်များအတွက် နေ့တွက်စာစရိတ်ကို စက်ရုံမှ ကျခံပေးရမည် ဖြစ်သည်။

ပုံမှန်မဟုတ်သော တစ်ဦးထက်ပိုသည့် ဖျားနာမှုများဖြစ်ပွားပါက အလုပ်သမားများအားလုံးကို



အရေးပေါ်ဆန်းစစ်မှုများ လိုအပ်သလို ဆောင်ရွက်ပြီးမှသာလျှင် စက်ရုံသို့ ပြန်လည်ဝင်ခွင့်ပြုမည်ဖြစ်သည်။

**၁.၂.၁၀ နိဂုံးချုပ်နှင့်အကြံပြုချက်**

ကနဦးပတ်ဝန်းကျင် ဆန်းစစ်မှု ( IEE ) လေ့လာမှုအရ Bel Ga စီမံကိန်းသည်ပတ်ဝန်းကျင်အား သိသာထင်ရှားအောင်ထိခိုက်နိုင်ကြောင်းတွေ့ရပါသည်။ ထိခိုက်မှုမှာ စက်ရုံဝန်းအတွင်းသာ ဖြစ်နိုင်ပါသည်။ ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချစေနိုင်သောနည်းလမ်းများကို ESMP တွင် စီမံကိန်း၏ အချိန်ကာလအလိုက် ဖော်ပြထားပါသည်။ ESMP တွင်လည်း တာဝန်ရှိသူနှင့် တာဝန်ယူဆောင်ရွက်မည့်အဖွဲ့အစည်းများကိုလည်း ဖော်ပြထားပါသည်။

စက်ရုံသည် စက်မှုဇုန်နယ်မြေအတွင်း တည်ရှိနေပြီးဖြစ်သောကြောင့် စက်ရုံနှင့်စက်ရုံပတ်ဝန်းကျင်ရှိ လူအဖွဲ့အစည်းအတွက် ထိခိုက်သက်ရောက်မှုနည်းပါးစေမည်ဖြစ်ပြီး ဆိုးရွားသောသက်ရောက်မှုများရှိပါက ဖြေရှင်းဆောင်ရွက်ရန်အတွက် ကာကွယ်သည့်နည်းလမ်းများ၊ အကာအကွယ်သုံးပစ္စည်းကိရိယာများနှင့် လုပ်ထုံးလုပ်နည်းများကို ချမှတ်ထားရှိပြီး လုပ်ငန်းခွင်ပတ်ဝန်းကျင်တွင် ထိခိုက်သက်ရောက်မှု အနိမ့်ဆုံးဖြစ်စေရန် ဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။ ကြက်သားပေါက်ထုတ်လုပ်သည့်စက်ရုံအတွက် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်လေ့လာရေးအတွက် ကနဦးလေ့လာရေးနှင့် စောင့်ကြပ်ကြည့်ရှုမှုရလဒ်များအရ စီမံကိန်းစက်ရုံသည် စက်ရုံနှင့် စက်ရုံပတ်ဝန်းကျင်ရှိ လူအဖွဲ့အစည်းနှင့် ပတ်ဝန်းကျင်အပေါ် သိသာထင်ရှားသော ဆိုးရွားသောသက်ရောက်မှုများ ဖြစ်ပေါ်ခြင်းမရှိပဲ စက်ရုံလုပ်ငန်းကို လည်ပတ်ဆောင်ရွက်နိုင်မည်ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ရေး လုပ်ထုံးလုပ်နည်း (၂၀၁၅) အရ Bel Ga စီမံကိန်းသည် တစ်နှစ်နှစ်ကြိမ် ECD သို့ အစီရင်ခံစာ တင်ပြရပါသည်။ လုပ်ငန်းလည်ပတ်စဉ်ကာလတွင် အဓိက ထိခိုက်မှုမှာ လုပ်ငန်းခွင်နှင့်ဒေသခံကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေး၊ အိမ်သုံးအမှိုက်များထွက်ရှိခြင်းနှင့် ဓာတုအညစ်အကြေးများသာဖြစ်ပါသည်။ ထိုထိခိုက်မှုများအား သင့်တော်သောကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနည်းလမ်းများအသုံးပြု၍ ထိန်းသိမ်းနိုင်ပါသည်။ ထို့ပြင် ဆိုးရွားသောလူမှုရေးနှင့်ပတ်ဝန်းကျင်ထိခိုက်မှုများ မရှိစေရေးကို ဦးတည်လျက် ဓါတုပစ္စည်းများဖိတ်စင်မှု နဲပါးစေရန်နှင့် အန္တရာယ်ရှိသောစွန့်ပစ်ပစ္စည်းများအား တစ်ပတ်လျှင်တကြိမ် ပုံမှန်စွန့်ပစ်ရန် အတွက် စက်ရုံရှိ ဓါတုဆေးဝါးသိုလှောင်ခန်းနှင့် ဘေးအန္တရာယ်ရှိသောစွန့်ပစ်ပစ္စည်းများ ထားရှိသည့် နေရာတို့အား လေ့ကျင့်ထားပြီးသည့်လုပ်သားများမှ မကြာခဏလေ့လာစောင့်ကြပ်ကြည့်ရှုသွားမည်ဖြစ်သည်။ လူမှုရေးနှင့်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်(ESMP)ပါ လျော့ပါးသက်သာစေရေးလုပ်ငန်းများကိုလည်း လက်တွေ့အကောင်အထည်ဖော်ဆောင်ရွက်သွားမည်ဖြစ်ပြီး လူမှုရေးနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာကိစ္စရပ်များအတွက် လေ့လာစောင့်ကြည့်မှုလုပ်ငန်းများကိုလည်း ESMP ပါ အစီအစဉ်



အတိုင်း စဉ်ဆက်မပြတ် လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်နှင့်လူမှုစီးပွားစီမံခန့်ခွဲမှု အစီအစဉ်အတွက် အကြံပြုချက်မှာ တာဝန်ရှိသူမှ လုပ်ငန်းခွင်ကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် အရေးပေါ် စီမံခန့်ခွဲမှု အစီအစဉ်တို့ကို အစဉ်အမြဲ သုံးသပ်လေ့လာ၍ ခေတ်မီနည်းပညာများ အစားထိုးအသုံးပြုရန် လိုအပ်သည်။ လုပ်ငန်းခွင် လည်ပတ်မှု ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် အရေးပေါ်စီမံခန့်ခွဲမှုအစီအစဉ်တို့ကို ဝန်ထမ်းများ အတွက် မွန်းမံသင်တန်းများပေးရန် အကြံပြုအပ်ပါသည်။

အချုပ်ဆိုရသော် ဘလ်လ်ဂါ ကြက်သားပေါက်ထုတ်လုပ်ရေးစက်ရုံစီမံကိန်း၏ သက်တမ်းတ လျှောက် ပတ်ဝန်းကျင်၊ ကျန်းမာရေးနှင့် ဘေးကင်းရေးဆိုင်ရာကိစ္စရပ်များနှင့် လူမှုရေးတာဝန်များကို ထိရောက်စွာ အကောင်အထည်ဖော်ဆောင်ရွက်သွားသင့်ပါသည်။ ထို့နောက် စီမံကိန်းအဆိုပြုသူ အနေဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ ချမှတ်ထားသော နည်းဥပဒေများနှင့်နည်းလမ်းများ ကို တင်းကျပ်စွာလိုက်နာဆောင်ရွက်သင့်ပါသည်။ ထို့ပြင် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ရေးအစီရင် ခံစာ(IEE Report)အား ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ အတည်ပြုပြီးသည့်အခါ ESMP အစီအ စဉ်ပါ လျော့ပါးသက်သာစေရေးအစီအမံများနှင့်စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ငန်းများကို အမှန်တကယ် လက်တွေ့လိုက်နာဆောင်ရွက်ရန်လည်း လွန်စွာအရေးကြီးပါသည်။ ဘလ်ဂါ-မြန်မာ လီမိတက်၏ စီမံခန့်ခွဲရေးဌာနအနေဖြင့် ကျန်းမာရေး၊ လူမှုရေးရာနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာခြင်းလုပ်ငန်းများကို ထိ ရောက်စွာ အကောင်အထည် ဖော်ဆောင်ရွက်နိုင်ရေးအတွက် အတွေ့အကြုံရှိပြီး ဗဟုသုတကြွယ်ဝ သောတာဝန်ခံအား ရွေးချယ်ခန့်အပ်ဆောင်ရွက်သွားရေးကိုလည်း အရေးကြီးသည့်လုပ်ငန်းများထဲမှ တခုအနေဖြင့် အလေးထားဆောင်ရွက်သွားသင့်ပါသည်။ စီမံကိန်းအဆိုပြုသူသည် ပြည်ထောင်စု သမ္မတမြန်မာနိုင်ငံမှ ချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာမူဝါဒများ၊ ဥပဒေများနှင့် လုပ်ထုံးလုပ်နည်းများနှင့်အတူ အခြားစီမံကိန်းနှင့် ဆက်စပ်သောဥပဒေများကိုလည်း လိုက်နာဆောင် ရွက်သွားရန် လိုအပ်ပါကြောင်း အကြံပြုတင်ပြအပ်ပါသည်။



## 2. INTRODUCTION

Myanmar, an emerging economy with growing demands, offers great potentials for reliable supply of high-quality hatching eggs with modern hatching technology of Petersime Belgium which is one of the world leaders in incubation with proven management skills and 80 years of know-how to produce day-old chicks.

Among many alternative locations in Myanmar, the current site - Myaung Dagar Industrial zone of Hmawbi Township - provides strategic advantages in receiving raw materials, access to electricity, built environment specifically aimed for industrial activities, relatively easy transportation routes to and from upper and lower parts of the country, necessary labor pool with technical capacity, and available land suitable for the purpose. Bel Ga prefers the modern hatchery over the customary hatching applications. Bel Ga Myanmar will apply the most modern hatchery methods in combination with the use of high-quality imported eggs to minimize pathogenic contamination and maximize the protection of day-old chicks.

Bel Ga Myanmar Limited proposed to conduct the chicken hatching project in accordance with the Section 13 (b) of the Republic of the Union of Myanmar Foreign Investment law, at plot no.312, 313, and 314 in Myaung Dagar Industrial zone of Hmawbi Township, Yangon Region. The total area of the project is 2.16 ha and the plant building will occupy about 2800 m<sup>2</sup> (0.28ha). The Myanmar Investment Commission (MIC) issued the permit on the proposal for investing in “Production, Distribution, and sales of Day-Old Chicks (DOCs)” under the name of Bel Ga Myanmar Limited as a wholly owned foreign investment from the Netherlands in May 2017. As per the environmental approval from the Ministry of the Natural Resources and Environmental Conservation (MONREC), the project requires to meet an IEE of Myanmar Environmental Conservation Law. Bel Ga Myanmar Ltd. has commissioned Social & Environmental Associate – Myanmar (SEAM) to conduct the Initial Environmental Examination (IEE) study report for the project.

Beside the hatchery, Belga Myanmar extended their investment in the parent stock farm in 2019, and it has been running as Bel Ga Parent Stock Chicken Farm.1 since June 2019 to produce the high-quality Hatching Eggs with the capacity of 100,000 Parent stock per month, and it is located near 31miles of Yangon-Mandalay High Way within Bago Region area. In 2020, Parent Stock Farm.2 was extended near 35.4 miles beside Yangon-Mandalay Highway with US\$ 6.834 million of foreign investment. **ANNEX.16** is shown for the project development plan of the current hatchery plant of Belga Myanmar.

### 2.1 IDENTIFICATION OF THE PROJECT PROPONENT

Bel Ga Myanmar Ltd. is a 100% subsidiary of a Joint Venture company called BDH Asia, established in the Netherlands between BELGABROED (51%) and De Heus Animal Nutrition, The Netherlands (49%). BELGABROED Belgium is the market leader in Belgium in producing High-Quality Day-Old Chicks, Day Old Layers and Hatching Eggs with more than 80 years of experience. Besides, BELGABROED is also prominent producer in The



Netherlands and exports its products to third countries such as Iraq, Libya, Soudan and Russia.

In accordance with the Section 13(b) of the Republic of the Union of Myanmar Foreign Investment law, BelGa Myanmar Limited proposed to conduct the chicken hatching Project, at plot no.312, 313, and 314 in Myaung Dagar Industrial zone of Hmawbi Township, Yangon Region. The total area of the proposed project is 2.16 ha and about 2800m<sup>2</sup> (0.28ha) will be occupied by the building of the plant. The Myanmar Investment Commission (MIC) issued the permit on the proposal for investing in “Production, Distribution, and sales of Day-old Chicks (DOCs)” under the name of BelGa Myanmar Limited as a wholly owned foreign investment from the Netherlands in May 2017. The total capital investment is US \$4.7 million and will valid for 50 years. The project proponent information is described in detail as follow.

<b>Category</b>	<b>Descriptions</b>
Name of Investor/Promoter	MR. CARL ALBERT M. DESTROOPER
Citizenship	Belgian
Address	Steeweg Op Hoogstraten 145. 2330 Merksplas, Belgium
Name and Address of Principal Organization	BdhAzie B.V. 6717 Ve Ede DldRubensstraat 175. The Netherlands
Place of Incorporation	The Netherlands
Type of Business	Production, Distribution, and Sales of Day-Old Chicks
Place(s) in which Investment is Permitted	Plot No. 312,313, And 314, MyaungDagar Steel Industrial Zone, Hmawbi Township, Yangon Region
Form of Investment	Wholly Foreign Owned Investment from The Netherlands
Name of Company Incorporated in Myanmar	BelGa Myanmar Limited
Type of Investment	100% Foreign Direct Investment
Validity of Investment Permit	50 Years
Invested Capital (USD)	\$ 4.177 Million
Period of Foreign Capital brought in	Within One year from the date of Issuance of the MIC Permit
Type of land	Permitted Land (Industrial Land)
Construction Period	12 MONTHS
Production Commencing Date	By November 2017
Annual Rate of Production	Not yet fixed; expected to produce seven million docs per year
Address of Responsible Manager from Bel Ga Myanmar Limited	Mr. Ben Cliteur Managing Director Plot No 312, 313, 314 Myaung Dakar Industrial Zone, Hmawbi Township, Yangon, Myanmar Mobile: +95 (0) 976 153 2548 (Myanmar)



The Responsible Person of Bel Ga Myanmar Hatchery Plant are as follow:

No.	Name	Position	Email	Phone No & Address
1	Ben Cliteur	Managing Director	ben.cliteur@belgaasia.com	09761532548 Yangon
2	Dr. Hay Man Oo	Operation Manager	jessie.hay@belgaasia.com	09797906848 Myaung Dakar Industrial Zone
3	Daw Poe Ei Soe	Senior Accountant	jenny.poe@belgaasia.com	09967959814 Myaung Dakar Industrial Zone
4	Mr. Randy	Hatchery Manager	randy.villanueva@belgaasia.com	09958446081 Hatchery Plant
5	Dr. Aung Kyaw Htet	Assistant Hatchery Manager	felix.aung@belgaasia.com	09971323399 Hatchery Plant
6	Dr. Zaw Zaw Htat	Senior QC Officer	alex.zaw@belgaasia.com	09762478236 Myaung Dakar Industrial Zone

However, the Contact Person of Bel Ga Myanmar Limited for the IEE processing is as follows:

Zaw Zaw Htat  
QC Officer  
BEL GA MYANMAR LIMITED  
Plot No. 312, 313, 314  
Myaung Dakar Industrial Zone,  
Hmawbi Township, Yangon, Myanmar  
Mobile: +95 (0) 9 762 478 236  
Email address: alex.zaw@belgaasia.com  
Web: www.belgaasia.com

## 2.2 IDENTIFICATION OF THE IEE EXPERTS

SEAM is an established and registered environmental and social consulting firm but its strong team possesses extensive and distinguished experiences in the trait. In addition, SEAM offers utmost emphasis and attentive priority for social and environmental assessments and conservation measures to negate potential social and environmental impacts caused by the project’s activities.

SEAM’s members are as follows:

Sr.	SEAM Team	Degree	Part of the Report Responsible
1	Dr. Zin Mar Lwin	Ph.D (Ensci:) ;Agri and environmental specialist	Overall review of the report, public consultation, impact assessment, and EMP
2	Dr. Aung Shein	Dr. Engg. (Mining); Mine specialist	Socioeconomic and impact mitigation measures; natural environment
3	Mr. Josiah Bowles	M. Sc (Water Engineering); Senior field specialist	Environmental impacts assessment, mitigation measures, and EMP formulation, making assessment on wastewater contamination
4	Khing Thwe Oo	M. Sc (Air Quality); Air quality specialist	Air quality monitoring and hazardous waste management
5	Daw Kaythi Soe Myint	M.PH; B.Sc (Hons) Zoology; Biodiversity, Social and health specialist	Overseeing socio-economic survey and public consultation, making assessment on flora and fauna survey
6	U Min Zarni Aung	B.Tech (Mining); Field specialist (air and biodiversity)	Conducting air quality field survey, biodiversity survey, and assisting in public consultations
7	U Nay Soe Tun	B. Sc (Geology); Field specialist (soil)	Conducting field survey for soil and geology, collecting information on current environment, biodiversity survey, and assisting in public consultations
8	U Than Soe	B. Sc (Maths); Technical Assistant for social assessments	Conducting socio-economic surveys and assisting in public consultation
9	U Win Aung	Completed high school; Field Assistant (biodiversity)	Conducting socio-economic surveys, helping with biodiversity survey, and assisting in public consultation



Sr.	SEAM Team	Degree	Part of the Report Responsible
10	U Min Min Oo	B.A (Myanmar); Health and safety specialist	Health and safety policies and inspections
11	Daw Su Su Mon	B.E (Chemical); Water quality specialist	Executing water quality survey, assessing water contamination sources, helping to identify pollution sources, and developing mitigation measures
12	U Thet Paing Oo	B.Sc (Geology) GIS Specialist	Leading GIS surveys, assisting biodiversity and soil surveys, and helping training materials development
13	Dr. Htun Aung	B.V. Sc; Poultry and fowls breeding specialist	Making assessment of chicken hatchery application from the health
14	Daw Yin Yin Nwet	M.Sc (Agri. Eco.) Social and Public Consultation specialist	Outline a strategy for the most efficient and meaningful consultation, organize the meeting, making assessment of social issues
15.	U Khin Zaw	B.Sc (Computer) Technical writer & biodiversity specialist	Proofreading, editing and developing the report, making assessment on biodiversity survey

In addition to SEAM's regular social team, the team was reinforced with facilitators for socio-economic surveys and public consultation. SEAM is committed to develop the objectives of IEE, which emphasizes on both adverse impacts and positive outcomes incurred by the project related activities and deals with adequate mitigation measures to address these adverse impacts.

#### SEAM's Contact Information and Registration

SEAM is located at No. (76) Myitzuthaka Street, Apine (4), Paukkone, Mingalardon, Yangon.

Phone number: 09269410460

Email: seamgroup@myseam.com

SEAM has been incorporated under the Myanmar Companies Act since 2017 as a private company limited by shares and its company registration No. 102690923 has been renewed every year. In compliance to Environmental Conservation Department (ECD) requirement, SEAM have received the Environmental Consultant registration certificates no.00045 from ECD. **(ANNEX.17)** In addition to SEAM's regular social team, it reinforced with public consultation facilitators.

SEAM members have filed registration for individual transitional consultancy with



Environmental Conservation Department (ECD) from Ministry of Natural Resources and Environmental Conservation to carry out environmental impact assessment studies since the beginning of the registration process. However, only Dr. Zin Mar Lwin and U Thet Paing Oo received the certificates, and the other members' certificates are still in working progress at ECD as of today. The curriculum vitas of SEAM member are also attached in **ANNEX.17**. The organization chart of SEAM TEAM and their duties and functions are described in **ANNEX.18**

By the nature of the construction process and project design, the project's area of influence (AOI) is determined to be within 1 km radius of the project which would be sufficient to cover in general for the project of this type. The environmental and social information of the IEE study include air, noise, water and soil quality assessment, biodiversity and socio-economic information were also collected from both primary and reliable secondary sources. The existing topography, rainfall, temperature, ecological resources, and land use were recorded from the secondary sources.

### 3. PROJECT DESCRIPTION AND ALTERNATIVES

Bel Ga Myanmar Ltd. has newly established in Myanmar as a fully foreign-owned company introducing hatching of imported high-quality eggs to produce day-old chicks for independent broiler farmers in the country. Bel Ga Myanmar hatchery plant is situated at Plot No. 312 to 314 in Myaung Dagar Industrial Zone near Yangon. The coordinate location of the proposed project is 17° 10'.0"N and 95°59'.0"E with the total area of 2.16 ha acre. **Figure 1** shows the location map of the factory, and Bel Ga Factory Layout Map, and BelGa Myanmar Hatchery Plant layout plan were seen in **Figure 2** and **Figure 3**. The relevant permissions and licensed documents of the factory are described in **ANNEX.6**.

Bel Ga's hatchery plant has commenced operation by 14 Feb 2018. It runs one shift per/day, 8am – 5pm. Work schedule and number of shifts;

- Work Schedule is Monday to Friday: 08:00 AM to 05:00 PM
- Saturday 08:00 AM to 12:00 PM
- Off Days: Sundays and Public Holiday
- One Shift operation

Originating from Aviagen that specializes in genetic hatchery of high-quality eggs and broiler breeders, the plant will introduce modern hatching technology of Petersime Belgium (one of the world leaders in incubation) with proven management skills and 80 years of knowhow for production of day-old chicks for local customers and will make the investment in parent stock facilities for reliable supply of high-quality hatching eggs in the second phase.

With emerging economy and growing demands, Myanmar offers great potentials for the market in the region. Among many alternative locations in Myanmar, the current site provides strategic advantages in receiving raw materials, access to electricity, built environment specifically aimed for industrial activities, relatively easy transportation network of roads to and from upper and lower parts of the country, necessary labor pool with technical capacity, and available land suitable for the purpose. Bel Ga Myanmar will apply the most modern hatchery methods in combination with use of high-quality imported eggs to minimize pathogenic contamination and maximize the protection of day-old chicks.

#### 3.1 Project Development Schedules

The project has been implementing the following schedule.

No.	Project Activities	Key Date
1	IEE Report	May 2018
2	Construction Started	Feb 2017
3	Construction Completed	Feb 2018



4	Operation started	14 Feb 2018
5	Operational Year	50 years at least
6	Decommissioning	Not determined, land lease 50 years

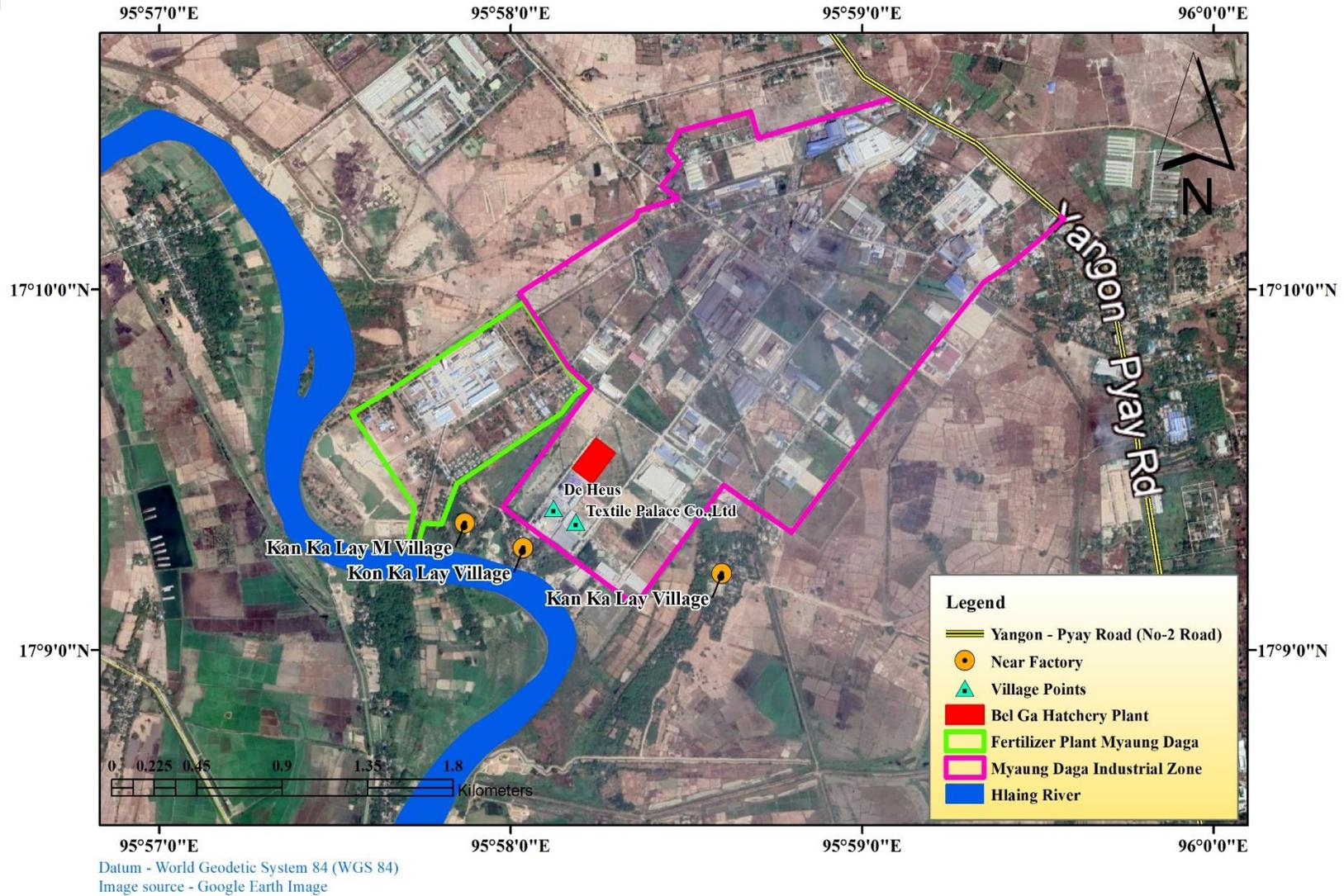


Figure 1: BelGa Hatchery Plant location in Myaung Dagar Industrial Zone

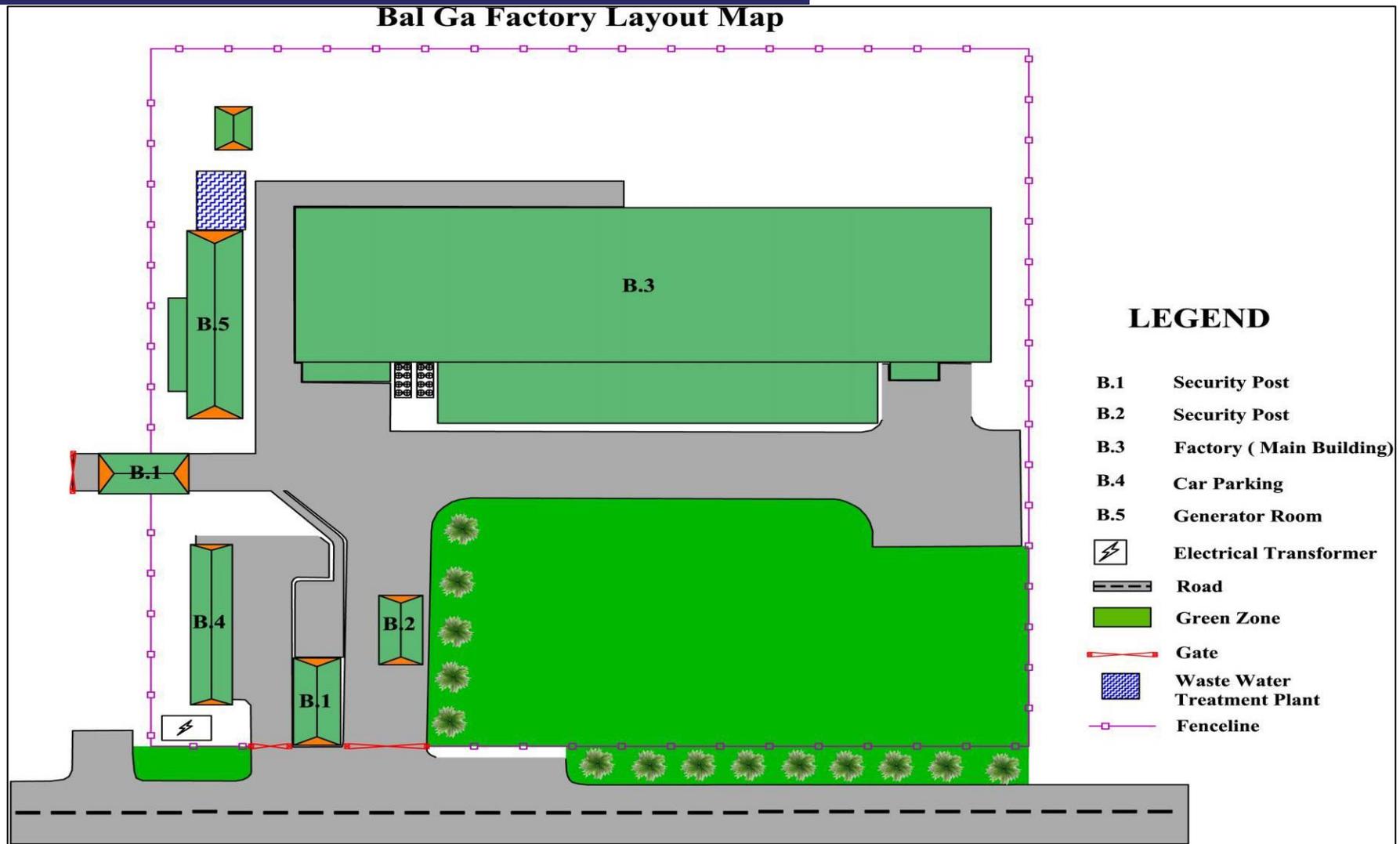


Figure 2: Bel Ga Factory Layout Map





### 3.2 Production Process

High quality and disease-free hatching eggs, which are certified by the National Veterinary Department of the Netherlands, will be imported. The imports of hatching eggs and all chemicals required for production will be exclusively from Netherlands and these are generally shipped with sea freight in containers to Myanmar. After all necessary departmental approval processes and the custom clearance, the materials are hauled to the factory. The factory stores eggs in a separate, secure, and temperature-controlled storage building in the compound. The chemicals are stored in designated chemical storage facilities with restricted access. The chemical storages are weather proof and confined to prevent chemical quality loss and potential hazardous incidents. Emergency spill and incident management systems are all in place to counter any mishap. Only trained and authorized persons in complete protective gear designed for these types of work have access to these storages. Chain of Custody (COC) documentation is required for all materials in and out of these facilities. Shipping of all these raw materials and chemicals are carried out by certified shippers with ability to handle sensitive materials. Secured and weather proof vehicles with properly trained drivers are used to transport the raw materials and chemicals for the factory.

Upon receipt, the eggs will be placed in plastic setter trays and stored to provide the rest period for the eggs. Then, these high-quality hatching eggs will be disinfected in the fumigation room before sending to setter room. Fumigated eggs spend 18 days of incubation in the setter room before going through the candling process. Inspecting eggs in the backdrop of strong and bright light, called candling, which provides the ability to removed unfertile eggs early. Fertile eggs will be then placed in plastic hatch boxes on the trolleys and moved to hatching machine section, where day-old chicks (DOC) will hatch in three days. In chick processing room, DOC will be separated from the egg shells, checked for deformities, and given vaccination before transferring to carton boxes for delivery to customers. The production capacity will be maximum of 150,000 DOCs per week in the first period but can be upgraded to 382,000 DOCs per week if necessary. Since the number of Hatching Eggs per week is currently around about 100,000 HE, the number of hatching eggs per day is about 33,500 HE. The MSDS for CID-2000 disinfection and formalin will be used in fumigation process. The MSDS for CID-2000 is a very common disinfectant used worldwide for control of classical swine fever, foot and mouth disease, and Avian Influenza. The MSDS for CID-2000 and formalin will be provided in the **Annex 4**. The production process flow diagram is described in *Figure 4*.

The carton boxes from the egg's delivery and the outside containers of transportation process will be recycled and the rest portion will discharge properly as a primary solid waste. The effluent will discharge from three main sources such as daily sanitation process of operation workers, the cleaning process of eggs carrying trays and trolleys, and the subsequent cleaning of incubation equipment. The effluent will discharge directly into the wastewater treatment facility in the compound of the factory to undergo treatment processes, which will meet the discharge wastewater characteristics set by the National Environmental Quality (Emission) Guideline (NEQEG) of Myanmar. The unfertile eggs, deformed DOCs (which will be put to sleep in an ethical way using CO<sub>2</sub>) and eggshells will come out as



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a byproduct of the operation process. These will be distributed as an animal feed to the nearest fishery firms and crocodile firm. The major solid waste of the hatching process, eggshell, will also be recycled as a raw material for fertilizer manufacturing industries. The byproducts and eggshells storage will manage properly before distributed to the related firms. The operation process will perform with great care on the reduction of biological waste and noise protection systems. The whole production process is mainly depending on the electricity supply and computerized main control system for 24 hours. There will be about 35 operation workers, 1 hatchery manager and 1 operation manager for the whole production system. The rate of chemical usage weekly for each chemical 5 kg Formalin and Pink powder. Regarding to the transportation of the products to the customers, the customer planned their own arrangement or outsourced supplier.

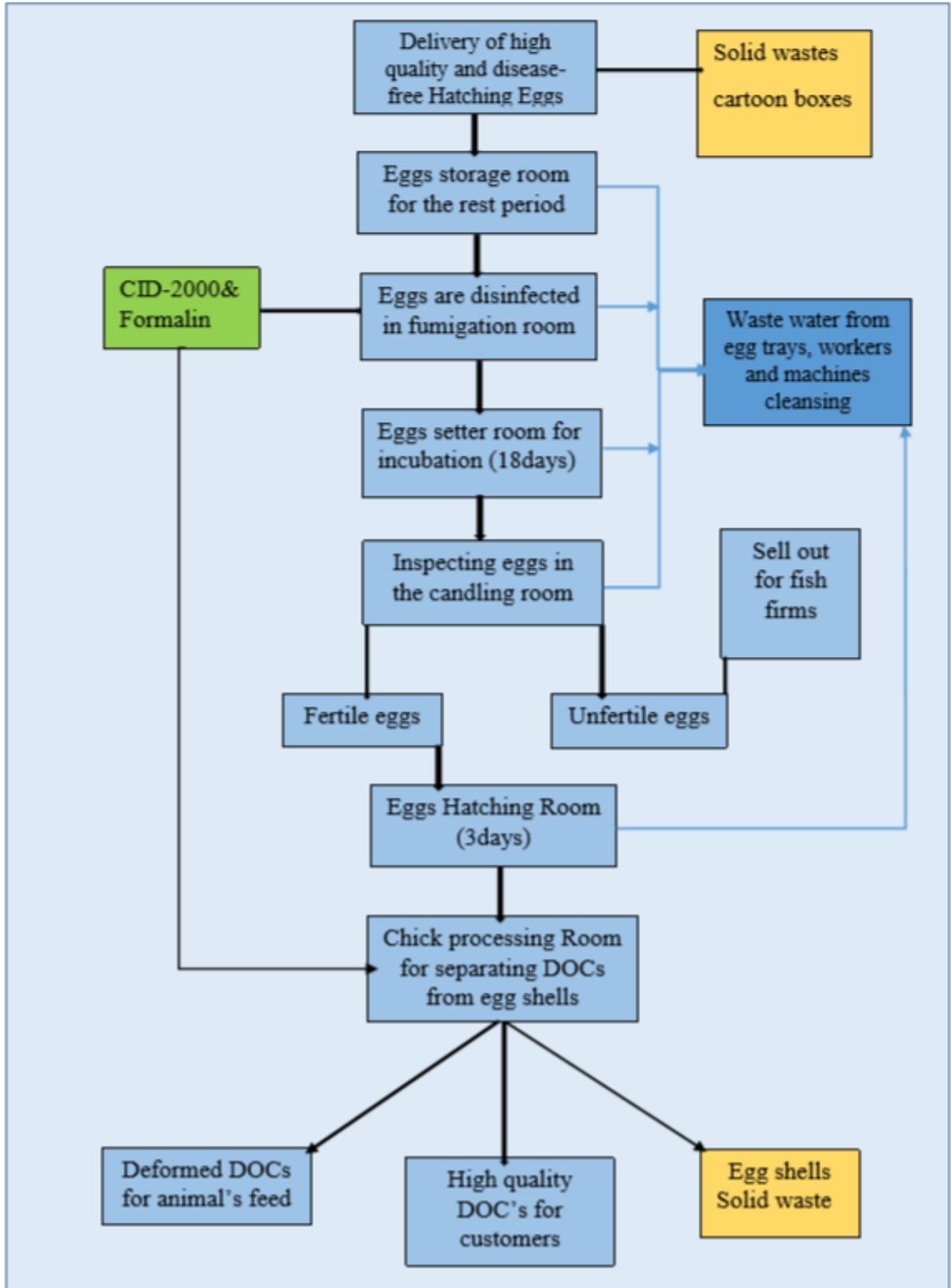


Figure 4: Process Flow Diagram of Belga Chicken Hatching Plant

### 3.3 Machines and Equipment, and Infrastructures

The following machines and equipment have been applied in the factory accordingly.

Table 1: List of Machines and Equipment at the Factory

No	Name	Unit	Quality
1	Setter (BioS-165)	Set	6
2	Setter (BioS-245 HD))	Set	4
3	Hatcher (BioS -4H)	Set	10
4	Calibration Kit	Set	2
5	Egg Lifter	Set	1
6	Zero CO2 Calibration Unit	Set	1
7	Fumigation	Set	1
8	Egg Transferring Machine	Set	1
9	Egg Candling Machine	Set	1
10	Pneumatic Turning System	Set	6
11	Switchboard-electric for connection	Set	1
12	Control Panel	Set	1
13	Connection Box	Set	1
14	Eagle Eye System	Set	1
15	Air Handling System	Set	1
16	Stand-by fan system	Set	1
17	Regulation Board	Set	1
18	Floodrains System	Set	1
19	Egg Cooling system	Set	2
20	Egg grading machine	Set	1
21	Egg Cleaning Machine	Set	1
22	Industrial Washing System	Set	1
23	Medium Pressure cleaning machines	Set	2
24	Air Compressor System	Set	1
25	Water Cooling System	Set	2
26	Generator 350 KVA	Set	1

In terms of infrastructure, the plant has one production main building (94.08 x 34.18 meters), one guard building which has dimensions of 14 x 4 meters, one car dip which has 72 square meter of dimensions, one utility building which has 31 x 7 meters, one ground water tank which has 11 x 7 meters and one parking area (150 square meters). The plant has been equipped with state-of-the-art equipment to be imported from Europe, including feeding, drinking, ventilation, pad cooling, heating, climate control, lighting, nesting systems and management network. In addition, there has two fencings which has 85 meters wide and 368 meters wide.

### 3.4 Electricity and Fuel supply

As the Bel Ga Myanmar hatchery plant is a power dependent industry, 24 hrs electricity supply will be connected with the permission from the Myaung Dagar Industrial zone main grid line. The projected total electricity consumption for a full hatchery operation period will be 71.120 KW per month. Bel Ga Myanmar has installed two soundproof backup generators with the capacity of 750KVA (Brand: Cummins, model no: KTA 38-G10) with the estimated fuel consumption liter per hours of 100% load 167 L/H, 75% load 126 L/H and 50% load 87 L/H respectively. The back-up generators are housed in a specially designed sound suppressing utility building, which is located at 15 meters from the hatchery plant for readiness to face emergency electricity outbreaks. Emergency fuel consumption estimate per year will be 18,000 Liters. For emergency fuel, 500 Litters will be stored in a secured building adjacent to the generators. Security staff will make regular surveillance and fire alarm system is put in place to prevent fire outbreak.



*Figure 5: Fuel Tank Position*



Figure 6: Fuel Tank

### 3.5 Water Supply

The major water sources for the whole factory construction and operation period will be from two deep tube wells inside the factory compound. The ground water level of existing tube well is about 100 meters from the soil surface and the diameter of the two tube-wells is 6 inches each. The drainage system of the factory and the storm water was seen in **ANNEX 7**. The capacity of water collecting tank is 490 m<sup>3</sup>. The collected water will be treated to ensure water quality requirements of the hatchery operation system. The water treatment system (Seen in **ANNEX.8**) will make sure the water quality for the hatchery process to be stable and in compliance with the WHO standards. The estimated water consumption by the designated capacity of water collection and treatment systems is 3200 liters per day, however there will be some changes in actual operation. The effluent from the whole operating system will discharge through the connected drainage channels into the wastewater treatment system. There is an emergency fire-fighting system with a water holding capacity of 30,000 liters.

### 3.6 Employment Plan

The entire farm is designed to be safe for human, animals and environment. When the farm is fully operational, it will employ 35 employees. The employees will be provided with housing and safe drinking water bottles from a reliable drinking water supplier. Bel Ga Myanmar will provide uniform and PPE, including laundry service for cleaning uniform and PPE. All employees have mandatory firefighting training and First AID training. All employees of Bel Ga get a company health insurance. Local employment will be preferred and only technical positions will be offered for peoples with the skill set from the other regions.

### 3.7 Solid Waste Management

Regarding the waste management, BelGa Myanmar Limited has designated storages for its different waste categories: domestic or general waste and wastes from operation processes including hazardous wastes (vaccines, chemical containers, etc) and discarded wastes from hatching process. Domestic waste/general waste will be collected and disposed twice a week by the municipal system of the industrial zone. Domestic waste/general waste will be collected at a designated large waste bins and sorted by the sanitation workers at the facility. After removing recyclables from the trash, the general wastes will be picked up by the industrial zone's municipal system and YCDC. These will then be disposed at a sanitary landfill approved by YCDC. Estimated amount of general waste generation daily will be 5 kg.

Meanwhile, the hazardous wastes (vaccines, chemical containers, ...etc) will be collected and disposed monthly by a specialized company as directed by YCDC. YCDC will be contracted to collect and dispose these materials in its hazardous disposal system. If it is not feasible, Golden DOWA's hazardous waste disposal will be contacted to dispose these materials. Daily generation of these materials will 0.7kg. While in the facility, the hazardous waste will be collected and placed in secured and identifiable containers large enough to handle the factory's daily output. Only trained staff will handle hazardous wastes and hazardous wastes will be stored separately and protective measures have been installed to prevent accidental spills and emergency management.

The considerable volume of discarded hatching eggs, egg shells, and deformed chicks will be transferred daily as feed for fish farms. These materials will also be separately kept in designated containers and will be handled by sanitation staff. These materials will be shipped daily to fish farms in secure containers. Bel Ga expects that total amount of these materials will weigh about 5 kg per day. The recorded photos for solid waste egg-shell and its packing are illustrated in the following figures.



*Figure 7: Solid waste -egg shell*



*Figure 8: MCDC - Mawbi City Development Committee to pick up*

### **3.8 Wastewater Treatment System**

The effluent discharged from the whole operation process will be treated in the wastewater treatment system at the right side of the plant. The stormwater and effluent from hatchery process will connect with the proper pipeline and the underground concrete channels and will discharge into the wastewater tank for the treatment process. The quality of wastewater will be monitored based on the parameters described in the National Environmental Quality Emission Guideline (NEQEG). The treated wastewater, in compliance with the sectorial specific standard or general effluent standard of NEQEG if sectorial specific standard is not available, will finally be recycled in the operation and excess amount will be discharged to the main drainage from the Industrial zone. The wastewater treatment procedure of the factory was described in **ANNEX. 9** and the following figures are shown the schematic flow diagram and flow chart of the wastewater treatment system.

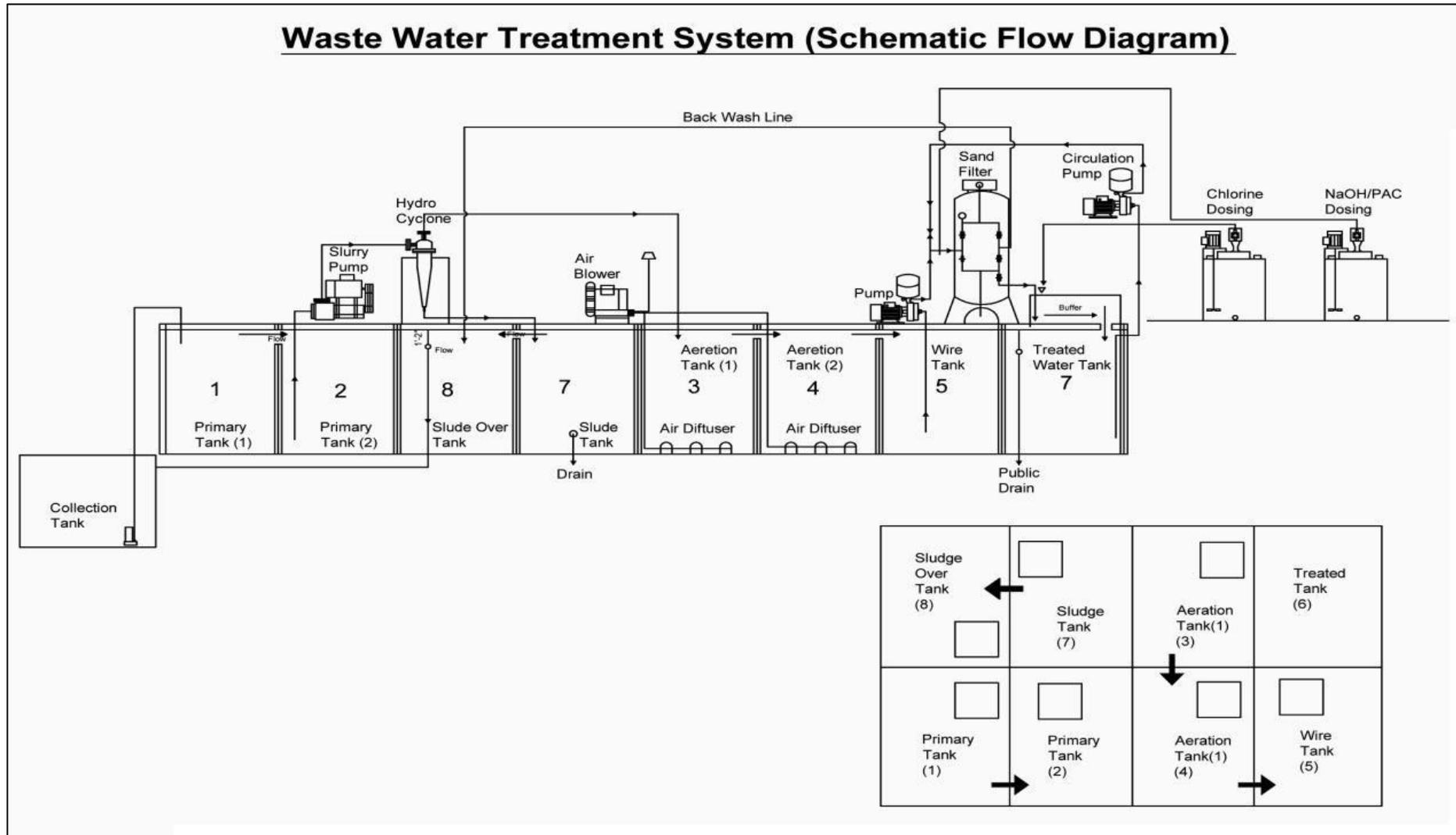
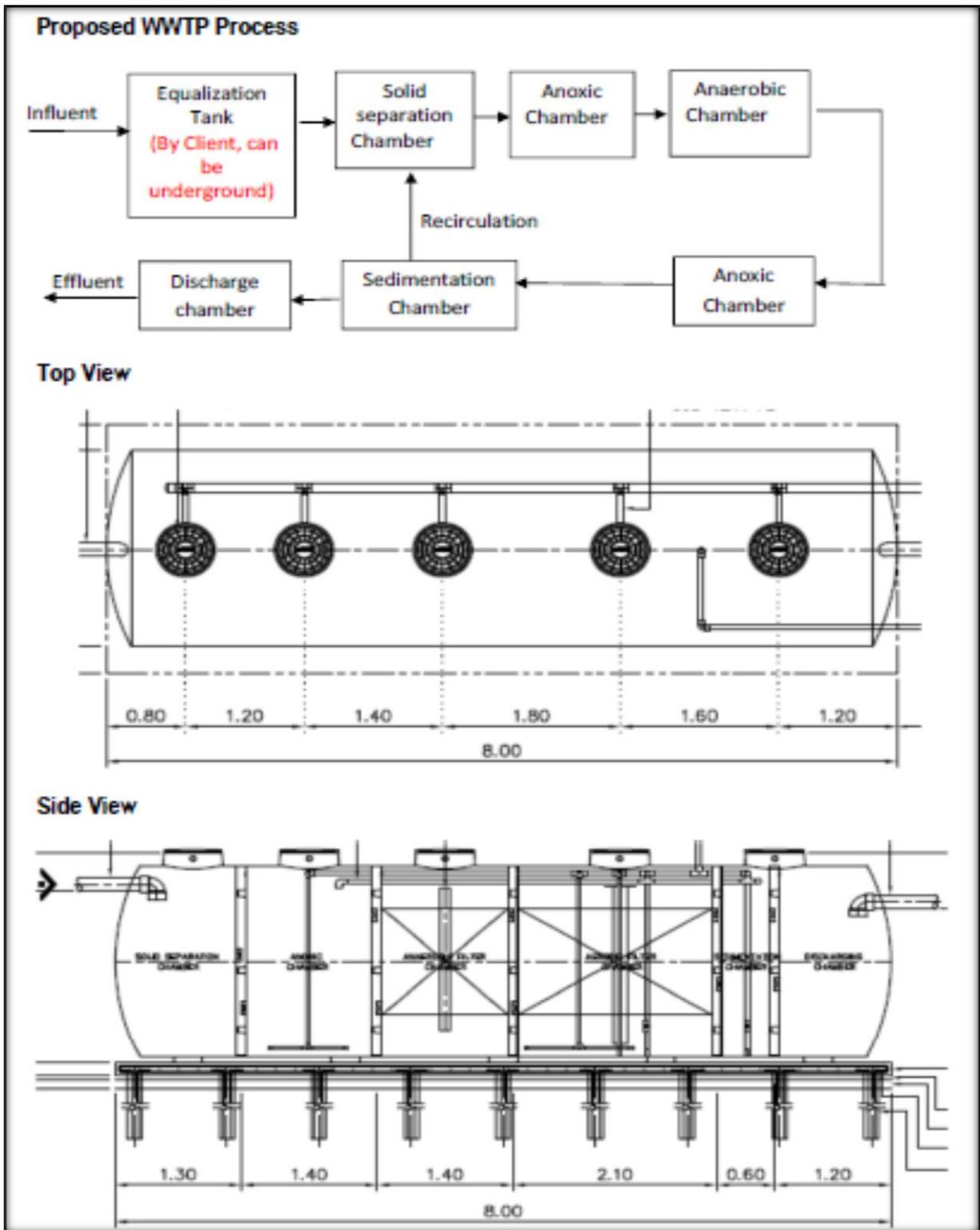


Figure 9: Waste Water Treatment System



**Figure 10: Proposed Wastewater Treatment flow chart and diagram**

In addition, the wastewater treatment system will be designed to meet IFC's wastewater effluent quality. The effluent quality will be monitored and reported regularly to the concerned authorities.



### 3.9 Alternatives in Considerations

Bel GA Myanmar has undertaken the project analysis process for its operation in Myanmar. Bel Ga Myanmar's goal is to become the best and most flexible DOCs supplier to the domestic's market in order to build up and improve current poultry farm systems in Myanmar. Currently, Bel Ga Hatchery in Myanmar is already production, distribution and selling since 15th March 2018. In the first phase, prior to establishment of the PS Farm, Bel Ga is importing Hatching Eggs into Myanmar for use in our Hatchery from Belgium. However, to increase sustainability and facilitate the efficiency, productivity and profitability of every party in the poultry value chain, Bel Ga Myanmar intends to also invest in the local Parent Stock Farm.

Bel Ga Myanmar also wants to connect with the local farmers who can adapt to new techniques and models to increase their productivity in relation to broiler sales or chicken meat and to lower cost of production as much as possible through cooperation with animal feed supplier company, De Heus Myanmar Ltd. Originating from Aviagen that specializes in genetic hatchery of high-quality eggs and broiler breeders, the plant will introduce modern hatching technology of Petersime Belgium (one of the world leaders in incubation) with proven management skills and 80 years of knowhow for production of day-old chicks.

Among many alternative locations in Myanmar, the current site provides strategic advantages in receiving raw materials, access to electricity, built environment specifically aimed for industrial activities, relatively easy transportation network of roads to and from upper and lower parts of the country, necessary labor pool with technical capacity, and available land suitable for the purpose. Bel Ga Myanmar will apply the most modern hatchery methods in combination with use of high-quality imported eggs to minimize pathogenic contamination and maximize the protection of day-old chicks.

## 4. NATIONAL LEGAL FRAMEWORK AND RELEVANT POLICIES

The following section examines the national legal framework of Myanmar and relevant policies of the project with regards to the environment, working conditions, and welfare of workers. The objectives of the national legal framework and the relevant policies are to ascertain avoidance of environmental and social adverse impacts as much as possible, to make proactive mitigation measures as early as applicable, and to maximize positive effects of the project throughout its life.

Recently renamed Ministry of National Resources and Environmental Conservation (MONREC), formerly known as Ministry of Environmental Conservation and Forestry (MOECAF), has been striving to develop environmental conservation and pollution control mechanisms. To supplement the Environmental Conservation Law promulgated in 2012, Environmental Impacts Assessment (EIA) rules and regulations were enacted in June 2014. EIA Procedure was finalized and stipulated in December 2015. This Initial Environmental Examination (IEE) for Bel Ga's project has been conducted strictly in line with the existing EIA rules, regulations, and procedure of Myanmar.

According to the EIA Procedure, developed under Section 32 of the Environmental Conservation Law, specification described in Annex 1 Agriculture, Livestock, and Forestry Development, for poultry manufacturing, the proposed day-old chicks hatching plant with the highest capacity of 382,000 DOCs per week accounts for 2.5 tons per day production as average weight of a chick is around 40 grams as per various researchers for hatchery. Therefore, the production quantity is much less than IEE requirement of 50 tons per day specification but BelGa has determined to satisfy IEE.

### 4.1 National Policy and Legal Framework

#### 4.1.1 Environmental Conservation Law (2012)

The Environmental Conservation Law (2012) is the main governing law and the principal objectives of this Law are:

- a. To emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefits of present and future generation; and
- b. To enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially.

In Section 3 of the Environmental Conservation Law (2012), it stipulates the following duties and functions and powers regarding the environmental conservation:

- a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agricultural, mineral production, sanitation and other activities.
- b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment.
- c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances.
- d) To prescribe the terms and conditions relating effluent treatment in industrial



estates and other necessary places and building and emissions of machines, vehicles and mechanisms.

- e) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government department, organization, or person may cause a significant impact on the environment.
- f) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works.

The Environmental Conservation Law (2012), in Section 10 also stated the following environmental quality standards:

- a) Suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, lakes, reservoirs and other inland water sources of the public;
- b) Water quality standards for coastal and estuarine areas;
- c) Underground water quality standards;
- d) Atmospheric quality standards;
- e) Noise and vibration standards;
- f) Emissions standards
- g) Effluent standards;
- h) Solid waste standards;
- i) Other environmental quality standards stipulated by the Union Government.

In Section 13 of the law stated that the Ministry shall, under the guidance of the Committee, maintain a comprehensive monitoring system and implement by itself or in coordination with relevant Government Departments, and organizations in the following matters:

- a) The use of agro-chemicals which cause to impact on the environment significantly;
- b) Transport, storage, use, treatment and disposal of pollutants and hazardous substances in industries;
- c) Disposal of wastes which come out from exploration, production and treatment of minerals, industrial mineral raw materials and gems;
- d) Carrying waste disposal and sanitation works;
- e) Carrying out development and construction works;
- f) Carrying out other necessary matters relating to environmental pollution.

In Sections 14, 15, and 16, the law also highlights the duties and responsibilities of the project proponents/business owners require the project/business be carried out in a manner that does not cause environmental impacts or damages.

#### **4.1.2 Environmental Conservation Rules (2014)**

The basic principles of this Rule stated that how the EIA (ESIA) or IEE report



should be prepared and submitted by any organization or person relating to EIA and how they are reviewed and approved by the reviewer of the Government body. Rule 58 mainly deals with how the Ministry shall form the EIA Report Review Body with the experts from the relevant Government Departments, and organizations, whereas Rule 59 mandates on how the submitted EIA report be scrutinized by the assigned personnel of the Ministry. Rule 61 states on how the Ministry may approve and reply on the EIA report or IEE report or EMP report.

#### **4.1.3 Environmental Impact Assessment Procedures (2015)**

The EIA Procedures (2015) stipulates the detail procedures to be followed by any organization or person relating to EIA in conducting the EIA process. Generally, according to Section 23 of EIA Procedure (2015), project proposal starts with the screening process and the ECD will determine the need for environmental assessment. The department will determine, taking into account the Articles 25 and 28, a solution to designate the project as one of the following project types:

- 1) An EIA type project, or
- 2) An IEE type project, or
- 3) A non IEE or EIA type project, and therefore any environmental assessment is not required to undertake.

In Section 24, the EIA Procedures (2015), also states that the Ministry shall approve on whether an EMP will be needed in respect of any project.

#### **4.1.4 Myanmar Constitution Law (2008)**

In Section 45 of Myanmar Constitution (2008), it has been stated that the Union shall protect and conserve natural environment. In Section 390 (b) it also highlights that every citizen has the duty to assist the Union carrying out the environmental conservation.

#### **4.1.5 Myanmar Investment Law (2016)**

Myanmar Investment Law (2016) has been enacted to promote sustainable investment to Myanmar without causing harm and adverse effects to the environment and the social conditions of the country. In addition, the law protects investors and their investments, create employment opportunities, and to bridge capacity building for human resources development and technical improvements. With the law, the commission is formed to oversee the foreign investments and protect Myanmar's interests. The factory understands that while doing business for profit, the factory is determined to keep it in line with the Myanmar government's requirements.

#### **4.1.6 Myanmar Investment Rules (2017)**

The investment rules introduce reforms, offer ease of doing business to attract more foreign investments, and ensure investors' confidence. The approval of MIC is required in relation to the transfer of proceeds from a total or partial sale or liquidation, payments resulting



from any settlement of investment disputes, compensation under investment or expropriation, or where the investor has any outstanding tax obligations, or any contingent or disputed obligations within Myanmar. Investors holding a permit or endorsement are required to take out relevant insurance based on the types of insurance for the project.

#### **4.1.7 Law on Standardization (2014)**

The law sets the requirements for standardization and define the formation of a body to manage standards and qualities. Accreditation and certification processes are included to enhance quality of production organizations and their products and to protect the consumers and users. Violations of standards could face warning, suspension, and cancellation of certificates. The factory will work with concerned commission to obtain relevant certificates for its products.

#### **4.2 Relevant Legislation, Laws, Rules, Standards & Guidelines**

This Section provides a summary of other relevant national laws, rules and regulations for environmental protection applicable to the proposed project. These include some policies, regulations on environmental impact assessment and environmental management plan, the Export and Import Law (2012), Foreign Investment Law (2012) and Rules (2013), Prevention of Hazard from Chemicals and Related Substances Law (2013), Boiler Law (2015), Land Acquisition Act (1894). Conservation of water resources and rivers law, Land Acquisition Act, Foreign Investment Law, etc.

##### **4.2.1 The Export and Import Law (2012)**

The main objectives of this law are as follows:

- a) To enable to implement the economic principles of the State;
- b) To enable to lay down the policies relating to export and import that supports the development of the State;
- c) To cause the policies relating to export and import of the State and activities are to be in conformity with the trade standards; and
- d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.

The law stipulates, in Section 5 that no person shall export and import the restricted, prohibited, and banned goods and Section 6 states that permitted license should be obtained if any organization or person would like to do export and import business in the State.

##### **4.2.2 Foreign Investment Law (2012) and Rules (2013)**

The Foreign Investment Law (FIL) and Rules clarify Myanmar's foreign investment framework. Basic principles of the FIL, in Section 8, stated that the investment be allowed in a manner that: a) supports the primary objectives of the National Economic Development plans,

- b) protects and conserves the environment and developments to save energy consumption, and
- c) provides the development of employment activities. Section 17 states the



duties and rights for the investors to be followed that the business be carried out in a manner that does not cause environmental pollution or damage according to existing laws.

Rule 54, of Chapter 4 in Foreign Investment Rules (2013) states that the promoter or investor shall:

- (a) Comply with Environmental Protection Law in dealing with environmental protection matters related to the business.
- (b) Carry out socially responsible investment in the interest of the Union and its people.
- (c) Co-operate with authorities for occasional or mandatory inspection.
- (d) Exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshops, buildings, and other activities.
- (e) Enforce Safety and Health measures in the workplace.
- (f) Exercise in conformity and harmony with terms and conditions, and standards prescribed by relevant Ministry in transporting, storing, and utilizing hazardous, toxic and other similar materials.

In compliance with Foreign Investment Law (2012) and Rules (2013), Bel Ga Myanmar has sought MIC permit and has assumed IEE study with independent ESIA consulting group to satisfy MONREC's requirements.

#### **4.2.3 Myanmar Investment Commission Notification No 1 of 2013**

The Myanmar Investment Commission Notification 1 approved in 2013 includes a list of Economic Activities (No 3) which require an Environmental Impact Assessment (EIA). That includes the list of criteria for determination of IEE or EIA requirements. The proposed high- quality egg hatchery with the planned production capacity falls in the IEE required category as mentioned above. IEE study has been in progress strictly in compliance with the guidance and procedures from ECD.

#### **4.2.4 Prevention of Hazard from Chemicals and Related Substances Law (2013)**

This law was enacted in August 2013 for the safe use and disposal of hazardous chemicals. The law stipulates how potentially hazardous chemicals should be used, stored, handled, and disposed of. It also mandates the use of international standards for categorizing and labelling chemicals known as the Global Harmonize System of Classification and labelling of chemicals, which is widely used in the ASEAN countries. The main objectives of the law are:

- a) To protect from being damaged the natural environmental resources and being hazardous any living beings by chemical and related substance;
- b) To supervise systematically in performing the chemical and related substances business with permission for being safety;



- c) To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;

To perform the sustainable development for the occupational health, safety and conservation.

#### ***4.2.5 The Prevention and Control of Communicable Diseases Law (1995)***

The law requires prevention by immunization to curve outbreaks of communicable diseases, inspection by health officers and notification to relevant authorities, and environmental sanitation to prevent communicable diseases. The factory ensures that adequate use of environmental sanitation applications in the factory and nearby areas and regular health care inspection and checks for workers. In addition, the factory makes the commitment to fully cooperate with health officers in the fight to prevent communicable diseases.

#### ***4.2.6 Myanmar Fire Brigade Law (2015)***

Myanmar Fire Brigade Law (2015) tasks the fire department to be in charge of prevention measures and inspection requirements. The fire department has responsibility to carry out fire safety inspections and management of fire hazards. The factory is committed to meet all requirements in the law and cooperate with the Fire Department to prevent any fire incident. In addition, the factory obtained help from the fire department to inspect the certification of fire extinguishers and the factory's status to meet fire safety requirements.

#### ***4.2.7 The Settlement of Labour Disputes Law (2012)***

The law safeguards the rights of workers and promotes quick, peaceful, and fair solutions for labour disputes. Formation of workplace coordination committee with more than 30 workers, inclusion of workers' representatives in the coordination committee, time restriction for employers to find settlements, establishment of conciliation body by region and state administrations and setting the roles of the body, and following arbitration council and its tasks are laid out by the law. The factory will follow these requirements and seek settlements whenever a dispute arises in line with the law.

#### ***4.2.8 The Workmen's Compensation Act (1951) and the Social Security Law (2012)***

The compensation rate describes in the act is not up to date and therefore, Myanmar Government is processing amendments to address the outdated compensation approach and rate. Settlements in accordance with this act landed seriously low-rate compensations. However, if workers are registered under the Social Security Scheme adopted by the new Society Security Law (2012), the scheme provides fair compensations. The new Social Security Law of 2012 ensures good benefits and compensation for workers. Workers from both formal and informal employment sectors could register with the social security scheme.

#### ***4.2.9 The Employment and Skill Development Law (2013)***

In the bid to create higher employment opportunities, to enhance labour skill developments for workers, and to combat unemployment, the Employment and Skill Development Law was enacted in 2013. In accordance with the law, a central level body will be established to formulate and oversee job creation and skill development. With the



skill development scheme, employers are required to conduct on-the job training and offer training and developments to the workers. The factory is committed to skill developments of the workers and has set up plans to offer improvement trainings.

#### ***4.2.10 The Private Industrial Enterprise Law (1990)***

The law stipulates that how the private industrial enterprises shall conduct the business in accordance with the following principles:

- a) To enhance the higher proportion of the manufacturing value added on the gross national product and value of services, and to increase the production of the respective economic enterprises which are related to the industrial enterprises;
- b) To acquire modern technical know-how for raising the efficiency of industrial efficiency of industrial enterprises and to establish the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market;
- c) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial enterprises;
- d) to cause opening more employment opportunities;
- e) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution; and
- f) to cause the use of energy in the most economical manner.

#### ***4.2.11 Factories Act 1951***

The Factories Act 1951 is the principal labor law covering safety, health, welfare and working hours of industrial workers in Myanmar. It is an act to safeguard occupational safety for workers. It stipulates requirements for working hours, working days, overtime, and certain health and safety measures. The provisions entail a healthy and safe environment for workers. Work hours and days of rest in the provision ensure limiting of works to 8 hours a day and 44 hours a week, granting a day off and a specific rate of payment for overtime work. The Factories Act also imposes minimum age limit for laborers. A child under the age of 13 years is prohibited from working in any factory. A child who is between 13 and 15 years of age may work for a maximum of 4 hours a day subject to certain conditions.

#### ***4.2.12 Law on Health and Safety in the Workplace (2014)***

The first law on safety and health in workplaces was drafted by the Ministry of Labor, Employment and Social Security and was promulgated in 2014. The law aims to prevent air and water pollution and seeks safety improvement at work sites, including fire prevention, use of personal protective equipment, and emergency preparedness for natural disasters.

#### ***4.2.13 The Export and Import Law (2012)***

The main objectives of this law are as follows:

- e) To enable to implement the economic principles of the State;



- f) To enable to lay down the policies relating to export and import that supports the development of the State;
- g) To cause the policies relating to export and import of the State and activities are to be in conformity with the trade standards; and
- h) To cause to be streamlined and speedy in carrying out the matters relating to export and import.

The law stipulates, in Section 5 that no person shall export and import the restricted, prohibited, and banned goods and Section 6 states that permitted license should be obtained if any organization or person would like to do export and import business in the State.

#### **4.2.14 Race and Religious Protection Laws (2015)**

Combination of four laws make up Race and Religious Protection Laws signed in effect in 2015. The laws prohibit forced conversion from one faith to another and require legal approval for interfaith marriages. In addition, the laws make it punishable to exercise monogamy in the country and prohibit extramarital affairs. The factory will strictly abide these requirements.

#### **4.2.15 Myanmar Insurance Law (1993)**

With the enactment of Myanmar Insurance Law, the establishment of Myanmar Insurance came into effect in 1993 “*to overcome financial difficulties by effecting mutual agreement of insurance against social and economic losses and to promote the habit of savings individually by effecting life assurance*”. The factory agrees to obtain necessary insurance from Myanmar Insurance.

#### **4.2.16 The Labour Organization Law (2011)**

The law stipulates that labour organizations are legal to be formed freely and anyone in legal age can join the labour organizations. The law ensures freedom of association and collective bargaining. The factory allows free formation of unions and labour organizations.

#### **4.2.17 The Payment of Wages Law (2016)**

The Pyidaungsu Hluttaw enacted this Law as Law No.17 on 25 January 2016. The objectives of this law are to pay the wages and salary entitled to be obtained properly by the employee for their working part time, weekly, or monthly to the employer, and also overtime fees and bonuses paid based on performance or ethics and other benefits (subsection (a) of section.2, chapter.1) to the employee according to definition subsection (c) of section (2) by the employer in subsection (b) of section (2). The project is committed to follow the requirements of the law and will pay the wages and salary to the workers in compliance with the chapters (2), (3) & (4).

#### **4.2.18 Minimum Wage Law (2015)**

Myanmar recently promulgated a statutory minimum wage law on August 28, 2015. On the 19<sup>th</sup> March 2013, the Myanmar Parliament approved the 2013 Minimum Wage Bill and a new law on minimum wages (Law No. 7, dated 22 March 2013) came into effect on 4 June



2013. In August 2015, National Minimum Wage Committee sets the minimum wage at 3,600 Kyats for eight hours work day. This law requires equal treatment of workers without discriminating based on gender. As Minimum Wage Law requires, equal opportunities and pay rate for both sexes, promised minimum wage for workers, and adequate overtime payments will be guaranteed by the factory management. These will be clearly stated in the ESMP and will be implemented throughout the operation. The factory ensures that the workers' minimum wage, currently set at 4,800 Kyats per day, exceeds the rate determined by the minimum wage law. In addition to the minimum wage and fair compensation for overtime fee, the factory offers paid sick leave with reimbursement for medical care.

On 14 May 2018, the National Minimum Wage Committee finally issued Notification 2/2018, repealing and replacing Notification 2/2015. With immediate effect, employees in the entire Republic of the Union of Myanmar – regardless of the location or the type of business – shall enjoy an increased minimum wage of 4,800 Kyat per working day with eight (8) working hours (i.e. 600 Kyat per working hour). Bel Ga's minimal wage and overtime rate are already in line with the Myanmar Government's new requirements.

#### **4.2.19 The Leave and Holidays Act (1951) and The Law Amending the Leave and Holidays Act (2006)**

The outdated Leave and Holidays Act of 1951 was amended on 20016 covering earned leave for every employee who provides 12 months continuous service, number of leave and holidays, and higher penalty for infringements. The factory will strictly abide by the requirements and will never neglect leave and holidays for its employees.

#### **4.2.20 The Motor Vehicle Law (2015)**

This Motor Vehicle Law was stipulated by Pyidaungsu Hluttaw as Law No.55 on 7 September 2015. Commercial Motor Vehicle means a motor vehicle which is used for the transportation of people or goods by taking fare described in subsection (L) of section (2), Chapter (1) and the project proponent will abide the regulations of the environmental conservation relevant to a Motor Vehicle stated in subsection (w). The objectives of this law are leading to be easy to access road users, to protect the safety of vehicle and road, and to perform the reduction of environmental impacts arising from a motor vehicle mentioned in subsection (c) and (e) of section (2) in chapter (2). Owner of a motor vehicle and responsible person for a motor vehicle as mentioned in section (2) of chapter (1) have to follow the prohibitions described in chapter (9), section (45) to (57). The project is committed to strictly abide the instructions and regulations of the motor vehicle law.

#### **4.2.21 Myanmar Engineering Council Law (2013)**

The Phyidaungsu Hluttaw enacted this law in 28th November 2013 with No. 37/2013. The law was stipulated to uphold integrity, ethics, and capacity of Myanmar engineers. The law also intends to maintain sustainability of natural resources and human resources and to minimize environmental adverse effects by application of research and development. Standards, requirements, safety, ethics, and directives would be set by the ministry for the peoples with engineering profession. The ministry allows the engineering council to take charge of licensing engineers and upholding engineering capacity to a highest quality.



**4.2.22 Yangon Municipal Law (2018)**

Newly approved Yangon Municipal Law assigns YCDC to perform its original duty of providing services to the public and bars YCDC to do business that helps to protect unfair competition for the small and medium enterprises with the government run business. In accordance with the law, YCDC is continuously tasked to oversee municipal services as before. The factory has been working with concerned municipality for its municipal requirements and waste management plans.

**4.2.23 National Environmental Quality (Emission) Guidelines (2015)**

To supplement implementation of EIA Procedure, NEQEG was stipulated in 2015. NEQEG provides clear standards to determine pollutions of all sorts from all developments. Air quality standard, noise level, and wastewater quality standard are provided in the NEQEG for every specific development.

**(a) Air Quality Standard**

MONREC maintains that a project is required to preserve pre-existing air quality of a site. In accordance with the stipulated Environmental Impact Assessment Procedure (December 2015), National Environmental Quality (Emission) Guidelines (NEQEG) was adopted in late December 2015. Section 2.2 of the NEQEG does not specify specific requirements for agriculture, livestock, and forestry development and therefore, the project is to follow general requirements as stated in the NEQEG *Table 2*.

Table 2: General National Environmental Quality (Emission) Guidelines

Parameter	Averaging period	Guideline value in $\mu\text{g}/\text{m}^3$
Sulfur dioxide (SO <sub>2</sub> )	24-hour	20
	10 minutes	500
Nitrogen dioxide (NO <sub>2</sub> )	1-year	40
	1-hour	200
Particulate Matter	1-year	20
PM <sub>10</sub>	24-hour	50
Particulate Matter PM <sub>2.5</sub>	1-year	10
	24-hour	25
Ozone	8-hourly daily maximum	100

Source: National Environmental Quality (Emission) Guidelines, 2015.

**(b) Waste Water Effluent Standards**

Section 2.2.4 of the NEQEG specify the requirements for Poultry Processing. The project is to follow requirements stated in the NEQEG. The wastewater effluent standards from the National Environmental Quality (Emission) Guidelines (29th December 2015) are illustrated in *Table 3*.

Table 3: General Wastewater Effluent Quality Standards

No	Parameter	Guideline Value	Unit
1.	5-day Biochemical oxygen demand	50	mg/L
2.	Active ingredients/ Antibiotics	To be determined on a case specific basis	
3.	Chemical Oxygen Demand	250	mg/L
4.	Oil and grease	10	mg/L
5.	pH	6-9	S.U. <sup>a</sup>
6.	Temperature increase	<3 <sup>b</sup>	°C
7.	Total coliform bacteria	400	100ml
8.	Total nitrogen	10	mg/L
9.	Total phosphorus	2	mg/L
10.	Total suspended solids	50	mg/L
Source: National Environmental Quality (Emission) Guidelines, December 2015. S.U. <sup>a</sup> Standard unit			

### (c) Noise Quality Standard

Noise quality assessment has to meet the guidelines' value to be in compliance with MONREC's NEQEG requirements. Section 2.2 of the NEQEG does not specify specific requirements for agriculture, livestock, and forestry development and therefore, the project is to follow general requirements as stated in the NEQEG. General guidelines' value for noise levels are shown in **Table 4**.

Table 4: National (Myanmar) Environmental Quality (Emission) Guidelines Noise Level

Receptor	One Hour, LAeq (dBA)	
	Daytime 07:00-22:00	Night-time 22:00 – 07:00
Residential/ Institutional/ Educational	55	45
Industrial/ Commercial	70	70

Source: National Environmental Quality (Emission) Guidelines, 2015

### (d) Odor Requirement

NEQEG requires projects to control odor level not to cause disturbance to the population nearby. The odor level should not exceed 5 to 10 odor unit. Odor level assessment should be included for project with potential for diffusing odor.

### (e) Solid Waste Management Facilities

Solid waste management has to meet the guidelines' value to be in compliance with MONREC's NEQEG requirements. Section 2.4.1 of the NEQEG specify the solid waste requirements into two portions for hazard waste landfills and municipal solid waste landfills, and section 2.4.3 specify the Biosolids and sludges disposal. Therefore, the project is to follow the requirements as stated in the NEQEG. General guidelines' value for solid waste are shown in the following tables.

NEQEG guidelines' Value on Effluent for Landfills



Parameters	Unit	Guideline Value			
		Hazard Waste Landfills		Municipal Solid Waste Landfills	
		Daily Max	Monthly Average	Daily Max	Monthly Average
5-day Biochemical Oxygen Demand	mg/l	220	56	140	37
Ammonia	mg/l	10	4.9	10	4.9
Aniline	mg/l	0.024	0.015	-	-
Arsenic	mg/l	1.1	0.54	-	-
a-Terpineol	mg/l	0.042	0.019	0.033	0.016
Benzoic acid	mg/l	0.119	0.073	0.12	0.071
Chromium(total)	mg/l	1.1	0.46	-	-
Naphthalene	mg/l	0.059	0.022	-	-
p-Cresol	mg/l	0.024	0.015	0.025	0.014
pH	S.U <sup>a</sup>	6-9	6-9	6-9	6-9
Phenol	mg/l	0.048	0.029	0.026	0.015
Pyridine	mg/l	0.072	0.025	-	-
Total Suspended Solids	mg/l	88	27	88	27
Zinc	mg/l	0.535	0.296	0.2	0.11

<sup>a</sup> Standard unit

NEQEG guidelines' Value on Biosolids and sludges disposal

Parameter	Unit <sup>a</sup>	Guideline Value
Arsenic	mg/kg	75
Cadmium	mg/kg	85
Chromium(total)	mg/kg	3,000
Copper	mg/kg	4,300
Lead	mg/kg	840
Mercury	mg/kg	57
Molybdenum	mg/kg	75
Nickel	mg/kg	420
Selenium	mg/kg	100
Total Coliform bacteria	G <sup>b</sup>	1,000
Zinc	mg/l	7,500

<sup>a</sup> Dry Weight, <sup>b</sup> Per gram of total solids (dry weight)

Meanwhile, the project will contract with Golden DOWA to collect and dispose these materials in its hazardous disposal system.

#### 4.3 Miscellaneous Laws and Regulations

These Laws and regulations have been issued by the government of the Union of Myanmar, and include National Food Law (1997), Conservation of water resources and rivers law (2006), Social Legislation, the Private Industrial Enterprise Law (1990), Factories Act 1951, Laws on Health and Safety on the workplace (2014), Public Health Law (1972),



Minimum Wage Law (2015), The Prevention and Control of Communicable Diseases Law (1995), Animal Health and Development Law (1993), etc.

#### **4.3.1 National Food Law (1997)**

This law was enacted for the public to provide food of genuine quality, to protect public from foods that may cause danger or are injurious to health, and to regulate production, import, export, storage, distribution, and sale of food systematically. The law also describes the formation of the Board of Authority and equips its functions and duties.

#### **4.3.2 Conservation of Water Resources and Rivers Law (2006)**

The aims of this law are as follows;

- a) To conserve and protect the water resources and rivers system for beneficial public utilization;
- b) To protect smooth and safe navigation in waterways along rivers and creeks;
- c) To contribute to the development of the State economy through improving water resources and river system; and
- d) To protect against environmental impacts.

Hence, this law prohibits disposal of unsatisfactorily treated wastewater into water sources.

#### **4.3.3 Social Legislation**

A synopsis is presented below of the social legislation and regulations that are considered relevant to food industries. Myanmar has ratified numerous International Labour Organization Conventions. According to Section 24 of Myanmar's constitution, the government must provide the means to protect workers and must ensure acceptable working conditions for workers.

#### **4.3.5 Public Health Law (1972)**

It offers protection for people's health by regulating the quality and cleanliness of food, drugs, and environmental sanitation. It also guides prevention of epidemic diseases and outlines the conditions for private clinics.

#### **4.3.6 Labour Dispute Settlement Law (28 Mar. 2012)**

This Law was enacted in March 2012, for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by setting the dispute of employer and worker justly.

#### **4.3.7 Animals and Animal-products Import/Export Rules and Regulations (June 2013)**

Import of eggs for hatching requires unexpired license with details documentation of items from the original country. Medical clearance from a certified veterinarian is required for each type of animals or eggs. The place of origin should be free from Fowl plague, Salmonella pullorum, Avian Encephalomyelitisi, Egg-drop syndrome, Parvo Virus



Infectious Anaemia, and Ornithosis diseases at least in the past six months. The importer has to ensure that these eggs will not be in touch with other eggs or animals. If required, quarantine period of 14 to 30 days will be placed at Myanmar Center for Disease Control station with the cost of the importer. BelGa understands the regulatory requirements and will adhere to the standards set by these regulations.

#### **4.3.8 Animal Health and Development Law (1993)**

The law was enacted in November 1993. The main objectives of the law are mentioned in Section 3 of Chapter 2 as follows:

- a) to carry out animal health and development work;
- b) to promote livestock development;
- c) to prevent outbreak of contagious disease in animals and to control the outbreak systematically when it occurs;
- d) to inspect imported animal, animal products and animal feeds;
- e) to issue recommendation certificate concerning animal, animal product and animal feed for export; and
- f) to protect animals by law from being ill-treated.

The law also defines “Animal Feed” as a feed sold on a commercial scale for the purpose of feeding animals and which is scientifically prepared or conventionally mixed or without preparation or mixing.

In Section 5 of Chapter 4 clarifies that the Director General may:

- a) inspect animal feed for domestic sale in the prescribed manner;
- b) prohibit further sale of animal feed if it is found that the animal feed for sale is harmful to animal;
- c) make a list of animal feed sellers.

Furthermore, Section 6 denotes that a person who sells animal feed, in respect of the animal feed he sells:

- a) submit for inspection by the Department; and
- b) abide by the prohibition made by the Department in accordance with the law.

The law also describes measures to be taken in relation to punishment and fines for those who fail to comply.

#### **4.4 International and Regional Treaties**

Myanmar has signed several international treaties related to the environment. However, the contents of those treaties still need to be incorporated into domestic law. Presents a list of the conventions signed by Myanmar to date that are potentially relevant to the Project.

Table 5: Relevant International and Regional Treaties

<b>International and Regional Treaties Signed</b>	
1	Convention on the Rights of Persons with Disabilities (January 6, 2012)
2	International Treaty on Plant Genetic Resources for Food and Agriculture (June 29, 2004)
3	Convention on Biological Diversity (February 23, 1995)

#### 4.4.1 IFC and World Bank Standards Applied

Bel Ga has not only met the requirements from Myanmar National EIA requirements but also carried out in line with the requirements from IFC and the World Bank.

Bel Ga’s environmental policy makes commitments to meet IFC’s PS1 “Assessment and Management of Environmental and Social Risks and Impacts” and the World Bank’s OP 4.01 “Environmental Assessment”. IFC’s PS 2 “Labour and Working Conditions”, PS 3 “Resources Efficiency and Pollution Prevention”, and PS 4 “Community Health, Safety, and Security” are also complied. By doing so, Bel Ga has conducted environmental and social assessments including prior informed consultations were conducted ahead of the construction process. Environmental and Social Management Plan (ESMP) based on the findings from these assessments and public consultations were developed as operation guidelines. Bel Ga is determined to follow suit with the guidelines from the ESMP. In addition to the environmental policies, Bel Ga rigorously follows IFC’s PS 5 “Land Acquisition and Involuntary Resettlement” and the World Bank’s OP 4.12 “Involuntary Resettlement”. Bel Ga has made sure that land acquisition was made in proper transition for its project and that no involuntary resettlement was involved. Moreover, the issue was explained, and comments were sought in the public consultations.

With regards to indigenous peoples, both IFC’s PS 7 and the World Bank’s OP 4.12 have been employed as the guidelines. The World Bank’s OP 4.04 “Natural Habitats”, OP 4.11 “Physical Cultural Resources”, OP 4.20 “Gender and Development”, OP 4.36 “Forests” and IFC’s PS 6 “Biodiversity Conservation and Sustainable Management of Living Natural Resources”, PS 8 “Cultural Heritage”, and “Environmental, Health, and Safety General Guidelines (for emissions and pollutions) have been applied in the Bel Ga’s policies. Chance find policy will be followed for any historical and cultural heritages at the project site. Particularly, following IFC’s EHS policies are followed in the project:

WHO standards for drinking water guidelines were applied for the examination of the tube well in the project site. The parameters in the following table were tested for tube well of the project site, and compared with the WHO guidelines.

### WHO standards for Drinking Water

Laboratory analysis parameter	Unit	WHO Drinking Water Guidelines (Geneva-1993)
pH	-	6.5-8.5
Turbidity	NTU	5
Conductivity	μS/cm	-
Total Hardness	mg/l as CaCO <sub>3</sub>	500
Iron	mg/l	0.3
Suspended Solids	mg/l	-
Nitrate (N.NO <sub>3</sub> )	mg/l	50
Ammonia (NH <sub>3</sub> )	mg/l	-
Dissolved Oxygen (DO)	mg/l	-
Chemical Oxygen Demand (COD)	mg/l	-
Biochemical Oxygen Demand (BOD) (5 days at 20°C)	mg/l	-

Source: Laboratory Analysis

#### 4.4.2 IFC's EHS 2.0 Occupational Health and Safety

The proponent is “obliged to implement all reasonable precautions to protect the health and safety of workers”. Bel Ga takes seriously for health and safety of its workers and BelGa always makes sure that all necessary precautionary measures are implemented to prevent adverse impacts on the workers. Implementations involve but not limited to obligatory use of PPE, frequent provision of training and necessary equipment, regular inspection, monitoring, and correction to enforce the application of health and safety programs, and building incentives for taking part in the program. In addition, Bel Ga makes commitment to evaluate its programs annually and looks for ways to improve the programs.

#### 4.4.3 IFC's EHS 3.0 Community Health and Safety

In compliance with IFC's EHS 3.0 and Bel Ga's internal requirements, Bel Ga Myanmar has adopted to protect community health and safety in all possible means. Bel Ga plans to employ resource conservation, structural safety of the project's infrastructure, fire prevention and safety, and emergency preparedness and response programs in the plant. The details of these plans are attached in the Bel Ga's policies.

#### 4.4.4 IFC's EHS 4.0 Construction and Decommissioning

In compliance with IFC's EHS 4.0 and Myanmar National EIA Procedure, Bel Ga has carried out preemptive approach and taken consideration in construction and decommissioning phases of the project's impacts. These are addressed in the ESMP.

#### 4.4.5 USEPA guidelines and IFDC (1998) Fertilizer Manual

In addition to national legislation, the proposed project will be undertaken to comply with a range of national and international standards and guidelines. The National Environmental Quality (Emission) Guidelines (NEQEG) (29 December 2015) was issued by



the Government of Myanmar to provide standards and guidelines for the regulation and control of air quality standards, noise quality standards, wastewater effluent standards, vibration quality standards, liquid discharges from various sources and odor quality requirement. However, NEQEG does not specify the standards and guidelines for the soil quality, hence USEPA guidelines and IFDC (1998) Fertilizer manual's information were applied for soil quality to be compared with the limited standards of it. The following parameters were tested for the soil quality of the project site, and compared with the standards of USEPA and IFDC.

USEPA Standard and IFDC Fertilizer Manual

Parameters	US EPA Standard	UNIDO/IFDC (1998) Fertilizer Manual Approximate Concentration in Soils
	Value	Value
Moisture (%)		1-6 %
Iron as Fe (%)		0.7+%
Calcium as Ca (%)		0.6+%
Magnesium as Mg (%)		7->50ppm
Chloride as CL (%)		0.02-0.5%
Phosphorous as P (%)		0.3-1
Nitrogen as N (ppm)		1-130ppm
Zinc as Zn (ppm)	200	
Arsenic as As (ppm)	0.61	
Lead as Pb (ppm)	400	
pH Value (10% Solution)		
Note: OS; Original soil type, BS; Backfill soil type		
Source: Laboratory Analysis at the concerned laboratory		

#### 4.5 Bel Ga's Environmental Commitment

Bel Ga's goal is not only to prevent environmental impacts and pollutions from its production activities but also to improve existing conditions in the surrounding. Bel Ga's mission is to enhance environmental improvements with cleaner and safer production activities. Moreover, it is committed to improve environmental wellbeing by treating all its air emissions, controlling noise level, treating wastewater, implementing safe handling and storage of chemicals, applying rapid response procedures for mishaps, and managing solid and hazardous wastes appropriately. Bel Ga proactively seeks and implements ways to minimize pollutions and wastes, to recycle them, and reuse if applicable. Water conservation and recycle mechanisms will be implemented in its operations.

Most importantly, Bel Ga plans to spread its core environmental values and good practices to its workforce and communities through training and promotion programs to foster sustainable environmental improvements. Bel Ga will always be in compliance with the environmental safeguards imposed by relevant authorities in the country. Regular environmental monitoring will be conducted as clearly specified in the environmental and social management plan (ESMP) of this IEE.

#### 4.6 Bel Ga's Social Commitment

Bel Ga endorses non-discrimination and fair treatment of its employees including handicap individuals. Bel Ga will strictly adhere to Myanmar's Minimum wage law and prohibition of child labour in any of its operations. Appropriate wages will be offered commensurate to the technical qualifications. Gender equality will be carefully implemented in the operations. Overtime fees as defined by the government of Myanmar will be provided for any overtime work. Personal Protective Equipment (PPE) will be provided adequately and all employees will be obliged to wear PPE at work without exception. Bel Ga is committed to provide safe and sound working environment for all employees and all work-related health and safety regulations will be strictly enforced. In addition, regular health and safety training will be offered to keep the employees informed. Finally, Bel Ga is committed to fostering communication and partnership with the communities nearby the plant not only to create cleaner and safer environment but also to achieve stronger and sustainable economy and developments. The commitment letter of the Belga Myanmar Limited is attached in **ANNEX.15**.

#### 4.7 Project's Environmental Conservation Committee

Regarding to the instructional framework, the factory formed the environmental conservation committee with the responsible person of the factory and relevant experts. The committee will take the responsibilities for the implementation of the environmental issues at the factory, the implementation of the mitigation measures for ESMP and monitoring program for EMP in the ground, reporting the results of implementation and monitoring to ECD, and preparing to supplement the mitigation measures if necessary. The committee will obey and follow the mitigation plan, management and monitoring plan in accord with the guidelines and polices issued by the Environmental Conservation Department (ECD) under the Ministry of Natural Resource and Environmental Conservation (MONREC).

Committee for Environmental Conservation at the Factory; Hatchery Plant\_Belga Myanmar

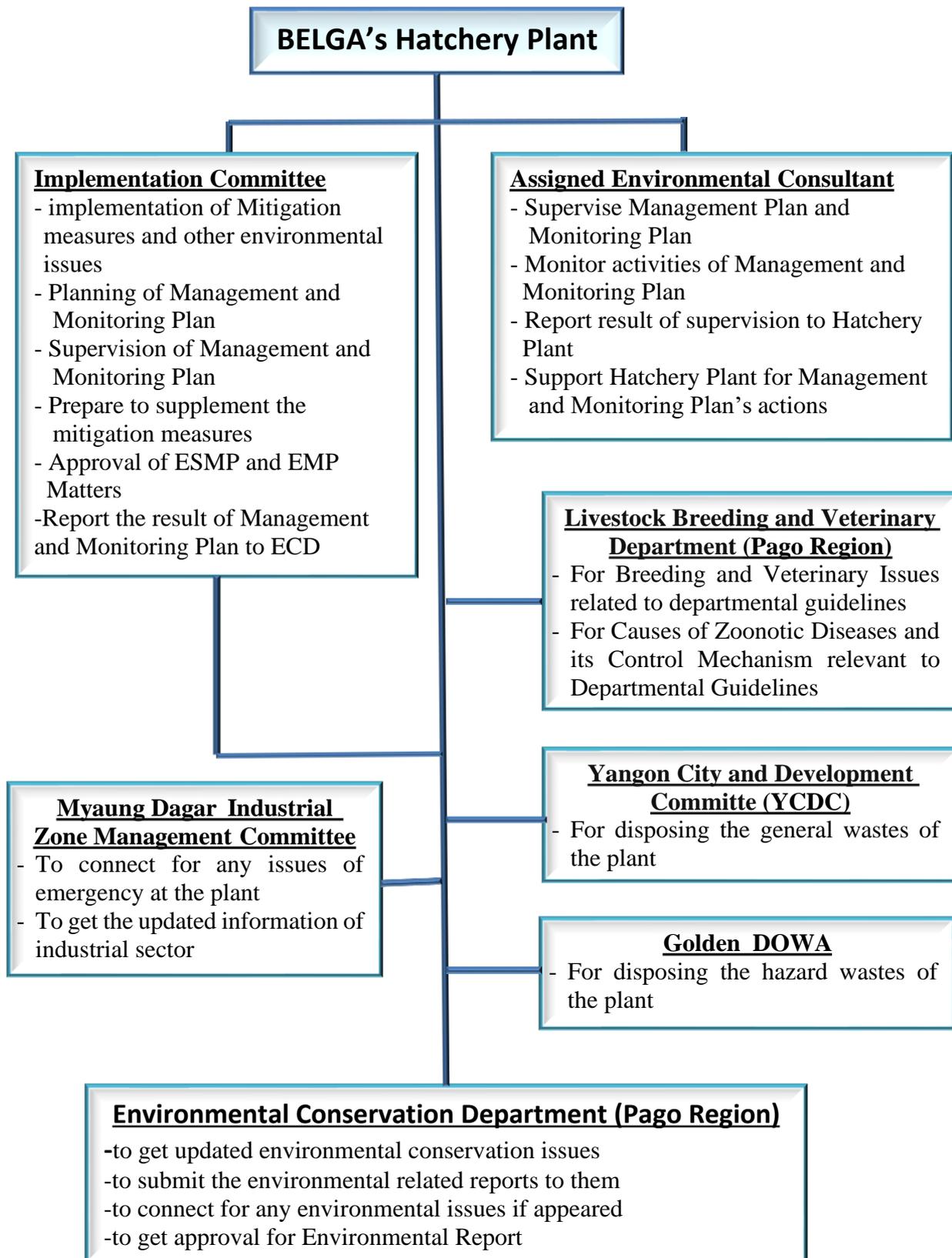
No.	Name	Position in the Committee	Address
1	Ben Cliteur Managing Director	Leader	Yangon Ph:09761532548 Email: ben.cliteur@belgaasia.com
2	Dr. Hay Man Oo Operation Manager	Health and Safety Manager	Myaung Dakar Industrial Zone Ph:09797906848 Email: jessie.hay@belgaasia.com
3	Daw Poe Ei Soe Senior Accountant	Member	Myaung Dakar Ph:09967959814 Email: jenny.poe@belgaasia.com
4	Mr. Randy Hatchery Manager	Member	Hatchery Plant Industrial Zone Ph:09958446081 Email: randy.villanueva@belgaasia.com



5	Dr. Aung Kyaw Htet Assistant Hatchery Manager	Member	Hatchery Plant Ph:09971323399 Email: felix.aung@belgaasia.com
6	Dr. Zaw Zaw Htat Senior QC Officer	Member	Myaung Dakar Industrial Zone Ph:09762478236 Email: alex.zaw@belgaasia.com
7.	-	Environmental Consultant	The environmental consultant will be assigned by later.

Then, the committee plan to connect with the relevant department/organization in the implementation of future environmental issues and the hatchery issues as per necessary. The network with the relevant department/organization is shown as below flow chart.

**FLOW Chart with the Regulation Bodies: Belga Hatchery Plant**





#### 4.8 Undertaking by the Project Proponent

The consultant team, SEAM, jointly with Bel Ga's management has developed the environmental and social management plan in firm and strict compliance with ECD's guidelines and the EIA Procedure and in providing comprehensive and full coverage of all the requirements if not more. The IEE has been performed fully and firmly to keep its integrity. All relevant laws, regulations, and requirements have been studied and examinations were carried out in abundance to all these requirements.

Bel Ga is committed to meet requirements from Myanmar national requirements set by ECD. The factory will implement every step mentioned in the ESMP and fulfill the factory's environmental and social commitments for betterment of the communities in its operating. The factory will file semi-annual reports to ECD for its ESMP developments and monitoring.

By signing underneath and submitting this ESMP, the factory undertakes responsibilities to comply and meet all these stated operations and procedures. The factory makes the assurance that everyone working under the supervision of the factory will adhere to stated commitments described in the ESMP. The factory will religiously follow the monitoring schedule set in the ESMP and document the results to report to ECD and relevant authorities. The factory will strive to achieve prevention of environmental and social impacts together with the cooperation and guidance from the ECD. In addition, the factory provides assurance that necessary modification and updates will be carried out when new unexpected issues emerge. All these issues will be dealt with adequately.

ESMP regular monitoring will be carried out by Social & Environmental Associates – Myanmar (SEAM) headed by field specialist Josiah Bowles and the team. SEAM will be responsible to monitor environmental and social indicators described in the ESMP tables and will report to ECD every six months. In addition, SEAM will carry out trainings related to environmental, health and safety, labor rights and gender equality. The parameters for environmental monitoring will be in line with the NEQEG requirements as shown in the legal and policy section above

Signature :

Name : Ben Cliteur

Designation: Managing Director

Date : 29.9.2022



## Undertaking by the Consultant

By signing this report, the consultant acknowledges that the assessment, the report, and ESMP are developed in truthful manner to the best of the consultant's knowledge. The consultants have exhausted their best possible capacity to form complete environmental and social guidelines for the operation of this particular project. The commitment letter is also provided in **ANNEX.15**.

Signature of the key consultant

Name: - Josiah Bowles  
Designation: - Environmental Consultant  
Date: - 20.9.2022



## 5. DESCRIPTION OF THE SURROUNDING ENVIRONMENTAL AND SOCIAL CONDITIONS

### 5.1 Surrounding Environmental Condition

The MyaungDagar IZ was established in 2006 for the development of Myanmar Steel Manufacturing industries which was owned and operated by Myanmar Economic Corporation MEC. MyaungDagar industrial zone is located at 37/6-mile post opposite from Kalarkone Village of Hmawbi Township, which is situated in the northern part of Yangon Region between the Yangon-Pyay N0.1 National Highway and Hlaing River near Hmawbi. The total area of MyaungDagar IZ is 1252.930 ac (507.04 Ha). Many of the plots in the IZ have been occupied and housed for various industries. Plot layout of the Myaung Dagar Industrial Zone was shown in *Figure 11*.

At present, totally 39 industries are in operation in the IZ and among them, 21 are steel manufacturing industries. 18 small-scale industries including garment factory, plastic hand-fan manufacturing factory, Battery plate and lead recycling factory, Zinc plate and Aluminium roofing industry, PVC pipe and steel pipe manufacturing factory, and animal nutritional feed manufacturing industry are also listed in the IZ management data (MyaungDagar IZ Management Committee Report,2017). According to the management data, almost 170 plots are still vacant.

Concrete road network connects the IZ with Yangon -Pyay National Highway. Generally, water from tube wells is utilized as major water supply in the IZ. The power supply is provided from the national grid through MyaungDagar Substation with the capacity of 230/33/11 KVA.

The site is surrounded in the west by large-scale cement factory owned by a joint venture between Asia World and government, in the south by De Heus animal feed factory, in the south-east by a big garment factory, and on the north with a couple iron melting plants and various garment and animal feed factories. As the area has been defined as the industrial zone for sometimes and with busy industrial activities, the chance of identifying biodiversity seems thin in the area. Aside from workers housing area in the farther north, the nearest human settlements are KoneKa Lay and KanKa Lay Villages near the proposed site. In the close vicinity of the project's proposed site, no trees and shrubs could be found. Some squatter households are also observed along the road especially in the middle portion of the IZ. Proposed project location and its surrounding land used in MyaungDagar Industrial Zone of Hmawbi Township was shown in following figure.

### 5.2 Setting the Study Limits

Belga Myanmar Co. Ltd., with its core environmental and social principles, and values, pledges to comply environmental and social obligations necessitated in accordance with the Myanmar environmental conservation laws, regulations, and procedures. Belga Myanmar Co. Ltd., has commitment to avoid adverse environmental and social impacts from its operations. Only after all alternatives to avoid adverse impacts have been exhausted, the company would proactively seek equivalent mitigation measures to negate its footprints in early stage of the project. To identify the environmental, social, cultural, and visual impacts of the rubber crumb



manufacturing factory, area of influence around (2.16 ha) of project area is analyzed in accordance with the project related activities, survey findings, and information from stakeholder consultations.

While the environmental related impacts are limited to an area of 500 meters wide for the rubber crumb's manufacturing factory area, the direct and indirect anticipated social, cultural and visual impacts will be set within 1 Km radius. By the nature of the construction process and project design, the project's area of influence (AOI) is determined to be within 1 km radius of the project which would be sufficient to cover in general for the project of this type. The map for the project affected area in **Figure 11**. will show the area coverage. The environmental and social information of the IEE study include air, noise, water and soil quality assessment, biodiversity and socio-economic information were also collected from both primary and reliable secondary sources. The existing topography, rainfall, temperature, ecological resources, and land use were recorded from the secondary sources.

### 5.3 Objectives and Methodology

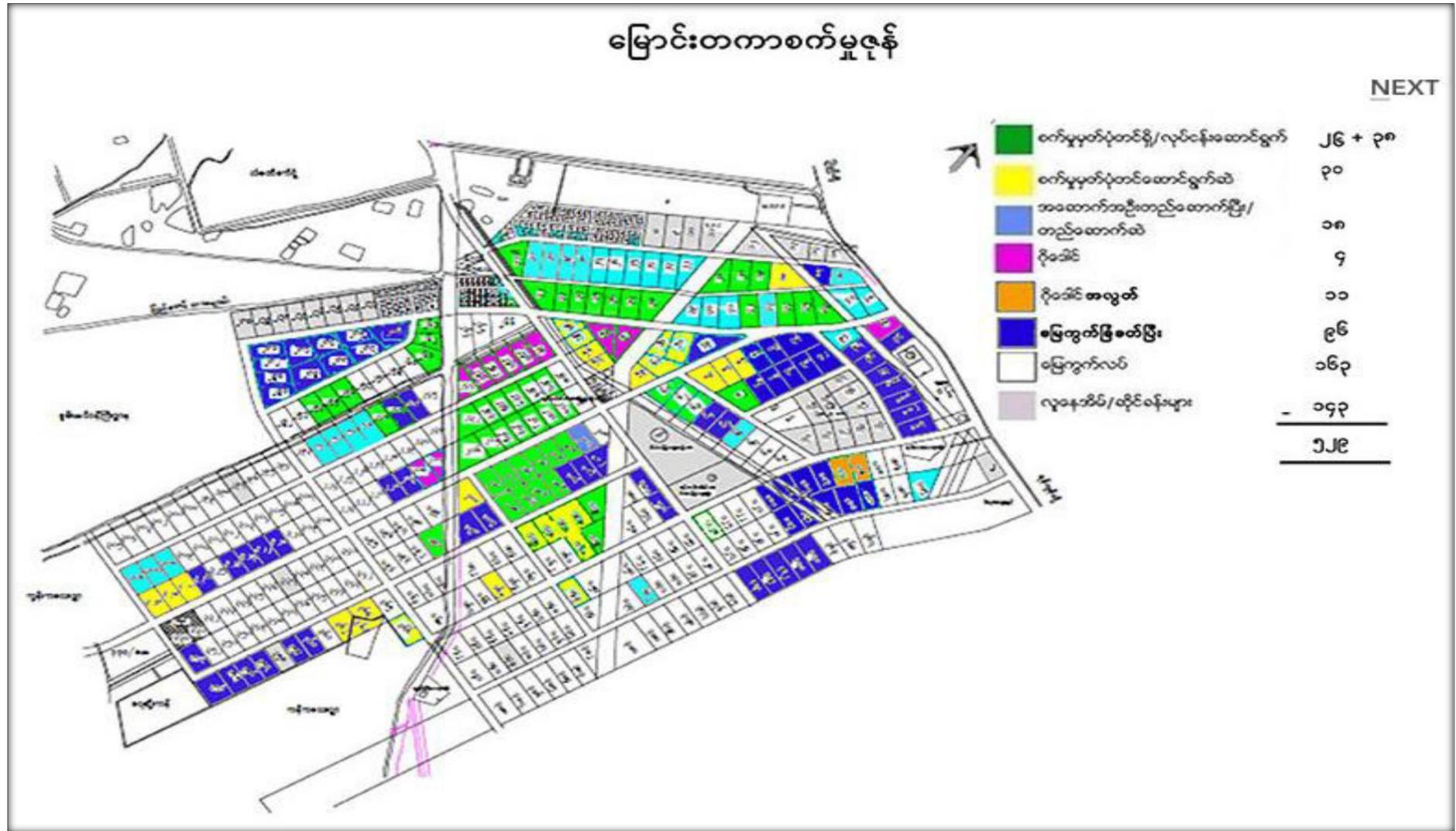
The environmental study for the proposed project baseline information and its surrounding environment is comprised of physio-chemical, biological, socio-economic and cultural components. The major objectives of the baseline data gathering are to understand the relationship and interaction between the different components and to document the existing environmental conditions of the proposed project area so as to analyze, compare, and monitor the changing condition along the project life cycle and to estimate the potential environmental impacts.

For the project's environmental and social impacts assessments, the study of existing environmental and social conditions, examination of project's production processes and pollution generation potentials, and thorough investigation of project's environmental pollution control systems and social management plans including working environment and health and safety measures were examined with the support of the project proponent. Impacts and pollution potentials from every stage of the project' cycle, namely pre-construction phase, construction phase, operation phase, and de-commissioning phase, are envisaged and measured to formulate effective environmental and social management plan (ESMP).

The primary surveys data gathering including on site measurements and socio-economic conditions were conducted in monsoon seasons for physio-chemical and biological components. The secondary data and information such as climate, topography, some geomorphological conditions, protected area, hazardous condition and township level demographic information of the project area were gathered from various sources especially <https://www.worldweatheronline.com> and <http://themimu.info/township-profiles>. Desktop study about the project area described the general conditions of the project area. The existing soil chemical composition, surface and ground water quality, ambient air and noise levels monitoring, and nature of habitat for ecological flora and fauna were identified as the primary baseline conditions of the project. The socio-economic and cultural condition of the project affected communities were gathered with structured interview questionnaire during the key information surveys from the randomly selected households. The data gathering methodologies for each component are described details in the subsequent sections of this chapter.



Figure 11:Project Affected Area of Belga Hatchery Plant in Myaung Dagar Industrial Zone



(Sources <http://myanmarindustries.org/index.php/zone/industrial-zones>)

Figure 12: Plot layout of the Myaung Dagar Industrial Zone



## 5.4 Physical Components

### 5.4.1 Weather conditions in Myanmar

Myanmar is a large country and varies temperatures significantly in different parts of the country. Myanmar has a tropical monsoon climate with three seasons known as summer, rainy and winter seasons. Summer, dry and hot season starts from March to May with the average maximum temperature of 30 to 36 °C. Generally, the rainy season starts from June to October and known as the monsoon season with high rainfall. From June to August, rainfall can be constant for a long period of time in Yangon Region. In September and October, less intense rain is common, and more sunshine can be observed. The winter or cool season begins from November to February with the average relative humidity range of 61 to 75 percent. The average annual weather condition is described in the following **Table 6**.

Table 6: Average Annual Weather Condition in Myanmar

Month	Average min temp°C(°F)	Average max temp°C(°F)	Relative Humidity	Sunlight hours
January	18(64)	32(90)	60%	11.5
February	19(66)	34(94)	61%	11.5
March	22(70)	36(96)	64%	12
April	24(75)	36(98)	67%	12
May	25(77)	33(92)	82%	12.5
June	24(76)	30(86)	86%	13
July	24(75)	29(85)	88%	13
August	24(75)	29(85)	88%	12.5
September	24(75)	30(86)	87%	12
October	24(75)	31(88)	80%	12
November	23(72)	31(89)	75%	11.5
December	19(66)	31(88)	68%	11

Source:www.wunderground.com

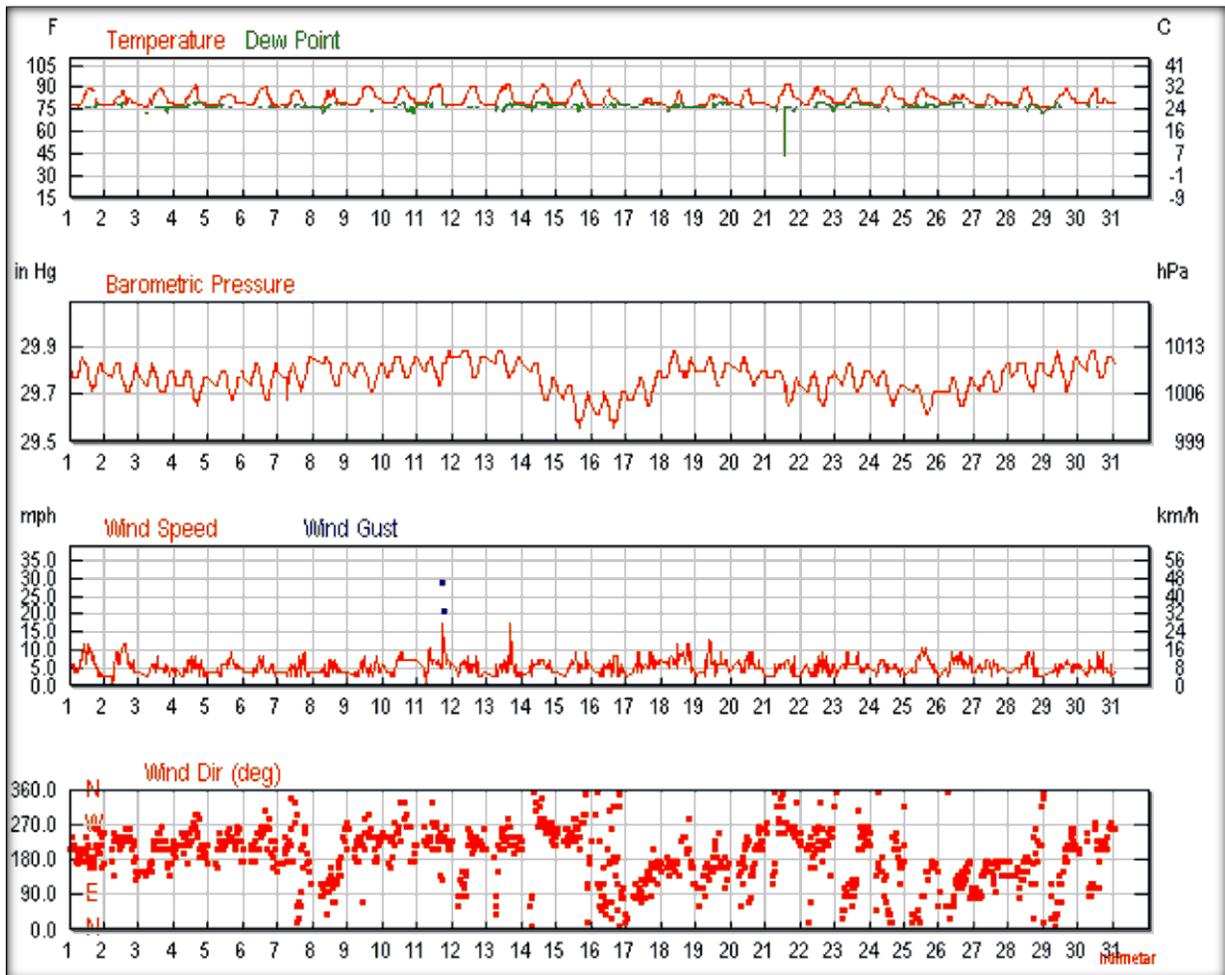
The weather condition for the proposed project with the information from Yangon weather station is shown as the baseline information in the following Table7. The average temperature of the study period in September 2017 was 90 °F /32.2 °C with the monthly total precipitation of 1.46 inches. The average wind speed per month was 5 miles per hour with the frequent changes of gust wind in the average of 19 mile per hour. Monthly weather graph for September 2017 was illustrated in the following figure.

Table7: Weather Condition for September 2016 and December 2017

Categories	September 2016			September 2017				
	Max	Avg	Min	Sum	Max	Avg	Min	Sum
Max Temperature	93 °F	88 °F	84 °F		94 °F	90 °F	83 °F	
Mean Temperature	86 °F	83 °F	80 °F		86 °F	82 °F	78 °F	
Min Temperature	78 °F	77 °F	73 °F		78 °F	74 °F	71 °F	
Dew Point	83 °F	77 °F	72 °F		83 °F	78 °F	45 °F	
Precipitation	0.00 in	0.00 in	0.00 in	0.00	1.46	0.05	0.00	1.46
Wind	12 mph	4 mph	0 mph		17	5 mph	0 mph	
Gust Wind	23 mph	20 mph	17 mph		29	19	17	

Source: www.wunderground.com

Monthly Weather History Graph



Source: www.wunderground.com

Figure 13: Monthly weather history graph for September 2017

### 5.4.2 Climate conditions in Hmawbi Township

Hmawbi township, Yangon Region has a tropical monsoon climate under the Koppen-Geiger climate classification. Those township under Yangon Region feature a lengthy rainy season from May through October where a substantial amount of rainfall is received, and a dry season from November through April where the little rainfall is seen. The maximum temperature of 39.3 degrees Celsius and minimum temperature of 10 degrees Celsius at 2018 were found at Hmawbi township but the maximum temperature and minimum temperature in 2019 is 41.6 degrees Celsius and 13.4 degree Celsius. Annual rainfall in 2018 is 12.26 inches with (11) total rainfall days of the year but annual rainfall in 2019 is 87.95 inches with (103) total rainfall days of the year. April is the hottest month with the maximum temperature of 41 degrees Celsius while December is the warmest month of the year with the minimum temperature of 21 degrees Celsius at 2019. **Table 8** and

**Table 9** shows the average weather by monthly during the year (2019) of baseline survey and also during the year (2020).

Table 8: Hmawbi weather average by monthly (2019)

Months/ Categories	January	February	March	April	May	Jun	July	August	September	October	November	December
<b>Avg. Temperature (°C)</b>	29	33	34	36	34	30	28	27	27	30	29	28
<b>Min. Temperature (°C)</b>	22	24	26	28	29	26	26	25	23	26	25	21
<b>Max. Temperature (°C)</b>	33	37	38	41	38	32	30	29	29	33	32	32
<b>Precipitation/ Rainfall(mm)</b>	38.3	0	0.4	0.3	98.4	598.3	731.1	884	609.4	155	121	0.3
<b>Relative Humidity (%)</b>	49	38	44	47	57	76	82	85	82	74	71	55
<b>Pressure (mb)</b>	1013.3	1012.3	1010.1	1007.7	1006.5	1005.1	1006.4	1004.9	1008.6	1009.6	1010.6	1012.7
<b>Wind speed(km/h)</b>	9.1	8.9	11.7	13.4	14.8	13.4	12.3	13.7	10.5	7	7.8	8.6

Source: [https://: www.worldweatheronline.com](https://www.worldweatheronline.com)

Table 9: Hmawbi weather average by monthly (2020)

Months/ Categories	January	February	March	April	May	Jun	July	August	September
<b>Avg. Temperature (°C)</b>	29	31	33	34	34	30	30	28	29
<b>Min. Temperature (°C)</b>	21	21	22	25	29	27	26	26	26
<b>Max. Temperature (°C)</b>	34	36	39	40	38	32	32	30	32
<b>Precipitation/Rainfall (mm)</b>	0	0	0	23.4	81.9	484.3	446.3	773.5	592.8
<b>Relative Humidity (%)</b>	46	42	53	55	56	74	76	83	81
<b>Pressure (mb)</b>	1012.1	1012.2	1009.7	1009.2	1006.8	1006.1	1006.2	1005.4	1006.5
<b>Wind speed (km/h)</b>	12.9	9.9	11.4	12	13.5	11.4	10.9	11.7	9.2



Source: [https://: www.worldweatheronline.com](https://www.worldweatheronline.com)

### **5.4.3 Topographic condition**

Hmawbi township is located in Latitude between 73 degree and 36 minutes in North and in Longitude 176 degree and 136 degree in East. It is (8.25) miles from east to west and (40) miles long form north to south. The surface of Hmawbi township is flat terrain but mountainous areas were seen to north and south of the township due to being near at the bottom of the Pago Yoma. Hlaing river, flowing from East to West is found at the end of northern township boundary. Hmawbi creek, Dune dapae creek and Myaungdagar creek are flowing into the Hlaing river. The township is located at an average height of 27 feet above sea level.

### **5.4.4 Environmental Conservation Conditions**

The environmental conservation conditions of Hmawbi township were gathered from the secondary data from the website: [http://themimu.info/township-profiles?field\\_doc\\_tx\\_state\\_regions\\_tid=65](http://themimu.info/township-profiles?field_doc_tx_state_regions_tid=65). Collaborating with the Department of Forestry in Hmawbi township, the teak plantations are done with the rate of 3 plants per household for 2700 plants, hardwood plantations are done with the rate of (20) plants per household for total (9000) plants, then other plants (58300) have been grown together with the public in the township.

## **5.5 Environmental Assessments**

Environmental assessments for the project establish the existing background conditions by studying the level of air quality, noise and vibration status, soil quality, water quality, and degree of biodiversity, which may not be plausible at this stage as the environmental conditions have been altered to a significant level over a long period of time. Findings from the field survey of air quality, noise and vibration, soil quality, and water quality establish the existing environmental conditions at the project location.

### **5.5.1 Air Quality, Noise and Vibration Monitoring**

#### **5.5.1.1 Air Quality monitoring survey**

In the absence of background air quality data, air quality monitoring was conducted to establish baseline air quality. The monitoring survey was done during the construction phase in 2019. To obtain representative air quality of the whole project area, three sampling sites were chosen, inside the project site, at upwind and downwind locations. The air quality sampling averaging time followed WHO Standards requirements and measured the levels of PM10, PM2.5, NO2 and SO2 in accordance with the NEQEG standards.

The sampling time for each pollutant were set at:

24 hours for PM10, PM2.5, SO2

24 hours for NO2 and

24 hours for SO2.



Ozone is excluded in the monitoring as it is a secondary pollutant and not directly the result of emission from the project. Ozone is the product of many natural chemicals and photochemical reactions in the atmosphere in combination with nitrogen oxides and volatile organic compounds from all emission sources. The following instruments in **Table 10** were employed for the air quality and noise level surveys.

Table 10: Instruments for air quality and noise level surveys

Study	Parameter	Method / Equipment	Survey frequency
Air Quality	- PM 10, PM 2.5 - SO <sub>2</sub> , NO <sub>2</sub> , CO	- Nephelometer/HPC600 (A) - 4 in 1 Gas detector	-3 station x 3 time - 24 hours monitoring per station
Noise level	- 24-hour noise level - Degree of exposure	- Empirical data / - CEM(DT-8852) Sound level meter	- 3station x 3 time -24 consecutive hours collection

Simple active sampling method, using air sampling pump to pull air through a filter, was employed in the air quality monitoring. Unlike passive sampling, simple active sampling is independent of wind speed and it enables the verification for quality and reliability of the results. In this application, the results were organized in a database and then, statistical analyses were performed.

In order to know whether the existing environmental conditions has been altered to a significant level for a long period after the construction phase, the assessment survey for the level of air quality, noise and vibration status during the project operation phase, was conducted during June 2019. Findings from the field survey of air quality, noise and vibration quality establish the existing environmental conditions of the project site during the operation phase.

Leading only to produce commercial grade day- old chicks by the project, air, noise, and vibration pollution emissions are stemming out of back-up generators, vehicles, and residual vapor of fumigation process after sterilization with formalin.

As BelGa pledges not to contribute to environmental degradation, it adopts and implements mechanisms to efficiently deal with these issues. Energy efficient products have been selectively employed in the factory in order to reduce energy consumption as much as possible. In addition, energy saving mechanisms and training to all employees for conscientiously save energy are applied in the factory. The factory keeps energy usage records to check and keep finding better energy saving methods for better reduction of energy consumption.

### Monitoring Locations

The ambient air quality assessments were conducted in three locations. The first site was at the western part of the project site, (site A1), located inside of the project boundary, and the second place was located at the north-eastern part of the project, (site A2), and the third place was located at the south-eastern part of the project, (site A3).



For the second assessment during the operation phase of the project, the air quality survey was carried out with four survey sampling sites corresponding to two kinds of surrounding environment. AQ-1 and AQ-2 were placed inside the Project site boundary. AQ-3 was located near the monastery with was 0.98 km away from the project site and AQ-4 was located near the residential area with was 0.5 km away from the project site. The details of the location of air quality survey points are presented in following Table and figure. The assessment sites and the geographic coordinate points are presented in the following **Table 11** and location maps of the project were in **Figure 14** and **Figure 15**.

Table 11: Geographic Coordinate Locations of Air and Noise monitoring points

<b>Survey location</b>	<b>GPS Coordinates</b>	<b>Types of Survey location</b>	<b>Detailed Description of Survey Location</b>
<b>First Survey</b>			
A1	17° 09'29.6"N 95° 58'12.0"E		Western part of the project site
A2	17° 09'32.3"N 95° 58'14.4"E		North-eastern part of the project
A3	17° 09'31.3"N 95° 58'15.8"E		South-eastern part of the project
<b>Monitoring Survey in June 2019</b>			
AQ-1	17° 9'29.67"N 95°58'12.11"E	Project site	South of the Project site boundary
AQ-2	17° 9'32.03"N 95°58'13.95"E	Project site	North of the Project site boundary
AQ-3	17° 9'20.40"N 95°58'45.27"E	Beside the road	Beside the MyaungDaKar IZ road and near the Monastery
AQ-4	17° 9'23.05"N 95°57'55.30"E	Beside the road	Beside the village road and near the KanKaLay Village
Source: Air quality survey team			



Figure 14: Air and Noise monitoring points for BelGa Myanmar project during September 2017

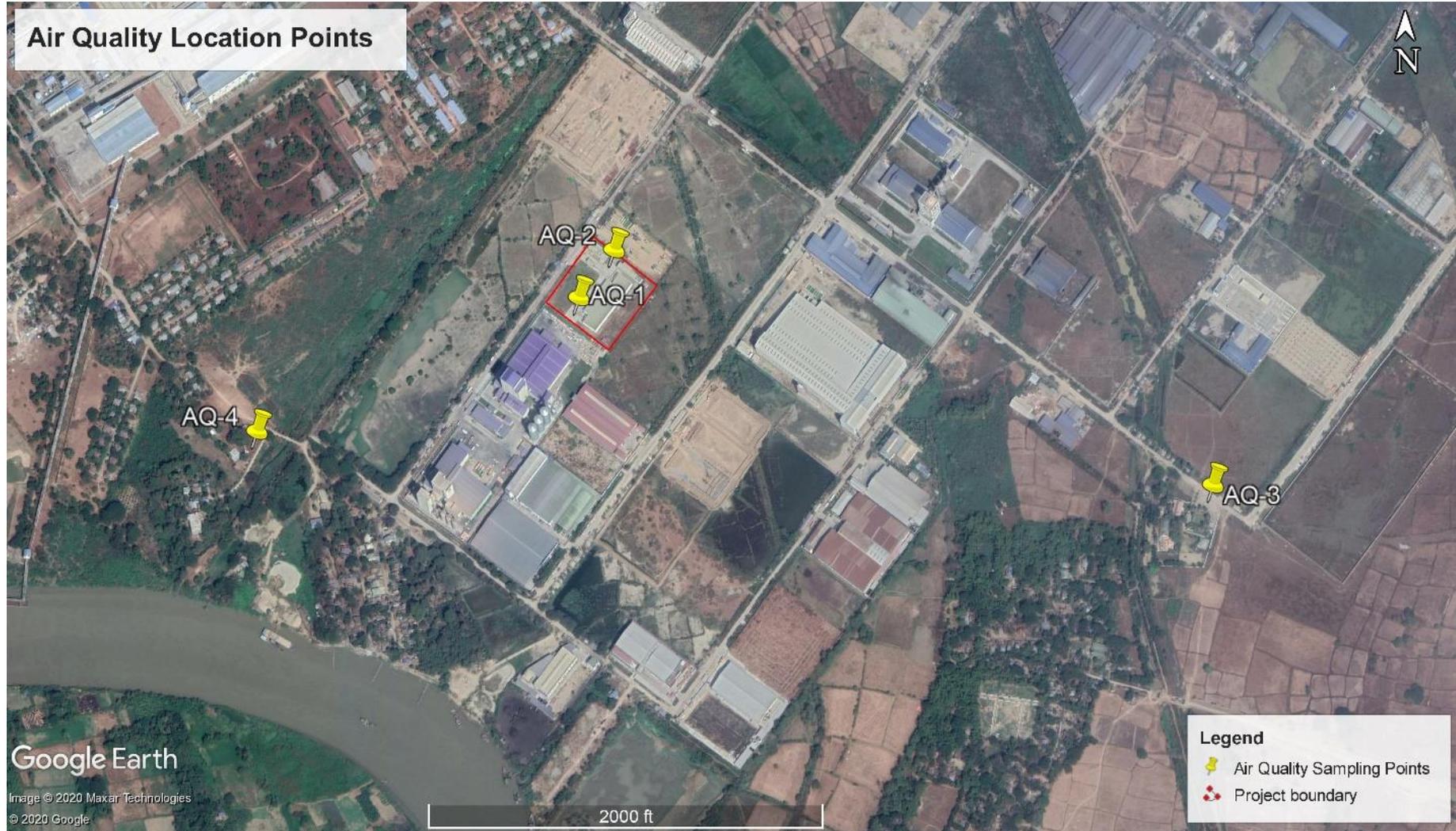


Figure 15: Air monitoring points for BelGa Myanmar project during June 2019

## Survey Activities

24 hours continuous examination of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and SO<sub>x</sub> was conducted for baseline survey and for three consecutive days during the operation phase (20-23 June, 2019). The following table was described the air quality monitoring plan in details.

Table 12: Air Quality Sampling Plan

Sampling sites & parameter	A1	A2	A3	A4
<b>1st Survey</b>				
PM <sub>10</sub>	7 -8 September, 2017	8 -9 September 2017	9-10 September 2017	
PM <sub>2.5</sub>	7 - 8 September 2017	8 - 9 September 2017	9 -10 September 2017	
SO <sub>2</sub>	7- 8 September 2017	8 - 9 September 2017	9-10 September 2017	
NO <sub>2</sub>	7- 8 September 2017	8 - 9 September 2017	9 -10 September 2017	
CO	7- 8 September 2017	8 - 9 September 2017	9 -10 September 2017	
<b>Monitoring Survey in June 2019</b>				
PM <sub>10</sub>	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
PM <sub>2.5</sub>	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
SO <sub>2</sub>	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
NO <sub>2</sub>	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
CO	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
VOC	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019
Ozone	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019

Source: Air Quality Survey in September 2017 and June 2019

## Air Quality Analysis Results

The air quality survey results obtained every minute at each survey site were combined to make daily average values (24 hours) for further evaluation and comparison with corresponding standard values. The detail results were tabulated in the following **Table 13**. For the monitoring survey during the construction phase, the concentration of all pollutants except SO<sub>2</sub> and PM<sub>2.5</sub> were lower than the limited standard. Similarly, the concentration of all contaminants for all sampling points during the operation phase were lower than the standard of WHO guidelines and NEQEG.

Table 13: Air Quality Analysis Results

Parameter	1 <sup>st</sup> SEASON			Monitoring Survey				NEQEG	WHO Guidelines
	A1	A2	A3	A1	A2	A3	A4		
SO <sub>2</sub> (24 hours) (ug/m <sup>3</sup> )	9.45	78.34	12.84	13.5	10.3	14.2	7.21	20	20
NO <sub>2</sub> (1 hour) (ug/m <sup>3</sup> )	12.18	23.48	15.16	20.5	22.6	30.5	13.5	200	200
PM <sub>10</sub> (24 hours) (ug/m <sup>3</sup> )	19.48	27.67	18.62	14	14	21	8	50	50
PM <sub>2.5</sub> (24 hours) (ug/m <sup>3</sup> )	23.84	35.71	24.86	21	18	23	13	25	25
CO (24 hours) (ppm)	0.45	0.76	0.52	0.52	0.5	1	0.2	9	9
VOC (ppm)				18	20	18	16	-	-
Ozone(ppm)				52	41	48	38	100	100

Source: Based on Air Monitoring Survey Data in September 2017 and June 2019

### 5.5.1.2 Noise Quality Monitoring Survey

100 Noise level examinations were coincided with air quality monitoring study. Noise level assessments were carried out at the vicinity of air quality examinations. Existing noise levels were recorded. A CEM (DT-8852) sound level meter was employed for 24 consecutive hours each at the monitoring locations. The locations were randomly selected to be representative to noise sensitive receivers in and around the project site. The degree of effects from the noise level and duration of noise exposure were analyzed using the empirical data obtained from the monitoring.

#### Monitoring Sites

The noise monitoring campaign was conducted to obtain representative noise sensitive receivers around the project area. The monitoring points were located near the locations of the air monitoring sites, and their geographic coordinates are shown in the following table. Location map of noise monitoring points during September 2017 was shown in **Figure 14** and its map during June 2019 was seen in **Figure 16**: Noise Level Location Points during June 2019 were shown in the following table.



Table 14: Location and Geographic Coordinates for the Monitoring Points

Survey location	GPS Coordinates	Detailed Description of Survey Location
<b>First Survey (September 2017)</b>		
N1	17° 09'29.4"N 95° 58'12.2"E	Western part of the project site
N2	17° 09'32.5"N 95° 58'14.1"E	North-eastern part of the project
N3	17° 09'31.4"N 95° 58'15.8"E	South-eastern part of the project
<b>Monitoring Survey (June 2019)</b>		
NL-1	17° 9'29.71"N 95°58'12.05"E	South of the Project site boundary
NL-2	17° 9'32.05"N 95°58'13.92"E	North of the Project site boundary
NL-3	17° 9'20.50"N 95°58'45.13"E	Beside the MyaungDaKar IZ road and near the Monastery
NL-4	17° 9'23.12"N 95°57'55.36"E	Beside the village road and near the KanKaLay Village

Source: Air quality survey

### Monitoring Plan

24 hours continuous measurements were carried out at all three sites within the project boundary. The details of the survey period are show in the following table.

Table 15: Noise level survey period

Sampling site & duration	NL-1	NL-2	NL-3	NL-4
<b>1st Survey</b>				
Day time (7am – 10pm)	7 Sept,2017	8 Sept, 2017	9 Sept, 2017	
Night time (10pm- 7am)	7 – 8 Sept,2017	8 - 9 Sept,2017	9 - 10 Sept,2017	
<b>Monitoring Survey in June 2019 (Operation)</b>				
Day time (7am – 10pm)	20 June,2019	20 June, 2019	21 June, 2019	21 June, 2019
Night time (10pm- 7am)	20-21 June, 2019	20-21 June, 2019	21-22 June, 2019	21-22 June, 2019

Source: Air quality survey



Figure 16: Noise Level Location Points during June 2019

### 5.5.1.3 Survey Method

Measurement of noise and vibration level was conducted by referring to recommendation of the USEPA noise standard, EHP Noise measurement manual and International Organization for Standardization (ISO), as detailed in table.

Table 16: Method for Noise and Vibration Measurement

Study	Parameter	Equipment	Method
Noise Level	- 24-hour noise level - Degree of exposure	- Empirical data / - CEM(DT-8852) Sound level meter	- US EPA noise standard - EHP Noise Measurement Manual
Vibration level	- 15 minutes continuous vibration level	- (SDL 800) Vibration level meter	ISO 2372

### 5.5.1.4 Noise Level Records

Modern quiet and fuel efficient and environmentally sound generators have been carefully selected and employed in the factory. In addition to the careful selection of environmentally sound brand, back-up generator housing is made of sound-proof. According to the requirements of the ECD’s guidelines, the noise levels in day times and night-time were collected by the surveyors, then were analyzed. The following noise levels table represents the existing baseline noise levels. Noise level records measured during the construction phase and operation phase were found to be lower than the limited values.

Table 17: Noise level survey Records

Station	NL-1	NL-2	NL-3	NL-4	NEQEG (industrial; commercial)	WHO Guidelines (industrial; commercial)
	Sound level (dB)					
<b>1<sup>st</sup> Survey</b>						
Daytime (6 am - 10pm)	57.83	53.71	56.35		70	70
Nighttime (10pm - 6am)	50.72	47.28	47.14		70	70
<b>Monitoring Survey (Operation Phase)</b>						
Daytime (6 am - 10pm)	55.64	57.14	52.14	56.59	70	70
Nighttime (10pm - 6am)	42.48	41.23	35.15	39.21	70	70

Source: Noise Level survey during September 2017 and during June, 2019

### 5.5.1.5 Vibration monitoring

The IEE study is conducted during the construction phase of the project and the vibration status of the construction area is monitored in two locations within the project boundary. For the operation phase, the vibration monitoring was completed for four sampling points. The measurement is conducted during the daytime of the construction site by BM-6370 vibration meter. The coordinate locations of the test for the 1<sup>st</sup> survey and 2<sup>nd</sup> survey are



described in the following **Table 18** and location maps are illustrated in **Figure 17** and **Figure 18**.

*Table 18: Location of Vibration survey location Points*

<b>Survey Point</b>	<b>Coordinates</b>	<b>Description of Sampling Points</b>
<b>1<sup>st</sup> Survey</b>		
V 1	17° 9'30.29"N 95°58'12.00"E	North of the Project site boundary
V2	17° 9'29.86"N 95°58'14.70"E	South of the Project site boundary
<b>Monitoring Survey in Operation Phase (June 2019)</b>		
VL-1	17° 9'31.68"N 95°58'13.70"E	In front of the Production plant
VL-2	17° 9'32.29"N 95°58'12.00"E	In front of the project site and beside the main road
VL-3	17° 9'20.63"N 95°58'2.31"E	0.3km away from the north of the project site and beside of the MyaungDaKar IZ road
VL-4	17° 9'39.59"N 95°58'18.85"E	0.4km away from the south of the project site and near the KanKalay village
Source: Vibration Level survey during September 2017 and during June, 2019		



Figure 17: Vibration Monitoring Points of Bel Ga Myanmar Chicken Hatching Project during 1<sup>st</sup> survey



### 5.5.1.6 Ground vibration Methodology and Standard

Ground vibration monitoring is the process of measuring and recording the movements in the ground using a seismograph. The vibration monitor measures the Peak Particle Velocity: the maximum speed of a particular particle as it oscillates about a point of equilibrium, caused by the traveling seismic wave. By measuring the peak particle velocity in millimeter per second, the operators indicate whether damage is likely to occur in the surrounding structures.

Unlike large, permanently-mounted seismographs that measure earthquakes or other geologic events, ground vibration monitors are small and portable with the ability for programming specific parameters. Therefore, an operator programs the unit to specific parameters that only record during a given time period or only trigger a recording once a certain criterion occurs.

Measurement of vibration level was conducted by referring to the recommendation of the International Organization for Standardization (ISO), as detailed in the following table.

**Table 19:** Vibration Standards for ISO 2372

Vibration Amplitude	Machine Sort			
	I	II	III	IIII
Vibration Velocity (mm/s)				
0 ~ 0.28				
0.28 ~ 0.45	A			
0.45 ~ 0.71		A		
0.71 ~ 1.12			A	A
1.12 ~ 1.8	B			
1.8 ~ 2.8		B		
2.8 ~ 4.5	C		B	
4.5 ~ 7.1		C		B
7.1 ~ 11.2			C	
11.2 ~ 18				C
18 ~ 28	D			
28 ~ 45		D		
>45			D	D

**Note:** (1) Class I is small motor (power less than 15 kw). Class II is medium motor (Power between 15 ~ 75 kw). Class III is high power motor (hard base). Class IV is high power motor (Stretch base).  
 (2) A, B, C, D are vibration Rank." A" means good, "B" means satisfying, "C" means not satisfying, "D" means forbidden.

### 5.5.1.7 Vibration Sampling records

To obtain representative vibration levels of the specified sites, as required, 15 minutes' continuous vibration level monitoring for 2 locations in the first survey and 4 defined sites during operation phase were carried out in the project site. Corresponding GPS coordinate points together with photo records, date, and time of each sampling period of each site were documented. The survey will include vibration measurements to obtain background vibration levels of the locations. Vibration Meter (SDL 800) and Data Logger was employed to study vibration at the study sites. 15 minutes measurement was carried out each site. The following items were examined to forecast the impact:

- Vibration along the main roads increased due to vehicles of the project
- Vibration generated by work of the project
- Vibration along roads increased during operation phase of the proposed project

**Table 20: Result of Vibration**

Sampling point	Coordinate points	Time of sampling	Vibration levels VEL mm/s
<b><u>1<sup>st</sup> Survey</u></b>			
V 1	17° 9'30.29"N 95°58'12.00"E	9:30 am	0.12
V2	17° 9'29.86"N 95°58'14.70"E	4:35 pm	0.15
<b><u>Monitoring Survey in June 2019</u></b>			
VL-1	17° 9'31.68"N 17° 9'31.68"N	20/6/2019	0.2
VL-2	17° 9'32.29"N 17° 9'32.29"N	20/6/2019	1.8
VL-3	17° 9'20.63"N 17° 9'20.63"N	21/6/2019	0.8
VL-4	17° 9'39.59"N 17° 9'39.59"N	21/6/2019	0.5

Source: Vibration level survey during September 2017 and June, 2019

Myanmar NEQEG and EIA procedures require monitoring of vibration for all industries. However, no specific requirements for the level of vibration has been established yet by the concerned authorities.

### 5.5.2 Geology and Soil Quality

#### Soil Quality

The project and the whole industrial zone lie in an area of predominantly yellowish grey silty CLAY soil. The stratum thickness of the surface layer is between 0.5 meters and 0.8 meters in depth. Backfill sandy soil layer is usually seen on the top layer and below that light yellowish color silty CLAY is observed. The top layer, sandy soil or granular types have a high content of silt (12%) known as non-cohesive soil formed from transportation and deposition. The sampling site outside the project area reveals Black Cotton soils known as montmorillonite developed from surrounding wetland area.

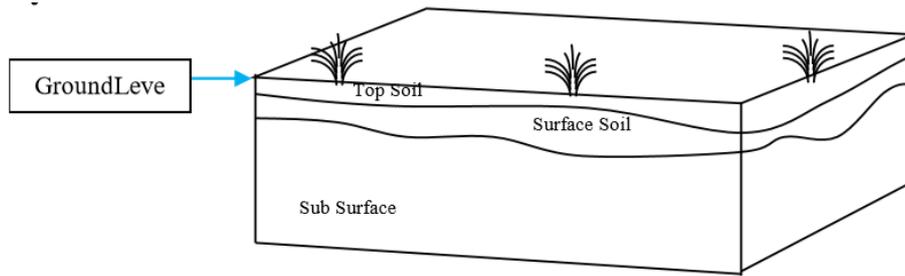


Figure 19: Section of the Soil Profile

## Sampling Method

The geophysical random sampling method was applied in soil condition monitoring. Soil condition monitoring examined the state of soil and the levels of heavy metal contamination. Due to the tight area coverage and the degree of variation in land use, soil samples were taken from 2 places at the project site to obtain representative information for the 1<sup>st</sup> survey. Samples from the least disturbed places, which were randomly selected, were collected to the depth of 1 meter unless water table is found shallower than the depth. Samples over 10 cm in thickness were taken from all horizons in the pits. Each soil sample for physical and chemical analysis weighed at least 2kg. For the second survey, soil samples were taken from 1 place near the factory to obtain representative information for the operation phase. Samples from the downwind of the factory, which was vehicle parked, sample was collected to the depth of 1-meter interval.

In addition to soil sampling, visual survey of land-use patterns with existing agriculture, water bodies, depth to groundwater table, and irrigation methods were also conducted at the site. Some parameters for the soil survey were examined onsite and the remaining analysis was done at a reliable laboratory.

AMS Basic Soil Sampling Kit (a standard soil sampler) that consists stainless steel soil auger with sampling tube was applied for soil sample collection. Soil samples were collected from 1 m depth to ensure from surface contamination. The collected samples were stored in individual clean plastic polythene bags and protected from direct sunlight to prevent any chemical reaction. The onsite analysis was carried out at the site. The collected soil samples were preserved by cooling during the holding time before being sent to the laboratory of the Research and Innovation Analysis Department which is under Ministry of Education.

## Sample Location

To obtain representative soil quality data, samples sites were set one in the project area and another from outside of the project area. Sample locations for two survey period in geographic coordinates and maps are shown below table and figures.



**Table 21: Soil Sample Locations**

Sampling Point	Sample No.	Sample Location	GPS Coordinates	
			Longitude	Latitude
<b>1<sup>st</sup> Survey</b>				
BH-1	OS1	Outside of Project	17° 9'32.30"N	95°58'15.30"E
BH-2	BS2	Inside of Project	17° 9'31.00"N	95°58'11.80"E
<b>Monitoring in June 2019</b>				
BH-1	Soil BelGa (Monitoring Point)	Outside of the factory	17°10' 0"N	95°59'0"E

Source: Soil Survey during September 2017 and June, 2019



Figure 20: Soil sample location map of BelGa Chicken Hatching project for 1<sup>st</sup> survey

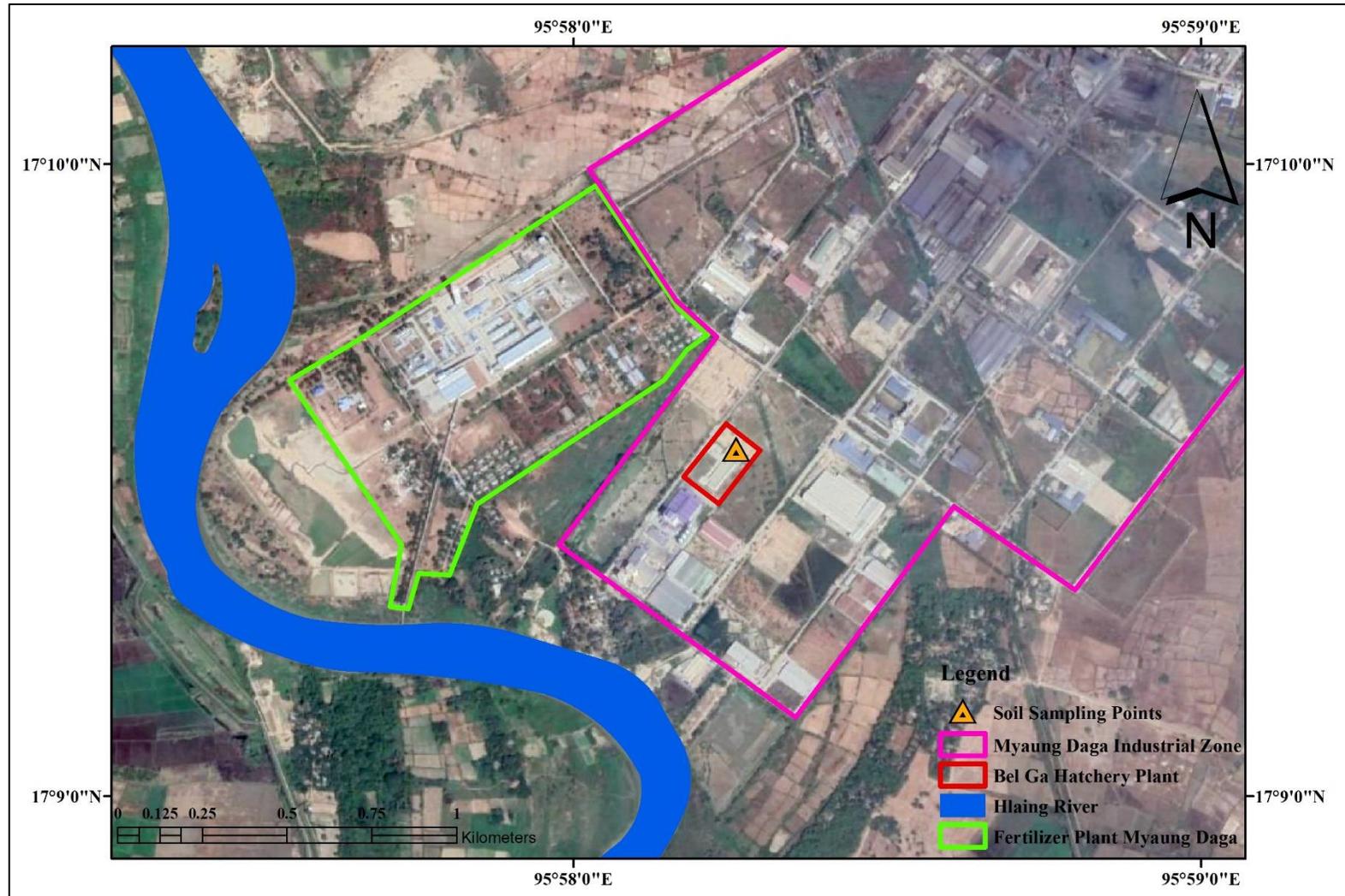


Figure 21: Soil sample location map of BelGa Chicken Hatching project for 2<sup>nd</sup> survey

## Survey Parameters

In order to set as the baseline data for this project, moisture percentage, the concentration of iron, calcium, magnesium, chloride, phosphorus, nitrogen, zinc, arsenic, and lead, and pH conditions were examined at the laboratory. Soil color, texture, and types were identified onsite.

## Soil Analysis Results and Discussion

The laboratory results from the soil samples in measuring Moisture, Iron, Calcium, Magnesium, Chloride, Phosphorous, Nitrogen, Zinc, and Arsenic and lead, showed that heavy metal concentrations in the soil were fairly low with regards to the USEPA's limit. This type of soil has deficiency in nitrogen and phosphorus while containing the considerable amount of Calcium and Magnesium, in accordance with MOAL's information, USEPA and UNIDOC/IFDC (1998) Fertilizer manual's information. High range of organic matter in the soil can be easily observed in OS1 samples. The results of the laboratory analysis for baseline survey and monitoring survey during operation phase are shown in the following table.

**Table 22:** Laboratory Analysis result of soil samples during the baseline survey and monitoring survey during the operation phase

SEASON	1 <sup>st</sup> Season (Baseline Data)		Monitoring in June 2019	US EPA Standard	UNIDO/IFDC (1998) Fertilizer Manal Approximate Concentration in Soils
	OS 1	BS 2			
Sample No					
Sampling Depth	1 m	1 m			
Results	Value	Value	Value	Value	Value
Moisture (%)	25.39	20.17	9.15		1-6 %
Iron as Fe (%)	2.95	2.97	3.49		0.7+%
Calcium as Ca (%)	0.77	1.16	1.00		0.6+%
Magnesium as Mg (%)	0.46	0.23	0.06		7->50ppm
Chloride as CL (%)	0.19	0.32	0.14		0.02-0.5%
Phosphorous as P (%)	0.07	0.02	0.05		0.3-1
Nitrogen as N (ppm)	0.12	0.09	N.D		1-130ppm
Zinc as Zn (ppm)	59.95	46.79	67.01	200	
Arsenic as As (ppm)	0.03	0.03		0.61	
Lead as Pb (ppm)	23.50	24.83	29.56	400	
pH Value (10% Solution)	8.36	8.45	6.75		
Note: OS; Original soil type, BS; Backfill soil type Source: Laboratory Analysis at the concerned laboratory					

### 5.5.3 Water Quality Monitoring

To determine the state of water quality for surface water and groundwater, random water sample monitoring was carried out at the water source in the project location. Different water samples were required to examine due to the presence of different types of waterbodies.



One sample from groundwater tube well and another sample from drainage channel within the project boundary were collected.

As the project site has already been transformed into a built environment and the study was treated as baseline survey in the absence of background scientific data. Field analysis using portable YSI Professional multi-parameter water quality meter and laboratory analysis at a reliable water laboratory were performed for the water quality survey. A single water quality examination was carried out to establish the baseline water quality data for the project. In addition, visual survey of potential water pollution sources was included in the study.

### Water Sample Collection and Analysis

The water quality survey team strictly followed the guidelines from the Standard Methods in sample collection, handling, storage, and shipping. Samples were collected in pre-cleaned amber bottles. Before each sample was collected, the bottles were rinsed three times with respective samples. GPS identification of the location, sample collection time, and chain of custody were recorded at each step for quality control.

In addition to the quality control, as a quality assurance exercise, some samples were shipped to a reliable laboratory, ISO Tech Laboratory, for analysis. The laboratory analysis results of collected water samples are described in the following tables and the original lab results are also attached to the **Annex 2**. The arrays of parameters specified in National Environmental Quality (Emissions) Guideline (NEQEG) were analyzed in a laboratory. These parameters will set the state of baseline water quality for the project. These parameters are presented in comparison to NEQEG's Guideline's values.

During the operation phase, the effluent water quality was assessed for parameters as per the National Environmental Quality Emission Guidelines Standard. A total of one sample were collected form final discharge of the wastewater treatment plan. The water sampling plans for both baseline survey and monitoring survey were presented in **Table 23**.

**Table 23:** Water Sampling Plan for the baseline survey and for monitoring survey

Sample Points	Sample location coordinates	Date of sampling	Time of sampling
<b>Baseline Survey</b>			
Tube Well (W1)	17°09'31.2" N 95°58'16.2" E	7.9.2017	11:30 am
Main Drain Tank (W2)	17°09'30.4" N 95°58'12.3" E	7.9.2017	11:48 am
Effluent water (WW)	17°09'31.05" N 95°58'16.05" E	9.1.2019	14:14 pm
<b>Monitoring Survey during Operation Phase</b>			



Effluent water (EW)	17° 9'31.07"N 95°58'15.90"E	20.6.2019	12:25 pm
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Source: Baseline survey and monitoring survey

### Result of Water Quality Analysis

The observed water quality from onsite survey and from laboratory analysis are presented in the following tables.

*Table 24: Onsite Measurement Result for Tube Well, Main Drain Tank and Effluent Water*

Field analysis parameter	Unit	Result		
		Tube Well	Main Drain Tank	Effluent Water
Water Temperature	°C	29.4	28.9	24.8
Pressure	mmHg	755.9	755.6	756.9
Dissolved Oxygen	mg/l	7.43	9	1.25
Conductivity	µS/cm	140.7	143.1	892
Total Dissolved Solid	mg/l	84.50	87.75	585.00
Salinity	ppt	0.06	0.06	0.44
pH	Scale	6.69	10.15	7.72
ORP	mV	(-	38.3	329.6

Source: Field Survey

**Table 25: Water Quality Laboratory Result for Tube Well**

Laboratory analysis parameter	Unit	Result	WHO Drinking Water Guidelines (Geneva-1993)
pH	-	7.1	6.5-8.5
Turbidity	NTU	196	5
Conductivity	µS/cm	139	
Total Hardness	mg/l as CaCO <sub>3</sub>	46	500
Iron	mg/l	9.20	0.3
Suspended Solids	mg/l	112	
Nitrate (N.NO <sub>3</sub> )	mg/l	0.3	50
Ammonia (NH <sub>3</sub> )	mg/l	4.48	
Dissolved Oxygen (DO)	mg/l	6.6	
Chemical Oxygen Demand (COD)	mg/l	32	
Biochemical Oxygen Demand (BOD) (5 days at 20°C)	mg/l	4	

Source: Laboratory Analysis

The test result of the existing tube well indicates that groundwater level is nearly 100 meters from the surface. These baseline data will be employed to check the change of water quality trend overtime.

Table 26: Water Quality Laboratory Result for Main Drain Tank

Laboratory analysis parameter	Unit	Result	WHO Drinking Water Guideline (Geneva-1993)
pH		10.2	6.5-8.5
Turbidity	NTU	3920	5
Conductivity	μS/cm	144	
Total Hardness	mg/l as CaCO <sub>3</sub>	78	500
Iron	mg/l	9.90	0.3
Suspended Solids	mg/l	3130	
Nitrate (N.NO <sub>3</sub> )	mg/l	1.2	50
Ammonia (NH <sub>3</sub> )	mg/l	2.54	
Dissolved Oxygen (DO)	mg/l	6.0	
Chemical Oxygen Demand (COD)	mg/l	64	
Biochemical Oxygen Demand (BOD) (5 days at 20°C)	mg/l	8	

Source: Laboratory Analysis

### Survey Results for effluent water and its mitigation measures

Results of the effluent water quality survey are shown in the following table#. The measured level of parameters was compared with the tentative target value. Table# shows that most of the measured parameters complied with the tentative target value during operation phase at effluent water sampling sites, except for Total Nitrogen, Total Phosphorous and Oil and Grease.

In addition to the quality control, as a quality assurance exercise, samples were shipped to a reliable laboratory, Ecological Laboratory, for analysis. The laboratory analysis results of collected water samples are described in the following tables and the original lab results are also attached to the Annex. The arrays of parameters specified in National Environmental Quality (Emissions) Guideline (NEQEG) and IFC standard were analyzed in a laboratory. These parameters will set the state of baseline water quality for the project. These parameters are presented in comparison to NEQEG's Guideline's and IFC Standard values.

In the monitoring survey, higher concentration of total nitrogen level, 19 mg/L, and total phosphorus level, 4.9 mg/L, were observed than that of NEQEG standard, 10 mg/L and 2 mg/L respectively. While the project is looking for the cause of total nitrogen and total phosphorus contribution in the wastewater, possible sources of any contribution will be curved. The project will impose strict measures to stop mixing of cleansing water and kitchen waters in the effluent. In addition, the use of any other materials with rich nutrients will also be cut to lower the levels of total nitrogen and total phosphorus in the effluent.

pH scale ranges between 6 to 9 for water and therefore, the pH level of 8.0 does not sound alarming. However, the project will keep track of the pH levels in effluent water so that any trace concentration higher or lower than 6 to 9 in pH will be addressed on time. Observation of 13 mg/L of oil and grease made the project concerned. The project will separate kitchen

wastewater and make it passed through oil and grease separation chamber. Any sources of oil and grease into the effluent will also be scrutinized and cut.

**Table 27: Water Quality Laboratory Result for Effluent Water**

Laboratory analysis parameter	Unit	Result		IFC	NEQEG
		Baseline Survey	Monitoring Survey		
Biochemical Oxygen Demand (BOD)	(mg/l)	6	11	30	50
Chemical Oxygen Demand (COD)	(mg/l)	32	<30	125	250
Suspended Solids	(mg/l)	13	5	50	50
Nitrate	(mg/l)	1.8		-	
Total Nitrogen	mg/l		<b>19</b>	10	10
Ammonia Nitrogen (NH <sub>3</sub> )	(mg/l)	2.29		-	
Ammonium Nitrogen (NH <sub>4</sub> )	(mg/l)	2.43		-	
Phosphate	(mg/l)	0.03		2	
Total Phosphorous	mg/l		<b>4.9</b>	2	2
Total Coliform Count	CFU/100	3	203	400	400
Thermotolerant (fecal) Coliform Count	CFU/100 ml	<1			
pH	Scale	<b>8.0</b>	<b>7.4</b>	6-9	
Turbidity	NTU	9			
Oil & Grease	mg/l	3	<b>13</b>	10	10
Color (True)	TCU	Nil			
Free Chlorine	(mg/l)	Nil			
Total Chlorine	(mg/l)	Nil			
Total E. coli	CFU/ml	0	-	-	-

Source: Water quality survey during September 2017 and during June, 2019

#### 5.5.4 Natural Hazards

Myanmar regularly experiences cyclones, storm surges, floods, landslides, earthquakes, drought and forest fires. Over the last 10 years, Myanmar has been impacted by two major earthquakes, three severe cyclones, floods and other smaller-scale hazards. According to the Government’s Department of Disaster Management (DDM), the project site hasn’t been experiencing flesh floods in the recent years.

Myanmar is one of the earthquake prone countries since it is in the Alpidic Earthquake Belt and has already experienced many destructive earthquakes and for examples are 1839 Innwa earthquake, 1930 Bago earthquake, 1956 Sagaing earthquake, 1912 Maymyo earthquake. All these events are of the magnitude  $\geq 7.0$  (Mw). The deadliest earthquake happened in Myanmar was the 1930 Bago earthquake struck on May 30 and the magnitude was 7.3 Mw. It caused 500 deaths in Bago and 50 in Yangon, and many buildings were damaged. Phyu earthquake on December 3, 1930 was originated in the southern segment of Sagaing Fault. Therefore, the cities located along this fault are highly prone to the future occurrences of large-scale quakes. According to the Myanmar Seismic Zone Map (2005) in **Figure 22**, the project area falls in the moderate zone for earthquake.

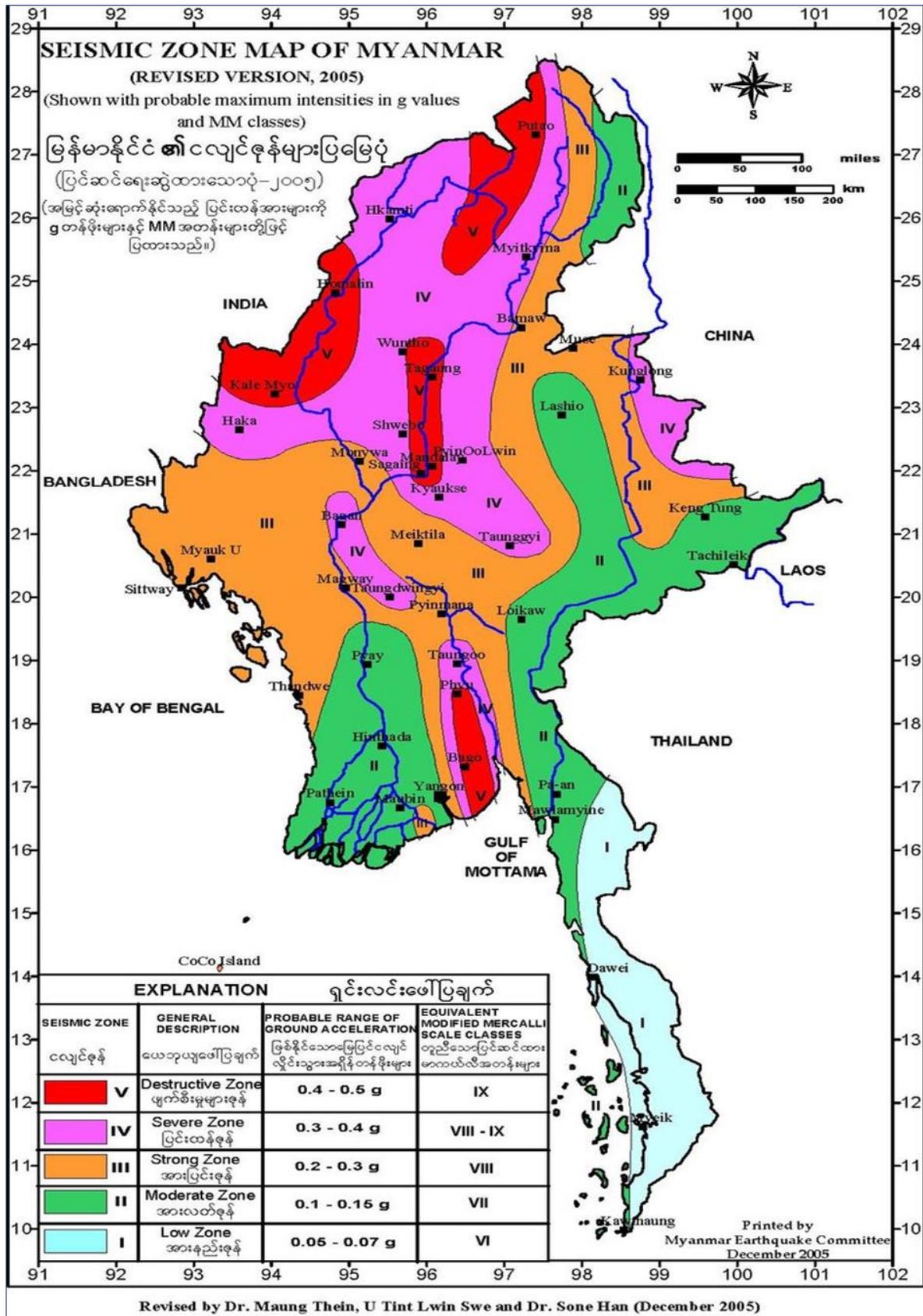


Figure 22: Myanmar Seismic Zone Map

### 5.5.5 Ecological baseline information

The project site is situated inside MyaungDagar Industrial Zone that has been demarcated for industrial development by past administrations. The area consists of largely well-developed industrial areas and certain untouched paddy fields and inundated lands. Isolated green areas can be seen near human settlements in the south-west at KoneKa Lay Village and in the south-east at KanKa Lay Village. Hlain River is located nearly one km distance from the project site.

Oral history of the surrounding area revealed that the past land use practice of Myaung Dagar Industrial zone area was agriculture. Buffaloes were observed in swamps and in pastures.

The biological conditions of the proposed project area and its surrounding were already converted to a built environment with the arrival of the IZ in 2006. No historical information of biodiversity is available in the IZ. Visual observation and onsite identification of the area found the following species in the area (**Table 28**). The most prominent land cover plants in this area are Dantkywe and Zee Pin. A number of birds including sparrows and swallows, crows, eagles, egrets, and herons were observed during the study period.

Table 28: List of plant species observed in and around the proposed project area

Sr.	Scientific name	Myanmar name	Family	Habits
1.	<i>Crotalaria juncea</i> L.	Taw-paik-san	Fabaceae	S
2.	<i>Chromolaenaodorata</i> (L.)	Bi-zet	Asteraceae	S
3.	<i>Cynodondactylon (L.) Pers.</i>	Myay-sa-myet	Poaceae	H
4.	<i>Cyperusesculentus L.</i>	Myet-thon-dauk	Cyperaceae	G
5.	<i>Dactylocteniumaegyptium</i>	Myet-lay-khwa	Poaceae	S
6.	<i>Desmodiumpolycarpum</i>	Myay-pe-htwe	Fabaceae	S
7.	<i>Eclipta alba (L.) Hassk.</i>	Kyeik-hman	Asteraceae	H
8.	<i>Eleusineindica</i> Gaertn.	Sin-ngo-myet	Poaceae	G
9.	<i>Euphorbia hirta</i> L.	Kywe-kyauing-hmin-se	Euphorbiaceae	H
10.	<i>Hyptissuaveolens</i> (L.) Poit.	Taw-pin-sein	Lamiaceae	G
11.	<i>Leucasaspera</i> (Willd.)L	Pin-gu-haik-paik	Lamiaceae	H
12.	<i>Ludwigiahyssopifolia</i>	Lay-nyin-thay	Onagraceae	CL
13.	<i>Ludwigiaoctovalvis</i> (Jacq.)	Lay-nyin-gyi	Onagraceae	CL
14.	<i>Cleome viscosa L.</i>	Mone-nyin war (weed)	Cleomaceae	H
15.	<i>Urenalobata L.</i>	Kat see ne	Malvaceae	S



Sr.	Scientific name	Myanmar name	Family	Habits
16.	<i>Cardiospermumhalicocabum</i> L	Kalarmyatsi	Spindaceae	CL
17.	<i>Mimosa diplotricha</i> C	HtiKaYonephyu	Fabaceae	S
18.	<i>Mimosa pudica</i>	HtiKaYone Ni	Fabaceae	S
19.	<i>Sennaobtusifolia</i>	DantKywe pin	Fabaceae	S
20.	<i>Sidaacuta</i> Burm. f.	Ta Myat see pin	Malvaceae	S
21.	<i>Ageratinaadenophora</i> Spreng	Unknown weed	Asteraceae	S
22.	<i>Ipomoea plebeia</i>	bell vine/kazunnwe	Convolvulaceae	CL
23.	<i>Urochloadecumbens</i> (Stapf) R	Signal grass	Poaceae	S
24.	<i>Urochloapanicoides</i> P. Beauv.	Unknown Myat pin	Poaceae	S
25.	<i>Commelinabenghalensis</i>	Be sarMyat pan pyar	Commelinaceae	S
26.	<i>Trichosanthespalmata</i> Roxb	KyiArNwe	Cucurbitaceae	Cl
27.	<i>Coccinaindica</i> W&A	Kin Mone New	Cucurbitaceae	Cl
28.	<i>Portulacaoleracea</i>	Myaykathinsi/ 9 ngaryi	Portulacaceae	S
29.	<i>Amaranthusspinosus</i>	Hin Nu ne supauk	Amaranthaceae	S
30.	<i>Ziziphus jujube</i> Mill.	Zee Pin	<i>Rhamnaceae</i>	T
31.	<i>Azadirachtaindica</i>	Tamar	Meliaceae	T
32.	<i>Sesbaniadrummondii</i>	Nyan pin	Leguminosae	S
33.	<i>Oldenlandiaherbacea</i>	Su la Na phar	Rubiaceae	H
34.	<i>Paspalumurvillei</i>	Myat Thee pin	Poaceae	S
35.	<i>Cyperusrotundus</i>	MyatmoneNyin Oh net	Cyperaceae	S
36.	<i>Tridaxprocumbens</i>	Myat pan phyu lay	Asteraceae	S
37.	<i>Cynodondactylon</i>	Barmuda grass/Myayzar	Graminae	S
38.	<i>Dactylisglomerata</i>	Sin Ngo myat	Poaceae	S
39.	<i>Candice Benjamin</i>	Myat pan Nu	Graminae	S
40.	<i>Eragrostistrichodes</i>	Sand Lovegrass	Poaceae	S
41.	<i>Acacia longifolia</i>	Austrialpadauk	Fabaceae	T
42.	<i>Echinochloacolona</i>	Grass Basal Sim	Poaceae	S
43.	<i>Boerhaviadiffusa</i>	Be sarpaundywat wine	Nyctaginaceae	S



Sr.	Scientific name	Myanmar name	Family	Habits
44.	<i>Arachisglabrata</i> Benth.	Myaypeyine	Fabaceae	S
45.	<i>Calotropisprocera</i> R. Br	Ma yoe/ Ngaphyugyi	Apocynaceae	S
46.	<i>Sesbaniaaegyptiaca</i> Pers.	Ye thakyi pin	Papilionaceae	S
47.	<i>Alysicarpusvaginalis</i> DC	Than/Kyauk ma naing	Papilionaceae	H
48.	<i>Ipomaea Bona-nox</i> Linn	Kyanhinnnwe	Convolvulaceae	Cl
49.	<i>Scopariadulcis</i> Linn	Dan ta thuka	Scrophulariaceae	H
50.	<i>Heliotropiumindicum</i> L	Sin HnaMaung pin	Boraginaceae	H
51.	<i>Stellariapallida</i>	Myaykat pan phyu lay	Caryophyllaceae	H
52.	<i>Nepetacataria</i>	Pin Same yine	Lamiaceae	S
53.	<i>Melilotusofficinalis</i>	Peyine pin	Fabaceae	S

Note: S- shrub, T- tree, H- herb, CL- Climber

## 5.6 Socio economic conditions of surrounding environment

The project site falls under the administrative area of Hmawbi Township. The total land area of Hmawbi Township is 470 km<sup>2</sup> with the population density of 520.1 peoples per square kilometer [2014]. Township map was shown in the following **Figure 23**. In accordance with the data from 2015 Myanmar Population and Housing Census, the total population is 244,607 with the gender ratio of 50.6 % in female and 49.4% of male in this administrative area. About 89.4 % of the total population lived in the rural area and only 10.6 % occupied the urban area. Yangon-Pyay No.2 National high way passes through Hmawbi Township and Myaung Dagar IZ. The following figure shows the township map of Hmawbi in Yangon Region.



Figure 23: Township map of Hmawbi in Yangon Region

The major land use practice of Hmawbi Township is agricultural production and livestock farming. Most of these products are marketed in Yangon. In Hmawbi, there is a township level hospital with the capacity of 25 beds and 3 high schools. Hmawbi Township municipality committee oversees sanitation, waste management, and administration of Hmawbi and Myaung Dagar Industrial Zone (IZ).

### 5.6.1 Demographic information of nearby villages

KanKalay (M) village tract includes KanKalay, KoneKalay, and Asu Lay. These villages are located within one-kilometer radius of the proposed project. The total area of KanKalay (M)village tract is 7.95 sq km (795.61 Ha). The village tract is on the flat land area and on the shore line of the Hlaing River, which flows from the north to south. Two-major ethnic groups, 68% Burman and 32% Kayin are found in these villages. According to the village administrative data in March 2017, Kan Kalay(M) village tract hosts 227 families in 201 households. The population growth rate is 1.73. No religious conflict has ever been reported between majority Buddhists and minority Christians (34%).

The data from Table indicates the demographic information of KanKalay (M) village. Total population of male and female above 18 years old is much more than those under 18 years old. It indicates that the relatively low proportion of population under 18 was due to the low fertility level. In terms of male and female, the population of female is much more than the population of male for both age levels: above 18 years old and below 18 years old.

Table 29: Demographic information of KanKalay (M) village tract

Item	Age under (18) years old			Age above (18) years old			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
KanKalay(M)	173	194	367	265	278	543	438	472	908
Percentage (%)			40			60			100
Source: Village Administration Office									

The major livelihood of the KanKalay village is subsistence agricultural farming followed by livestock breeding in the backyard. Some villagers work as daily laborers in the factories. The village’s bad road network system was overhauled to become a good concrete road network with the development of MyaungsDagar IZ. In general, middle school is the highest education level for the villagers and religious institutions play a major role in educating the population.

KanKalay village has the total population of 908 peoples in 128 households. The average family size of this village is 4 to 5 persons. The village has a basic primary school that educates more than seventy students with a lone teacher. For higher education, students go to either Hmawbi or MyaungDagar. Burman and Karen’s ethnic tribes are found in the village. Despite being located just beside the IZ, solar power is the main power source and firewood is the main fuel source for cooking in the village. Water from groundwater tube wells serves as main water supply. The villagers use household wastes as nutrient enrichment for farms. The villagers expressed that severe health issues were uncommon in the area but recently have experienced growing lung diseases with the presence of industrial zone.

The KoneKalay and Asu Lay villages have altogether 90 households with the total population of 410 peoples. The average size of the family is 4 to 5 peoples. Like the nearby villages, the subsistence agricultural production with small scale livestock farming is major livelihood for these villages. Before the establishment of Myaung Dagar IZ, most of the villagers worked as fishermen. At present, the villagers take positions as security guards, contract carpenters, drivers, and daily laborers in various industries and in the construction sites. Burmans constitute as majority in the village and most are Buddhists. The Kone Kalay village has a basic primary school with four teachers. Groundwater tube wells serve as major water supply for the village. Education level is quite low for the general population and high drop-out rate is common. Firewood is the major fuel for cooking. Solar and battery are used for lighting. Aside from seasonal flu, chronic diseases are uncommon. Noise issue stemming from De Heus animal feed manufacturing factory was raised by a few households.

The socio-economic and demographic factors of squatter households along the IZ roads are collected. These squatters are also considered as potential project affected peoples. Due to the interview results, the majority of the squatter households are relatives of workers from the IZ. They came from different parts of Myanmar. Most of them were farmers and general workers in their native towns. The squatter households rely heavily on insufficient sanitation facilities, waste management programs, and poor drinking water

sources. A market in the middle of the IZ provides goods for all the workers, squatters, and villagers nearby.

Near the factory, ethnically mixed populations consisted mainly of Burmans and Karen lives together. Overwhelming majority of the population near the factory is Buddhist. The peoples around the area works in agricultural sectors, in factories, and in fishing business. Majority of the people works in farming. Economic wise, the majority of the peoples are working class population but the presence of few business owners is also observed. Karen traditional activities have been witnessed together with the celebrations of traditional Buddhist ceremonies. The presence of any remarkable cultural heritage is not detected in the area.

### 5.6.2 Cultural Components

Myanmar has been called the "Land of Pagodas" as the landscape is dominated by Buddhist pagodas or stupas. Hmawbi is also a popular place because of its famous Japan Pagoda. This great ancient Pagoda was donated by a Japanese person to Aung Dha Ma Yeik Thar Meditation Center and became known as the Japan Pagoda. The Pagoda is regarded as a Great Buddha heritage with about 10,000 visitors per week coming to pay tribute. There are 301 ancient Buddha images to behold and amazing because they appear so real and life like. These 301 Buddha images were created by ancient peoples and guarded by great powerful Sakka and deities. It is said that pilgrims came to the ancient Pagoda to have their prayers answered by taking 45-day vows. This tradition continues still today with pilgrims coming from different parts of Myanmar to behold and pray to the Great Buddha images. More photo record images are attached in **ANNEX.19**.



Figure 24: Famous Japanese Pagoda in Hmawbi



## **6. IDENTIFICATION AND ASSESSMENT OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS**

### **6.1 Fundamental Aims of Conducting IEE**

With its core environmental and social principles and values, BelGa pledges to comply with environmental and social obligations necessitated in accordance with the Myanmar environmental conservation laws, regulations, and procedures. BelGa has a commitment to avoid adverse environmental and social impacts from its operations. Only after all alternatives to avoid adverse impacts have been exhausted, BelGa would proactively seek equivalent mitigation measures to negate its footprints in the early stage of the project. Hence, BelGa is not hesitant to carry out IEE study as required by ECD's Procedures. As a component of the IEE study, environmental and social impacts of the project are assessed and projected.

### **6.2 Methodology and Approaches to Impact Assessment**

The project's environmental and social impacts assessments involve the study of existing environmental and social conditions, examination of project's production processes and pollution generation potentials, and thorough investigation of project's environmental pollution control systems and social management plans including working environment, health and safety measures. Impacts and pollution potentials from every stage of the project namely pre-construction phase, construction phase, operation phase, and de-commissioning phase, are envisaged and measured to formulate an effective environmental and social management plan (ESMP).

Secondary information necessary to use in the impact assessments was obtained from various sources. Desktop study about the project area described general conditions of the project area. Air, noise, and vibration condition survey, water and groundwater quality assessment, soil condition examination, biodiversity and forestry survey, and the study about the socio-economic situation and public consultation in the field provided background data for the environmental impact assessments.

The project proponent provides all necessary details including but not limited to project background, project planning, all project development activities, project operation processes, and its environmental control systems and waste management together with all environmental and social safeguards policies. These data together with background data make the environmental team to predict and project environmental and social impacts. Comprehension of these impacts enables the team to work together with the project proponent to develop a meaningful ESMP. The assessment of environmental impacts is carried out in two steps: identification of impacts and evaluation of impact assessment. These two steps were described as follows.

### 6.2.1 Identification of Impacts

The project's environmental and social impacts assessments involve the study of existing environmental and social conditions, examination of project's activities, and pollution generating potentials, and thorough investigation of project's environmental pollution control systems and social management plans including resettlement action plan, ethnic minority management plan, working environment, health, and safety measures. Impacts and pollution potentials from every stage of the project' cycle, namely pre-construction phase, construction phase, operation phase, and de-commissioning phase, are envisaged and measured to formulate effective environmental and social management plan (ESMP).

Secondary information necessary to use in the impact assessments were obtained from various sources. Desktop study about the project area described general conditions of the project area. Air, noise, and vibration surveys, water and groundwater quality assessment, soil condition examination, biological and forestry surveys, socio-economic surveys, and public consultations conveyed existing data for the environmental and social impact assessments. A thorough environmental study and a focused public consultation have been included in the IEE.

The project proponent provides all necessary detail information including but not limited to project background, project planning, all project development activities, project operation processes, and its environmental control systems and waste management together with all environmental and social safeguards policies. These data together with background data, which have been established from the field survey, facilitate the environmental team to assess environmental and social impacts. Integrating comprehensive background data and assessments of potential impacts enhance the environmental team and the project proponent to develop meaningful and practical ESMP that is relevant to the project and its projected impacts.

### 6.2.2 Evaluation of Impact Assessment

The methodological approach followed is adapted from the impact assessment methods recommended by the World Bank (1991) and the International Finance Corporation (December 1998). The approach used to assess the project's environmental impacts determines the Intensity, Extent, and Duration of the anticipated positive or negative impact. These three qualifiers are grouped under one synthesis indicator, the significance of the impact. This indicator provides an overall assessment of the anticipated impacts on a given environmental component. The following **Figure 25** schematically presents the basis process leading to an assessment of the impact's significance.

Although the impacts on the physical environment are described and quantified as accurately as possible, they cannot be assigned a value in and of themselves.

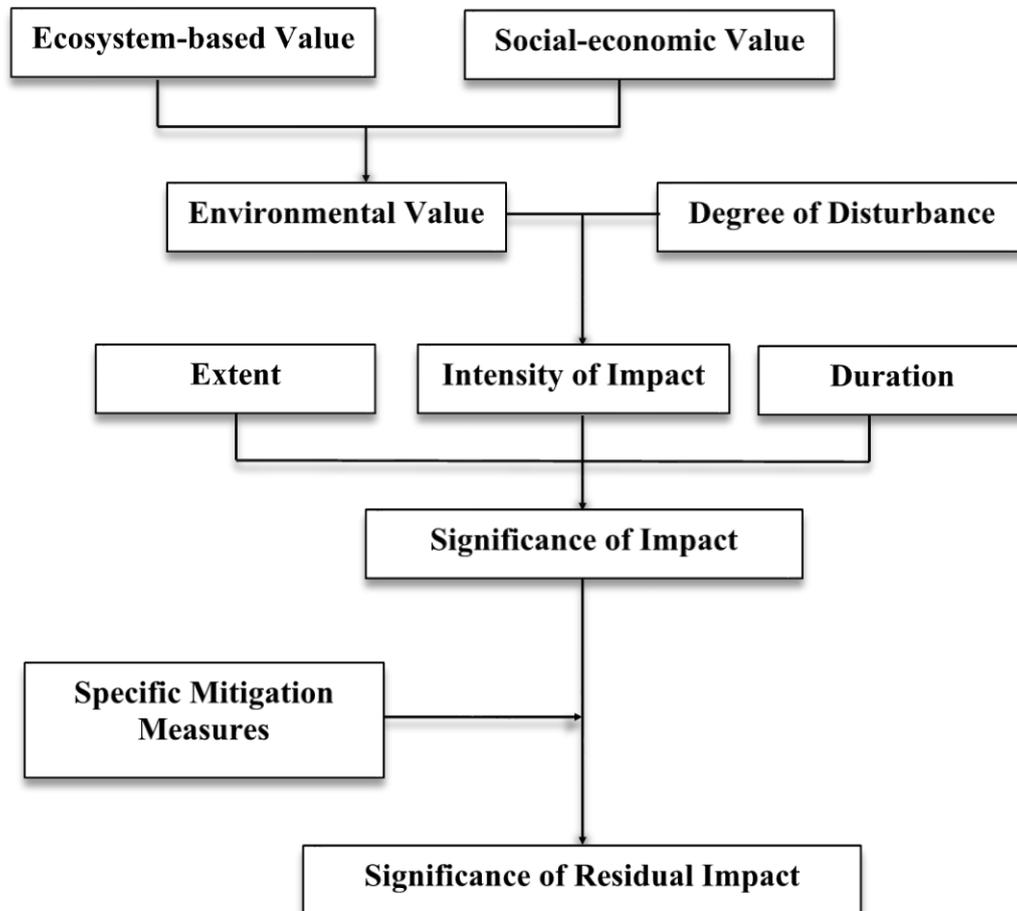


Figure 25: Impact Assessment Methodology

When all the project’s potential effects on an environmental and social component have been identified, the significant of potential impacts from different phases are evaluated using chain matrix for each project activities. The degree of significance is considered with the sum of score for magnitude, duration, extent, and intensity of the project activities in different phases. The significant levels of potential impacts are illustrated as follow.

The degree of impact has been classified as:

Low (L) - impacts are very minimal and negligible. (VL: very low).

Medium (M) - a degree of impacts but that can be mitigated easily

High (H) - some degrees of impacts and serious measures are required to address

Severe (S) -very significant impacts to an irreversible extent that should be avoided at all cost.

### Sub-categories in Defining Degree of Impacts

**Magnitude:** ranges from 1 to 10. 1 is the lowest possible magnitude and 10 is the highest magnitude of the impact.

**Duration:** measures the period of impact caused by activities. It also will be set from 1 to 10,



depending on the duration of impact and the load. Highest pollution with long term will be shown as higher number, 8 or 9 or 10.

**Extent:** describes the spread of impact. Site specific impact will be shown as 1 while local impact will be described as 2. The impact reaching regional, national, and transboundary levels will be shown as 3, 4 and 5 respectively.

**Intensity:** illustrates the magnitude of impacts. It will range from 1 to 10 while 1 is the lowest and 10 will be highest.

The sum of these for each activity will portray the degree of impacts. The score of the sum up to 8 will be defined as very low (VL), up to 10 will be set as low (L), up to 15 will be deemed as medium (M), up to 20 will be set as high (H), and higher than 20 will be treated as severe (S).

### 6.3 Potential Environmental Impacts and its mitigations measures

#### 1) Preconstruction phase, the following causes are identified:

In the pre-construction phase of the project, pre-construction phase site assessment activities would not cause considerable level of environmental impacts. However, the following minor issues are envisioned in the survey:

- effects on terrestrial plants and animal species by land clearing for survey activities
- minor soil erosion and dust emission with the loss of land cover for survey
- earthen materials and plant debris

#### 2) Construction Phase, the following causes are identified:

- air pollution emissions stemming out of increase use of construction machineries,
- dust produced in the earthwork related activities and loading and unloading of construction raw materials,
- associated noise and vibration from construction crews and operations,
- top-soil degradation and soil contamination from the earthworks,
- water consumption and wastewater generation,
- accidental spills, and
- solid wastes and construction spoils from the construction activities.

In accordance with BelGa's conduct under its environmental policy guideline, it carefully tendered and selected the construction firm with track record of environmentally conscientious approaches for the construction of the plant. In addition, the tender agreements thoroughly laid out necessary measures to prevent above identified issues proactively. Detail extent of these measures are tabulated in the following environmental and social management plan. As the construction crews have been provided temporary worker camp with viable water supply and well-managed sanitation facilities sufficient to the population, BelGa prevents wastewater pollution at the site. Enough trash bins have been supplied throughout the camps and trash collections have been arranged with a municipal agency.

#### 3) Operation Phase, the project as the process aims only to produce commercial grade day-



old chicks, following major effects could be determined:

- a. intensive energy consumption from the operation
- b. air, noise, and vibration pollution emissions stemming out of back-up generators, vehicles, and residual vapor of fumigation process after sterilization with formalin,
- c. high water consumption extracted from groundwater, wastewater generation involving disinfecting chemicals such as CID-20, and drain water from rain events,
- d. used shipping materials, egg-shell, discarded eggs and chicks with deformities, and solid wastes generated from the workers and office functions,
- e. accidental spills from sterilizing chemicals and cleaning agents
- f. Hazardous wastes from chemical containers and discarded vaccination materials that can be potentially hazardous.
- g. Industrial risks due to the heavy machines and equipment

As BelGa pledges not to contribute to environmental degradation, it adopts and implements mechanisms to efficiently deal with these issues. Energy efficient products have been selectively employed in the factory in order to reduce energy consumption as much as possible. In addition, energy saving mechanisms and training to all employees for conscientiously save energy are applied in the factory. The factory keeps energy usage records to check and keep finding better energy saving methods for better reduction of energy consumption.

Fumigation room will be sealed properly and 48 hours period will be set to allow the vapor to penetrate all the surfaces. It will only be gaseous sterilization for elimination of microorganisms and prevention of microbial growth. Ammonia solution will be employed to neutralized residual formalin in the fumigation room. And backup generators are just used during the power short-cut. So, there is no continuous emission in the factory.

Modern quiet and fuel efficient and environmentally sound generators have been carefully selected and employed in the factory. In addition to the careful selection of environmentally sound brand, back-up generator housing is made of sound proof. While water consumption will be necessary, water saving methods are applied all over the factory. Recycling of spent water after the treatment will be an application applied for saving water. The factory will review all its water consumption regularly and seek better solutions to save the water usage.

Municipal solid wastes are dealt with properly as described in the project description and the discarded eggshells and unwanted eggs are shipped to fish feed factory daily. Chemical containers and all hazardous containers are returned to relevant factories for proper recycling and reuse. Detail extent of these implementation mechanisms for migration measures are also tabulated in the following environmental and social management plan.

#### **4) Decommission Phase**

If the project permits (MIC) for 50 years cannot be extended and the poultry farm must be demolished, the scrap metals and the solid wastes would be recycled while unusable items will



be disposed in sanitary landfills run by a competent waste management firm. Decommissioning activities would not cause considerable level of environmental and social impacts, since farm buildings are not large scale in term of size and decommissioning period is short in term of time. However, among the significant environmental and social impacts of Decommissioning, closure and post closure of poultry farming activities are:

Potential environmental impacts during Decommissioning phase

- Air, noise, and vibration pollution from demolition by heavy equipment and vehicles
- Solid wastes disposal from old machines, scraps of equipment, building debris, scrap metals, domestic and sewage
- Soil and underground water pollution form demolition of chemical storage tanks, laboratory and oil storage tanks
- Short term water pollution from sediment residuals

#### **6.4 Potential Social Impacts and its mitigations measures**

BelGa is determined not to adversely affect communities but to bring social development wherever it works. Hence, it has assessed all potential adverse social impacts and made all prior prevention applications to counter them. Social assessment examines existing socio- economic conditions, operation implementation practices, BelGa's social, health, and safety policies, and operation procedures.

BelGa has identified relevant government agencies including township General Administrative Departments (GAD), Yangon region ECD, regional department from ministry of agriculture, industrial zone management, farmers, workers, nearby villages within 2 Km radius of the project site, small scale markets and shops in the industrial zone, and squatters in the industrial zone as stakeholders. Project affected persons are identified as workers, farmers, shop owners, and villagers from the nearby two villages.

##### **1) Preconstruction phase, the following causes are identified:**

In the pre-construction phase of the project, pre-construction phase site assessment activities would not cause considerable level of social impacts.

##### **2) Construction phase, following potential social issues are identified:**

- conflict between migrant workers and local communities,
- community outreach programs and contractor's role in addressing conflicts,
- discrimination, gender inequality, and fair treatment including overtime assignments, and
- safe working environment, accidents, and health provision.

BelGa is aware of potential tension and conflicts between migrant workers from construction firms and the local communities. BelGa promotes hiring of workers from the communities as best as possible but for the trained and experienced construction crews from the contractors, BelGa requires that the contractors keep the crews in their worker camps with



tight supervision of in and out activities. The camps were placed on a rented space in a secure distant from communities nearby. The communities have been invited to sell their products in the camps but the camp residents have to obey the time restriction imposed for outside excursions. In addition, the contractors have been tasked to listen communities' complaints with regards to their presence and required to address the complaints.

**3) Operation phase**, the following potential social issues are identified:

- a. job creation and employment opportunities for local peoples
- b. conflict or tension between migrant workers and local communities,
- c. discrimination, gender inequality, and fair treatment including overtime assignments,
- d. safe working environment, accidents, and health provision, and
- e. grievance redress mechanism for all stakeholders.

BelGa will actively reach out to communities to detect any dissent they may have. It will make every effort to resolve these issues early. In addition, BelGa pays attention to the welfare of its employees and will listen to their issues. It will encourage its employees to speak up and speak out without fear of reprisal. Issues raised will be dealt with swiftly and fairly in transparent manner. Detail extent of these implementation mechanisms for migration measures are also tabulated in the following environmental and social management plan. Technical control systems and plans for any incidents caused by the operation of machines and equipment, leakage, explosion, motor vehicles leading to reduce the incidents are described in the emergency action plan. **(See in Annex.10)**

#### **4) Decommission Phase**

Decommissioning activities would not cause considerable level of environmental and social impacts, since farm buildings are not large scale in term of size and decommissioning period is short in term of time. However, among the significant social impacts of Decommissioning, closure and post closure of poultry farming activities are:

Potential social issues during Decommissioning phase

- Job loss from Bel Ga Myanmar
- Economic opportunity loss for suppliers.



## 7. THE PUBLIC CONSULTATION AND PARTICIPATION PROCESS

In the course of development for Initial Environmental Examination (IEE), a few individual public consultations were carried out in compliance to Myanmar National Environmental Impact Assessment Procedure. The public consultations for BelGa Hatchery Plant aim to:

- (a) provide information related to upcoming production process
- (b) explain the affected peoples about detail operation plan and potential adverse impacts
- (c) offer the opportunities for the potentially affected peoples to raise their issues and concerns, and to promote their participations in the project
- (d) present the plan (ESMP) to assure that their concerns will be considered and addressed in the actual operation programs and
- (e) document the issues, concerns, and suggestions raised by the potentially affected peoples to make changes in the implementation plan accordingly.

The consulting firm, Social & Environmental Associate – Myanmar (SEAM), role was to facilitate the public consultation process, collaborating with local community and organizations directly or indirectly affected by the project and to reflect their feedback and opinions in the IEE report's environmental and social mitigation measures.

### 8.1 Methodology and approach

Based on public consultation procedures in line with the nature of the project size and the location of existing communities, the potential environmental and social impacts of the proposed chicken hatchery project will not exceed 1.5 Km radius from the proposed project site. Thus, SEAM identified that the key stakeholders involved in this process are villagers from nearby KanKa Lay, KoneKa Lay, and Asu Lay Villages, relevant local administrative departments, shop owners and squatters in the surrounding areas, regional Environmental Conservation Department (ECD Yangon), and the industrial zone management committee of MyaungDagar Industrial Zone. SEAM made sure to include every key stakeholder in the consultation process and to follow proper public consultation procedures.

Dissemination of information related to the project's operation, plan and invitation for the public consultations were carried out nearly four weeks ahead of the actual meetings. The invitation was also given verbally to many key stakeholders in the random survey activities throughout the area to ensure that the whole populace in the area was aware of it. Invitation extended to shop owners and squatters in the area, religious organization, and local government departments.

Socio-economic survey was conducted prior to the public consultation in order to gather comprehensive regional socio-economic and cultural information and concerns from the key stakeholders for the project. Random groups were targeted for interviews and discussions from the broader number of shop owners and squatters in the surrounding areas. In the interview and subsequent discussions, information related to the project was



explained and the concerns and issues were cordially discussed. In addition, relevant local representatives of general administrative department and MyaungDagar Industrial Zone management committee were met separately to receive their suggestions and concerns. In general, positive comments and enthusiasm for development and job opportunities were shared in all these discussions. The plant's obligatory requirement to use of PPE at all time attracted special attention despite the fact that it meant to protect the workers.

Public consultation section with KanKalay, KoneKalay, and Asu Lay Villages were held at the office of KanKalay M Village tract on October 30, 2017. Nearly 60 participants from the villages and nearby shops and squatters attended. The discussion was led by a representative from BelGa and a group of consultants from SEAM. The project manager, on behalf of the project proponent, presented the production process, environmental and social management programs, the project's core values, and the job opportunities and working conditions. The project manager stated that local applications for job with suitable qualification will be given priority in the recruitment process and invited youths with a specific level of education to apply. After that the public was invited to share their thoughts and voice their concerns. The project's representative answered the questions raised by the participants and eased their concerns.

Following the proper public consultation procedures, SEAM had disseminated information related to the project's operation and plan and invitation for the public consultations nearly four weeks ahead of the actual meetings. The invitation was also given verbally to many key stakeholders in the random survey activities throughout the area. Invitation extended to shop owners and squatters in the area, religious organization, and local government departments.

In the public consultation, a representative from the plant presented the operations of the plant, production process, job opportunities, working conditions for its workers, the plant's social and environmental commitment, and the plant's core values. After that the public was invited to share their thoughts and voice their concerns. The project's representative answered the questions raised by the participants and quelled their concerns.

SEAM's role in the public consultation was to present environmental and social assessment and to document the public consultation. SEAM did neither promote nor shield the plant from the public interests. It only recorded and documented the public consultation process. The summary of the meetings is described in the following section. The attendance and photos of the meetings can be found in the Annex 5. The demographic information of the villages is expressed in the socio-economic section of this report.

## **8.2 Summary of the Consultation Findings**

Individual small group discussion sections with squatters and shop keepers held in September 2017 revealed that existing concerns from reckless disposal of wastes in the field and foul odor associated with these wastes have been disturbing. Not only the squatters and shop keepers but also the villagers from nearby villages expressed concerns. The industrial zone management committee has been urged to take proactive action for these issues.



BelGa responded that in accordance with BelGa's core environmental and social commitments, it will never ever involve in disposing wastes recklessly. BelGa plans to contract with relevant municipal waste disposal unit for proper management of wastes.

Disturbing degree of noise level was brought up in several discussions. BelGa explained clearly to the peoples that the planned production process will not contribute to the noise pollution.

A couple complaints emphasized on the surge of petty crimes due to the growing populations in the industrial zone. Bel Ga responded that it did not have the authority and referred to raise to the relevant authorities and the industrial zone management.

Optimisms for more job opportunities and business development were expressed in a number of discussions as well. Certainly, Bel Ga's job opportunities would be available for peoples with some level of education and business opportunities will be significant to support the employees daily.

A concern for increased sand mining operations in the area was raised in the discussion. Over exploitation or extraction of sand from the nearby river led to soil erosion along the bank and forced 100 households to relocate from the bank. Bel Ga conscientiously does not purchase or not utilize sand from the area for its construction and land fills but instead, Bel Ga relied sand from a supplier with good environmental commitments in the town. Fishermen complained that common fish species have been disappearing in the river. These issues were raised during focus group meetings with squatters and shop keepers in the area.

Public consultation session with KanKalay, KoneKalay, and Asu Lay Villages were held at the office of KanKalay M Village tract on October 30, 2017. Nearly 60 participants from the villages and nearby shops and squatters attended. The discussion was led by a representative from Bel Ga and a group of consultants from SEAM. The project manager, on behalf of the project proponent, presented the production process, environmental and social management programs, the project's core values, and the job opportunities. The project manager stated that local applications for job with suitable qualification will be given priority in the recruitment process and invited youths with a specific level of education to apply.

Many participants expressed satisfaction with the project's willingness to listen their concerns. Optimism was expressed by the participants for potential job opportunities and business possibilities to the disadvantageous communities. Participants mainly asked about job opportunities for the youths from the villages and requirements to secure a job. Concerns with related to disposal of wastes were raised as the issue was causing them unease with offensive odor and potential health threats with the spread of flies and mosquito. After learning that BelGa's environmental values does not allow disposal of wastes such way and that BelGa will dispose wastes properly contracting a proper municipal waste management service, the participants asked whether or not the other industries could follow suit for proper waste disposal. BelGa does not have the authority to manage the other industries but advised that such issue was important and that it should be raised to the relevant authorities and the industrial zone management. Currently, some industries dump recklessly along the road in the

industrial zone and the practice causes disturbance and worries over health issues for the communities nearby.

The participants asked the project’s CSR programs to help nearby communities’ urgent needs for development and the project manager replied that the project will look into the possibilities to help the communities as best as it can. However, the project has just commenced setting up the plant and so, it will take sometimes to do so.

The participants expressed that no one objects the existence of the industrial zone and opening of industries in the area. However, they would want to see these developments bring actual developments to the communities in the area as well. The villagers also want capacity building programs for them so that they can be ready for the potential jobs in the future.

The project manager expressed that Bel Ga always welcomes all the communities in the area to bring up any issues, complaints, or concerns with the project and the project management will take those seriously to investigate and address the issues raised. The project management can be reached by phone, by mail, and by other means easiest for the communities. The project management will always respond to any concerns transparently and in timely manner. The voice records of the public consultation meeting would be available if required.

### 8.3 Public Consultation Photo Records



Figure 26: Socio-economic survey and discussion with community for public concerns



*Figure 27: Socio-economic survey and FGD with MyaungDagar IZ and Village GAD*



*Figure 28: Socio-economic survey at KanKalay M Village*



*Figure 29: Socio-economic survey at KoneKalay Village*



**Figure 30: Public consultation meeting in the Kan Kalay M village**



**Figure 31:Figure 25: Pubic consultation meeting in the Kan Kalay M village**



**Figure 32: Public consultation meeting in the Kan Kalay M village**



### 8.3 Question and Answer Session

Public consultation for Bel Ga Myanmar Limited was conducted on October 30, 2017 in Kankalay-M village near Myaungtaga Industrial Zone.

No.	Question	Answer
1	Will the factory recruit only those who have completed high school?	The factory also has general labor positions and security personnel positions to fill with the peoples from nearby areas as a priority. However, the factory plans to create more job opportunities for youths with high school education, even if they haven't gotten
2	Can youth with completion of high school graduation, apply jobs at the factory?	Yes, certainly. The peoples from the nearby areas will be given highest priority in the hiring process.
3	Can you do something about a factory here, which emits a lot of air pollution and some of its workers already died?	Bel Ga certainly will not contribute to air, water, noise, and smell pollution. That we could guarantee it. However, Bel Ga is not mandated to enforce environmental and social violations committed by another factory. However, the case will be informed to ECD and other relevant agencies.
4	Some factories dump trashes illegally in the area and that has caused disruption and disturbance to the local communities. What is Bel Ga's plan not to commit such act?	Illegal disposal of any wastes is not permitted and Bel Ga's with its own social and environmental principals will never be involved in those acts. Bel Ga has contracted to Yangon City Development Council for the waste removal. Bel Ga is committed not to cause any environmental and social damages by its operations.
5	How will the factory advertise so that the local youths can actively take part in the process?	The factory will inform of any recruitment through regional administrators. Job advertisement will be posted through the village administrators. These advertisements will also be posted near the local administrative bodies' office.
6	Will you hire driver and security positions?	Yes, we are going to hire soon. Driver positions for four to five cars and security guard positions will be hired soon.
7	Will the factory only produce chicken hatchery? Would not you produce animal feed?	Chicken hatchery will be the main production of the factory, but it will not produce animal feed as De Heus, which is a partner factory, produces animal feed.
8	Can the local farmers buy small numbers of product for small scale breeding?	We sure will sell for local farmers.



No.	Question	Answer
9	How will you control odor?	The production will be air tight process in a control environment for bio-security purpose. In addition, all wastes including wastewater will be treated appropriately before disposal and therefore, no odor could be an issue with this production. The factory will employ international brand generators with very noise level controls to suppress disturbance to the local communities. The products, hatched small chicken, will be shipped to purchasers in the same day of the production and therefore, no noise or odor from the production could be associated with.
10	What is the basic minimum wage?	As it is an international firm, all required regulations will be adhered to in the factory. The factory guarantees the wage, rights, and maternity leaves in compliance to Myanmar legal requirements.
11	How do you plan to set weekly holidays?	Normal work hours will be 8 hours from Monday to Saturday and Sunday will be the holiday. Any work over 8 hours a day will become overtime work and will be paid according to Myanmar labor law requirements. The factory will provide breakfast and lunch and provide uniforms that will be cleansed and iron by the factory daily. Adequate number of bathrooms and showers will be provided separately for male and female. Cleanness is required in the factory. However, required PPE will need to be worn at all time in the factory and there is no exemption. No one without PPE will not be admitted to the factory compound.
12	What will you do with eggshells? How will you dispose them?	The eggshell will be sold for fertilizer production and cosmetic or beautification productions. The factory has already connected with three or four purchasers for eggshells. If the local community demands eggshells, we would provide some but not all.
13	Are there any age limitation for workers?	Anyone with good health will be able to work in the factory and we encourage women to apply. We will not hire anyone under 18 years old.



#### **8.4 Bel Ga CSR Program**

Bel Ga pledges to contribute (2%) of the profit for its CSR program commitment to the development of co-existing communities. The factory will be working together with the communities to identify development needs and how best to spend effectively. Based on the coordination with the communities, development programs for communities will be carried out regularly. Bel Ga CSR fund will be provided to the communities needs such as disaster relieve for flood, and fire accident, transportation improvement, and education development for the locals. It is agreed that the use of fund will be discussed together with the workers and the leaders of the communities to pay for much needed programs identified by the communities and the workers. Participatory cooperation will be exercised in the implementation of the development fund.

When the fund is not enough to provide for a program, the factory and the communities has agreed to raise the required amount in shared contribution between the factory and the communities themselves to be able to bring up the capital to meet the required amount. The factory is committed to support the CSR fund from its profits and will carry out the CSR activities together with the communities and the workers for its workers' welfare developments and the developments programs for the local communities.

#### **8.5 Belga Myanmar Co., Ltd Complaints and Grievance Redressing Mechanism (GRM)**

Belga Myanmar Co., Ltd takes every allegation and complaint seriously and makes thorough investigation and effort to correct the issue whenever it surfaces. The factory encourages the employees to raise their grievance without the need to fear for restitution. Supervisors have been tasked to receive complaints and grievance but at the same time, the employees can bring up their cases to upper-level management immediately. Any grievance received will be documented and handled with care for fairness and transparency. No matter how small or serious the issues are, every case will be documented and reported so that the upper management can make plan to stop repeat of any weakness.

Aside from handling grievance from the employees, the factory management plans to reach out to communities through their representatives and administrative bodies for hearing their grievance and addressing them in a transparent manner. Any stakeholders can raise issues directly to the factory management openly and any issue raised will be dealt with swiftly. Any views from all stakeholders will be valued by the factory and any complaints will be dealt in timely manner. If you have concerns, or might be, adversely impacted by Belga's work, you can raise this with us through our complaint's procedure. Alternatively, you may ask a representative to do this for you. We undertake to respond promptly according to the deadlines set out below.

Step 1.

Complaints can be raised:

Address: Zaw Zaw Htat

QC Officer

BEL GA MYANMAR LIMITED



Plot No. 312, 313, 314  
Myaung Dakar Industrial Zone,  
Hmawbi Township, Yangon, Myanmar  
Mobile: +95 (0) 9 762 478 236  
Email address: alex.zaw@belgaasia.com  
Web: www.belgaasia.com

Complaints may be made in Myanmar, or local language. It should clearly identify the complaint under the Bright Light's complaints/grievance procedure and provide details of where we can contact you. We undertake to acknowledge your complaint within two working days by the same means you contacted us, where viable, and to let you know the name of the person handling your complaint. We undertake to provide a response within two weeks.

If the complaint is particularly complex, we will contact you within two weeks to provide a new deadline for a response. If Belga company considers that the complaint is not related to an actual or potential impact, we will inform you accordingly, the complainant has the right to take the issue to Step 2.

Step 2.

If you are not satisfied with this response, you may refer our response to the Belga Myanmar Co. Ltd Managing Director. Contact details:

Ben Cliteur  
Managing Director  
**BEL GA MYANMAR LTD**  
Plot No 312, 313, 314  
Myaung Dakar Industrial Zone,  
Hmawbi Township, Yangon, Myanmar  
Mobile: +95 (0) 976 153 2548 (Myanmar)

Complaints may be made in Myanmar, or your native language. At all stages of the process, Belga Myanmar Co., Ltd will seek to resolve the complaint through dialogue on equitable basis. Where adjudication is needed, both parties could seek to agree to appoint a legitimate, independent third-party to adjudicate. This non-judicial grievance mechanism should not in any way prejudice your ability to seek recourse through other third-party mechanisms, including state-based mechanisms, such as courts.



## 8. ENVIRONMENTAL MANAGEMENT PLAN

Environmental and Social Management Plan (ESMP) is developed based on the finding from environmental and social impacts identified in the earlier impact assessment session. The holistic ESMP addresses these environmental and social issues to avoid as much as feasible and only if the options for avoidance have been exhausted, to mitigate to the optimally plausible extent.

ESMP has employed all the best management practices to minimize and mitigate the potential impacts. With the application of these best management practices, the project aims to meet the guideline standards described in National Environmental Quality (Emission) Guidelines (NEQEG) and to implement Bel Ga's environmental and social standards. All these best management practices tabulated in the ESMP will be religiously undertaken by the project in each phase of the project. In addition, Bel Ga is committed to make reviews and re-examination of the efficiency of these practices on the basis of regular monitoring results. Practically feasible adjustments and modifications will be made with the emergence of available best management practices and applications.

The ESMP indicates Bel Ga's commitment to avoid, minimize, and mitigate footprints of environmental and social impacts as the result of the project. Bel Ga plans to implement these applications in respective phase of the project.



8.1 ESMP For Construction Phase of Poultry Project

Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
<b>Construction Phase</b>						
Loss of terrestrial habitats	- by land clearing for construction activities	Low	<ul style="list-style-type: none"> <li>- Made pre-assessment of tree coverage and of known animal species of importance but the area has been transformed into industrial zone area</li> <li>- Tried to conserve as much number of plants as possible and replanted in nearby areas</li> <li>- Save top soils for reapplication in the nearby agricultural farms</li> </ul>	The factory's management	<p>Assessment prior to the construction And monitoring will be done during operation period for once in two years.</p> <ul style="list-style-type: none"> <li>- The area has been already transformed into industrial zone since 2006; therefore, the monitoring place will be selected in the southwest of factory around Hlaing River to compare some changes of biological conditions before and after the construction.</li> <li>- The monitoring report for flora and fauna assessment will be submitted once in two years.</li> </ul>	Already covered in the construction assessment cost



**Social & Environmental Associates - Myanmar Co.,Ltd. (SEAM)**

<b>Potential Adverse Effects</b>	<b>Related Activity</b>	<b>Degree of Impact</b>	<b>Measures adopted</b>	<b>Responsible Party</b>	<b>Monitoring Frequency</b>	<b>Budget Allocated</b>
Air pollution emissions from exhausts	Uses of construction equipment	Low	Sound management is planned and implemented. 2-meter-high screens are erected along the peripheral of construction activities. Engineers manage the equipment to carry out only required operations.	Selected contractors (Monitoring Parameter-SO <sub>2</sub> , NO <sub>2</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> )	BelGa, Monthly (Monitoring was done in a construction area, upwind site of the construction area, and downwind site of the construction area).	Included in construction expenses
	Vehicle operations (trucks, cars, and motorcycles)	Low	Prohibit idling of vehicles when not in use. Vehicles activities are managed with operational planning to reduce number of trips. All vehicles are required to carry out regular maintenance to reduce pollution load from their emissions. Transportation is provided for all	Selected contractors	Security guards, daily	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
			workers from camp to reduce the number of transport vehicles.			
	Back-up generators	Low	BelGa has installed and used generators with the best energy efficiency rating and the least emission quality. In addition, these generators are operated only when power supply from the national grid is cut off.	BelGa	BelGa's management, semiannually. (At the site, upwind and downwind of the generators have been measured)	Included in construction expenses
Dust emissions	Shipping, loading and unloading of construction materials	Medium	All construction materials are required cover for shipments. Spraying of water will be applied before unloading to suppress dust.	Selected contractors (Monitoring Parameter-SO <sub>2</sub> , NO <sub>2</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> )	BelGa, monthly (At the site, upwind and downwind of the generators have been measured)	Included in construction expenses
	Stockpiles of construction materials	Low	Stockpiles for sand, dust, and gravel will remain under the protection of covers.	Selected contractors	Selected contractors, monthly	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Excavating soils and activities related to earthworks	Medium	Spraying of water will be required first before each earthwork and the materials will be carefully moved to a stockpile.	Selected contractors	Bel Ga, monthly	Included in construction expenses
	Leaving exposed earth surface	Medium	Land clearing will be arranged immediately before the construction and spraying of water will be applied before and after the application.	Selected contractors	Selected contractors, monthly	Included in construction expenses
	Construction operations	Medium	Spraying of water will be arranged to increase the moisture level of soil and gravels. Operation sites will receive regular spraying of water.	Selected contractors	Selected contractors, monthly	Included in construction expenses
Noise and vibration	Unloading construction materials	Medium	These operations will be limited to mid-day working hours. Noise barriers will be erected to suppress the noise level. No unloading will be permitted at	Selected contractors (Monitoring Parameter-Sound level	Bel Ga, monthly (At the site, upwind and downwind have been measured)	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Earth works	Medium	All earthwork activities will be carried out behind the cover of noise barriers. Careful management will be applied to reduce noise and vibration.	Selected contractors	Selected contractors, monthly	Included in construction expenses
	Foundation pile driving operation	Medium	Latest silent foundation-pile driving methods will be applied. Pile driving activities will be arranged in normal working hours and behind sound barriers. Vibration will be monitored not to exceed the acceptable threshold.	Selected contractors	Selected contractors, monthly	Included in construction expenses
	Movements of heavy vehicles	Medium	Trip management will be strictly applied to safe fuel and to achieve efficiency at the same time, to minimize the noise and vibration levels. Regular maintenance will be required to maintain smooth operation of vehicle operations and not to generate excessive noise and vibration. In addition, heavy vehicles will be operated in day time. The peripheral will be covered with sound barriers.	Selected contractors	Bel Ga, monthly	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Construction activities and construction crew	Medium	Construction activities will be carried out behind the cover of sound barrier screens. Crews will be educated to lower noise level to the best possible extent.	Selected contractors	BelGa, monthly	Included in construction expenses
	Back-up generators	Low	Application of modern generators with least noise and vibration levels has been in place. In addition, sound absorbing control rooms are provided for housing the back-up generators.	BelGa (Monitoring Parameter-Sound level meter (dBA), Vibration)	BelGa, monthly (At the site, upwind and downwind of the generators have been measured)	Included in construction expenses
Top soil degradation and soil contamination from earthworks	Stockpiles of construction materials	Medium	Stockpiles of construction materials will be housed in designated areas, where land clearing and construction will be taken place.	Selected contractors	Bel Ga, monthly	Included in construction expenses
	Compaction from vehicle activities	Low	Vehicles parking areas and movements will be restricted to clearly marked roads in order to reduce soil compaction and top soil degradation. In addition, spill inspection will be regularly carried out to prevent soil contamination from accidental spills.	Selected contractors	Security guards, daily	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Excavation of soils and activities related to earthworks	Medium	In each and every earthwork, top soils will be carefully peeled off and stored properly. Spraying water will be applied to the top soil layers at regular time interval to maintain acceptable moisture level. Each earthwork will be closely supervised by a trained engineer and removed soils will be placed properly for later reuse. Top soil layers that have been carefully peeled off and stored will be reutilized in greening of the plant and if excess is available, will properly place in the surrounding or donate to the villagers for uses in their plantation.	Selected contractors	BelGa, monthly	Included in construction expenses
	Construction activities and crew's movement	Low	Construction activities and crew activities will be strictly confined to the area where the plants will be put in place. Activities outside of the boundary will be minimized to protect soil compaction and top soil degradation.	Selected contractors	Bel Ga, monthly (inside the construction site and nearby areas)	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Reckless disposal of construction spoils	Low	Construction spoils will be placed only in a designated area, which will later be developed. The materials will be reused for landfilling and land application. If there is demand, these spoils will be sold.	Selected contractors	BelGa, monthly	Included in construction expenses
Water consumption and wastewater generation	Construction operations	Medium	Water conservation applications will be put in place throughout the site. Workers will be trained to shut off the tabs after each use. Not much consumption of water is envisaged for the crews and management as they will be housed in a separate camp, where all water saving measures will be applied.	Selected contractors (Monitoring Parameter- 5-day BOD, COD, Oil and grease, pH, Total coliform bacteria, Total nitrogen, Total phosphorus, Total Suspended solids)	Bel Ga, monthly (at the wastewater collection system before the treatment system, discharge point after the treatment)	Included in construction expenses
	Cleaning activities	Medium	Cleaning of vehicles and construction equipment will be carried out in designated places only. The used water will be saved for reuse in construction activities or for spraying the ground.	Selected contractors	Bel Ga, monthly	Included in construction expenses



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Construction and management crews	Low	Minimal usage is expected as they will be put in temporary worker camps. Water saving education will be given and the workers will be reminded repeatedly to shut of valves after each use.	Selected contractors	BelGa, monthly	Included in construction expenses
	Rain events in monsoon	Low	Drainage will be put in place at the beginning of the construction to properly channel water to nearby drainage systems. Rain water will also be harvested to use in the plant development.	Selected contractors	Selected contractors	Included in construction expenses
Accidental spills	Construction related chemicals and cleaning agents	Low	Apply spill remedies as specified and clean up immediately. Incidents are to be documented and reported to the management. Rinse and wash the persons affected and provide immediate referral for medical care.	Selected contractors	Selected contractors	400 US\$
	vehicles and onsite maintenance operations	Low	All maintenance operations are required to place secure ground cover before the work. Spills are required to clean up and report to the management.	Selected contractors	Selected contractors	



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Solid wastes and construction spoils	Construction activities	Medium	Construction debris and discarded materials will be stored properly and sold for reuse.	Selected contractors	Bel Ga, once a month	Included in the Construction budget.
	Shipping materials	Low	All these materials will be recycled and sold.	Selected contractors	Selected contractors, once a month	
	Construction and management crews	Medium	Wastes will be kept properly in trash bins. These wastes will be separated and wet wastes will be collected regularly by nearby municipal department while the recycle materials will be sold. Sufficient	Selected contractors	Selected contractors, once a month	
	Discarded containers	Low	Chemicals and fuel related containers will be returned to their origin while the other containers will be sold to recycle.	Selected contractors	Selected contractors, once a month	
Social adverse effects	Tension and conflicts between migrant workers and local communities	Medium	Local hire is encouraged, and contractors are asked to include local hires. Contractors' experienced workers are confined in worker camps. Cross visit is allowed but time restriction is imposed. The contractors are to reach out to communities to listen their concerns	Selected contractors	BelGa, once a month	1000 US\$



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
			and find solutions. Any social conflict with local communities should be reported immediately and promptly			
Discrimination, gender equality, compliance with labor regulations	Refusal for workers with disabilities, discrimination over gender with regard to pay rate and opportunities, disregards to overtime compensation	Low	BelGa is an equal opportunity employer and therefore, encourages peoples with disabilities to work relevant to their skills. Lower rate based on gender distinction is strictly prohibited and BelGa takes seriously that women are entitled to equal pay rate with men in the same job function. In compliance to Myanmar Government's labor rules, overtime compensation should be defined in accordance with the national regulation.	Selected contractors	BelGa, once a month	
Safety, risks, and health hazards	Disregard to use PPE, work related injuries, sickness, and fire incident	Medium	PPE requirements are to be met at all cost in work zone. Anyone without sufficient PPE will not be permitted to work and there is no exception. Regular health and safety training will be offered. Strict enforcement of these policies will be applied and	Selected contractors	BelGa, once a month	600 US\$



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
			<p>close monitoring will be executed daily. Any work-related incident will be reported quickly and the injured worker will be provided immediate medical attention at an appropriate medical facility. Health services will be offered for the employees. Sick days will be granted given that medical certificate be presented afterward. Fire safety equipment will be installed sufficiently and renewal will be carried out annually. Fire department's requirement for emergency exits and fire preparation will be provided. Emergency drills will be carried out and everyone will be informed of safe assembly points, head counts responsibility, and immediate contact with the closet fire department.</p>			

## 8.2 ESMP for Operation phase of Poultry project

Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
<b>Operation Phase</b>						
Intensive energy consumption	High energy uses in production processes	Medium	Bel Ga employs equipment based on high energy efficiency rating. Decisions for instruments are made based on low power consumption and energy efficiency. Bel Ga also endorses energy saving mechanisms and exercises. Unnecessary lights and office electrical instruments will be turned off while not in use. Energy consumption will be closely monitored and evaluated for improvements.	BelGa	BelGa, monthly	2000 US\$.
Air, noise, and vibration pollution emissions	Vehicle operations for shipping and receiving activities and transportation of employees.	Low	Idling will be prohibited. In order to reduce number of vehicles uses, car polling and taking ferries will be encouraged. All vehicles in association with the plant are required to do regular maintenance. Operation of shipping and handling at night will not be permitted unless absolutely necessary. However, noise and vibration will not be envisaged from the production operation itself.	BelGa	an independent party, semi-annually (Monitoring Parameter- SO <sub>2</sub> , NO <sub>2</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> , Sound level meter(dBA), Vibration)	1000 US\$



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
					<p><b><u>Air Monitoring</u></b>  <b><u>Places:</u></b>  <b>AQ-1;</b> 17° 9'29.67"N            95°58'12.11"E  <b>AQ-2;</b> 17° 9'32.03"N            95°58'13.95"E  <b>AQ-3;</b> 17° 9'20.40"N            95°58'45.27"E  <b>AQ-4;</b> 17° 9'23.05"N            95°57'55.30"E  <b>A5;</b> 17° 9'30.60"N            95°58'13.68"E            Monitoring Report will be submitted twice a year.</p> <p><b><u>Noise Monitoring</u></b>  <b><u>Places:</u></b>  <b>NL-1;</b> 17° 9'29.71"N            95°58'12.05"E  <b>NL-2;</b> 17° 9'32.05"N            95°58'13.92"E  <b>NL-3;</b> 17° 9'20.50"N            95°58'45.13"E  <b>NL-4;</b> 17° 9'23.12"N            95°57'55.36"E  <b>NL-5;</b> 17° 9'30.60"N            95°58'13.68"E            Monitoring Report will be submitted twice a year.</p>	



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
					<b>Vibration Monitoring</b> <b>Place:</b> <b>VL-1;</b> 17° 9'31.68"N 95°58'13.70"E <b>VL-2;</b> 17° 9'32.29"N 95°58'12.00"E <b>VL-3;</b> 17° 9'20.63"N 95°58'2.31"E <b>VL-4;</b> 17° 9'39.59"N 95°58'18.85"E <b>VL-5;</b> 17° 9'30.60"N 95°58'13.68"E Monitoring Report will be submitted twice a year.	
	Back-up generators	Low	Quiet and energy efficient generators will be used for back-up power supply. These will not be operated unless absolutely necessary. Sound suppressing and absorption measures will be put in place in the generator room. Generator uses will be documented and fuel consumption will be monitored and evaluated regularly.	BelGa	BelGa, monthly	



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
	Fumigation with formalin	Low	Appropriate concentration will be applied. Fumigation room will be sealed properly and 48 hours period will be set to allow the vapor to penetrate all the surfaces. It will only be gaseous sterilization for elimination of microorganisms and prevention of microbial growth. Ammonia solution will be employed to neutralized residual formalin in the fumigation room. Proper period will be set to reopen the fumigation room after neutralization.	BelGa	Independent party, semi annually	
High water consumption and wastewater generation	Over extraction of groundwater	Medium	The plant will shift to municipal water supply as soon as it is available. Changes in groundwater level will be monitored and will make necessary plan. Water saving mechanisms will be put in place and awareness raising programs will be provided to the employees. Water consumption will be monitored closely and evaluation will be carried out to find ways to reduce water consumption. Treated wastewater will be reused for appropriate purposes.	BelGa	BelGa, Monthly <b>Monitoring Place:</b> <i>W1-Tube Well</i> 17°09'31.2" N 95°58'16.2" E <i>W2-Main Drain Tank</i> 17°09'30.4" N 95°58'12.3" E <b>Monitoring Parameters</b> pH, Turbidity, Conductivity, Total Hardness, Iron, Suspended Solids, N.NO <sub>3</sub> , NH <sub>3</sub> , DO, COD, BOD	Included in the operation budget.



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
					Monitoring will be done monthly, and monitoring report will be submitted once in four months with the water laboratory results.	
	Wastewater generation	Medium	<p>Process wastewater involving residual of disinfection agent CID-20, and spent water used in cleaning operation of the production processes will be appropriately treated at its wastewater treatment system to meet NEQEG's standards.</p> <p>-Effluent of treated wastewater will be recycled for appropriate uses while the sludge will be handed over to a relevant municipal agency for disposal. Domestic sewage from the plant will be kept in septic tank and then, will be pumped out by YCDC when full. No wastewater will leave the plant untreated.</p>	BelGa	<p>Independent party, semiannually</p> <p><b><u>Monitoring Place</u></b>  <b><i>Effluent water (EW)</i></b>            17° 9'31.07"N            95°58'15.90"E</p> <p><b>Monitoring Parameters</b>            - BOD, COD, Suspended Solids, Nitrate, Total Nitrogen, NH<sub>3</sub>, NH<sub>4</sub>, Phosphate, Total Phosphorous, Total Coliform Count, Thermotolerant (fecal) Coliform Count, pH, Turbidity, Oil &amp; Grease, Color (True), Free Chlorine, Total Chlorine, Total E. coli.</p>	



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
					-Monitoring Report will be submitted twice a year with the laboratory test results.	
	Drain water	Low	Drain water from drainage will be channeled out to the industrial drainage system. The plant will maintain green coverage in the compound to encourage groundwater recharge from rain events.	BelGa	Independent party, semi annually	
Accidental spills	Sterilizing chemicals and cleaning agents	Low	Apply spill remedies as specified and clean up immediately. Incidents are to be documented and reported to the management. Rinse, wash, and treat persons affected immediately and refer them for immediate medical care.	BelGa	BelGa	
Solid wastes	Used shipping materials, egg shells, discarded eggs and chicks with deformities, and solid wastes generated from the workers and office	Medium	Used shipping materials, egg shells, discarded eggs and chicks with deformities will be sold to different users. They will be kept properly before being sold. Solid wastes will be kept in sufficient trash container after being separated for recyclable materials. Trash bins will be distributed throughout the plant. A relevant municipal authority will be contracted for regular collection and disposal.	BelGa	BelGa quarterly	1000 US\$.



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Hazardous wastes	Spent chemical containers, containers for cleaning agents, and sludge from the wastewater treatment facility	Medium	Spent chemical containers and containers for cleaning agents will be returned to suppliers as much as possible. Containers that may neither pose hazards nor health risks will be sold to recycling agents. Containers that cannot be returned to the suppliers will be disposed with contract at YCDC's hazardous disposal site properly.	BelGa	<p>Independent party, semiannually</p> <p>-Monitoring places will be at the place of hazardous waste storage containers, to less risk of hazardous wastes by disposing it once a week, and also at the chemicals' storage room of the factory in order to less impacts of spill over affects.</p> <p>-Monitoring will be done frequently at the storage place of hazardous waste and chemicals' storage room, however, the monitoring report will be done once a year and will be submitted to ECD once a year.</p>	Included in the operation budgets.



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Lack of awareness	weak understanding of environmental pollution and environmental conservation among the workers	Medium	Awareness raising programs will be conducted to promote environmentally conscientious practices for workers. Cross departments monitoring will be exercised to encourage competition for environmental conservation efforts. Programs with attractive incentives will be implemented to step up improvements. Penalties will be applied collectively to a department that has bad record or has violation. External monitoring and evaluation will be carried out to speed up improvements in environmental conservation efforts.	Independent party	Independent party, quarterly	600 US\$
Dissent	Lack of job opportunities for local communities	Low	Creation of local job opportunities will be encouraged. Employment from local labor pool will be preferred. In addition, purchasing local products will be encouraged to help local economy.	Bel Ga	Bel Ga, quarterly	Included in the operation budget



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Social adverse effects	Tension and conflicts between migrant workers and local communities	Low	The project management is to reach out to communities to listen their concerns and find solutions. Any social conflict with local communities will be required to report immediately and prompt attention to settle the conflict would be developed. Awareness and training for preventing taboos and insults will be offered and upgraded regularly. The plant will establish good relationship and regular communication with local communities.	Bel Ga	Bel Ga, Quarterly	Included in the operation budget
<b>Occupational health and safety</b>						
Work related injury and accidents,	Operating machines and equipment	Low	Awareness training programs will be conducted. Automated systems will be maintained, and operational functions will be checked to reduce potential risks Overwatch will be employed Work related injuries will be documented and reported	The BelGa' factory manager and respective area supervisors	BelGa, quarterly	Included in the operation budgets



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Incidents and emergency cases from operation and maintenance	Operating machines and equipment	Low	<ul style="list-style-type: none"> <li>- Ensure tool box meeting in every workday morning before commencement of work</li> <li>- Provision of first aid kit and CPR training</li> <li>- If possible,</li> <li>- The Factory provides health care service or clinic.</li> </ul> <p>Training program for firefighting, flash flood and earthquake events are encouraged.</p>	The factory manager and respective area supervisors	Monthly	Included in the operation budgets
Safety, risks, and health hazards Lack of PPE Work related injuries, sickness, and fire incidents and natural disasters	Operating machines and equipment	Low	<ul style="list-style-type: none"> <li>- PPE requirements are to be met at all cost in work zone.</li> <li>- Anyone without sufficient PPE will not be permitted to work and there is no exception.</li> <li>- Regular health and safety training will be offered.</li> <li>- Strict enforcement of these policies will be applied, and close monitoring will be executed daily.</li> <li>- Any work-related incident will be reported quickly, and the injured workers will be provided immediate medical attention at an appropriate medical facility.</li> <li>- Health services will be offered for the employees.</li> </ul>	The factory manager and HR manager, Operation managers, worker themselves,	Annual monitoring by independent party. Record keeping and reporting to ECD.	Included in the operation budgets



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
			<ul style="list-style-type: none"> <li>- Sick days will be granted given that medical certificate be presented afterward.</li> <li>- Fire safety equipment will be installed sufficiently, and renewal will be carried out annually. Fire department's requirement for emergency exits and fire preparation will be provided.</li> <li>- Emergency drills will be carried out and everyone will be informed of safe assembly points, head counts, responsibility, and immediate contact with the closet fire department.</li> </ul>	The factory manager and HR manager, Operation managers, worker themselves,	Annual monitoring by independent party. Record keeping and reporting to ECD.	Included in the operation budgets
Traffic and road congestion and incidents	Vehicles operating in and around the factory	Low	<ul style="list-style-type: none"> <li>- Prohibit long standing or loading vehicles on the public roads</li> <li>- Limit speed of factory related vehicles</li> <li>- Employ only licensed drivers</li> <li>- Posting road signs near the sensitive area like school and hospital</li> <li>- Provision of road safety awareness training to nearby communities</li> </ul>	The factory manager	Monthly	Included in the operation budgets



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Discrimination, gender equality, compliance with labor regulations	Refusal for workers with disabilities, discrimination over gender with regard to pay rate and opportunities, disregards to overtime compensation	Low	BelGa is an equal opportunity employer and therefore, encourages peoples with disabilities to work relevant to their skills. Lower rate based on gender distinction is strictly prohibited and BelGa takes seriously that women are entitled to equal pay rate with men in the same job function. In compliance to Myanmar Government's labor rules, overtime compensation should be defined in accordance with the national regulation.	BelGa	Independent party, quarterly	500 US\$
Safety, risks, and health hazards	Disregard to use PPE, work related injuries, sickness, and fire incident	Low	PPE requirements are to be met at all cost in work zone. Anyone without sufficient PPE will not be permitted to work and there is no exception. Regular health and safety training will be offered. Strict enforcement of these policies will be applied and close monitoring will be executed daily. Any work-related incident will be reported quickly and the injured worker will be provided immediate medical attention at an appropriate medical facility. Health services will be offered for the employees.	BelGa	Independent party semi annually	500 US\$



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
			Sick days will be granted given that medical certificate be presented afterward. Fire safety equipment will be installed sufficiently and renewal will be carried out annually. Fire department's requirement for emergency exits and fire preparation will be provided. Emergency drills will be carried out and everyone will be informed of safe assembly points, head counts responsibility, and immediate contact with the closet fire department.			
Bio-security issues	import of eggs, output chicks, activities of peoples, vehicles, and equipment Production processes	Low	<p>First line of defense will be the importation of certified eggs. Regardless of the certification, all eggs will undergo disinfection in the fumigation room. The product, chicks, will be checked for diseases before leaving the facility. Disease prevention measures will be carried out regularly to prevent disease outbreaks for chicks.</p> <p>Peoples and vehicles moving in and out of the facility will always have to undergo disinfection every time. There will be no exception.</p> <p>Production processes are kept under the controlled environment and disinfection will be the first priority.</p> <p>In addition, the facility will sanction extra measures for seasonal disease outbreaks. The facility will cooperate with the Ministry of Health to control any diseases.</p>	BelGa	Monthly	1000 US\$



Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
Grievance redress mechanism	any complaints and issues from any stakeholders including BelGa's employees	Low	Employees will be encouraged to raise any issue or complaint they may have. These issues will be swiftly and fairly dealt with in transparent manner. Any reprisal will be subjected to prompt investigation and severe penalty.	BelGa	BelGa, quarterly	600 US\$
			Open discussion, complaint box, and labor council or labor union will be allowed in the plant	BelGa	BelGa, quarterly	
			The plant will establish grievance redress mechanism in transparent manner and receive any complaint that communities and stakeholders have to make. The committee will document the complaints received and find solutions and if not resolved, these issues will be referred to upper management for settlement.	BelGa	Independent party, quarterly	



8.2.1 အရေးပေါ်အခြေအနေဖြစ်ပွားပါက ဆက်သွယ်ရမည့် လိပ်စာများ/တာဝန်ယူမည့်အဖွဲ့နှင့် လုပ်ငန်းတာဝန်များအား

Actions	Responsible Team	Contact Address	Duties and Functions
<p>For Emergency Cases</p>	<p>Emergency Evacuation teams have been established as per following list.  <b><u>For Hatchery</u></b>            1.Hatchery Manager            2.Production Supervisors -Member (2 Person)            3.Assist Manager - Member (1 Person)            4.Technician - Member (1 Person)            5.HR officer - <u>Member (1 Person)</u>  <b>TOTAL - 6 members</b></p> <p>In the event of an evacuation, each employee is to exit the building in an orderly fashion and report immediately to Evacuation team</p>	<p><b>Emergency Contact Number for Internal</b>            Managing Director - +959761532548            HR Officer - +9595038345            Office - +959967959814  <b><u>For Hatchery</u></b>            Hatchery Manager - +959958446081            Supervisors - +959681437795, +959251054389, +9599770034472</p> <p><b>Emergency Contact Number for External</b>  <b><u>For Hatchery</u></b>            Fire Department Head Office            - 191, 01-666912, 01-666913            Fire Department Hmawbi            - 01-620030, 055-20012            Electricity Error            - 09-977275842, 09-977275825            Police Station - 01-620001</p>	<p>-To establish a plan of action which ensures a rapid and orderly evacuation of all personnel in the event of an emergency, such as fire, tornado or other severe weather, chemical spill or release, neighbor facility emergency, derailment or motor vehicle accident, or bomb threat.</p> <p>- To do the best for the safety and health of all personal related with Bel Ga Myanmar as the highest priority.</p> <p>- to be paid the specific attention to evacuation of any handicapped from the building. This procedure is designed</p> <p>- to design the procedures of the emergency team to enhance the effective response to an emergency.</p>
<p><b>NOTE:</b></p>	<p>More details of duties and functions in the emergency team are mentioned in the Emergency Action Plan (<b>ANNEX.10</b>)</p>		



### 8.3 ESMP for Decommissioning, closure and post closure phases for Poultry project

Potential Adverse Effects	Related Activity	Degree of Impact	Measures adopted	Responsible Party	Monitoring Frequency	Budget Allocated
<b>Decommissioning, closure and post closure phases</b>						
Noise, vibration, and air pollution	Removal of unnecessary facilities	Low	Standard procedures for noise, vibration, and air pollution control as applied in the construction phase.	Contractor (Monitoring Parameter- SO <sub>2</sub> , NO <sub>2</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> , Sound level meter (dBA), Vibration)	Once a month	500 US\$
Debris and solid waste disposal	Decommissioned of the existing facilities	Low	Standard procedures for noise, vibration, and air pollution control as applied in the construction phase.	Contractor	Once a month	Included in the above budget.

When the allocated budget for ESMP is not enough, the plant will be trying to use more budget for implementing the mitigation measures leading to the sustainable environment.



In order to monitor the impacts and to implement the mitigation measures, Environmental and Social Management Committee was organized with (12) members, and its responsibilities are as follows and its detail plan are attached in ANNEX.14.

### **Environment and Social Management Committee**

#### **For Hatchery**

Hatchery Manager – At the whole environment hatchery	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Assist Manager	- Member (1 Person)
Technician	- Member (1 Person)
HR officer	- Member (1 Person)
TOTAL	<u>6 Member</u>

#### **For Farm**

Farm Manager – At the whole environment of Farm	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Rearing Supervisors	-Members(2Person)
Technician	- Member (1 Person)
HR officer	- Member (1 Person)
TOTAL	<u>6 Member</u>

#### **Responsibilities**

- Overall and final responsibility for Environment and Social Management Plan is that of the respective Manager of Bel Ga Myanmar Limited.
- Day-to-day responsibility for ensuring this plan is put into practice is delegated to respective Manager.
- To ensure Awareness of Environment – Health – Society points are maintained and improved, the following positions have responsibility in the following areas as an Environment and Social Management Committee.

### **8.4 Emergency Management Plan**

BelGa's emergency management plan covers all possible emergencies that can be encountered at the plant. BelGa's Emergency Management Plan serves as the primary tool to deal with emergencies, when they occur.

#### **8.4.1 Safety**

The factory places all required safety measures and safety restrictions all over the compound. These safety measures are not only on paper procedures but also practices that have always been executed in every step of the production. Bel Ga's safety programs include health and safety in working environment, fire safety, hazardous chemicals safety, emergency



action plan and preparedness, medical surveillance, production process safety management, and incident documentation. Environment, Health and Safety policy of Belga Myanmar Co. Ltd was seen in **ANNEX.12**.

For health and safety in working environment, no exemption is allowed for PPE use. No one without proper PPE will be prohibited from entering the factory compound and anyone found in the compound without PPE will also be removed from the work and fined by related supervisors. The recoded photos for PPE application in the factory are seen in **Annex 11**. In addition, safety training, safe ways to carry out operation and safety minded prevention programs are offered to new workers and refresher trainings are offered quarterly. Everyone in the factory has to take first aid course and first aid kits are made available throughout the factory. The factory also assigns a permanent safety officer to oversee the improvement of health and safety programs. The safety officers routinely inspect the first aid kits and evaluate safety procedures for improvements. Procedures and plans for medical emergency are adopted and laid out clearly throughout the facility. A health officer from the factory will check and test the state of emergency and immediately carry out necessary response programs. Anyone with urgent medical status will be brought to the nearest hospital for immediate treatment. Any violation, mishap, incident, and emergency will be recorded and documented for review, evaluation, and improvements in the area. Detailed measures of fire safety and emergency management are also shown in the later part of the report.

#### **8.4.2 Fire Safety**

Bel Ga has put in place all fire safety procedures, measures, and equipment. It has been working closely together with fire department to get compliance certificate. Fire extinguishers, emergency exits, emergency lights and alarms, fire escape plans, and gathering grounds are established in the plant. Emergency drills are planned incorporating rapid relocation of employees from danger zones to the assembly points, head counts process for not leaving anyone behind, and rapid response and intervention together with the nearby fire department to extinguish the fire. In addition, local fire department will make regular inspection and certify the plant's fire safety plan. Fire extinguishers will be annually inspected, and certification renewal process will be activated annually. Moreover, fire safety training will be offered regularly to all staff. Emergency fire outbreak prevention system with automatic spraying and alarm systems are in place throughout the factory. No smoking is allowed in the factory and smoke detectors are installed for early warning systems. In addition, security team will keep active surveillance of the facility and its surrounding.

#### **8.4.3 Accidental Chemicals or Hazardous Materials Spill**

BelGa's rigorous principles for storage of chemicals and hazardous materials, regular practical training and semi-annual renewal training for handling of chemicals and hazardous materials, strict rule to handle chemicals and hazardous materials only by trained personnel, and sufficient documentation procedures for chemicals and hazardous materials will proactively prevent or at least minimize spill incident. Spill response procedures are visibly posted on walls. And Occupational Health and Safety Policy of Belga Myanmar Co. Ltd was attached in **ANNEX.13**.



As soon as a spill is reported, the area will be isolated and non-essential personnel will be restricted from access to the area. If required, all employees except those who will respond to contain spills will be asked to move to the assembly point until the clear signal is given to get back to work. If the accident causes injuries and needs medical attention, this incident will also trigger medical emergency. Injuries and medical attention needs will be handled strictly in line with the plant's medical emergency guidelines.

As soon as spill incident is reported, incident assessment will be carried out to determine appropriate response procedures. If the spill can be contained by in-house trained technicians, the spills will be contained using the materials provided readily for accident response. If outside assistance is required by the size or degree of hazards, relevant environmental agency will be promptly informed and invited to deal with the spill.

Showers and eye washes to rinse spilled materials from human body, spill control materials, material safety data sheets for all relevant chemicals, and emergency contact numbers will be made readily available near the storage for chemicals and hazardous materials and the places, where these materials are utilized.

Incident report and follow-up assessment are required for every incident big and small. Scientific laboratory grade face masks, sufficient ammonium, and high-power blower will always be kept ready to contain accidental formalin spills.

#### **8.4.4 Fire Outbreak**

BelGa's incorporate fire exits, fire alarm system, placement of fire extinguishers, and fire management plan in its operation. Materials that can fuel fire are required to store properly. Renewal of fire extinguishers and of fire response training annually, regular annual inspection from fire department, and fire drills will be carried out. Contact numbers to nearby fire departments will be placed on walls. Smoke detectors are put in place and are checked regularly for their performance. Smokers will be allowed only in a designated smoking room.

Fire escape routes will be lit when fire alarm is sounded. All employees except specifically trained first responders for fire emergency will have to exit the buildings and are required to report at assembly point. Head counts will be carried out to identify missing persons at the assembly point.

Security team will contact fire department as soon as the alarm goes off. First responder team will check buildings to assess the degree of the fire. Containment will be executed if feasible. As soon as the fire department reaches the site, the first responder team will brief the fire department to carry on. No one will be allowed back in the production until safe signal is given by the fire department. Thorough fire investigation will follow after an incident for lesson learned and for better preparedness.

Fire safety evaluation will be carried out yearly and improvement will be carried out in the plant to prevent fire outbreak.

#### **8.4.5 Medical Situation**

When an employee falls sick or gets injured, regardless of the appearance of less



seriousness, the medical emergency situation will be triggered. The seriousness of sickness should be determined by medical professionals but not by the plant's personnel.

The patient will be attended by a designated person who has received basic medical training and the patient will be escorted immediately to a nearest health care provider. The designated person will accompany the patient. Gathering around the patient will not be permitted as that can block air flow and make the problem worst. The patient will be given enough rest and day off to recover as required by recommendation of a medical physician. The plant will cover cost for medical emergency and treatment. If it is a work-related injury, the plant will cover all medical cost and lost days.

If sickness is detected in more than one-person, necessary emergency assessment will be carried out while the rest of the employees will be collected in the assembly point. Only after thorough assessment and inspections are carried out and necessary action has been executed, employees will be allowed back in.

#### **8.4.6 Chemical and Hazardous Materials Safety**

Only trained personnel may handle chemicals using proper equipment in the plant. Each chemical arrival and use will be documented properly by using chain of custody (COC) form. Plant management will inspect the forms and chemical storage regularly. Chemicals will be adequately stored in well-ventilated area. MSDS will be made readily available for chemical controllers. Spills will be promptly and adequately dealt with and each incident will be recorded for prevention of recurrence and training purposes. Spill prevention procedures are made visible in the areas, where the chemicals are stored and used. The plant provides emergency shower and eye rinsing station to deter permanent body damages to its employees. Annually, the plant will go over plant's review procedure to improve its future performance. Renewal training on chemicals, the application of MSDS, proper handling of these materials, and emergency response procedures will be provided quarterly.

#### **8.4.7 Emergency Action Plan and Preparedness, Medical Surveillance, and Production Process Safety Management**

Emergency action plans for all potential emergencies are developed and put in place in the factory. In addition, delegations of tasks and systematic rehearsals or drills are staged quire regularly to familiarize the workers from all potential response mechanisms. Trainings are also offered frequently to comprehend the need for preparedness and to be ready for responses when require. Evaluations are carried out after each drill to find rooms for improvements in the emergency preparedness. The factory has prepared its workers for fire emergency, chemical emergency, medical emergency and disease outbreaks, and any possible turmoil that the factory could think of. Interactive discussions are applied in the training sessions. The plant's Emergency Action Plan is seen in **ANNEX. 10**.

The plant actively monitors medical conditions of workers and security guards and any trend indicating any form of disease outbreaks will be dealt with appropriately. As the factory is in close contact with the Ministry of Health, any of such medical incidents will be reported to relevant authorities and health personnel. In case of any outbreak, the whole project area will be sealed off until the situation has been handled properly. The workers, the communities, and all stakeholders will be informed of the issues and collective cooperation



will be sought to deal with such issues. As health issue is an important topic for the good productivity in the factory, any personnel with communicable diseases will not be permitted in the factory compound. Workers who get sick will be provided adequate sick leave and health coverage to treat their health conditions.

The plant employs automated systems to prevent operation process mishaps. In addition, the workers are kept updated and trained about the operation safety and requirements. Any workers who are in violation of requirements will be first given severe warning and then, continuous violation will be resulted in dismissal from the job permanently. The project's operations will be reviewed quarterly to develop improvement plans and implementation procedures.

#### **8.4.8 Employment Benefit Plan**

Housing is not provided in the factory but instead, transport arrangement is provided to the workers. Safe drinking water bottles from a reliable drinking water supplier is contracted to provide bottled drinking water. In order to reduce plastic wastes, the factory discourages to provide small bottles but instead, provides reusable big bottles for drinking water. Water quality is randomly checked to assure safety for the factory's workers. The factory will provide factory uniforms and PPE will also be issued to the workers. In addition, the factory will provide laundry service for cleaning the uniform and PPE so that workers don't need to take home and clean these.

#### **8.4.9 Natural Disaster Emergency**

For predictable naturally occurring events, such as a cyclone, a potential flooding, or earthquakes, the factory emergency planning includes, but is not limited to, forming Emergency Team to conduct awareness training about facility evacuation routes and procedures, procure emergency supplies, monitor radio and/or television reports and secure facility. The procedures include relocation of employees from danger zones, head counts process for not leaving anyone behind, and rapid response and intervention together with the nearby local and state response agencies.

#### **8.4.10 Electrical Failures, Mechanical and Equipment Malfunction**

The plant applied the modern hatching technology of Petersime Belgium which is one of the world leaders in incubation with proven management skills and 80 years of know-how to produce day-old chicks. To prevent operation process mishaps, the automated systems of machines were employed in the factory. Moreover, the plant selected the hatchery equipment with energy-saving features wherever possible, including intelligent frequency drives for incubators and effective climate control systems, to significantly reduce energy consumption and lower the total cost of constructing the hatchery's electrical systems.

Apart from natural ageing of materials and unexpected causes such as very strong winds, fall of trees, animals actions, lightning, functioning under severe transient conditions, malfunction of protection systems, careless excavations, communications blackout, vandalism, *etc.*, there are several reasons, may lead to failures in electrical systems, equipment and materials. Therefore, the plant ensured the following things to be emphasized,



- Design errors and deficient equipment and materials specification.
- Equipment and materials manufacturing errors and deficiencies.
- Improper package, handling and transportation.
- Inappropriate storage.
- Equipment and materials mounting errors and deficiencies.
- Factory Acceptance Tests and Site Acceptance Tests not performed or not performed in accordance with applicable standards and not witnessed by the Owner representative.
- Improper use of equipment.
- Improper or lack of maintenance.

The plant follows local electricity board regulations when choosing power distribution panels, design and cable type/sizes. To avoid interference with signaling cables, the plant used Variable Frequency Drives with shielded cables, and used the separate power and signal cable trays to avoid interference. Not only to protect equipment from voltage spikes but also to protect against lightning strikes and surges, the plant applied the surge arresters in distribution panels. The presence of water in hatcheries, eg. for washing, circulation and from condensation, requires electrical installations to be water resistant. Using “clean” cable design above false ceilings can help, by creating fewer places for dirt to collect and by keeping electrical cabling away from sources of water. The plant ensures that a certified electrical supplier checks and approves the system during installation and carries out regular testing to less the risk of injury to staff and to be lack of fire hazard.

Electrical safety precautions are set up as specific control measures implemented to remove electrical hazards and mitigate the risks of electrical accidents and injuries. The most basic electrical safety precautions such as clearly understanding how electricity works, identifying and eliminating electrical hazards such as poor cable management and lack of proper housekeeping, and wearing the appropriate PPE are applied at the factory. Moreover, the following tasks were applied at the plant for being electrical safety.

- Ensure that a certified electrical supplier checks and approves your system during installation and carries out regular testing.
- Incorporate “clean” design where possible, eg. running cables above false ceilings.
- Check the power supply backup system regularly: make sure it will work if needed.
- Provide automatically fused control boxes for each item of equipment in the power distribution panel to prevent interruption in case of tripping.

In addition, the workers are kept updated and trained about the operation safety and requirements, and educated with the electrical safety precautions. Any workers who are in violation of requirements and safety precautions will be first given severe warning and then, continuous violation will be resulted in dismissal from the job permanently. The project’s operations will be reviewed quarterly to develop improvement plans and implementation procedures. If any damages due to electrical failures and mechanical and equipment malfunction, the plant will follow up in accord with Occupational Health and Safety Policy of Belga Myanmar Co. Ltd (**ANNEX.13**).



## 9. CONCLUSION AND RECOMMENDATION

The results of the IEE study show that the proposed project will not result to significant adverse social and environmental impacts and that the impacts are primarily confined within the site. Social and Environmental mitigation measures have been outlined in the ESMP to address any adverse impacts during the various phases of project implementation. The ESMP also presents the institutional responsibilities for the implementation of the mitigation measures.

As being the facts of existing in the industrial zone, it would be less impacts to society, but for the human in the factory, the protective measurements, equipment and procedures have been set up to address any adverse impacts if appeared, for least affects to the working environment. According to the baseline study and monitoring results of IEE study for the hatchery plant, the proposed project could be operating without taking any significant adverse impacts to society and environment in and around the project site.

In compliance with the requirements of EIA procedures, it is required to prepare and submit monitoring report bi-annually. During the operation, the main impacts identified are hazards to occupational and community health, safety and generation of domestic and hazardous waste materials. These impacts are manageable with proper implementation of the health and safety guidelines. Moreover, the monitoring will be frequently done especially at the chemicals' storage room to less of spill over affect, and at the hazardous waste disposed area to dispose regularly once a week with the trained employees, leading not to have the adverse social and environmental impacts. The mitigation measures in the ESMP will be surely implemented and the monitoring frequency for all social and environmental issues will be continually done in accord with the ESMP. The resulted monitoring report will be submitted to the concerned department: ECD biannually by following up the ESMP.

In the ESMP, it is recommended that management team will continually review, update and upgrade its Occupational Health and Safety Plan including the Emergency Response Plan to prevent occupational risks. Refresher trainings are also recommended for employees in the aspect of operational safety and emergency response preparedness.

Finally, it is suggested that the effective implementation of environmental, health and safety, and social responsibilities should be done throughout the whole life span of Bel Hatchery Plant project. Therefore, it is strongly recommended that the project proponent should strictly follow the guidelines provided by the ECD. Moreover, it is essential to prove with actual implementation and work of the project when the ESMP is approved by the concerned authorities. The management of Bel Ga Myanmar Ltd should efficiently undertake the task of "Appointing well experienced and knowledgeable HSE personnel(s)" as one of their main important tasks. The most important recommendation is that the project proponent is better to follow the environmental policies, laws, rules, and procedures issued by the Republic of the Union of Myanmar.



## 10. REFERENCES

[https://www.wunderground.com/history/airport/VYYY/2017/9/7/MonthlyHistory.html?req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/VYYY/2017/9/7/MonthlyHistory.html?req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

<https://www.citypopulation.de/php/myanmar-admin.php>

[https://www.wunderground.com/history/airport/VYYY/2016/9/7/MonthlyHistory.html?req\\_](https://www.wunderground.com/history/airport/VYYY/2016/9/7/MonthlyHistory.html?req_)

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<https://www.citypopulation.de/php/myanmar-admin.php> [http://www.themimu.info/baseline-](http://www.themimu.info/baseline-datasets)

<https://www.go-myanmar.com/climate-and-weather>

[http://themimu.info/township-profiles?field\\_doc\\_tx\\_state\\_regions\\_tid=53](http://themimu.info/township-profiles?field_doc_tx_state_regions_tid=53)



# **ANNEX**

## Annex 1: Photolog



Photo 1: Site visit of SEAM Team



Photo 2: Onsite water sample analysis and water sample collecting for laboratory analysis



Photo 3: Water sample collection from main drain tank during construction period

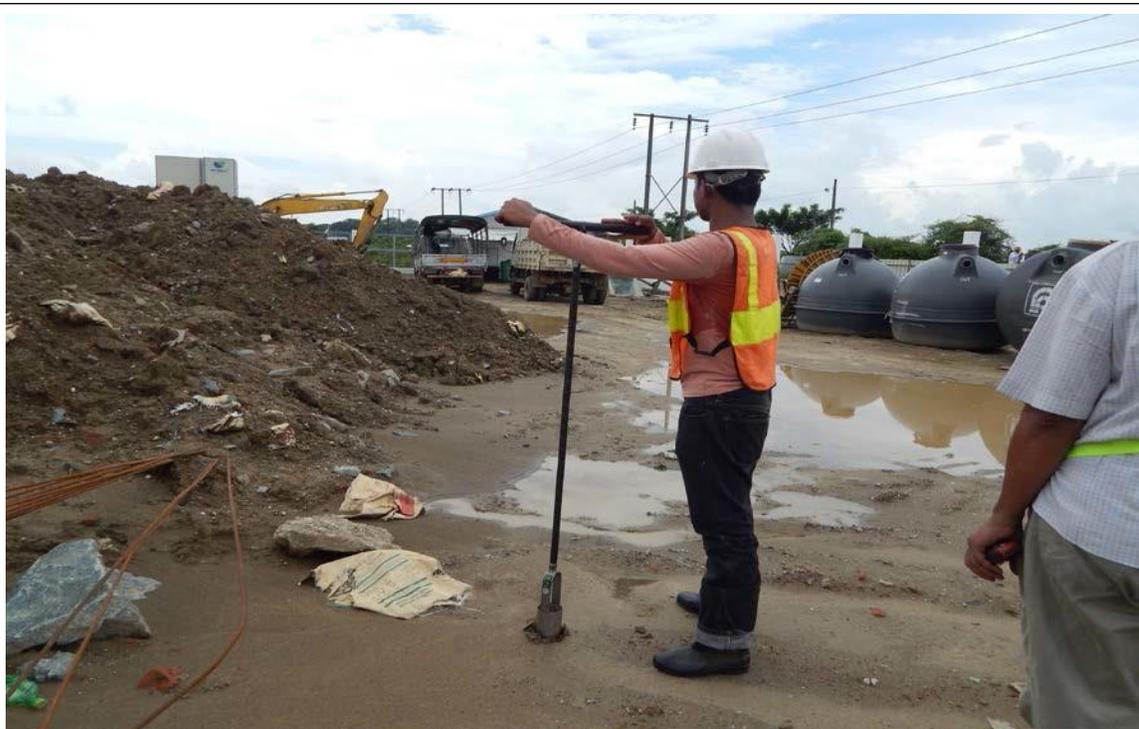


Photo 4: Soil sample collection



Photo 5: Air & Noise monitoring



Photo 6: Socio-economic survey and key informant interview at Kan kalay M village



Photo 7: Socio-economic survey at Kone Kalay village



Photo 8: Early morning labor assembly and toolbox meeting at the project site



Photo 9: Back side view of Bel Ga Myanmar factory



Photo 10: Side view of Bel Ga Myanmar construction site

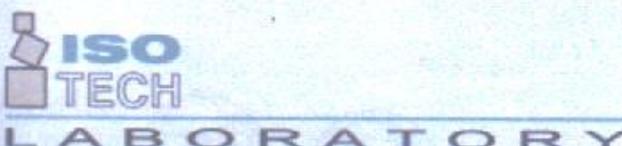


Photo 11: Construction safety signs at project site



Photo 12: Front view of Bel Ga Myanmar Chicken Hatching Plant

## Annex 2: Laboratory Analysis Results of Water Samples



Laboratory Technical Consultant: U Saw Christopher Maung  
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 Issue Date - 01-12-2012  
 Effective Date - 01-12-2012  
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**W0917 160**

### WATER QUALITY TEST RESULTS FORM

Client _____	Social & Environmental Associates - Myanmar
Nature of Water _____	Tube Well Water
Location _____	Hmawbi Township
Date and Time of collection _____	7.9.2017 (11:15), 30°C
Date and Time of arrival at Laboratory _____	8.9.2017
Date and Time of commencing examination _____	9.9.2017
Date and Time of completing _____	14.9.2017

#### Results of Water Analysis

#### WHO Drinking Water Guideline (Geneva - 1993)

pH	7.1	6.5 - 8.5
Colour (True)	TCU	15 TCU
Turbidity	196 NTU	5 NTU
Conductivity	139 micro S/cm	
Total Hardness	46 mg/l as CaCO <sub>3</sub>	500 mg/l as CaCO <sub>3</sub>
Calcium Hardness	mg/l as CaCO <sub>3</sub>	
Magnesium Hardness	mg/l as CaCO <sub>3</sub>	
Total Alkalinity	mg/l as CaCO <sub>3</sub>	
Phenolphthalein Alkalinity	mg/l as CaCO <sub>3</sub>	
Carbonate (CaCO <sub>3</sub> )	mg/l as CaCO <sub>3</sub>	
Bicarbonate (HCO <sub>3</sub> )	mg/l as CaCO <sub>3</sub>	
Iron	9.20 mg/l	0.3 mg/l
Chloride (as CL)	mg/l	250 mg/l
Sodium chloride (as NaCL)	mg/l	
Sulphate (as SO <sub>4</sub> )	mg/l	200 mg/l
Total Solids	mg/l	1500 mg/l
Suspended Solids	112 mg/l	
Dissolved Solids	mg/l	1000 mg/l
Manganese	mg/l	0.05 mg/l
Phosphate	mg/l	
Phenolphthalein Acidity	mg/l	
Methyl Orange Acidity	mg/l	
Salinity	ppt	

**Remark: This certificate is issued only for the receipt of the test sample.**

<b>Tested by</b> Signature: _____ Name: <u>Zaw Hein Oo</u> <u>B.Sc (Chemistry)</u> <u>Sr. Chemist</u>	<b>Approved by</b> Signature: _____ Name: <u>Soe Thit</u> <u>B.E (Civil) 1980</u> <u>Technical Officer</u> <u>ISO TECH Laboratory</u>
---	--

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# LABORATORY

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WTL-RE-001

Issue Date - 01-12-2012

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## WATER QUALITY TEST RESULTS FORM

Client Social & Environmental Associates - Myanmar  
 Nature of Water Main Drain Tank  
 Location Hmawbi Township  
 Date and Time of collection 7.9.2017 (11:50), 30°C  
 Date and Time of arrival at Laboratory 8.9.2017  
 Date and Time of commencing examination 9.9.2017  
 Date and Time of completing 14.9.2017

### Results of Water Analysis

### WHO Drinking Water Guideline (Geneva - 1993)

Temperature (°C)		°C	
Fluoride (F)		mg/l	1.5 mg/l
Lead (as Pb)		mg/l	0.01 mg/l
Arsenic (As)		mg/l	0.01 mg/l
Nitrate (N.NO <sub>3</sub> )	1.2	mg/l	50 mg/l
Chlorine (Residual)		mg/l	
Ammonia (NH <sub>3</sub> )	2.54	mg/l	
Ammonium (NH <sub>4</sub> )		mg/l	
Dissolved Oxygen (DO)	6.0	mg/l	
Chemical Oxygen Demand (COD)	64	mg/l	
Biochemical Oxygen Demand (BOD) (5 days at 20 °C)	8	mg/l	
Cyanide (CN)		mg/l	0.07 mg/l
Zinc (Zn)		mg/l	3 mg/l
Copper (Cu)		mg/l	2 mg/l
Silica (Si)		mg/l	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature:

Name:

*Hein*  
Zaw Hein Oo  
B.Sc (Chemistry)  
St. Chemist  
ISO TECH Laboratory

Approved by

Signature:

Name:

*Soe Thit*  
Soe Thit  
B.E (Civil) 1980,  
Technical Officer  
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Annex 2: Laboratory Analysis Results of Water Samples



LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung  
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**WATER QUALITY TEST RESULTS FORM**

Client Social & Environmental Associates - Myanmar  
 Nature of Water Main Drain Tank  
 Location Hmawbi Township  
 Date and Time of collection 7.9.2017 (11:50), 30°C  
 Date and Time of arrival at Laboratory 8.9.2017  
 Date and Time of commencing examination 9.9.2017  
 Date and Time of completing 14.9.2017

**Results of Water Analysis**

**WHO Drinking Water Guideline  
(Geneva - 1993)**

pH	10.2		6.5 - 8.5
Colour (True)		TCU	15 TCU
Turbidity	3920	NTU	5 NTU
Conductivity	144	micro S/cm	
Total Hardness	78	mg/l as CaCO <sub>3</sub>	500 mg/l as CaCO <sub>3</sub>
Calcium Hardness		mg/l as CaCO <sub>3</sub>	
Magnesium Hardness		mg/l as CaCO <sub>3</sub>	
Total Alkalinity		mg/l as CaCO <sub>3</sub>	
Phenolphthalein Alkalinity		mg/l as CaCO <sub>3</sub>	
Carbonate (CaCO <sub>3</sub> )		mg/l as CaCO <sub>3</sub>	
Bicarbonate (HCO <sub>3</sub> )		mg/l as CaCO <sub>3</sub>	
Iron	9.90	mg/l	0.3 mg/l
Chloride (as CL)		mg/l	250 mg/l
Sodium chloride (as NaCl)		mg/l	
Sulphate (as SO <sub>4</sub> )		mg/l	200 mg/l
Total Solids		mg/l	1500 mg/l
Suspended Solids	3130	mg/l	
Dissolved Solids		mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature: Zaw Hein Oo

Name: B.Sc (Chemistry)

Sr. Chemist

Approved by

Signature: Soe Thit

Name: B.E (Civil) 1980

Technical Officer

(a division of WEG Co., Ltd) **ISO TECH Laboratory**

**ISO TECH Laboratory**

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**Annex 3: Laboratory Analysis Results of Soil Samples**



# Analysis Report

THE GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR  
 MINISTRY OF EDUCATION  
 DEPARTMENT OF RESEARCH AND INNOVATION  
 ANALYSIS DEPARTMENT  
 No.(6) KABA AYE PAGODA ROAD, YANGON

Reference: Social & Environmental Associates- Myanmar

Sample: Soil

## RESULT

Sample No.		1016/17-18
Job No.		J-1001
Sample Marked.		P <sub>t</sub> =BS2 (005)
Moisture	(%)	20.17
Iron as Fe	(%)	2.97
Calcium as Ca	(%)	1.16
Magnesium as Mg	(%)	0.23
Chloride as Cl	(%)	0.32
Phosphorous as P	(%)	0.02
Nitrogen as N	(%)	0.09
Zinc as Zn	(ppm)	46.79
Arsenic as As	(ppm)	0.03
Lead as Pb	(ppm)	24.83
pH Value (10% Solution)		8.45

Not a Certificate of Conformance  
 စံချိန်စံညွှန်းကိုက်ညီကြောင်းထောက်ခံချက်မဟုတ်ပါ

Remark: *Results valid for the received sample only.*

Method/ Equipment used: Arthur I Vogel, F.A.A.S, Nitrogen Analyzer, Indian Standard

Tested by: Daw Khin Thida Myo

Daw Htike Htike Oo

Checked by: Dr. Khin Aye Tue

Technical Director: U Win Khaing Moe

Our Reference: 113761

Date: 24.10.2017



# Analysis Report

THE GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR  
 MINISTRY OF EDUCATION  
 DEPARTMENT OF RESEARCH AND INNOVATION  
 ANALYSIS DEPARTMENT  
 No.(6) KABA AYE PAGODA ROAD, YANGON

Reference: Social & Environmental Associates- Myanmar

Sample: Soil

## RESULT

Sample No.		1015/17-18
Job No.		J-1000
Sample Marked.		P <sub>t</sub> =OS1 (004)
Moisture	(%)	25.39
Iron as Fe	(%)	2.95
Calcium as Ca	(%)	0.77
Magnesium as Mg	(%)	0.46
Chloride as Cl	(%)	0.19
Phosphorous as P	(%)	0.07
Nitrogen as N	(%)	0.12
Zinc as Zn	(ppm)	59.95
Arsenic as As	(ppm)	0.03
Lead as Pb	(ppm)	23.50
pH Value (10% Solution)		8.36

Not a Certificate of Conformance  
 ဝန်ဆောင်မှုပေးရန်အတွက် ဤကြောင်းထောက်ခံချက်မဟုတ်ပါ

Remark: Results valid for the received sample only.

Method/ Equipment used: Arthur I Vogel, F.A.A.S, Nitrogen Analyzer, Indian Standard

Tested by: Daw Khin Thida Myo

Daw Htike Htike Oo

Checked by: Dr. Khin Aye Tue

Technical Director: U Win Khaing Moe

Our Reference: 113761

Date: 24.10.2017

**Annex 4: Public Consultation Meeting Records**



**အစည်းအဝေးဖိတ်ကြားလွှာ**

*Bel Ga Myanmar Limited* အနေဖြင့် ရန်ကုန်တိုင်းဒေသကြီး မော်ဘီမြို့နယ် မြောင်းတကာ စက်မှုဇုန် မြေကွက် အမှတ် ၃၁၂၊ ၃၁၃နှင့် ၃၁၄ တို့တွင် အကောင်အထည် ဖော်ဆောင်ရွက်နေသည့် ကြက်အကောင်ဖောက်စက်ရုံ လည်ပတ် ဆောင်ရွက်ရန် ရေးအတွက် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်း လုပ်ငန်း IEE ဆိုင်ရာ အချက်အလက်များနှင့် အဆိုပြုစက်ရုံ ၏ လုပ်ငန်းလည်ပတ်မှုဆိုင်ရာ အချက်အလက်များကို ရင်းလင်းတင်ပြနိုင်ရန် နှင့်အများပြည်သူတို့၏ အမြင် သဘောထား ရယူခြင်းအခမ်းအနား (*Public consultation meeting*) သို့ တကရောကပေးနိုင်ပါရန် လေးစားစွာဖိတ်ကြားအပ်ပါသည်။

- နေ့ရက်            ||           ၂၀၁၇ ခုနှစ်၊ အောက်တိုဘာလ (၃၀)ရက်။
- အချိန်            ||           နံနက် ၉: ၀၀ နာရီမှ ၁၂ :၀၀ နာရီအထိ
- နေရာ             ||           ကကလေးအမ် ကျေးရွာအုပ်ချုပ်ရေးမှူးရုံး

**Bel Ga Myanmar Limited အနေဖြင့် အကောင်အထည်ဖော်ဆောင်ရွက် နေသည့်ကြက်ဥဖောက်စက်ရုံ၏ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းလုပ်ငန်း(IEE)ဆိုင်ရာ အချက်အလက်များနှင့် လုပ်ငန်းလည်ပတ်မှု ဆိုင်ရာအချက်အလက်များ ရှင်းလင်းတင်ပြခြင်း**

(၁) စီမံကိန်းအကြောင်းအရာ

Bel Ga Myanmar Limited သည် မြန်မာနိုင်ငံအတွင်း အပြည်ပက တင်သွင်းလာသည့် ရည်အသွေးမြင်

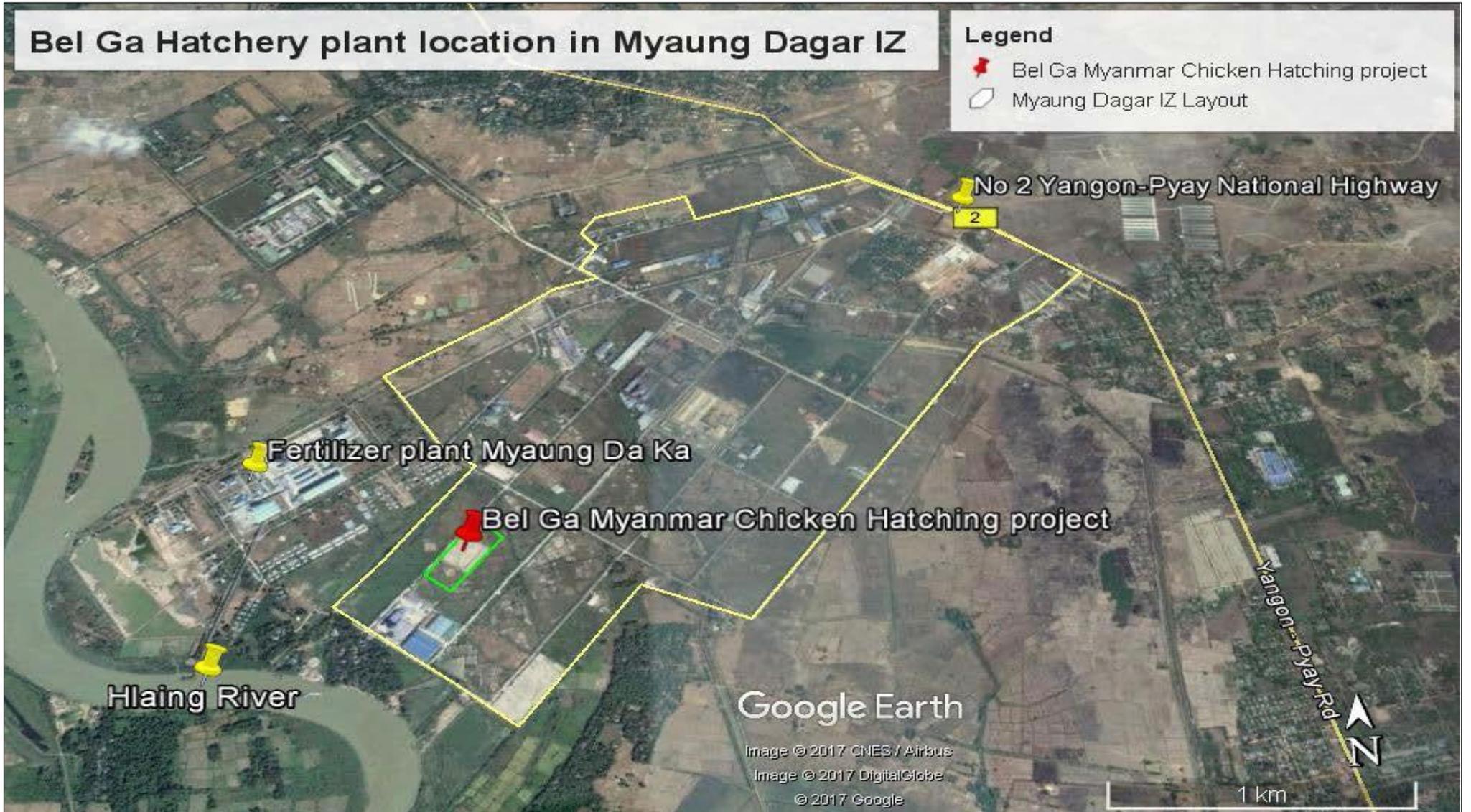
ကြက်ဥများမှ ကြက်အကောင်ဖောက်ခြင်းလုပ်ငန်းကို အပြည်အဝိုင်ခံခြားသား ရင်းနှီးမြှုပ်နှံမှုကုမ္ပဏီ လုပ်ငန်း တစ်ခုအနေဖြင့် စတင်အကောင်အထည်ဖော် ဆောင်ရွက်လျက်ရှိပါသည်။ ပြည်ပမှတင်သွင်း လာ

သည့် အရည်အသွေးပြည့်ကြက်ဥများကို စက်များဖြင့် တစ်ရက်သား ကြက်ပေါက်ကလေးများ ဖောက်လုပ်ပြီး ဒေသတွင်း ကြက်မွေး မြူရေးလုပ်ငန်းများသို့ ဖြန့်ဖြူးရောင်းချမည့် စက်ရုံဖြစ်ပါသည်။ Bel Ga Myanmar ကြက်အကောင်ဖောက်စက်ရုံသည် ရန်ကုန်တိုင်းဒေသကြီး မော်ဘီမြို့နယ် မြောင်တကာ စက်မှုဇုန် မြေ ကွက်အမှတ် ၃၁၂၊ ၃၁၃ နှင့် ၃၁၄ တွင် စတင်တည်ဆောက် အကောင်အထည်ဖော် ဆောင်ရွက်နေပြီး တည်နေရာအားဖြင့် မြောက်လတ်တိကျ။ ၁၇°၉'၄၉.၁၀" N နှင့် အရှေ့လောင်ဂျီကျ။ ၉၅°၅၈'၂၃.၅၂" E တို့တွင် တည်ရှိပြီး စုစုပေါင်းဧရိယာမှာ ၁.၁၈ ဟတ်တာ ( ၄.၆ ဧက )ကျယ်ဝန်းပါသည်။

Bel Ga Myanmar ကြက်အကောင်ဖောက်စက်ရုံကို ၂၀၁၇ ခုနှစ် နိုဝင်ဘာလတွင် စတင်လည်ပတ်နိုင်ရန် ရည်ရွယ်ထားပါသည်။ အရည်အသွေးမြင့်မားသော ကြက်ဥသားပေါက်နှင့် အသားစား ကြက်များမွေးမြူ ထုတ်လုပ်ရေးကို အထူးပြုထားသော Aviagen မှ စတင်ခဲ့သော လုပ်ငန်းတစ်ခုဖြစ်ပြီး ခေတ်မှီစက်ကိရိယာများနှင့် နည်းပညာများကို အသုံးပြုပြီး တရက်သား ကြက်သားပေါက်ကလေးများ ထုတ်လုပ်သည့် လုပ်ငန်းကို စတင်လုပ်ကိုင်လာနိုင်စေရန် နည်းပညာဖြန့်ဝေခြင်း၊ ဒေသတွင်းလုပ်ငန်းရှင်များနှင့် ပူးပေါင်း အကောင်အထည်ဖော်ခြင်း၊ အရည်အသွေးမြင့်မားသော ကြက်ပေါက်ထုတ်ကုန်များကို ပြည်တွင်းရှိ မွေးမြူ ထုတ်လုပ်လုသူများသို့ လုံလောက်စွာ ဆက်လက်ထုတ်လုပ်ဖြန့်ဖြူး ရောင်းချသွားမည် ဖြစ်ပါသည်။

ဒေသတွင်း စီးပွားရေးလုပ်ငန်းများ ပွင့်လင်းတိုးတက်ပြောင်းလည်းလာသည်နှင့်အညီ ဈေးကွက်ဝယ်လို အားများလည်းမြင့်တက်လာခြင်းကြောင့် အဆိုပါလုပ်ငန်းသည် မြန်မာဈေးကွက်တွင် ကြီးမားသောအလား အလာရှိသည့်လုပ်ငန်းတစ်ခုလည်းဖြစ်ပါသည်။ ယခုတည်နေရာကို ရွေးချယ်ခြင်းမှာ အထူးသဖြင့် စက်မှုဇုန်ပတ်ဝန်းကျင်ဖြစ်ပြီး အဓိကကုန်ကြမ်းဝင်ရောက်ရန်လွယ်ကူမှု၊ လျှပ်စစ်ရရှိနိုင်မှုတို့အပြင် ကုန်စည်ဖြန့်ဖြူး ရေးအတွက် မြန်မာနိုင်ငံ၏ အထက်ပိုင်းနှင့် အောက်ပိုင်းဒေသများသို့ အလွယ်တကူ ဆက်သွယ်သွား လာနိုင်ခြင်းတို့ကြောင့်ဖြစ်ပါသည်။

စက်ရုံလည်ပတ်ချိန်တွင် လုပ်သားအင်အား ၃၅ ဦးခန့် လိုအပ်မည်ဖြစ်ပြီး ဒေသခံပြည်သူလူထုထဲမှ သတ်မှတ်အရည်အချင်း ပြည့်မီသူများကို ဦးစားပေး ရွေးချယ်ခန့်ထားနိုင်ရန် စီစဉ်ဆောင်ရွက်လျက်ရှိပါ သည်။ လုပ်ငန်းစတင်အကောင်အထည်ဖော်စဉ်မှ လည်ပတ်သည့်ကာလများတွင်လည်း မြန်မာနိုင်ငံ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဝန်ကြီးဌာန၏ နည်းဥပဒေ စည်းမျဉ်း စည်းကမ်းများ အတိုင်း လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။



ပုံ - Bel Ga Myanmar စက်ရုံတည်နေရာ

ဇယား (၁) Bel Ga Myanmar ကြက်ဥသားဖောက်စက်ရုံ၏ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းဆိုင်ရာ သွင်းစဉ်းစားမှု အချက်အလက်များ

၆၇

သတ်မှတ်ချက်	လုပ်ငန်းအဆင့်	ဖြစ်ပေါ်လာနိုင်သည်ထိခိုက်မှု	လျော့ပါးသက်သာစေသောနည်းလမ်းများ	စောင့်ကြည့်လေ့လာစစ်ဆေးခြင်း
လေအရည် အသွေး	ဆောက်လုပ် ရေး ကာလ	<ul style="list-style-type: none"> <li>- ဆောက်လုပ်ရေးလုပ်ငန်းသုံး ယာဉ်ယန္တရားများမှ လေထု ညစ်ညမ်းသည်။ မီးခိုးများ ထုတ်လွှတ်မှု ယာယီ တိုးလာနိုင်သည်</li> <li>- မီးစက်မှ လေထုညစ်ညမ်းသည် မီးခိုးများ ထုတ်လွှတ်မှု ဖြစ်စေ သည်</li> <li>- ယာဉ်သွားလာမှုများကြောင့် ဖုန်မှုန့် များဖြစ်ပေါ်လာနိုင်သည်</li> </ul>	<ul style="list-style-type: none"> <li>- ဆောက်လုပ်ရေးလုပ်ငန်းများ မီးခိုးထုတ်လွှတ်မှုသက်သာစေသည်။ ယာဉ်ယန္တရားများ အသုံးပြု၍ ထိန်းချုပ်ခြင်း</li> <li>- လိုအပ်သောပစ္စည်းများသာ သယ်ဆောင်ခြင်း</li> <li>- ယာဉ်များ၏အရှိန်နှုန်း သတ်မှတ်ပေး ခြင်း</li> <li>- ဆူညံမှုအားနည်းသည့် မီးစက် အမျိုးအစားသာ အသုံးပြုခြင်း</li> <li>- ရေဖြန်းပေးခြင်း(တစ်ရက်လျှင် တစ်ကြိမ်)</li> <li>- ဆောက်လုပ်ရေးပစ္စည်းများ သယ်ဆောင်ရာ တွင် အဖုံးအုပ်ပြီး သယ်ဆောင်ခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- အမြင်ဖြင့် စောင့်ကြည့်စစ်ဆေး ခြင်း</li> <li>- စောင့်ကြည့်စစ်ဆေးရန် ရွေးချယ်ထား သော သတ်မှတ်ချက်များအား နမူနာ ကောက်ယူခြင်း နှင့် ခွဲခြမ်းစိတ်ဖြာ စစ်ဆေးခြင်း</li> <li>- (တစ်လတစ်ကြိမ် စစ်ဆေးရန်)</li> <li>- ယာဉ်အရည်အသွေး ပုံမှန်စစ်ဆေး ခြင်း</li> <li>- တစ်နှစ်လျှင် နှစ်ကြိမ် စစ်ဆေးရန်</li> <li>- လုံခြုံရေးဝန်ထမ်းမှ စောင့်ကြည့်ရန်</li> </ul>
	လုပ်ငန်းလည်ပတ် ခြင်းကာလ	<ul style="list-style-type: none"> <li>- လမ်းပန်းဆက်သွယ်ရေး ကောင်းမွန်လာသဖြင့် ယာဉ်သွားလာမှုနှုန်း ပိုမိုများပြား လာနိုင်ပြီး၊ လေထုညစ်ညမ်းမှု တိုးလာနိုင်ခြင်း</li> <li>- မီးစက်မှ လေထုညစ်ညမ်းသည် မီးခိုးများ ထုတ်လွှတ်မှု ဖြစ်စေ သည်</li> <li>- ယာဉ်သွားလာမှုများကြောင့် ဖုန်မှုန့် များဖြစ်ပေါ်လာနိုင်သည်</li> </ul>	<ul style="list-style-type: none"> <li>- စက်ရုံအလုပ်သမားများ အတွက် ပို./ကြို ကားစီစဉ်ပေးခြင်း</li> <li>- ယာဉ်များ၏အရှိန်နှုန်း သတ်မှတ်ပေး ခြင်း</li> <li>- လမ်းတစ်လျှောက် လေအရည်အသွေး စောင့်ကြည့် စစ်ဆေးခြင်း</li> <li>- မီးစက်အသုံးပြုသည် မှတ်တမ်းနှင့် ဆီသုံးစွဲသည် မှတ်တမ်း စနစ်တကျ ထားပေးခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- အမြင်ဖြင့် စောင့်ကြည့်စစ်ဆေး ခြင်း</li> <li>- စောင့်ကြည့်စစ်ဆေးရန် ရွေးချယ်ထား သော သတ်မှတ်ချက်များအား နမူနာ ကောက်ယူခြင်း နှင့် ခွဲခြမ်းစိတ်ဖြာ စစ်ဆေးခြင်း</li> <li>- (တစ်နှစ်လျှင်နှစ်ကြိမ် စစ်ဆေးရန်)</li> <li>- ယာဉ်အရည်အသွေး ပုံမှန်စစ်ဆေး ခြင်း</li> <li>- လစဉ်စစ်ဆေးရန်</li> </ul>

သတ်မှတ်ချက်	လုပ်ငန်းအဆင့်	ဖြစ်ပေါ်လာနိုင်သည့် ထိခိုက်မှု	လျော့ပါးသက်သာစေသောနည်းလမ်းများ	စောင့်ကြည့်လေ့လာစစ်ဆေးခြင်း
			- ရေဖြန်းပေးခြင်းဖြင့်လည်းကောင်း (တစ်ရက်လျှင် တစ်ကြိမ်)	
ဆူညံသံ နှင့် တုန်ခါမှု	ဆောက်လုပ်ရေးကာလ	- ဆောက်လုပ်ရေးလုပ်ငန်း လုပ်ဆောင်ချိန်တွင် စက်ပစ္စည်း ကိရိယာများမှ ဆူညံမှု အသံ များ ယာယီတိုးလာနိုင်ပါသည်	- ဆူညံမှုသံ နှင့် တုန်ခါမှု သက်သာစေသည့် စက်ပစ္စည်းများ အသုံးပြုခြင်း - အသံလုံနံရံများတပ်ဆင်ခြင်း	- အမြင်ဖြင့် ကြည့်ရှုစစ်ဆေးခြင်း - အသံထွက်ပေါ်မှုနှုန်းအားစစ်ဆေးခြင်း
	လုပ်ငန်းလည်ပတ် ခြင်းကာလ	- ယာဉ်သွားလာမှုနှုန်းပိုမို များပြား လာနိုင်သောကြောင့် ဆူညံသံ နှင့် တုန်ခါမှု တိုးလာနိုင်ပါသည်	- စည်းကမ်းများ စနစ်တကျ သတ်မှတ် ပေးခြင်း - ဟွန်းသံတားမြစ်ခြင်းများ၊ ဝန်ပိုမတင်ရ စည်မျဉ်းသတ်မှတ်ခြင်း	- ဆူညံသံ နှင့် တုန်ခါမှု ကိုစစ်ဆေးခြင်း
ရေအရည်အသွေး	ဆောက်လုပ်ရေးကာလ	- ဆောက်လုပ်ရေးလုပ်ငန်း နှင့် ယာယီအလုပ်သမားများ နေထိုင်သည့်အဆောင်များ ရှိခြင်း ကြောင့် ရေသုံးစွဲမှု နှင့် ရေစွန့် ထုတ်မှုများ ရှိလာနိုင်ခြင်း	- ဆောက်လုပ်ရေးသုံးပစ္စည်းများ ဆေးကြောသည့်နေရာ သတ်မှတ်ပေး ခြင်း၊ အသုံးပြုပြီးပါက ရေပိုက်များကို သေချာပြန်ပိတ်စေခြင်း - ရေနုတ်မြောင်းများ ထားရှိပေးခြင်း	- အမြင်ဖြင့် ကြည့်ရှုစစ်ဆေးခြင်း
	လုပ်ငန်းလည်ပတ် ခြင်းကာလ	- စက်ပစ္စည်း ဆေးကြောခြင်း	- မြို့တော်စည်ပင်သာယာ၏ ရေဆိုးသန့်စင်မှု စည်းမျဉ်းအတိုင်း သန့်စင်ခြင်း - ရေဆိုးစစ်ကန်အသုံးပြုခြင်း	- အမြင်ဖြင့် ကြည့်ရှုစစ်ဆေးခြင်း - စောင့်ကြည့်စစ်ဆေးရန် ရွေးချယ်ထားသော သတ်မှတ်ချက်များအား နမူနာ ကောက်ယူခြင်း နှင့် ခွဲခြမ်းစိတ်ဖြာစစ် ဆေးခြင်း

သတ်မှတ်ချက်	လုပ်ငန်းအဆင့်	ဖြစ်ပေါ်လာနိုင်သည့်ထိခိုက်မှု	လျော့ပါးသက်သာစေသောနည်းလမ်းများ	စောင့်ကြည့်လေ့လာစစ်ဆေးခြင်း
မြေအရည်အသွေး	ဆောက်လုပ်ရေးကာလ	<ul style="list-style-type: none"> <li>- ဆောက်လုပ်ရေးပစ္စည်း သို့ လှောင်ရန် ဂိုဒေါင်တည် ဆောက် ခြင်းကြောင့် မြေအရည်အသွေး ထိခိုက်နိုင်ခြင်း</li> <li>- ကားပါကင်များ တည်ဆောက် ခြင်းကြောင့် မြေအရည်အသွေး ထိခိုက်နိုင်ခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- ကျွမ်းကျင်သော အင်ဂျင်နီယာများမှ သင်္ဘော သော မြေနေရာပေါ် တွင် သာ ဆောက်လုပ် စေခြင်း</li> <li>- လမ်းအမှတ် အသားများ ရှင်းလင်းစွာ ကန့်သတ် ပေးထားခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- အမြင်ဖြင့် ကြည့်ရှုစစ်ဆေးခြင်း</li> <li>- အမြင်ဖြင့် ကြည့်ရှုစစ်ဆေးခြင်း</li> </ul>
စွန့်ပစ်အမှိုက်	ဆောက်လုပ်ရေးကာလ	<ul style="list-style-type: none"> <li>- ဆောက်လုပ်ရေးလုပ်ဆောင် နေစဉ်အတွင်း လူသုံးအမှိုက် နှင့် ဆောက်လုပ်ရေးလုပ်ငန်း သုံး စွန့်ပစ်အမှိုက်များ ထွက်ရှိနိုင်ခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- ဆောက်လုပ်ရေးအပျက်အစီးများ ပြန်လည် အသုံးပြုရန် စနစ်တကျ သိမ်းဆည်းထား ရန်နှင့် ပြန်လည် ရောင်းချခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- တစ်လတစ်ခါ ကြည့်ရှုစစ်ဆေးခြင်း</li> </ul>
အန္တရာယ်ရှိသောစွန့်ပစ်ပစ္စည်းများ	လည်ပတ်ခြင်းကာလ	<ul style="list-style-type: none"> <li>- ဓါတုဗေဒပစ္စည်းထည်သော ပုံးများ၊ ဘူးခွံများ ကို ရေဆေး ကြောခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- ဘူးခွံများ တင်သွင်းသူထံသို့ သက်ဆိုင်သော ဓါတုဗေဒ ဆေးကြောသည် အရည်များ အသုံးပြုပေးခြင်း</li> <li>- စွန့်ပစ်ရမည်ဆိုပါက မြို့တော်စည်ပင်သာယာ၏ လမ်းညွှန် ချက်အတိုင်း စွန့်ပစ် ခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- သက်ဆိုင်သော အဖွဲ့အစည်းမှ စောင့်ကြည့်စစ်ဆေးခြင်း</li> </ul>
လုပ်ငန်းခွင်အန္တရာယ်ကင်းရှင်းရေး	ဆောက်လုပ်ရေးကာလ	<ul style="list-style-type: none"> <li>- ဓါတုဗေဒပါဝင်သော ဘူးများ မတော်တဆ ယိုဖိတ်မှုဖြစ်ခြင်းမှ လည်း အန္တရာယ် ဖြစ်ပေါ်နိုင်သည်</li> </ul>	<ul style="list-style-type: none"> <li>- ယိုဖိတ်သော နေရာကို ချက်ချင်းဆေးကြောခြင်း</li> <li>- သက်ဆိုင်သော စီမံခန့်ခွဲမှု ဌာနသို့ ယင်းဖြစ်စဉ်ကို အကြောင်းကြားခြင်း</li> <li>- လူပေါ်သို့ ယိုဖိတ်ခွဲပါက ရေဖြင့် ဆေးကြောပြီး ဆေးရုံ/ဆေးခန်းသို့ ချက်ချင်းပို့ ဆောင်နိုင်ရန် စီစဉ်ထားခြင်း</li> </ul>	<ul style="list-style-type: none"> <li>- သက်ဆိုင်သော အဖွဲ့အစည်းမှ စောင့်ကြည့်စစ်ဆေးခြင်း</li> </ul>

သတ်မှတ်ချက်	လုပ်ငန်းအဆင့်	ဖြစ်ပေါ်လာနိုင်သည့် ထိခိုက်မှု	လျော့ပါးသက်သာစေသောနည်းလမ်းများ	စောင့်ကြည့်လေ့လာစစ်ဆေးခြင်း
	လုပ်ငန်းလည်ပတ်ခြင်းကာလ	- ဘေးကင်းလုံခြုံမှု၊ အန္တရာယ် နှင့် ကျန်းမာရေး အန္တရာယ်များ	<ul style="list-style-type: none"> <li>- ဘေးကင်းလုံခြုံမှု၊ အန္တရာယ် နှင့် ကျန်းမာရေး အန္တရာယ်အတွက် ဝန်းထမ်းများအား PPE ဝတ်စုံများ စနစ်တကျဝတ်ဆင်ခြင်း</li> <li>- မီးဘေးအန္တရာယ်အတွက် သက်ဆိုင်ရာမီးသတ်ဌာနနှင့် ဆက်သွယ်၍ သင်တန်းများ ပေးခြင်း</li> <li>- ရှေးဦးပြုစုခြင်းသင်တန်းများ ပေးခြင်း</li> <li>- အရေးပေါ်အချက်ပေးစနစ်များ တပ်ဆင်ခြင်း</li> </ul>	- လုပ်ငန်းခွင်ကြီးကြပ်သူမှ စစ်ဆေးခြင်း
လုပ်ငန်းခွင်ဆိုင်ရာထိခိုက်နိုင်မှု နှင့် အလုပ်အကိုင်အခွင့်အလမ်းများ	ဆောက်လုပ်ရေး ကာလ နှင့် လုပ်ငန်းလည်ပတ် ခြင်းကာလ	- ဘေးကင်းလုံခြုံမှု၊ အန္တရာယ် နှင့် ကျန်းမာရေး အန္တရာယ်များ	<ul style="list-style-type: none"> <li>- ပတ်ဝန်းကျင်ညစ်ညမ်းမှု ဖြစ်စေသည့် အကြောင်းအရာအချက်အလက်များကို ဝန်းထမ်းများနားလည်သိရှိအောင် သင်တန်းများစီစဉ်ပေးခြင်း</li> <li>- လုပ်ငန်းခွင်တာဝန်ရှိသူအနေဖြင့် ဒေသခံများကို ဦးစားပေးအလုပ်အကိုင်အခွင့်အလမ်း ဖန်တီးပေးခြင်း</li> <li>- ဒေသထွက်ပစ္စည်းများကို ဝယ်ယူအသုံးပြုစေခြင်း</li> <li>- ဒေသခံ၏စီးရိမ်ပူပန်မှုများကို အချိန်နှင့် တပြေးညီဖြေရှင်းပေးခြင်း</li> </ul>	-



ပေါ် မြေ ကြက်အကောင်ပေါက်စက်ရုံ၏ ကနဦးပတ်သန်းကျင်းပထိရောက်မှုဆန်းစစ်ခြင်းနှင့် ပတ်သက်၍ ကျင်းပပြုလုပ်သည့် လူထုတွေ့ဆုံပွဲအစီအစဉ်အရပ်ရပ်ကို တက်ရောက်လာသူများစာရင်း

ရက်စွဲ: ...၂၀...၁၀...၂၀၁၇

စဉ်	အမည်	ကျေးရွာ/ အဖွဲ့အစည်း	စုန်းဖုန်းနံပါတ်	လက်မှတ်
၁	ဦးစောနော်	ငှက်အုပ်ကျေးရွာ	၀၉-၅၅၆၆၈၅၅၅	
၂	ဦးကျော်စော	ကျေးရွာ	၀၉-၄၂၀၃၁၈၇၅၃	
၃	ဦးစိုးစိုး	"		
၄	ဦးကျော်စွန်း	"		
၅	ဦးကျော်စွန်း	"		
၆	ဦးကျော်စွန်း	"		
၇	ဦးကျော်စွန်း	"		
၈	ဦးကျော်စွန်း	"		
၉	ဦးကျော်စွန်း	"		
၁၀	ဦးကျော်စွန်း	"		
၁၁	ဦးကျော်စွန်း	"		
၁၂	ဦးကျော်စွန်း	"		
၁၃	ဦးကျော်စွန်း	"		
၁၄	ဦးကျော်စွန်း	"		
၁၅	ဦးကျော်စွန်း	"		
၁၆	ဦးကျော်စွန်း	"		
၁၇	ဦးကျော်စွန်း	"		
၁၈	ဦးကျော်စွန်း	"		
၁၉	ဦးကျော်စွန်း	"		
၂၀	ဦးကျော်စွန်း	"		



Bel Gas ကြက်အကောင်ခေါက်စက်ရုံ၏ ကနဦးပတ်ဝန်းကျင်ထိခိုက်မှုတန်းစားခြင်းနှင့် ပတ်သက်၍ ကျွမ်းကျင်လုပ်သည့် လူထုတွေ့ဆုံပွဲအစီအစဉ်အရ  
တက်ရောက်လာသူများစာရင်း

ရက်စွဲ: ၂၀၂၀.၁၀.၂၀.၂၀၂၀

စဉ်	အမည်	ကျေးရွာ/ အဖွဲ့အစည်း	စုနိမ့်ပိတ်	လက်မှတ်
၂၀*	ဒေါ်ခိုင်ခိုင်	ကံကလေးကျေးရွာ		
၂၁*	ဒေါ်သုစာ	"		
၂၂*	ဒေါ်စိန်စိန်			
၂၃*	ဒေါ်စိန်စိန်	"		
၂၄*	ဒေါ်အေးအေး			
၂၅*	ဒေါ်ဝင်းဝင်း	"		
၂၆*	ဒေါ်အေးအေး			
၂၇*	ဒေါ်အေးအေး			
၂၈*	ဒေါ်အေးအေး	"		
၂၉*	ဒေါ်အေးအေး			
၃၀*	ဒေါ်အေးအေး	"		
၃၁*	ဒေါ်အေးအေး			
၃၂*	ဒေါ်အေးအေး			
၃၃*	ဒေါ်အေးအေး			
၃၄*	David	Bel Gas Myanmar Ltd		

Bel Ga Myanmar Limited မှ တင်ပြလာသောကြက်သားပေါက်ထုတ်လုပ်ရောင်းချခြင်းလုပ်ငန်းနှင့် ပတ်သက်သည့် IEE အစီရင်ခံစာအပေါ် စိစစ်တွေ့ရှိချက်များနှင့် သုံးသပ်အကြံပြုချက်များ(1<sup>st</sup> Revised)

Comment Respond Table

စဉ်	စိစစ်တွေ့ရှိချက်များ	သုံးသပ်အကြံပြုချက်များ	Respond Section
(၁)	အကျဉ်းချုပ်အစီရင်ခံစာ		
	<p>• အစီရင်ခံစာတွင် အကျဉ်းချုပ်အစီရင်ခံစာအား အင်္ဂလိပ်၊ မြန်မာနှစ်ဘာသာဖြင့် ဖော်ပြထား ပြီး စီမံကိန်းအကြောင်းအရာ ဖော်ပြချက်၊ လက်ရှိပတ်ဝန်းကျင်အခြေအနေ၊ အများပြည်သူသို့ သတင်းအချက်အလက်ထုတ်ဖော်ချက်၊ အရေးပေါ်အခြေအနေ အတွက် ကြိုတင်စီမံထားရှိမှု အခြေအနေတို့ကို ဖော်ပြထားပြီး ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်၊ ကို ယေဘုယျမျှသာ ဖော်ပြထားပြီး၊ ကတိကဝတ်၊ မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ၊ ဆိုးကျိုးသက်ရောက်မှုများအား ဆန်းစစ်ခြင်းနှင့် လျော့နည်းစေရေးဆောင်ရွက်မည့် နည်းလမ်းများ၊ စီမံကိန်းကြောင့်ထိခိုက်ခံစားရသည့်ဒေသခံပြည်သူများ အတွက် ဆောင်ရွက်ပေးမည့် ဖွံ့ဖြိုးရေးအစီအစဉ်တို့ကိုဖော်ပြထားခြင်း မရှိကြောင်းစိစစ်တွေ့ရှိရပါသည်။</p>	<p>အစီရင်ခံစာတွင် အပိုင်း (Chapter) အလိုက် အဓိကအချက်များ ပါဝင် သော အောက်ဖော်ပြပါအချက်အလက်များ အားထည့်သွင်းဖော် ပြရန်-</p> <ul style="list-style-type: none"> <li>• ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်၊</li> <li>• ကတိကဝတ်၊ မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာ မူဘောင်များ၊</li> <li>• ဆိုးကျိုးသက်ရောက်မှုများအားဆန်းစစ်ခြင်းနှင့်လျော့နည်းစေရေး ဆောင်ရွက်မည့် နည်းလမ်းများ၊</li> <li>• စီမံကိန်းကြောင့်ထိခိုက်ခံစားရသည့်ဒေသခံပြည်သူများအတွက် ဆောင်ရွက်ပေးမည့် ဖွံ့ဖြိုးရေးအစီအစဉ်၊</li> <li>• နိဂုံးချုပ်နှင့် အကြံပြုချက်၊</li> </ul>	<p><b>Page 7 - 29</b>            Executive Summary            1.9 Environmental and Social Management Plan (ESMP)            1.10 Monitoring and Reporting Procedure            1.4 National Legal Framework and Relevant Policies            1.6 Assessment of Environmental and Social Impacts and mitigation measures            1.8 CSR program</p>

			1.12 Conclusion and Recommendation
(၂)	ကတိကဝတ်		
	<p>တင်ပြလာသောအစီရင်ခံစာတွင် ကတိကဝတ်များနှင့်ပတ်သက်၍ အောက်ဖော်ပြပါအတိုင်း ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်-</p> <ul style="list-style-type: none"> <li>• အစီရင်ခံစာတွင် ပတ်ဝန်းကျင်ကော်မတီနှင့် ပတ်သက်၍ ဘေးအန္တရာယ်ရှိသော စွန့်ပစ်ရည်များနှင့် အစိုင်အခဲများ စီမံခန့်ခွဲမှု၊ မတော်တဆထိခိုက်မှုများအတွက် လျင်မြန်သောတုန့်ပြန်မှု နည်းလမ်းများဖြင့်ဆောင်ရွက်ခြင်း၊ ဓာတုပစ္စည်းများ သိုလှောင်ထား ရှိမှုနှင့် ဘေးအန္တရာယ်ကင်းစွာ ကိုင်တွင် နိုင် ရေးဆောင် ရွက်ခြင်း၊ ရေဆိုးများ ပြုပြင်ခြင်း၊ ဆူညံသံ ထိန်းချုပ် ခြင်း၊ ထုတ်လွှတ်အငွေ့များကို ပြုပြင်ခြင်းဖြင့် ပတ်ဝန်း ကျင်တိုးတက် စေရန် ကတိပြုပါသည်။</li> <li>• လူမှုရေးကတိကဝတ်အနေဖြင့် အလုပ်သမားများ၏ ကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေး၊ သန့်ရှင်းပြီး လုံခြုံသော ပတ်ဝန်း ကျင်ကို ရရှိရုံသာမက ရည်ရွယ်ဖွံ့ဖြိုးတိုးတက်သော စီးပွားရေးကို ဖန်တီးနိုင်ရန် စက်ရုံအနီးရှိ စပ်တူလုပ်ငန်းများနှင့် ဆက်သွယ်ရေးကို ထိန်းသိမ်း စောင့်ရှောက်မည်ဟု ကတိပြု ပါကြောင်း စာမျက်နှာ(၄၈)တွင် ဖော်ပြထားပါသည်</li> </ul>	<p>အစီရင်ခံစာတွင် စီမံကိန်းအဆိုပြုသူမှ အောက်ဖော်ပြပါ ကတိကဝတ်များကို လိုက်နာဆောင်ရွက်မည်ဖြစ်ကြောင်း သီးခြားဝန်ခံကတိပြုလွှာအား လက်မှတ်ရေးထိုး၍ ထည့်သွင်းဖော်ပြရန်-</p> <ul style="list-style-type: none"> <li>• ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှုသည် တိကျခိုင်မာကြောင်းနှင့် ပြည်စုံကြောင်း၊</li> <li>• ဤ လုပ်ထုံးလုပ်နည်းအပါအဝင် သက်ဆိုင်ရာ ဥပဒေများကို တိကျစွာလိုက်နာ၍ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်း ကို ဆောင်ရွက်ထားကြောင်း၊</li> <li>• စီမံကိန်းသည် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းအစီရင်ခံစာပါ ကတိကဝတ်၊ ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ချရေးလုပ်ငန်းများနှင့် အစီအစဉ်များကို အပြည့်အဝအစဉ်အမြဲ လိုက်နာ ဆောင်ရွက်မည် ဖြစ်ကြောင်း၊</li> </ul>	<p>5. NATIONAL LEGAL FRAMEWORK AND RELEVANT POLICIES <b>5.7 Undertaking by the Project Proponent</b> <b>Page 59</b></p>
(၄)	မဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်		
	<ul style="list-style-type: none"> <li>• စာမျက်နှာ (၃၇-၄၀)၊ မူဝါဒ၊ ဥပဒေနှင့်အဖွဲ့အစည်းဆိုင်ရာ မူဘောင်တွင် Environmental Conservation Law (2012) and Rules (2014)၊ National Environmental Policy (1994)၊ Myanmar Constitution Law (2008)၊ Relevant Legislation Law, Rule, Standard &amp; Guidelines၊ Foreign investment Law (2012)/ Rule</li> </ul>	<p>အစီရင်ခံစာတွင် ရုပ်သိမ်းပြီးဥပဒေများ ပါဝင်ပါက ထည့်သွင်းဖော်ပြခြင်း မပြုပါရန်နှင့် လိုအပ်ပါက စီမံကိန်းနှင့် သက်ဆိုင်သည့် အောက်ဖော်ပြပါ တည်ဆဲဥပဒေများအား လိုက်နာရမည့် ပုဒ်မများကို ညွှန်းဆို၍ legal commitment များဖြင့် ထပ်မံဖြည့်စွက် ဖော်ပြရန်-</p>	<p>5. NATIONAL LEGAL FRAMEWORK AND RELEVANT POLICIES <b>Page 46</b></p>

	<p>(2013)၊ Prevention of Hazard from Chemicals and Related Substances Law(2013)၊ National Food Law (1997)၊ Public Health Law (1972)၊ Law on Health and Safety in the work Place (2014)၊ Minimum Wage Law (2015)၊ Animals and Animal-Products Import/ Export Rule and Regulations (June 2013)၊ The Private Industrial Enterprise Law (1990)၊ Labor Dispute Settlement Law (28 Mar.2012) Animal Health and Development Law (1993) စသည်တို့အား ထည့်သွင်းဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</p>	<p>(၁) The prevention and control of communicable disease law (1995)  (၂) The workmen compensation act (1951)  (၃) Payment of wages law (2016)  (၄) Social security law (2012)  (၅) Environmental Impact Assessment Procedure (2015)  (၆) National Environmental Quality (Emission) Guidelines (2015)</p>	<p>5.1 Relevant Legislation, Laws, Rules, Standards &amp; Guidelines</p> <p>Environmental Impact Assessment Procedures (2015)  National Environmental Quality (Emission) Guidelines (2015)</p>
(၅)	<p>စီမံကိန်းအကြောင်းအရာဖော်ပြချက်နှင့် အခြားနည်းဆောင်ရွက်နိုင်သော နည်းလမ်းများ</p>		
	<ul style="list-style-type: none"> <li>• အစီရင်ခံစာ စာမျက်နှာ (၂၈)မှ (၃၃) အထိ စီမံကိန်း အကြောင်း အရာ ဖော်ပြချက်နှင့် ပတ်သက်၍ ၂၀၁၈၊ ဖေဖော်ဝါရီလတွင် စတင်လည်ပတ်ထုတ်လုပ်ခြင်း၊ကြက်သားပေါက်ခြင်းလုပ်ငန်းအား ဆောင်ရွက်ပုံအဆင့်ဆင့်၊ စွမ်းအင်သုံးစွဲမှုအနေဖြင့် ပင်မဓါတ်အား လိုင်းမှ လျှပ်စစ်ဓါတ်အားရယူသုံးစွဲမှု (71.12 KW Per Month) နှင့် အရန်မီးစက် (750KVA) (၂) လုံးထား ရှိခြင်း ၊ ရေသုံးစွဲမှုအနေဖြင့် အစီရင်ခံစာတွင် (၂) တွင်းမှ တရက်လျှင် ရေ (၅၀၀၀) လီတာနှင့် အရေးပေါ်မီးသတ်စနစ်အတွက် ရေ (၃၀၀၀၀) လီတာ သိုလှောင် ထားရှိကြောင်း၊ ပထမအစောပိုင်းကာလတွင် တစ်ပတ်လျှင် ကြက်သားပေါက်အကောင်ရေ (၁၅၀၀၀၀) ခန့်ထုတ်လုပ်နိုင်ပြီး လိုအပ်ချက်အပေါ်မူတည်၍ ရက်သား ကြက်သားပေါက်အကောင်ရေ (၃၈၂၀၀၀) ခန့် တိုးမြှင့်ထုတ်လုပ်သွားမည်ဖြစ်ကြောင်း၊ စွန့်ပစ်ပစ္စည်း များအနေဖြင့် စက္ကူပုံးများ၊ ကြက်ဥအခွံများထွက်ရှိပြီး ကြက်ဥ အခွံများကို ဓာတ်မြေသြဇာသုံး စက်ရုံများအတွက် ကုန်ကြမ်း</li> </ul>	<ul style="list-style-type: none"> <li>• စီမံကိန်းတည်နေရာ၊ ဆက်စပ်နေရာများ၊ အနီးစပ်ဆုံးမြစ်ခဲ ချောင်း များအပါအဝင် ဆက်စပ်နေရာအားလုံးကို ဖော်ပြထားသော Layout Map ဖြင့် ရှင်းလင်းစွာ ဖော်ပြပါရန်။ [ထိုသက်ဆိုင်သော မြေပုံများ နှင့် လေးအောက်များကို ထည့်ပါရန် ]</li> <li>• အစီရင်ခံစာတွင် အဆိုပြုလုပ်ငန်းအတွက် လိုအပ်သော ကုန်ကြမ်းပစ္စည်းများ ရယူသည့်နေရာ၊ အသုံးပြုသည့် ပမာဏ၊ သယ်ယူမည့်အစီအစဉ်နှင့် သိုလှောင်ထားရှိမည့် နည်းလမ်းတို့အား ဖော်ပြရန်၊</li> <li>• အသုံးပြုသည့် Chemical ရယူသည့်နေရာ၊ အသုံးပြုသည့်ပမာဏ၊ သယ်ယူမည့်အစီအစဉ်နှင့်သိုလှောင်ထားရှိမည့်နည်းလမ်း ဖော်ပြပေးရန်၊</li> <li>• စက်ရုံမှစွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ)များနှင့် ပတ်သက်၍ ထွက်ရှိမှု ပမာဏနှင့် စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုစနစ် (Collection Transportation Treatment Disposal) ကို ဖော်ပြပေးရန် (Layout Map များဖြင့်လည်း ဖော်ပြပေးရန်)၊</li> </ul>	<p>2. PROJECT DESCRIPTION  <b>Page 30</b></p> <p>Figure 1 and 2:  BelGa Myanmar Hatchery Plant layout plan</p> <p>2.1 Production Process  2.1 Production Process</p> <p>2.4 Solid Waste Management</p>

	<p>အဖြစ်ပြန်လည်အသုံးပြုကြောင်း၊ စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအနေဖြင့် အိမ်သုံးစွန့်ပစ်ပစ္စည်းများကိုတစ်ပတ်နှစ်ကြိမ်စုဆောင်း</p> <p>၍ ဘေးအန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများကိုလည်း လစဉ် YCDC ဖြင့် စွန့်ပစ်ကြောင်း၊ ရေဆိုးသန့်စင်သည့်စက်ရုံ ပါရှိကြောင်းဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။ အစီရင်ခံစာ၏ စာမျက်နှာ (၃၅) တွင် အကောင်အထည်ဖော် ဆောင်ရွက်မည့် စီမံကိန်းနှင့်ပတ်သက်၍ ကနဦးပတ်ဝန်းကျင် ဆန်းစစ်ခြင်းအစီရင်ခံစာအား SEAM မှ ရေးသားပြုစုထားကြောင်းနှင့် အဖွဲ့အစည်းတွင် ပါဝင်သည့် အဖွဲ့ဝင်များ၏ ပညာအရည်အချင်းနှင့် တာဝန်ယူဆောင်ရွက်မည့် လုပ်ငန်းများကို ဖော်ပြထားကြောင်း စိစစ်တွေ့ရှိရပါသည်။</p> <ul style="list-style-type: none"> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၃၄) တွင် စီမံကိန်းအဆိုပြု သူ၏ နေရပ်လိပ်စာ၊ ဖုန်းနံပါတ်နှင့် အီးမေးလ်လိပ်စာ တို့အား ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ စာမျက်နှာ (၂၈-၂၉) တွင် စီမံကိန်း၏ တည်နေရာ ပြင်ဆင်မှု၊ Plant Layout Plan များကို ဖော်ပြထားသော်လည်း ရှင်းလင်းမှုမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာတွင် အဆောက်အဦများ၏ Layout Plan ကို ဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• တစ်နှစ်စာအတွက် လောင်စာဆီလိုအပ်ချက်တို့ကို ဖော်ပြရန်၊</li> <li>• စီမံကိန်း၏တည်နေရာပြမြေပုံ၊ Plant Layout Plan ရှင်းလင်းစွာဖော်ပြရန်၊</li> <li>• အစီရင်ခံစာတွင် အဆောက်အဦများ၏ Layout Plan ကို ဖြည့်စွက်ဖော်ပြပေးရန်၊</li> <li>• Generator (၂) လုံးအတွက် အသုံးပြုသွားမည့် ခန့်မှန်း လောင်စာဆီ ပမာဏ၊ သိုလှောင်ထားရှိမည့် အခြေအနေများကို ဖြည့်စွက်ဖော်ပြပေးရန်၊</li> <li>• စီမံကိန်းတည်ဆောက်ခြင်း၊ လုပ်ငန်းလည်ပတ်ခြင်းနှင့် ပိတ်သိမ်းခြင်း ကာလအတွက် စတင်/ပြီးစီးသည့်ရက်များ၊ ကြာမြင့်မည့်ကာလများကို ခန့်မှန်းဖော်ပြထားသော စီမံကိန်းအကောင်အထည်ဖော်မည့် အချိန်ဇယားအား ထည့်သွင်းဖော်ပြရန်၊</li> <li>• စီမံကိန်း၏ လက်ရှိအခြေအနေနှင့် အကောင်အထည်ဖော်ဆောင်ရွက် နေသည့် အချိန်ဇယားအား ထည့်သွင်းဖော်ပြရန်၊</li> </ul>	<p>2.2 Electricity and Fuel supply</p> <p>Figure 2: BelGa Myanmar Hatchery Plant layout plan</p> <p>2.2 Electricity and Fuel supply</p> <p>2. Project description</p> <p>2. Project description</p>
(၆)	လက်ရှိပတ်ဝန်းကျင်အခြေအနေ		
	<ul style="list-style-type: none"> <li>• အစီရင်ခံစာ စာမျက်နှာ (၅၀၊ ၅၂) တွင် လက်ရှိပတ်ဝန်းကျင် အခြေအနေနှင့်ပတ်သက်၍ ရာသီဥတု၊ အပူချိန်၊ လေတိုက်နှုန်း၊ စိုထိုင်းဆအခြေအနေ၊ စီမံကိန်းအနီးပတ်ဝန်းကျင်ရှိ စက်ရုံ အလုပ်ရုံများ၊ ကျေးရွာများအခြေအနေတို့ကို ဖော်ပြထားကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• စက်ရုံ၏အနီးပတ်ဝန်းကျင်ရှိ လူမှုရေးပတ်ဝန်းကျင် အခြေအနေများ ဖြစ်သော လူမှုရေးဆိုင်ရာအချက်အလက်များ၊ စီးပွားရေးဆိုင်ရာ အချက်အလက်များကို ဖော်ပြပေးရန်၊</li> </ul>	<p>6. Description of the surrounding environmental and social conditions</p> <p><b>Page 64</b></p> <p><b>6.3 Socio economic conditions of</b></p>

<ul style="list-style-type: none"> <li>• အစီရင်ခံစာတွင် ကန်ကလေးကျေးရွာ၏ လူဦးရေစာရင်း၊ အသက်မွေးဝမ်းကျောင်း၊ ကျန်းမာရေးဆိုင်ရာ အချက်အလက်များကို စာမျက်နှာ (၅၇) တွင် ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၆၀-၆၂) တွင် လေအရည်အဝေး သွေးအား နေရာ (၃) ခု၏ တိုင်းတာမှုရလဒ်များအား NEQEG Guide Line တန်ဖိုးနှင့် နှိုင်းယှဉ်ဖော်ပြထားပြီး PM<sub>2.5</sub> တန်ဖိုးသည် စက်ရုံဧရိယာ အတွင်းရှိ A<sub>2</sub> နေရာတွင် သတ်မှတ်တန်ဖိုးထက် ကျော်လွန် နေကြောင်း ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၆၈-၆၉) တွင် စွန့်ပစ်ရေနှင့်အပူရေတွင်းရေ တိုင်းတာမှုကို WHO Guide Line တန်ဖိုးနှင့် နှိုင်းယှဉ်ဖော်ပြထားပြီး စွန့်ပစ်ရေရှိ pH တန်ဖိုးနှင့် အပူရေတွင်းရေရှိ Iron တန်ဖိုးမှာ သတ်မှတ်တန်ဖိုးထက်ကျော်လွန်နေသည်ဟု ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၆၃) တွင် ဆူညံသံအခြေ အနေကို နေရာ(၃)ခု၏ တိုင်းတာမှုရလဒ်များအား NEQEG Guide Line တန်ဖိုးနှင့် နှိုင်းယှဉ်ဖော်ပြထားပြီး သတ်မှတ်စံချိန်စံညွှန်းအတွင်းသာ တည်ရှိကြောင်း ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏စာမျက်နှာ (၆၄) တွင် တုန်ခါမှုအခြေအနေကို နေရာ (၂) ခု၏တိုင်းတာမှုရလဒ်များအား တိုင်းတာဖော် ပြထား သည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၆၄-၆၇) တွင် မြေဆီလွှာ အခြေအနေ ကို နေရာ (၂) ခု၏ တိုင်းတာမှုရလဒ်များအားတိုင်းတာ၍ US EPA Standard ဖြင့် နှိုင်းယှဉ်ဖော်ပြထားပြီးသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>• အစီရင်ခံစာ၏ စာမျက်နှာ (၆၉-၇၁) တွင် စီမံကိန်းအနီးဝန်းကျင်ရှိ တိရစ္ဆာန်နှင့် အပင်တို့၏ အခြေအနေများကို ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• စက်ရုံစီမံကိန်း၏ အနီးဝန်းကျင်ရှိ ယဉ်ကျေးမှုဆိုင်ရာ အစိတ်အပိုင်း ဖြစ်သော ဘာသာရေးဆိုင်ရာ အချက်အလက်များ၊ ရိုးရာဓလေ့များကို ဖြည့်စွက် ဖော်ပြပေးရန်။</li> </ul>	<p>surrounding environment <b>Page 69</b></p> <p><b>6.4 Cultural Components</b> <b>Page 71</b></p>
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(၇)	ဆီးကျိုးသက်ရောက်မှုများအား ဆန်းစစ်ခြင်းနှင့် လျော့နည်းစေရေးဆောင်ရွက်မည့် နည်းလမ်းများ		
	<ul style="list-style-type: none"> <li>ဆောက်လုပ်ရေးလုပ်ငန်း လုပ်ဆောင်ချိန်တွင် စက်ပစ္စည်း ကိရိယာများမှဆူညံမှုအသံများယာယီတိုးလာနိုင်ပါကြောင်း၊</li> <li>စက်ပစ္စည်းများဆေးကြောခြင်း၊ ဆောက်လုပ်ရေးလုပ်ငန်းနှင့် ယာယီ အလုပ်သမားများနေထိုင်သည့်အဆောင်များရှိခြင်းကြောင့် ရေသုံးစွဲမှုနှင့် ရေစွန့်ထုတ်မှုများရှိလာနိုင်ခြင်း၊</li> <li>ယာဉ်ယန္တရားများမှလေထုညစ်ည မ်းသည့် မီးခိုးများထုတ်လွှတ်မှု၊ မီးစက်များမှ လေထုညစ်ညမ်းစေသော မီးခိုးများထုတ်လွှတ်မှု၊ ယာဉ်သွားလာမှုများမှ ဖုန်မှုန့်များဖြစ်ပေါ်လာနိုင်ခြင်း၊ လူသုံးအမှိုက်နှင့် ဆောက်လုပ်ရေးလုပ်ငန်းသုံး စွန့်ပစ်အမှိုက်များ ထွက်ရှိနိုင်ခြင်း၊ ဓာတုဗေဒပစ္စည်းများထည့်ထားသော ပုံးများ၊ ဘူးခွံများရေဆေးကြောခြင်းတို့ဖြင့်လုပ်ကြောင်းနှင့် လျော့ပါး သက်သာစေရေးနည်းလမ်းများကို နောက်ဆက်တွဲစာမျက်နှာ (၃-၆) တွင် ယေဘုယျမျှသာ ဖော်ပြထားကြောင်း စိစစ် တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>စက်ရုံလည်ပတ်မှု လုပ်ငန်းစဉ်များမှ အဓိကထွက်ရှိသော ညစ်ညမ်းမှုများနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုများကို သတ်မှတ် ဖော်ပြပေးရန်နှင့် လျော့နည်းစေရေးဆောင်ရွက်မည့် နည်းစနစ်များ အားဖော်ပြရန်၊</li> <li>စီမံကိန်းလုပ်ငန်းဆောင်ရွက်ခြင်းမှ ထွက်ရှိလာမည့် စွန့်ထုတ် အရည်အသွေးတိုင်းတာမှု ရလဒ်တို့အား မည်သည့်နေရာ မှ ကောက်ယူခဲ့သည့် ရလဒ်ဖြစ်ကြောင်း ထည့်သွင်းဖော်ပြရန်၊</li> <li>စက်ရုံမှထွက်ရှိသော စွန့်ပစ်အရည်၊ အစိုင်အခဲများ၏ ထွက်ရှိမှု ပမာဏ၊ နောက်ဆုံးစွန့်ပစ်မည့် နည်းလမ်းများအား ထည့်သွင်း ဖော်ပြရန်၊</li> <li>ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချမည့်လုပ်ငန်းများ ဆောင်ရွက်ရမည့် အဖွဲ့အစည်း၊ တာဝန်ယူမည့် ဝတ္တရားများ၊ အသုံးပြုမည့် ရန်ပုံငွေအား ဖော်ပြရန်။</li> </ul>	<p>9. ENVIRONMENTAL MANAGEMENT PLAN</p> <p><b>Page 93</b></p> <p>2.5 Solid Waste Management <b>Page 38</b></p> <p><b>Page 44</b></p> <p>4. Identification of the IEE experts</p> <p>See Budget at (9.4 Environmental Management plan for Operation phase of Chicken Hatching project)</p>
(၈)	ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်		
	<ul style="list-style-type: none"> <li>ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် ပတ်သက်၍ စာမျက်နှာ (၈၆၊ ၈၇) တွင် စောင့်ကြပ်ကြည့်ရှုမည့် အကြိမ်အရေအတွက် နှင့် လျော့ချ မည့်နည်း လမ်းများကိုယေဘုယျမျှသာ ဖော်ပြထားပြီးစောင့်ကြပ် ကြည့်ရှု မည့်နေရာ၊ စီမံကိန်းလည်ပတ်စဉ်ကာလ၊ ပိတ်သိမ်းချိန် ကာလများအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် ပတ်သက်၍ ထိခိုက်နိုင်မှုများ၊ လျော့ချမည့်နည်းလမ်းများ၊</li> </ul>	<ul style="list-style-type: none"> <li>ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်းတို့ ဆောင်ရွက်မည့် အဖွဲ့အစည်းအမည်၊ ၎င်းတို့၏ တာဝန်နှင့် ဝတ္တရား များ၊ စောင့်ကြပ်ကြည့်ရှုခြင်း လုပ်ငန်းစဉ်ကို ထည့်သွင်းဖော်ပြရန်၊</li> <li>စောင့်ကြပ်ကြည့်ရှုခြင်း အစီအစဉ်တွင် လုပ်ငန်းလည်ပတ်ခြင်းမှ ထွက်ရှိလာမည့် စွန့်ပစ်ပစ္စည်းများအတွက် Parameter သတ်မှတ်ဖော်ပြရန်၊</li> </ul>	<p>9. ENVIRONMENTAL MANAGEMENT PLAN</p> <p>4. Identification of the IEE experts</p>

	<p>ကြွင်းကျန်သက် ရောက်မှု အတိုင်းအတာများ၊ ဆောင်ရွက်မည့် အချိန်ကာလ၊ တာဝန်ယူဆောင်ရွက်မည့် အဖွဲ့အစည်းနှင့် အသုံးပြုမည့်ရန်ပုံငွေတို့အား ထည့်သွင်းဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။</p>	<ul style="list-style-type: none"> <li>• ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချမည့် လုပ်ငန်းစဉ်နှင့် ထွက်ရှိလာမည့် စွန့်ပစ်ပစ္စည်းများအပေါ် စောင်ကြပ်ကြည့်ရှုရန်အတွက် ရန်ပုံငွေအား ထည့်သွင်းဖော်ပြရန်၊</li> </ul>	<p>9.4 Environmental Management plan for Operation phase of Chicken Hatching project</p>
(၉)	<p>အရေးပေါ်အခြေအနေအတွက် ကြိုတင်စီမံထားရှိမှု အခြေအနေ</p>		
	<ul style="list-style-type: none"> <li>• စာမျက်နှာ(၁၀၄-၁၀၅)တွင် အရေးပေါ်အခြေအနေနှင့်ပတ်သက်၍ မီးဘေးအန္တရာယ်ကာကွယ်တားဆီးရေး အစီအစဉ်နှင့် သင်တန်း အစီအစဉ်များအား ထည့်သွင်းဖော်ပြထားကြောင်း စိစစ် တွေ့ရှိ ရပါသည်။</li> <li>• ဝန်ထမ်းများအတွက် ကျန်းမာရေးနှင့်ပတ်သက်၍ဖော်ပြထားသော် လည်း လုပ်ငန်းခွင် ဘေးအန္တရာယ်ကင်းရှင်းရေးတို့ နှင့် ပတ်သက်၍ ဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• ဘေးအန္တရာယ်ကင်းရှင်းရေးတို့နှင့် ပတ်သက်၍ဆောင်ရွက်ထား ရှိသည့် အစီအစဉ်နှင့် ဝန်ထမ်းများအတွက် နေထိုင်ရေးနှင့် သန့်ရှင်းသော သောက်သုံးရေရရှိရေး ဆောင်ရွက်ထားရှိမှု အစီအစဉ်တို့အား ထည့်သွင်းဖော်ပြရန်၊</li> </ul>	<p><b>5.6 Bel Ga's Social Commitment</b>  <b>5.6.1 SAFETY</b>  <b>5.6.2 Fire Safety</b>  <b>5.6.3 Chemical and Hazardous Materials Safety</b>  <b>5.6.4 Emergency Action Plan and Preparedness, Medical Surveillance, and Production Process Safety Management</b>  <b>5.6.5 Employment Benefit Plan</b></p>
(၁၀)	<p>အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်း</p>		

	<ul style="list-style-type: none"> <li>• အစီရင်ခံစာတွင် အများပြည်သူနှင့် တိုင်ပင်ဆွေးနွေးခြင်းနှင့် ပတ်သက်၍ စာမျက်နှာ(၇၉-၈၀) တွင် ဖော်ပြ ထားသော်လည်း ပြည့်စုံမှုမရှိကြောင်းနှင့် တက်ရောက်လာသူများစာ ရင်းကို နောက်ဆက်တွဲဖြင့် ဖော်ပြထားကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• စက်ရုံဝန်းကျင်ရှိအများပြည်သူ၏သဘောထားရယူရန်နှင့် အများပြည်သူနှင့်ဆွေးနွေးပြောကြားချက်၊ တောင်းဆိုချက်၊ ဆွေးနွေးမှုရလဒ်နှင့် ဆောက်ရွက်ပေးမည့် အစီအစဉ်တို့အား ဖော်ပြ၍ မှတ်တမ်းမိတ်ပုံများ၊ အမေးအဖြေပုံစံများဖြင့် ပူးတွဲဖော်ပြပေးရန်။</li> </ul>	<p>8.2 Summary of the Consultation Findings</p> <p><b>8.3 Public Consultation Photo Records</b></p> <p>8.4 Question and Answer Session</p>
(၁၁)	စီမံကိန်းကြောင့်ထိခိုက်ခံစားရသည့် ဒေသခံပြည်သူများအတွက် ဆောင်ရွက်ပေးမည့်ဖွံ့ဖြိုးရေးအစီအစဉ်		
	<ul style="list-style-type: none"> <li>• စီမံကိန်းကြောင့်ထိခိုက်ခံစားရသည့် ဒေသခံပြည်သူများအတွက် ဆောင်ရွက်ပေးမည့် ဒေသခံဖွံ့ဖြိုးရေးလုပ်ငန်းများနှင့် အသုံးပြုမည့် ရန်ပုံငွေအား ဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။</li> </ul>	<ul style="list-style-type: none"> <li>• ဒေသခံဖွံ့ဖြိုးရေးလုပ်ငန်းများနှင့်ပတ်သက်၍ စီမံကိန်းကြောင့် ထိခိုက်ခံစားရသည့်ဒေသခံပြည်သူတို့၏ ရေရှည်လူမှုစီးပွားရေး ဖွံ့ဖြိုးတိုးတက်စေမှုအတွက် ဦးစားပေးဆောင်ရွက်သင့်သည့် လုပ်ငန်းများအတွက် လုံလောက်သည့် ရန်ပုံငွေထူထောင်ခြင်းနှင့် လုပ်ငန်းများ ဖော်ဆောင်ပေးခြင်းတို့ကို ထည့်သွင်းဖော်ပြရန်။</li> </ul>	<p>8. Results of the public consultation and public participation process</p> <p>8.5 Bel Ga CSR Program</p>
(၁၂)	အထွေထွေ		
	<ul style="list-style-type: none"> <li>• စီမံကိန်းအဆိုပြုသူမှ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၏ သုံးသပ်ချက်နှင့် အကြံပြုချက်များအား ပြန်လည်ရေးဆွဲတင်ပြရာတွင် ပြန်လည် ပြင်ဆင်ထားသည့် ဖြေကြားချက်များအား ပူးတွဲတင်ပြရန်နှင့် အစီရင်ခံစာ၏ မည်သည့်အပိုင်းတွင် ရေးသားထားသည်ကို (Comment Respond Table) ဖြင့် ဖော်ပြရန်။</li> <li>• ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းအစီရင်ခံစာအား ရေးသားပြုစုရာတွင် အပိုဒ် ၃၅၊ ၃၆ ၊ ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) ပါ အတိုင်း ရေးသားတင်ပြရန်။</li> </ul>		<p>Comment Respond Table Attached</p> <p>In compliance with article 35 and EIA Procedures 2015</p>

**ANNEX 5:**  
**MSDS for Chemicals**

**MATERIAL SAFETY DATA SHEET****FORMALIN PCP 6998****IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT, 1-800-****561-8273 or CHEMTREC 1-800-424-9300****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****FORMULATED FOR:**UNITED AGRI PRODUCTS CANADA, INC.  
789 Donnybrook Drive • Dorchester, Ontario N0L 1G5**24-Hour Emergency Phone:** 1-800-561-8273  
**Additional Emergency Phone (Canutec):** 1-613-996-6666 (Collect)**PRODUCT NAME:** Formaldehyde**PRODUCT USE:** Fungicide – Group U**PCP REG. NO.:** 6998**MSDS Number:** 6998-11-UAP**MSDS Revisions:** Sections 1 and 4**Date of Issue:** 01/07/11**Supersedes:** 01/07/08**2. HAZARDS IDENTIFICATION SUMMARY****KEEP OUT OF REACH OF CHILDREN – WARNING - POISON** – Always keep containers tightly closed to prevent escape of the formaldehyde and loss of strength. Causes irritation of the skin, eyes, nose, and throat. Avoid exposure to fumes and contact with skin, eyes and clothing. Avoid prolonged or repeated contact and breathing of vapour.

This product is clear, colourless liquid with pungent odour.

**Warning Statements:****NOTE TO PHYSICIAN:** Vapours are very irritating to eyes, nose, and upper respiratory tract. High concentrations may produce edema or spasm of the larynx. Severe tracheobronchitis may result from inhalation. Contact with vapour or solution causes the skin to become white, rough, hard, and anesthetic.**3. COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Formaldehyde	37.00	50-00-0	0.37 mg/m <sup>3</sup> C
Methanol	7.00	67-56-1	262 mg/m <sup>3</sup>

**4. FIRST AID MEASURES**

**If in eyes:** If splashed in eyes, wash freely with water for 15 minutes. Seek medical attention.

**If on skin:** Wash thoroughly with soap and water.

**If swallowed:** Give a weak solution of ammonia, then egg white or milk. Induce vomiting by inserting finger down the throat; repeat 3 times. Give stimulants and demulcents such as gruel or flour and water. Call a poison control centre or doctor immediately for treatment advice.

**If inhaled:** Remove person to fresh air. Have person lie down and keep quiet and warm. Give egg white or milk. Call a poison control centre or doctor for further treatment advice.

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273.** Have the product label or container and Pest Control Product Registration Number with you when calling a poison control centre or doctor, or going for treatment.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT (°C/Test Method):** 78°C (PMCC)

**FLAMMABLE LIMITS (LFL & UFL):** LFL: 7% - UFL: 73%.

**EXTINGUISHING MEDIA:** Use medium appropriate to surrounding fire. Use dry chemical, "alcohol foam", carbon dioxide, or water in flooding amounts as fog. Solid streams may not be effective.

**HAZARDOUS COMBUSTION PRODUCTS:** Moderate fire and explosion hazard when exposed to heat or flame.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus with full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area of intense smoke.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Empty containers may contain explosive vapours. If water is used to fight fire and/or cool containers, contain runoff, using dikes to prevent contamination of water supplies.

**6. ACCIDENTAL RELEASE MEASURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

Eliminate all ignition sources. Contain spill and absorb with suitable absorbent, sweep up material and transfer to containers for proper disposal. Wash spill area with water containing strong detergent, absorb and sweep up as above. Check local, provincial and federal regulations for proper disposal.

**CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

**7. HANDLING AND STORAGE**

**HANDLING:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**STORAGE:** Store in original container only. Do not store below 15°C as precipitation may occur. Keep container tightly closed when not in use. Store away from seeds, fertilizer, plants, and foodstuffs. Do not contaminate water, food or feed by storage or disposal.

**Personal Protective Equipment: Applicators and other handlers must wear:** long sleeved shirt and long pants, wear a suitable NIOSH/MSHA approved respirator with organic vapour cartridges or wear self-contained breathing apparatus to prevent inhalation of gas fumes, rubber or chemical-resistant gloves, rubber boots plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Work in well-ventilated area. If vapours are too strong, use mechanical ventilation.

**RESPIRATORY PROTECTION:** If vapours or mists become excessive, wear a NIOSH approved pesticide respirator with organic vapour cartridges.

**EYE PROTECTION:** Chemical splash goggles, shielded safety glasses, or full-face shield if splashing is likely to occur.

**SKIN PROTECTION:** Wear protective clothing: long-sleeved shirts and pants, apron, chemical-resistant rubber boots and socks. Wear rubber or chemical-resistant gloves.

	<b>OSHA PEL 8 hr TWA</b>	<b>ACGIH TLV-TWA</b>
Formaldehyde	0.75 ppm	0.37 mg/m <sup>3</sup> C (Ceiling)
Methanol	260 mg/m <sup>3</sup>	200 ppm (Skin)

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND ODOUR:** Clear, colourless liquid with pungent odour. **SOLUBILITY:** Infinite

**SPECIFIC GRAVITY (Water = 1):** 1,08 g/ml **BULK DENSITY:** 1,08 kg/L.

**VAPOR PRESSURE:** 40 mm Hg **BOILING POINT:** ~100°C

**PERCENT VOLATILE (by volume):** Not established **EVAPORATION RATE (Butyl Acetate = 1):** Similar to water

Note: These physical data are typical values based on material tested but may vary from sample to sample.  
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

**10. STABILITY AND REACTIVITY**

**STABILITY:** Formaldehyde solutions may self-polymerize to form paraformaldehyde which precipitates.

**CONDITIONS TO AVOID:** Extreme heat or extreme cold.

**INCOMPATIBILITY:** Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<b>Acute Oral LD<sub>50</sub> (rat):</b> 800 mg/kg (Formaldehyde)	<b>Acute Dermal LD<sub>50</sub> (rabbit):</b> 540 mg/kg (Formaldehyde)
<b>Eye Irritation (rabbit):</b> May cause mild irritation	<b>Skin Irritation (rabbit):</b> Causes irritation
<b>Inhalation LC<sub>50</sub> (rat):</b> 250 ppm (4HR)	<b>Skin Sensitization (guinea pig):</b> Sensitizer

**Carcinogenic Potential:** OSHA lists Formaldehyde as a carcinogen; NTP lists Formaldehyde as NTP-R: Reasonably Anticipated To Be A Human Carcinogen; ACGIH lists Formaldehyde as TLV-A2: Suspected Human Carcinogen; IARC lists Formaldehyde as Carcinogenic to Humans; NIOSH lists Formaldehyde as a Potential occupational carcinogen, with no further categorization; EPA lists Formaldehyde as EPA-B1: Limited evidence of carcinogenicity from epidemiologic studies.

**12. ECOLOGICAL INFORMATION**

Formaldehyde dissolves easily but does not last a long time in water. Most formaldehyde in the air breaks down during the day. The breakdown products of formaldehyde are formic acid and carbon monoxide. Formaldehyde does not build up in plants and animals. Do not contaminate water when disposing of equipment wash water.

**13. DISPOSAL CONSIDERATIONS**

Do not reuse containers for any purpose. Refillable Container: For disposal, the container may be returned to the point of purchase (dealer/distributor). It must be refilled by the dealer/distributor with the same product. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food, or feed by storage or disposal.

**14. TRANSPORT INFORMATION**

**CANADA TDG Shipping Description:** FORMALDEHYDE SOLUTION, 8, UN2209, II, ERG GUIDE 132

**U.S. DOT Shipping Description:** 30 gallons and less: FORMALDEHYDE SOLUTION, 8, UN2209, II, ERG GUIDE 132

**U.S. DOT Shipping Description:** Greater than 30 gallons: RQ FORMALDEHYDE SOLUTION, 8, UN2209, II, ERG GUIDE 132

**U.S. and Canada Surface Freight Classification:** FORMALDEHYDE, LIQUID (NMFC 44530 SUB 2; CLASS: 60)

**IMDG:** FORMALDEHYDE SOLUTION, 8, UN2209, II, ERG GUIDE 132

**15. REGULATORY INFORMATION**

<b>NFPA &amp; HMIS Hazard Ratings:</b>	NFPA		HMIS
	3 Health	0 Least	3 Health
	4 Flammability	1 Slight	4 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	H PPE
		4 Severe	

**SARA Hazard Notification/Reporting**

<b>SARA Title III Hazard Category:</b>	Immediate	<u>Y</u>	Fire	<u>Y</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

**Reportable Quantity (RQ) under U.S. CERCLA:** Formaldehyde (CAS: 50-00-0) 100 lbs.

**SARA, Title III, Section 313:** Formaldehyde (CAS: 50-00-0)

**RCRA Waste Code:** U122

**CA Proposition 65:** Not applicable

**16. OTHER INFORMATION**

**MSDS STATUS:** Sections 1 and 4 revised

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental/ Regulatory Services

**Disclaimer and Limitation of Liability:** This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and UNITED AGRI PRODUCTS CANADA, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.

# MATERIAL SAFETY DATA SHEET

Page : 1

Revision nr : 5

Date : 2/12/2003

Supersedes : 17/7/2003

**CID 2000****AD069C0.1**

www.lisam.com



Oxidizing



Corrosive

## Producer

CID LINES NV/SA  
Waterpoortstraat, 2  
B-8900 Ieper Belgique-Belgie  
Tel. + 32 57 21 78 77  
Fax +32 57 21 78 79  
Antipoison Center - tel : + 32 70 245 245

## Responsible for distribution

CID LINES NV/SA  
Waterpoortstraat, 2  
B-8900 Ieper Belgique-Belgie  
Tel. + 32 57 21 78 77  
Fax +32 57 21 78 79  
Antipoison Center - tel : + 32 70 245 245

## 1. Identification of the product and the company

Company identification : See distributor.  
Identification of the product : Liquid.  
Trade name : CID 2000.  
Type of product : Disinfectant.  
Use : See product bulletin for detailed information.  
Industrial.

## 2. Information on ingredients

This product is considered to be hazardous and contains hazardous components.

Substance name	Value(s)	CAS nr / EINECS nr / EC index	Symbol(s)	R-Phrase(s)
<u>Hydrogen peroxide</u>	: ca 20 %	007722-84-1 / 231-765-0 / 008-003-00-9	O C	08-34
<u>Organic acids</u>	: > 10 %	---- / ---- / ----	C	10-35
<u>Peracetic acid</u>	: ca 5 %	000079-21-0 / 201-186-8 / 607-094-00-8	O C N	07-10-20/21/22-35-50
<u>Wetting agent</u>	:	---- / ---- / ----	Xi	36
<u>Stablizing and complexing agent</u>	:	---- / ---- / ----		

## 3. Hazards identification

Dangerous substances : Contact with combustible material may cause fire.  
Primary route of exposure : Vapours inhalation. Skin and eyes contact.  
Symptoms relating to use  
- Inhalation : Cough. Shortness of breath.  
- Skin contact : Causes burns.  
- Eye contact : Redness, pain. Blurred vision. Risk of serious damage to eyes.  
- Ingestion : Severe ingestion hazard. Sore throat. Burning sensation.

## 4. First aid measures

First aid  
- Inhalation : Assure fresh air breathing. Allow the victim to rest. Seek medical advice.  
- Skin contact : Remove contaminated clothing and shoes. Flush with plenty of water. Seek medical attention if ill effect or irritation develops.  
- Eye contact : Rinse immediately with plenty of water. Seek medical attention immediately.  
- Ingestion : Ingestion unlikely. Rinse mouth. Give water to drink. Do not induce vomiting because of corrosive effects. Take to hospital.  
General information : Obtain medical attention.

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## 5. Fire - fighting measures

Flammable class  
Prevention

: Oxidizing.



: No naked lights. No smoking.

Extinguishing media

: All extinguishing media can be used.

Surrounding fires

: Use water spray or fog for cooling exposed containers.

Special exposure hazards

: Reacts violently with : Combustibles. May cause fire.

Protection against fire

: Wear proper protective equipment.

Special procedures

: Exercise caution when fighting any chemical fire.

## 6. Accidental release measures

Personal precautions

: Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Flush/dilute with water.

Environmental precautions

: Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

After spillage and/or leakage

: Dike for recovery or absorb with appropriate material. Dilute residues and flush. Use suitable disposal containers.

## 7. Handling and storage

Precautions in handling and storage

: Avoid all unnecessary exposure. Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.

Storage

: Store in dry, cool, well-ventilated area. Provide local exhaust or general room ventilation to minimize dust and/or vapour concentrations. Keep container closed when not in use. Minimize exposure to air and light.

Handling

: Handle in accordance with good industrial hygiene and safety procedures. Ensure prompt removal from eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.

## 8. Exposure controls / personal protection

Personal protection



- Respiratory protection

: Approved dust or mist respirator should be used if airborne particles are generated when handling this material.

- Skin protection

: Wear suitable protective clothing and gloves. (butylrubber)

- Eye protection

: Chemical goggles or face shield with safety glasses.

Industrial hygiene

: Local exhaust and general ventilation must be adequate to meet exposure standards. Wash clothing before re-using.

## 9. Physical and chemical properties

Physical state

: Liquid.

Colour

: Clear.

Odour

: Pungent.

pH value

: &lt;1 (100%) ; 3.7 (1%)

Melting point

: -30

Initial boiling point

: 118°C

Decomposition point [°C]

: 55°C May release : oxygen

Density

: 1.10 kg/l

Vapour pressure [hPa]

: 27

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## 9. Physical and chemical properties (continued)

Solubility in water : Complete.  
Flash point [°C] : 100°C  
Log P octanol / water at 20°C : No data available.

## 10. Stability and reactivity

Hazardous decomposition products : oxygen  
Hazardous properties : None under normal conditions.  
Conditions to avoid : Avoid contact with : Acids. Alkaline mixture. Reducing agents. Metals. Organic compounds. Heat.

## 11. Toxicological information

Acute toxicity  
Rat oral LD50 [mg/kg] : ca.950  
Rabbit dermal LD50 [mg/kg] : >12000  
Rat inhalation LC50 [mg/kg] : 4080 mg/m<sup>3</sup>  
- Dermal : Irritation.  
Sensitization : This material was found to be non-sensitizing in guinea pigs who received subcutaneous injections.

## 12. Ecological information

LC50-96 Hour - fish [mg/l] : ca.25  
48 Hour-EC50 - Daphnia magna [mg/l] : ca.10  
IC50 72h Algae [mg/l] : ca.12  
Bioaccumulative potential : No.  
WGK class (Germany) : 1

## 13. Disposal considerations

Disposal : Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

## 14. Transport information

Hazard Label(s)



: Oxidizing. Corrosive.  
- Proper shipping name : UN 3149 HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE STABILIZED, 5.1 (8), II  
- UN No. : 3149  
- H.I. nr : 58  
- ADR/RID : Class : 5.1  
Group : II  
- IMO-IMDG code : 5.1  
- EMS-Nr : 5.1-02  
- MFAG-Nr : 735  
UN Packing group : II

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## 15. Regulatory information

Symbol(s)

: Corrosive.  
Oxidizing.

R Phrase(s)

: R07 - May cause fire.  
R20/22 - Harmful by inhalation and if swallowed.  
R34 - Causes burns.

S Phrase(s)

: S03/07 - Keep container tightly closed in a cool place.  
S24 - Avoid contact with skin.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28 - After contact with skin, wash immediately with plenty of  
S35 - This material and its container must be disposed of in a safe way.  
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.  
S45 - In case of accident or if you feel unwell, seek medical advice immediately ( show the label when possible).

## 16. Other information

Further information

: None.

Risk Phrases

: Corrosive to eyes, respiratory system and skin.

The contents and format of this MSDS are in accordance with EEC Commission Directive 93/112/EEC.

**DISCLAIMER OF LIABILITY** The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

**End of document**



# Omnicide<sup>TM</sup>

## MATERIAL SAFETY DATA SHEET

RS Hygiene Limited, The Street Worlington Suffolk IP28 8RX

Telephone: 01638 714 444

### 1. Identification of the substance/preparation and company/undertaking

Name: Omnicide (including Omnicide FG and FGII)  
Supplied by: RS Hygiene Ltd, The Street, Worlington Suffolk IP28 728  
Tel: 01638 714 444 Fax: 08707 628 728

### 1.2 Use of the substance/preparation

Recommended use: Cleaning agent, Disinfectants and general biocidal products. Oxidising Agents

### 2. Composition/information on ingredients

Product Description:	A broad spectrum disinfectant concentrate				
Hazardous Ingredients	EINECS No	CAS No	%	Symbols	R Phrases
Glutaraldehyde	203-856-5	111-30-8	5-15	T, N	R23/25-34-42/43-50
Alkyl dimethyl benzyl ammonium chlorides	263-080-8	61789-71-7	5-15	C, N	R21/22-34-50

### 3. Hazards identification

Causes burns.  
Harmful by inhalation and if swallowed.  
May cause sensitisation by inhalation and skin contact.  
Liquid and vapour are irritating to skin, eyes and respiratory system.

### 4. First Aid measures

Remove to fresh air and obtain medical attention.  
Skin contact: Remove contaminated clothing immediately and wash skin well with plenty of running water. Seek medical attention if irritation persists.  
Eye Contact: ACT IMMEDIATELY. Irrigate thoroughly with water or eye-wash for 15 minutes. Obtain medical attention immediately.  
Ingestion: Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give water to drink. Obtain medical attention immediately.

### 5. Fire Fighting measures.

Water-spray, foam or dry chemical. May produce toxic fumes in a general conflagration. Self-contained breathing apparatus should be worn.

### 6. Accidental Release Measures

Personal precautions Wear personal protective equipment listed in section 8.  
Environmental precautions Do not discharge into drains or rivers. Contain spillage using bunding.  
Clean up procedure Absorb with sand, earth or granules. Transfer to a closable, labelled salvage container for disposal, refer to section 13

### 7. Handling & Storage.

**Handling** Hazards stated apply to the CONCENTRATED product. Great care should be taken when diluting this product, i.e. ensure good ventilation and use personal protective equipment specified below.  
When handling do not eat, drink or smoke. Avoid contact with skin and eyes. Avoid inhalation of vapour.  
**Storage** Keep cap firmly closed when not in use. Keep cool

### 8. Exposure Controls/personal protection.

Use overalls, eye shields and chemical resistant gloves (EN 374) of butyl or nitrile rubber. Where vapour levels may exceed occupational exposure level, use an appropriate respirator\*.( \* Gas filter EN 141 Type A for gases/vapours of organic compounds.)

Occupational Exposure Limits:				
Hazardous Ingredient	LTEL 8hr	TWA	STEL	
	ppm	mg/m3	ppm	mg/m3
glutaraldehyde	0.05	0.2	0.05	0.2 Sen, MEL



# Omnicide<sup>TM</sup>

## MATERIAL SAFETY DATA SHEET

### 9. Physical & Chemical Properties.

Appearance:	Clear liquid, dye optional
Odour:	Aromatic, perfume optional
pH:	5.0 typical
Flash point °C:	N/A
Relative Density (20°C):	1.04 typical
Solubility in water:	Soluble

### 10. Stability & Reactivity.

Stability:	Stable.
Conditions to Avoid:	Extremes of temperature (below 0°C and above 50°C)
Materials to Avoid:	Contacts with acids, alkalis.
Hazardous Decomposition:	No decomposition in normal use.

### 11. Toxicological Information.

Inhalation:	Vapours/aerosols may irritate the eyes, nose and throat. Asthmatic symptoms occasionally described in sensitive persons. These effects may be exacerbated on repeated exposure. May aggravate existing asthmatic conditions. An extensive clinical study has shown: Glutaraldehyde did not cause, in the exposed persons, any allergic asthma induced by a sensitisation of the respiratory tract.
Skin Contact:	Causes burns. Liquid and vapour are irritating. Acute percutaneous toxicity: low potential for systemic toxicity by skin absorption. Repeated contact with concentrate may cause allergic contact dermatitis. Delayed contact hypersensitivity (guinea pigs) of 1% glutaraldehyde dilution: no reaction.
Eye Contact:	Causes burns. Liquid and vapour are irritating. Eye damage may occur if immediate irrigation is not carried out.
Ingestion:	Harmful. May cause vomiting, diarrhoea and eventually collapse. Acute oral toxicity (rats): LD50 795 mg/kg "slight oral toxicity".

### 12. Ecological Information.

Dilution to below 10 ppm glutaraldehyde has no detrimental effect on the environment or on functioning waste treatment systems.  
Diluted product is expected to be rapidly biodegraded.

### 13. Disposal considerations.

Dispose of according to Local Authority regulations. Wash out container well with water before disposal.  
Do not contaminate storm water drains with concentrated product.

### 14. Transport Information.

UN No:	1760
Road Carriage:	Corrosive liquid
TREM Card No:	80G20b
ADR/RID Class:	Class 8
IMDG Class and Packing Group:	Class 8 Packing Group II
Proper Shipping Name:	Corrosive Liquid, N.O.S (glutaraldehyde mixture)
Marine Pollutant:	No
Customs Tariff (Harmonised system):	3808-40-10

### 15. Regulatory Information

CHIP Classification:	Corrosive	Hazard Symbol:	C
Risk Phrases:		S36/37/39	Wear suitable protective clothing/gloves and eye/face protection.
R20/22	Harmful by inhalation and if swallowed.		
R34	Causes burns.	S42	During fumigation/spraying wear suitable respiratory equipment.
R42/43	May cause sensitisation by inhalation and skin contact.		
Safety Phrases:		S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S13	Keep away from food, drink and animal feeding stuffs.		
S23	Do not breathe vapour/spray.	S51	Use only in well ventilated areas.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.		



# Omnicide<sup>TM</sup>

## MATERIAL SAFETY DATA SHEET

### 16. Other Information.

Hazards stated apply to the CONCENTRATED product. Great care should be taken when diluting this product, i.e. ensure good ventilation and use the personal protective equipment specified. Hypersensitive persons (asthma, chronic bronchitis) should not handle the concentrated product.

Text of the R-phrases that are allocated to the ingredients listed in section 2 of this safety data sheet:

R21/22 Harmful in contact with skin and if swallowed  
R23/25 Toxic by inhalation and if swallowed  
R34 Causes burns  
R42/43 May cause sensitisation by inhalation and skin contact  
R50 Very toxic to aquatic organisms

Date: March 2005 Revision: 10  
(Revised sections are indicated by sidelining.)

PLEASE ENSURE THIS SAFETY DATA SHEET IS PASSED TO THE APPROPRIATE PERSONS IN YOUR COMPANY, WHO ARE CAPABLE OF ACTING ON THE INFORMATION.

This Data Sheet was prepared in accordance with directive 91/155/EEC and regulation 5 of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 or as amended.

The information this sheet contains does not constitute on its own the users own assessment of workplace risk as required by other health and safety legislation eg. HSW ACT COSHH, MHSW Regulations or other.

Occupational exposure standards were taken from the current edition of EH40 (UK HSE).

**ANNEX 6:**  
**Hatchery Legal Documents**

**Bel Ga Myanmar Limited Hatchery Legal Documents**

1- Company Registration Certificate	(Page 2)
2- MIC Permit for Hatchery	(Page 3 - 4)
3- LBVD License for Hatchery	(Page 5)
4- Director Registration at DICA	(Page 6)
5- Share Capital Registration at DICA	(Page 7)
6- Member Registration at DICA	(Page 7)
7- Certificate of Member Ship UMFCCI	(Page 8)
8- Export/Import License	(Page 9)
9- Fire Safety Certificate	(Page 10-11)
10- Location Map approval by YCDC	(Page 12)
11- ETA Certificate	(Page 13-14)
12- Certificate of Membership MLF	(page – 15)



ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်  
Certificate of Incorporation

ဘယ်လ် ဂ မြန်မာ လီမိတက်  
**BEL GA MYANMAR LIMITED**  
Company Registration No. 101647692

မြန်မာနိုင်ငံကုမ္ပဏီများအက်ဥပဒေ ၁၉၁၄ ခုနှစ် အရ

ဘယ်လ် ဂ မြန်မာ လီမိတက်

အား ၂၀၁၇ ခုနှစ် ဖေဖော်ဝါရီလ ၂၁ ရက်နေ့တွင်  
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ  
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့် ပြုလိုက်သည်။

This is to certify that  
**BEL GA MYANMAR LIMITED**  
was incorporated under the Myanmar Companies Act 1914 on 21  
February 2017 as a Private Company Limited by Shares.

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ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ

Registrar of Companies

ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

Directorate of Investment and Company Administration



Former Registration No. 1076FC/2016-2017(YGN)



THE REPUBLIC OF THE UNION OF MYANMAR  
The Myanmar Investment Commission  
PERMIT



Permit No. 1275/2017

Date 9<sup>th</sup>, May 2017

This Permit is issued by the Myanmar Investment Commission according to the section 13 (b) of the Republic of the Union of Myanmar Foreign Investment Law-

- (a) Name of Investor/Promoter MR. CARL ALBERT M. DESTROOPER
- (b) Citizenship BELGIAN
- (c) Address STEENWEG OP HOOGSTRATEN 145, 2330 MERKSPLAS, BELGIUM
- (d) Name and Address of Principal Organization BDH AZIE B.V. 6717 VE EDE DLD, RUBENSSTRAAT 175, NETHERLANDS
- (e) Place of incorporation THE NETHERLANDS
- (f) Type of Investment Business PRODUCTION, DISTRIBUTION AND SALES OF DAY OLD CHICKS(DOC)
- (g) Place(s) at which investment is permitted PLOT NO. 312, 313 AND 314, MYAUNG DAKAR STEEL INDUSTRIAL ZONE, HMAWBI TOWNSHIP, YANGON REGION
- (h) Amount of Foreign Capital US\$ 4.177 MILLION
- (i) Period for Foreign Capital brought in WITHIN (1) YEAR FROM THE DATE OF ISSUANCE OF MIC PERMIT
- (j) Total Amount of Capital (Kyat) EQUIVALENT IN KYAT OF US\$ 4.177 MILLION
- (k) Construction period 1 YEAR
- (l) Validity of Investment Permit 50 YEARS
- (m) Form of Investment WHOLLY FOREIGN OWNED
- (n) Name of Company Incorporated in Myanmar BEL GA MYANMAR LIMITED

*[Handwritten Signature]*  
9.5.17

Chairman

The Myanmar Investment Commission



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်  
ခွင့်ပြုမိန့်

ခွင့်ပြုမိန့်အမှတ် ၁၂၇၅/၂၀၁၇

၂၀၁၇ ခုနှစ် မေလ ၉ ရက်

ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော် နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှု ဥပဒေပုဒ်မ ၁၃၊ ပုဒ်မခွဲ(ခ)အရ ဤခွင့်ပြုမိန့်ကို မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်က ထုတ်ပေးလိုက်သည်-

(က) ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူ၏အမည် MR. CARL ALBERT M. DESTROOPER

(ခ) နိုင်ငံသား BELGIAN

(ဂ) နေရပ်လိပ်စာ STEENWEG OP HOOGSTRATEN 145, 2330 MERKSPLAS, BELGIUM

(ဃ) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ BDH AZIE B.V. 6717 VE EDE DLD, RUBENSSTRAAT 175, NETHERLANDS

(င) ဖွဲ့စည်းရာအရပ် နယ်သာလန်နိုင်ငံ

(စ) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား ရက်သားကြက်ပေါက်များအား သားဖောက်ခြင်း လုပ်ငန်းနှင့် ပြည်တွင်းဈေးကွက်သို့ ဖြန့်ဖြူးရောင်းချခြင်းလုပ်ငန်း

(ဆ) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက်အမှတ်-၃၁၂၊ ၃၁၃ နှင့် ၃၁၄၊ မြောင်းတကာ သံမဏိစက်မှုဇုန်၊ မှော်ဘီမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး

(ဇ) နိုင်ငံခြားမတည်ငွေရင်းပမာဏ အမေရိကန်ဒေါ်လာ ၄.၁၇၇ သန်း

(ဈ) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ ကော်မရှင်ခွင့်ပြုမိန့်ရရှိသည့်နေ့မှ ၁ နှစ် အတွင်း

(ည) စုစုပေါင်းမတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၄.၁၇၇ သန်းနှင့် ညီမျှသော မြန်မာကျပ်ငွေ

(ဋ) တည်ဆောက်မှုကာလ ၁ နှစ်

(ဌ) ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့် သက်တမ်း ၅၀ နှစ်

(ဍ) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု

(ဎ) မြန်မာနိုင်ငံတွင် ဖွဲ့စည်းမည့် ကုမ္ပဏီအမည် BEL GA MYANMAR LIMITED

*Handwritten signature and date 9.5.17*

ဥက္ကဋ္ဌ

AHD/PC(7)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
ပိုက်ပျိုးရေး၊ မွေးမြူရေးနှင့် ဆည်မြောင်းဝန်ကြီးဌာန  
မွေးမြူရေးနှင့်ကုသရေးဦးစီးဌာန  
ချိုးပြိုရောင်စမ်း/ဥပေတ်လုပ်ငန်း/မွေးမြူရေးဥပေတ်ပုံတင်လက်မှတ်



ဦး/မေ/ ဇာတိ: ရတနာတောင် အမျိုးသားမှတ်ပုံတင်အမှတ်/ ၁၁/၈၀၃၄ (၂၆၆) ၀၀၀၇၇၇  
နိုင်ငံသားစိစစ်ကတ်ပြားအမှတ်

နေရပ် အမွတ် (၁၃၃)၊ ဗဟိုလမ်း၊ ပဲခူးလမ်း၊ ရန်ကင်း၊ ရေတပ်မြို့နယ်၊  
ရတနာတောင်မြို့နယ်၊ ရတနာတောင်မြို့နယ်၊ ရတနာတောင်မြို့နယ်၊ ရတနာတောင်မြို့နယ်  
အမှတ် ၃၃၂၊ ၃၃၃  
"BELGA Myanmar" ရေတပ်မြို့နယ် တိရစ္ဆာန်ကျန်းမာရေးနှင့်ဖွံ့ဖြိုးရေး ဥပဒေအရ  
ထုတ်ပြန်ထားသည့် တိရစ္ဆာန်ကျန်းမာရေးနှင့်ကူးစက်ရောဂါ ကာကွယ်ထိန်းချုပ်ရေးဆိုင်ရာ သတ်မှတ်ချက်များနှင့်  
အညီလိုက်နာဆောင်ရွက်လျက်ရှိသောလုပ်ငန်း အဖြစ် သတ်မှတ်လိုက်သည်။

16 MAR 2019

ဤသတ်မှတ်ချက်သည် ၂၀၁၉ ခုနှစ်၊ ၃ လ ၁၆ ရက်တွင် သက်တမ်းကုန်ဆုံးသည်။

မှတ်ပုံတင်လက်မှတ်အမှတ် 139/2018

16 MAR 2018

ထုတ်ပေးသည့်ရက်စွဲ

*(Signature)*  
ဒေါက်တာ စဝင်းရွှေ  
ခရိုင်ဦးစီးမှူး  
ပြောက်ပိုင်းခရိုင်၊ ရန်ကင်းမြို့နယ်၊ ရေတပ်မြို့နယ်  
မွေးမြူရေးနှင့်ကုသရေးဦးစီးဌာန

သက်တမ်းတိုးခြင်း

စဉ်	ကာလ	ခရိုင်ဦးစီးမှူးလက်မှတ်နှင့်အမည်



COMPANY PROFILE

+ NEW FILING ORDER DOCUMENTS PRINT CERTIFICATE

<b>Company Name (English)</b> BEL GA MYANMAR LIMITED	<b>Company Name (Myanmar)</b> ဘယ်လ် ဂါ မြန်မာ လီမိတက်	<b>Registration Number</b> 101647692	<b>Registration Date</b> 21/02/2017
<b>Company Type</b> Private Company Limited by Shares	<b>Status</b> Registered	<b>Foreign Company</b> Yes	<b>Small Company</b> No
<b>Annual Return Due Date</b> 21/03/2021			
<b>Principal Activity</b> 01 - Crop and animal production, hunting and related service activities			

FILING HISTORY ADDRESSES OFFICERS SHAREHOLDINGS COMPANY AUTHORITY MEMBERS  
DOCUMENTS

Name	Type	Nationality	N.R.C. (For Myanmar Citizens)	Effective Date
<a href="#">BERNARDUS THEODORUS FRANCISCUS CLITEUR</a>	Director	Netherlands	BFFC4PB63	26/03/2019
<a href="#">CARL ALBERT M.DESTROOPER</a>	Director	Belgium	EN249066	
<a href="#">POE EI SOE</a>	Secretary	Myanmar	5/SAKANA(N)240255	



COMPANY PROFILE

+ NEW FILING ORDER DOCUMENTS PRINT CERTIFICATE

<b>Company Name (English)</b> BEL GA MYANMAR LIMITED	<b>Company Name (Myanmar)</b> ဘယ်လ်ဂါမြန်မာ လီမိတက်	<b>Registration Number</b> 101647692	<b>Registration Date</b> 21/02/2017
<b>Company Type</b> Private Company Limited by Shares	<b>Status</b> Registered	<b>Foreign Company</b> Yes	<b>Small Company</b> No
<b>Annual Return Due Date</b> 21/03/2021			
<b>Principal Activity</b> 01 - Crop and animal production, hunting and related service activities			

FILING HISTORY ADDRESSES OFFICERS **SHAREHOLDINGS** COMPANY AUTHORITY MEMBERS

DOCUMENTS

<b>Total Shares Issued by Company</b> 1266900	<b>Currency of Share Capital</b> USD			
<b>ULTIMATE HOLDING COMPANY</b>				
<b>Company Name</b> BDH Azie B.V	<b>Registration Number</b> 5955369	<b>Jurisdiction of Incorporation</b> NLD		
<b>SHARE CAPITAL STRUCTURE</b>				
Share Class	Class Title	Total No. Shares	Total Amount Paid	Total Amount Unpaid
ORD	Ordinary	1,266,900	10,214,000	2,455,000

FILING HISTORY ADDRESSES OFFICERS SHAREHOLDINGS COMPANY AUTHORITY **MEMBERS**

DOCUMENTS

Individual Members

Name	Nationality	N.R.C / Passport Number

Corporate Members

Name	Registration Number	Jurisdiction Of Incorporation
BDHAZIE B.V	59553693	Netherlands
DE HEUS MYANMAR LIMITED	108726032	Myanmar

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံ  
ကုန်သည်များနှင့်စက်မှုလက်မှုလုပ်ငန်းရှင်များအသင်းချုပ်

The Republic of The Union of Myanmar Federation of Chambers of Commerce and Industry

No.(29), Min Ye' Kyaw Swar Road, Lanmadaw Township, Yangon, Myanmar.

Established In 1919



အသင်းဝင်လက်မှတ်  
**Certificate of Membership**

**Membership No. & Date**

**37060 ( 25-7-2017 )**

အောက်ဖော်ပြပါနိုင်ငံခြားကုမ္ပဏီ သည်ဤကုန်သည်စက်မှုအသင်းချုပ်တွင် ၂၀၁၇ ခုနှစ်၊ ဇူလိုင်လ (၂၅) ရက်နေ့မှစ၍ အသင်းဝင်တစ်ဦး ဖြစ်ပါကြောင်း။

The under - mentioned **Foreign Company** is a member of the UMFCCI with effect from **37060 ( 25-7-2017 )**

အသင်းဝင်အမည်နှင့် လိပ်စာ

ဘယ်လ်ဂျီမြန်မာလီမိတက်

အကွက်အမှတ်(၃၁၂၃၁၃နှင့်၃၁၄)၊ မြောင်းတကာသံမဏိစက်မှုဇုန်၊

မှော်ဘီမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။

Member's Name & Address

**Bel Ga Myanmar Limited**

Plot No.(312,313 and 314), Myaung Dakar Steel Industrial Zone,

Hmawbi Township, Yangon Region.

လုပ်ငန်းမှတ်ပုံတင်အမှတ်နှင့်ရက်စွဲ

၁၀၇၆အက်ဖ်စီ/ ၂၀၁၆-၂၀၁၇(ရက)(၂၁.၂.၂၀၁၇)

Business Registration No. and Date

**1076FC/2016-2017(YGN)(21.2.2017)**

Tel 09-972483641,09-967959814 Fax

e-mail

**Secretary General**

**President**

Signature of Member (or) Representative

Name & NRC No. **Mr.Johan Christiaan Van Den Ban (BWP7F63B2)**

Designation **Managing Director**

**Extended Period**

**Extended Registration No.**

**Authorized Signature**

(1) From 25-7-2017 to 31-12-2019

(01731 )

**Joint Secretary General**

(2) From to

045381



The Government of The Republic of the Union of Myanmar  
Ministry of Commerce  
Department of Trade

CERTIFICATE OF EXPORTER/IMPORTER REGISTRATION

1. Enterprise Name (မြန်မာ/အင်္ဂလိပ်) BEL GA MYANMAR LTD.  
 2. Registration No: 101647692 (02-06-17)  
 3. Registration Term: FIVE YEAR  
 4. Start Date: 02-06-2017  
 5. End Date: 20-02-2022  
 6. Address (မြန်မာ/အင်္ဂလိပ်) Plot No.312,313,314,Myaung Dagar Industrial Zone, Hnawbi Township,  
 Yangon Region,Myanmar

7. Business Registration No : 101647692  
 8. Type of Business :  Sole Proprietorship(တစ်ဦးတည်းပိုင်)  Partnership(အစုအစပ်)  
 Limited Company(လီမိတက်ကုမ္ပဏီ)(Myanmar/Foreign)  
 Co-operative Society(သမဝါယမအသင်း)  
 Others(Please specify)အခြား(ဖော်ပြရန်)သင်းဖွဲ့မှတ်တမ်းပါလုပ်ငန်း( )မျိုး ဆောင်ရွက်ခွင့်ရှိသည်။

9. Type of Service :  New  Extension  
 10. Contact No : 09-761532548 info.myanmar@belgaasia.com  
 Telephone No. Fax No. e-mail

11. Remarks :  
 Form Of Permit No.1076FC/ 2016-2017 (YGN) Date (21-2-2017)And MIC Permit No.1275/2017 Date (9-5-2017)

12. Terms and Conditions : စည်းကမ်းချက်များ  
 I hereby register the above mentioned enterprise as Exporter/Importer subject to the following terms and conditions: (အောက်ဖော်ပြပါစည်းကမ်းချက်များဖြင့် ပို့ကုန်သွင်းကုန် လုပ်ငန်းရှင်အဖြစ် မှတ်တမ်းတင်ခွင့်ပြုသည်)  
 (a) Line of goods permitted - all items except prohibited and restricted items.  
 (b) The enterprise must abide by the Export/Import rules and Regulations prescribed for the registered Exporters/Importers.



*Signature*  
 For Director General  
 (စိုးနိုင်၊ဦးစီးအရာရှိ)

EIREG06171EIREGEN12130012



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
ပြည်ထဲရေးဝန်ကြီးဌာန  
မီးသတ်ဦးစီးဌာန

စာအမှတ်၊ ၀၅၆ / ၁၀၀ / ၅၅ / ဦး ၁  
ရက် စွဲ ၊ ၂၀၁၈ခုနှစ်၊ ဖေဖော်ဝါရီလ ၁၅ ရက်

သို့

Balga Factory

အမှတ်(၃၁၂၊ ၃၁၃၊ ၃၁၄)၊ မြောင်းတကာစက်မှုဇုန်  
မှော်ဘီမြို့နယ်

အကြောင်းအရာ။ ဆောက်လုပ်ပြီးသောအဆောက်အအုံအတွက် မီးဘေးလုံခြုံရေး စစ်ဆေးထောက်ခံချက်  
(Fire Safety Certificate)ထုတ်ပေးခြင်း

ရည်ညွှန်းချက်။ သက်ဆိုင်သူ၏(၂၉.၁၂.၂၀၁၇)ရက်စွဲပါလျှောက်လွှာ  
ရန်ကုန်တိုင်းဒေသကြီး၊ မှော်ဘီမြို့နယ်၊ မြောင်းတကာစက်မှုဇုန်၊ အမှတ်(၃၁၂၊ ၃၁၃၊ ၃၁၄)တွင်  
Balga Factoryအမည်ဖြင့် Brick Noching(၁)ထပ်(ကြက်သားဖောက်စက်ရုံ) အဆောက်အအုံမီးဘေး  
လုံခြုံရေးဆောင်ရွက်ထားရှိမှုနှင့် စပ်လျဉ်း၍ ဤဌာန၏ မီးဘေးလုံခြုံရေးဆိုင်ရာပြဌာန်းချက်များအား  
လိုက်နာဆောင်ရွက်မှုရှိကြောင်း စစ်ဆေးတွေ့ရှိသည့်အတွက် မီးဘေးလုံခြုံရေး စစ်ဆေးထောက်ခံချက်(Fire  
Safety Certificate)ကို ထုတ်ပေးလိုက်ပါသည်။

  
ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)  
(ကျော်သူရ၊ ညွှန်ကြားရေးမှူး) ✓  
New ၅၂ E

မိတ္တူကို

ဌာနမှူး၊ အင်ဂျင်နီယာနှင့်အဆောက်အအုံဌာန၊ ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ၊  
ရန်ကုန်တိုင်းဒေသကြီးမီးသတ်ဦးစီးမှူးရုံး၊  
မြောက်ပိုင်းခရိုင်မီးသတ်ဦးစီးမှူးရုံး၊ အင်းစိန်မြို့နယ်၊  
မြို့နယ်မီးသတ်ဦးစီးမှူး၊ မှော်ဘီမြို့နယ်၊  
မျှောစာတွဲ/လက်ခံစာတွဲ။



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထဲရေးဝန်ကြီးဌာန  
မီးသတ်ဦးစီးဌာန



**မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်**

အမှတ်စဉ်(၁၈၆၆)

ရက်စွဲ၊ ၂၀၁၈ခုနှစ်၊ ဖေဖော်ဝါရီလ ၁၄ ရက်

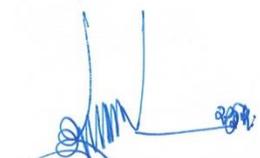
၁။ ရန်ကုန်-တိုင်းဒေသကြီး/ပြည်နယ်၊ မှော်ဘီ မြို့နယ်၊ မြောင်းတကာစက်မှုဇုန်  
ကျေးရွာ၊ လမ်းအမှတ် (၃၁၂/၃၁၃/၃၁၄) ရှိရှိရင်ရှင်း/ဒေါ် Balga Factory  
၏ Brick Noching( ကြက်သားဖောက်စက်ရုံ ) အဆောက်အဦအတွက်

ဤဌာနမှသတ်မှတ်ပေးထားသည့် မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဌာန်းချက်များအား(၂၁-၁-၂၀၁၈ )ရက်နေ့တွင်  
ကွင်းဆင်းစစ်ဆေးသည့်အခါပြည့်စုံစွာဆောင်ရွက်ထားကြောင်းစစ်ဆေး တွေ့ရှိရသည်။

၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျိုးဝင်သည်။

၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ  
ပြဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရုတ်သိမ်းသွားမည်ဖြစ်ပြီး  
အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ပိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ ဥပဒေအရ အရေးယူခြင်းခံရမည်။

**မှတ်ချက်။** ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ  
ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

  
ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)  
(ကျော်သူရာ ညွှန်ကြားရေးမှူး)  
Nue ၁၂ ၆

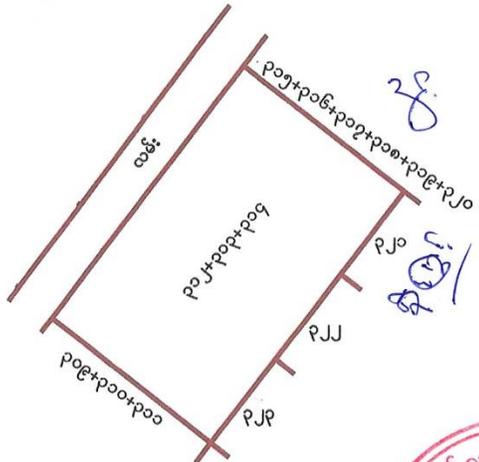


ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
ရန်ကင်းမြို့တော်စည်ပင်သာယာရေးကော်မတီ

၇၉၆

၈၈၀၃/၂၀၂၀၂၀၀၀၂၅၆၃/၂၀(၇၁၂၀)

စာချုပ်စာတမ်းမှတ်ပုံတင်အရာရှိ  
မြို့တော်စာချုပ်စာတမ်းမှတ်ပုံတင်ရုံး၊ ရန်ကင်းမြို့၊  
ရက်စွဲ၊ ...။



၂၀၁၉/၂၀၂၀ ဘဏ္ဍာရေးနှစ်သုံး မြေပုံရေးကူးပေးသည့် မှန်ကန်ကြောင်းသက်သေခံသည့်မိတ္တူမြေပုံ	
အမည်ပေါက် ဦးငေါ်စိုးမြင့် ၁၂/လသန(နိုင်)၀၀၄၉၅၀	✓
မြေတိုင်းရပ်ကွက်အမှတ် မြောင်းတကာသံမဏိ စက်မှုဇုန်	✓
လူနေရပ်ကွက်အမှတ် -	
မြေအတန်းအစား	
မြေကွက်အမှတ် ၃၁၂၃၁၃၁၃၄	✓
မြေအမျိုးအစား နှစ် (၆၀) မြေငှားဂရန်	✓
မြေအတိုင်းအတာ (အလျား X အနံ) (အတိုင်းအတာမပါပါ။) ဧရိယာ 5.51ဧက	✓
မြို့နယ် မင်္ဂလာဒုံ	✓
စကေး 1:3600	
လျှောက်ထားသည့်အကြောင်းအရာ အငှားစာချုပ်ချုပ်ဆိုရန်	✓
မြေတိုင်း(၂) မြို့ပြစီမံကိန်းနှင့်မြေစီမံခန့်ခွဲမှုဌာန	✓
မြေတိုင်း(၁) မြို့ပြစီမံကိန်းနှင့်မြေစီမံခန့်ခွဲမှုဌာန	✓
ဌာနမှူး(မြေတိုင်း) မြို့ပြစီမံကိန်းနှင့်မြေစီမံခန့်ခွဲမှုဌာန	✓

ဌာနမှူး(ကိုယ်စား)  
မြို့ပြစီမံကိန်းနှင့်မြေစီမံခန့်ခွဲမှုဌာန

၂၀၁၉/၂၀၂၀ ဘဏ္ဍာရေးနှစ်သုံးမြေပုံ/မြို့ပြစာရင်းမှ ရေးကူး  
သော ကောက်နှုတ်ချက်မိတ္တူ မြေပုံ/မြေရာဇဝင်ဖြစ်၍ တိကျ  
မှန်ကန်ကြောင်းထောက်ခံပါသည်။  
(မြို့ပြစီမံကိန်းနှင့်မြေစီမံခန့်ခွဲမှုဌာန)



Control Union Certifications  
P.O. Box 161, 8000 AD Zwolle, The Netherlands  
<http://www.controlunion.com>  
Tel.: +31(0)38-4260100

## ATTESTATION OF CONFORMITY

Field of attention  
**Social Compliance**

For project number: **CU 866407**

Issued to  
**Bel Ga Ltd**

**Plot No:312,313, 314, Myaung Dakar Industrial Zone, Hmawbi Township,  
Yangon, Myanmar**

Control Union Certifications declares to have inspected the production and / or processing unit(s) of the above-mentioned project, and have found them in accordance with the Sedex Member Ethical Trade Audit. This attestation covers the production and / or processing unit(s) as mentioned in the authenticated annex of this attestation.

Comply with  
**Sedex Member Ethical Trade Audit (2 Pillar)**

This attestation is to be considered as a confirmation from the auditing body that the above-mentioned project has successfully undergone independent third party auditing on:

**27 June 2019**

With regard to the SMETA (2 Pillar).

04<sup>th</sup> July 2019

Karachi, Pakistan

Declared by:  
  
On behalf of the Managing Director  
Mr. Syed Alamdar Nazar - Shiraz  
Certifier



Control Union Certifications  
P.O. Box 161, 8000 AD Zwolle, The Netherlands  
<http://www.controlunion.com>  
Tel.: +31(0)38-4260100

## Annex to Attestation

for project number no.: **CU 866407**

Control Union Certifications has performed an audit with regard to SMETA, assigned by:

**Bel Ga Ltd.**

**Plot No:312,313, 314, Myaung Dakar Industrial Zone, Hmawbi Township, Yangon, Myanmar**

**Sedex Company Reference: ZC 407116450**

**Sedex Audit Code: ZAA407222467**

This attestation covers the following **processing/Production unit(s)** which meet(s) the SMETA:

Unit no.	Name unit	Address	Sedex site reference
PRC 105549	Bel Ga Ltd	Plot No:312,313, 314, Myaung Dakar Industrial Zone, Hmawbi Township, Yangon, Myanmar	ZS407221550

This Attestation, including the annex, merely reflects the audit findings of Control Union Certifications on the day or period of the audit. Control Union Certifications cannot be held responsible any changes in the project after the audit day period

04<sup>th</sup> July 2019

Karachi, Pakistan

Declared by:  
  
On behalf of the Managing Director

Mr. Syed Alamdar Nazar - Shiraz  
Certifier

မြန်မာနိုင်ငံမွေးမြူရေးလုပ်ငန်းအဖွဲ့ချုပ်

Myanmar Livestock Federation

တူရိယာလမ်းနှင့် စက်မှုဆေးဝါးလမ်းထောင့်၊ အနောက်ကြို့တန်း၊ အင်းစိန်မြို့နယ်  
ရန်ကင်းမြို့



အဖွဲ့ဝင်လက်မှတ်

Certificate of Membership

Membership No.& Date

16018 ( 27 - 6 - 2017 )

အောက်ဖော်ပြပါ နိုင်ငံခြားကုမ္ပဏီ သည် ဤမြန်မာနိုင်ငံမွေးမြူရေးလုပ်ငန်း အဖွဲ့ချုပ်တွင် ၂၀၁၇ခုနှစ်၊ ဇွန်လ (၂၇)ရက် နေ့မှစ၍ အဖွဲ့ဝင်တစ်ဦးဖြစ်ပါကြောင်း။

The Under-mentioned Foreign Company is a member of the Myanmar Livestock Federation with effect from 16018 ( 27 - 6 - 2017 )

အဖွဲ့ဝင်အမည်နှင့်လိပ်စာ

ဘယ်လ်ဂျီယံမြန်မာလီမိတက်  
အတွက်အမှတ်(အက်စ်) (၃၁၂၊ ၃၁၃၊ ၃၁၄) မြောင်းတကာ၊ စက်မှုဇုန်၊  
မော်ဘီမြို့နယ်၊ ရန်ကင်းတိုင်းဒေသကြီး။

Member's Name & Address

BEL GA MYANMAR LIMITED.  
Plot No.(s) , (312. 313. 314) Myaung Dakar Industrial Zone,  
Mawbi Township, Yangon Region.

လုပ်ငန်းမှတ်ပုံတင်အမှတ်နှင့် ရက်စွဲ

၁၀၇၆ အက်စ်စီ/ ၂၀၁၆ - ၂၀၁၇ (ရက) (၂၁ - ၂ - ၂၀၁၇)

Business Registration No.and Date

1076 FC / 2016 - 2017 (Ygn) ( 21 - 2 - 2017 )

Tel ..... Fax .....

Email .....

Win

Secretary General

Signature

President

Signature of Member (or) Representative .....

Name & NRC No.

Mr. Johan Van Den Ben (No. BF8F5JFR5)

Designation

Director

Extended Period

Extended Registration No.

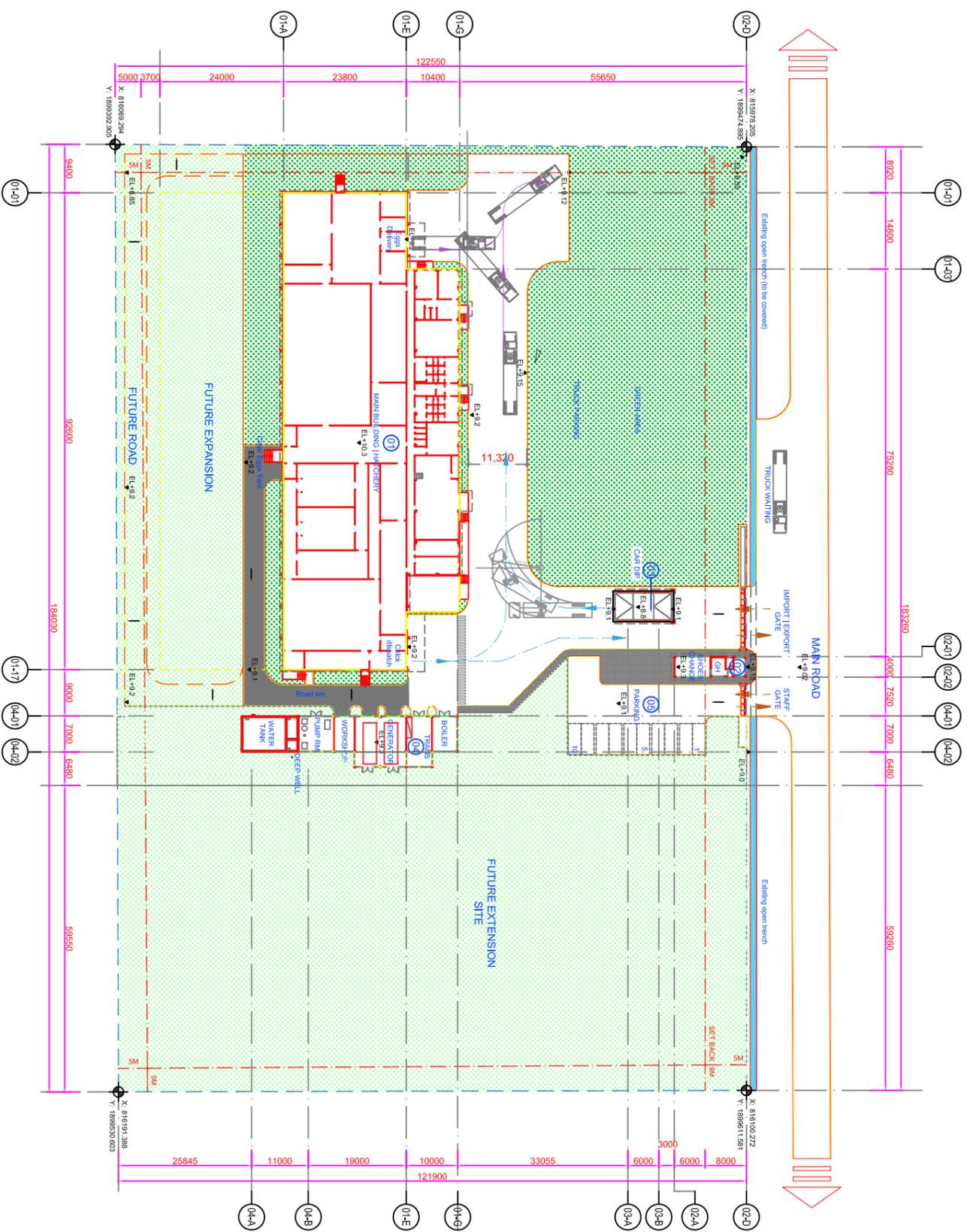
Win Authorized Signature

(1) From (ရာသက်ပန်) to ..... ( 186 )

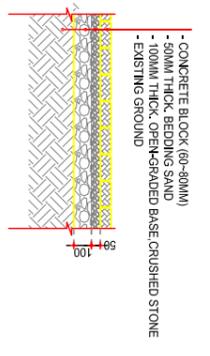
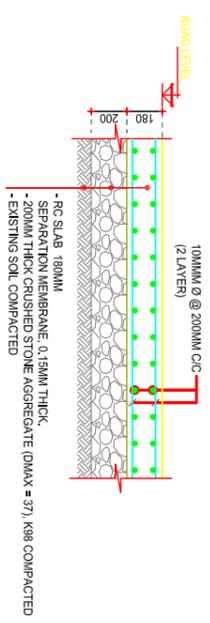
(2) From ..... to .....

**ANNEX 7:**  
**Layout Plan for Drainage System**

# Annex 7\_Drainage Plan



MASTER PLAN  
Sc - 1:500



SYMBOL	DESCRIPTION	BUILDING NUMBER / NAME
	TRUE NORTH	
	ABCD	
	NATIONAL LEVEL	
	CHICK DISPATCH FLOW	
	EGGS DELIVERY FLOW	
	GRASS	
	CONCRETE ROAD	
	CRUSHED STONE TEMPORARY ROAD	

SITE AREA SUMMARY		
SITE AREA (TOTAL)	22,446 m <sup>2</sup>	PERCENTAGE (%)
PROJECT LAND USE	14,564 m <sup>2</sup>	67
FUTURE EXTENSION SITE	7,402 m <sup>2</sup>	33
PROJECT AREA SUMMARY		
BUILDING FOOTPRINT	3,596 m <sup>2</sup>	23
GREEN SPACE	7,968 m <sup>2</sup>	53
INTERNAL CIRCULATION	3,540 m <sup>2</sup>	24
PROJECT LAND USE (TOTAL)	14,564 m <sup>2</sup>	100

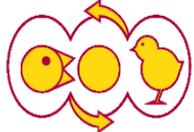
BUILDING FOOTPRINT SUMMARY		
01   MAIN BUILDING	FOOTPRINT (m <sup>2</sup> )	2,830
02   GUARDHOUSE / SHEDS CHANGE		56
03   CAR BIP		66
04   UTILITIES (BOILER GENERATOR, TRANSFORMER, CHILLER, PUMP & WATER TANK)		294
05   PARKING		160
<b>TOTAL</b>		<b>3,506</b>

<b>PROJECT TITLE</b>		BEL GA HATCHETY, MYAUNG DAGAR IZ, MYANMAR		
<b>OWNER/DEVELOPER</b>		BEL GA LLC		
<b>DESIGN &amp; BUILD</b>		HASTY POWER CONSTRUCTION CO. LTD		
<b>LOCATION</b>		MYAUNG DAGAR INDUSTRIAL ZONE, MYANMAR		
<b>SUBJECT</b>	ARCHITECTURAL DRAWING			
<b>DRAWING TITLE</b>	MASTER PLAN			
<b>DRAWING NO</b>	00-A-101			
<b>DATE</b>	20-11-2017			
<b>SCALE</b>	AS SHOWN			
<b>DATE</b>	REV	DWN	CHK	APPR
20-11-2017	AS BUILT	HP		
<b>NOTE</b>				

NO. 17(A), Kyalk Wine Pagoda Road,  
Myaine Hay Wun Housing  
Mayangone TSP, Yangon.  
TEL: 01-665295, 09-699200700, 09-977692040  
EMAIL: project-management@hasty-power-mm.com

**ANNEX 8:**  
**Water Treatment System**

Annex.8\_Water treatment System

 <b>BEL GA LTD</b>	<h2>Water Treatment System</h2>	Document code	HT-SOP-01
		Revision number	00
		Effective date	16.11.2020
		Review date	16.11.2020
		Pages	3
	Prepared by	Randy/Felix	Hatchery Manager
Approved by	Ben Cliteur	Managing Director	

**I. Purpose**

To get hygienic water quality by eliminating contaminated organisms and chemical materials.

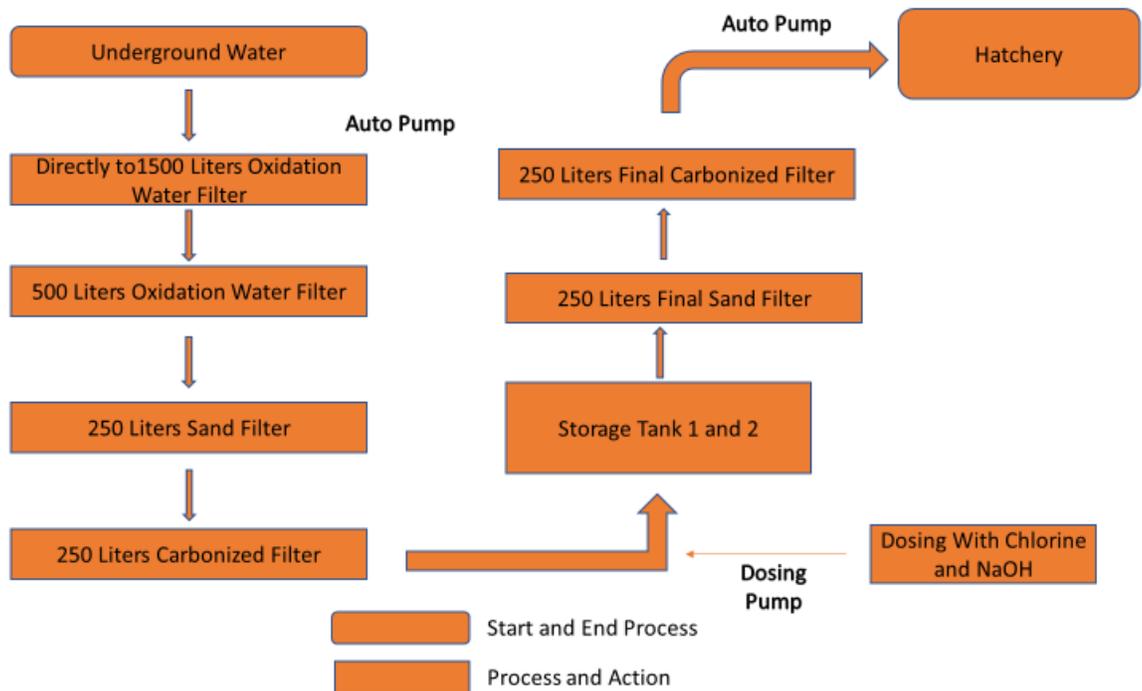
**II. Scope**

To supply good hygienic water to the whole hatchery operation.

**III. Responsibilities**

Hatchery technical team.

**IV. General Procedure**



## V. Procedure

### 1. Oxidation Water Filters (1500 liters)

- It is used to remove the impurities or the suspended impurities from the untreated (hard water).
- We make sure the sanitation for this filter by weekly visual inspection due to lack of back-wash system.

### 2. Oxidation Water Filter (500 liters)

- It is used to remove the impurities or the suspended impurities from the untreated/ hard water.
- This filter has two different media (sand and gravel).
- It needs to daily backwash for 30 mins to maintain filter sanitation.
- It needs to monitor the pressure gauge by daily checklist.

### 3. Sand Filters (250 liters)

- It is used to remove the impurities or the suspended impurities from the untreated/ hard water.
- This filter tank having media silica sand for advance filtration.
- This filter needs to perform backwash for 30 minutes manually to rinse, circulation inside the tank and dispose wastes.
- It needs to monitor the pressure gauge by daily checklist.

### 4. Carbonize Filters (250 liters)

- It is used to remove the impurities or the suspended impurities from the untreated /hard water.
- The carbonized filters tank includes carbon gravel for advance filtration
- This filter needs to perform backwash for 30 minutes manually to rinse, circulation inside the tank and dispose wastes.
- It needs to monitor the pressure gauge by daily checklist.

### 5. Dosing Chlorine and Sodium Hydroxide (NaOH)

- Chlorine is used to kill bacteria, viruses and other microbes in water
- Chlorine is used for water disinfection
- NaOH is used to control water acidity and to help remove heavy metals from water
- Chlorine 0.2kg are mixed with 1000 liters water inside the chlorine tank
- Sodium hydroxide (NaOH) 5kg are mixed with 1000 liters water inside the NaOH tank
- Both chlorine and NaOH are mixing 100liters/1liter for treating water with dosing pump

**6. Final Sand Filters (250 liters)**

- It is used to remove the impurities or the suspended impurities from the untreated/hard water.
- The sand filters have 2 different media, which is gravel with 3 type of sizes and sand
- This filter needs to perform backwash for 30 minutes manually to rinse, circulation inside the tank and dispose wastes.
- It needs to monitor the pressure gauge by daily checklist

**7. Final Sand and Carbonized Filters (250 liters)**

- It is used to remove the impurities or the suspended impurities from the untreated/hard water.
- The sand and carbonized filters have 2 different media inside, which is silica sand and carbon gravel
- This filter needs to perform backwash for 30 minutes manually to rinse, circulation inside the tank and dispose wastes.
- It needs to monitor the pressure gauge by daily checklist

**VI. Distribution List**

No.	Date	Distributed Departments	Distribution Type
1	15.11.2020	Quality Control Department	Word and Pdf file

**ANNEX 9:**  
**Waste Water Treatment Procedures**

## Annex.9\_Waste water treatment system

	<b>Waste Water Treatment Procedure</b>	Document code	HT-SOP-00
		Revision number	00
		Effective date	17.11.2020
		Review date	17.11.2022
		Pages	3
	Prepared by	Rain	Technician
Approved by	Ben Cliteur	Managing Director	

### i. Purpose

To treat production wastes water for environment hygiene.

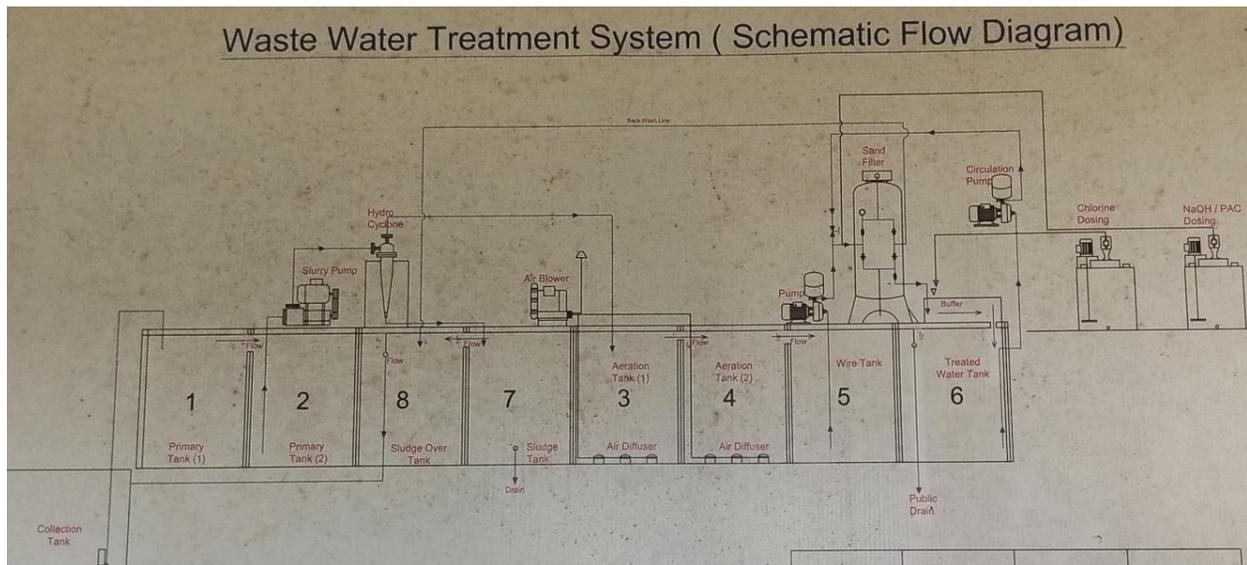
### ii. Scope

Dispose out of hygiene water to public drainage.

### iii. Responsibilities

Hatchery Technical Team

### iv. Procedure



#### Step 1: Inspection Chamber (IC)

- All of hatchery process drainage pipes are connected to Inspection Chamber
- Inside of IC, we put solid removal bucket. Avoid from block of egg shells and other rubbishes in the main of drain pipe
- This IC 1 to 6 is needed to clean 2 time per month

#### Step 2: Collection Tank

- The main of drain pipe is connected to the collection tank
- All of waste water is collected in this tank

- This tank can collect 1000ft<sup>3</sup> per day. In this tank, a little amount of sludge may be sedimentation and only waste water is connected to primary tank

### **Step 3: Primary Tank**

- Primary tank consists of 2 tanks; first tank is connected to the collection tank and second tank is connected to aeration tank with hydro-cyclone filter and slurry pump
- Sediment of hydro-cyclone is jointed to sludge tank. Primary tank 1 and 2 can store 504ft<sup>3</sup>

### **Step 4: Aeration Tank**

- In this stage, also consists of 2 tanks
- Both of tanks have air diffusers at the base of tank
- To mixing water and particular impurities for treatment of water
- These tanks are 504ft<sup>3</sup> each other. Aeration tank 2 is directly connected to the wire tank

### **Step 5: Wire Tank**

- In the wire tank, the waste of water needs to pass Sand filter and NaOH/PAC is dosing to this filter
- Wire Tank is also 504 ft<sup>3</sup>.

### **Step 6: Chemical Dosing Container**

- There have 2 containers of dosing for wastes water treatment; they are Sodium Hydroxide (NaOH) and Chlorine (Cl)
- Each container has 100 liters and 2 months 1 time need to fill chemical. NaOH is 7kg and Chlorine is 0.4kg in a time

### **Step 7: Sand Filter**

- Sand filter is connected to the treated water tank. It is used to remove the impurities of wastes water
- The sand filter tank had 12 mm of filtration media gravel 6 bags, 6 mm of filtration media gravel 10 bags, 2mm of filtration media gravel 10 bags and filtration media silica sand 10 bags
- The sand filter require backwash, rinse, circulation, so connect to sludger over tank
- If sludger over tank is full of waste water, over flow pipe is already connected with collection tank
- Sand filter 250 liters can be store

### **Step 8: Treated water Tank**

- Circulation pump is connected to the sand filter and treated water tank
- This tank is directly connected to public drain. This tank is also 504ft<sup>3</sup>
- Sludge tank and Sludge over tank is 504ft<sup>3</sup>

**v. Related Documents**

1. Monitoring of Wastes Water Treatment System (HT-F-TE-21)

**vi. Distribution List**

<b>No.</b>	<b>Date</b>	<b>Distributed Departments</b>	<b>Distribution Type</b>
1	17.11.2020	Document Control Department	Word and Pdf file

**ANNEX 10:**  
**Emergency Action Plan**

## **Bel Ga Myanmar Limited EMERGENCY ACTION PLAN**

### **PURPOSE**

The purpose of this plan is to detail the basic steps needed to prepare for emergencies in the workplace. The preservation of life is of paramount importance to Bel Ga Myanmar Limited, and it is company policy to err on the side of protecting employees and stakeholder of Bel Ga' if there is a question. The emergencies may include fire, tornado or other severe weather, chemical spill or release, earthquake, neighborhood event (derailment, explosion, chemical release), or bomb threat.

The highest priority of this plan is to ensure the health and safety of all staff, customers, and visitors in the event of an emergency. The procedures set down in this plan will be communicated to all employees and to customers and frequenters who are in this facility. Any changes to this plan will be communicated to all affected employees as soon as it is made.

### **SCOPE**

This plan applies to all staff, customers, visitors, drivers, and outside contractors at Bel Ga Myanmar Limited.

**Emergency Contact Number for Internal**

**Managing Director - +959761532548**

**HR Officer - +9595038345**

**Office - +959967959814**

**For Hatchery**

**Hatchery Manager - +959958446081**

**Supervisors - +959681437795, +959251054389, +9599770034472**

**For Farm**

**Farm Manager - +959797906848**

**Supervisors - +959976229053, +95970804389**

**Emergency Contact Number for External**

**For Hatchery**

**Fire Department Head Office - 191, 01-666912, 01-666913**

**Fire Department Hmawbi - 01-620030, 055-20012**

**Electricity Error - 09-977275842, 09-977275825**

**Police Station - 01-620001**

**For Farms**

**Fire Department - 052-2221272, 052-2221302, 052-2221502, 052-2221402**

**Electricity Error - 052-2221551, 052-2221501, 052-2224666, 052-2230855**

**Police Station - 052-222732, 052-2224176, 052-2221023, 09-458023556**

## **EMERGENCY EVACUATION**

In the event the emergency requires an evacuation of the facility of Bel Ga Myanmar which will follow the provisions of this Emergency Evacuation Plan.

Emergency escape routes are established. Floor plans clearly showing designated routes and refuge (safe) areas are identified. These floor plans are strategically located throughout each workplace of Bel Ga Myanmar. Emergency Action Plan (EAP) a copy of which is provided to each employee. There are two types: one for general evacuation, the other for tornado shelter.

Evacuation teams have been established as per following list. In the event of an evacuation, each employee is to exit the building in an orderly fashion and report immediately to Evacuation team.

### For Hatchery

Hatchery Manager – At the whole hatchery workplace	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Assist Manager	- Member (1 Person)
Technician	- Member (1 Person)
HR officer	<u>- Member (1 Person)</u>
<b>TOTAL</b>	<b>6 Member</b>

### For Farm

Farm Manager – At the whole Farm workplace	- In Charge (1 Person)
Production Supervisors	- Member (2 Person)
Rearing Supervisors	- Members (2 Person)
Technician	- Member (1 Person)
HR officer	<u>- Member (1 Person)</u>
<b>TOTAL</b>	<b>6 Member</b>

The key to the success of an evacuation is knowing who are in the building. The people most difficult to keep track of are those who are not in the building on a regularly scheduled basis. To help us do so, we request the following:

1. If you are in the building and you usually are not, let the receptionist know you are here. Then when you leave, let her know you have left the premises.
2. If you are usually in the building and you have an appointment away from the building, tell your supervisor you are leaving and approximately how long you will be gone. When you return, tell your supervisor you are back. In the event your supervisor is not in, tell a person with whom you work closely.

All visitors to the Bel Ga Myanmar will sign in at the security gate upon entering the building and sign out when they leave. This includes personnel who enter through the front of the building. For example, sales reps, service personnel for copier, computers, etc. It is up to each person they are visiting to ask them “if they checked in with the receptionist”. If they did not, then take them back out and explain that from now on, they must sign in for their own safety. Visitors and drivers who enter to Bel Ga Myanmar are to be approval by respective manager or supervisor.

## **CRITICAL FACILITY OPERATIONS**

If possible, systematic operational shutdown is required for critical machines and processes. The most critical are:

- To shut off the power to the building.  
The Main Breaker for all the electric in the building is located on the north wall of the old production department in the plant--Near the battery charging units.

## **RESCUE AND MEDICAL DUTIES**

No employees shall attempt an emergency rescue. Attempts to rescue anyone trapped in the facility will be done by fire department/emergency rescue personnel only. No employee shall reenter the facility until told to do so by both management and the fire department.

Employees who are certified in first aid and CPR may assist injured personnel until medical help arrives. Employees who **are not** certified in either First Aid or CPR **will not administer this assistance!**

## **REPORTING EMERGENCIES**

Emergency reporting procedures should be followed as outlined in the Emergency Evacuation Procedures of the Emergency Action Plan. A list of emergency contacts and phone numbers will be posted near each telephone in each Department.

## **TRAINING AND DRILLS**

All employees and managers who are in the workplace on a regular basis will be instructed in the following:

1. Emergency Action Plan
2. Emergency Evacuation Procedures
3. Facility Alarm Systems
4. Emergency Reporting Procedures
5. Types of potential Emergencies
6. Use of fire extinguishers

The instruction will be provided as follows:

1. Initially when the plan is developed
2. To all new employees
3. When procedures are updated or revised
4. Refresher instruction will be provided when needed

A drill will be held for all personnel to verify understanding of the emergency procedures, with an evaluation of performance made immediately by management and employees. When possible, a drill will include representatives of outside services such as fire, emergency medical, and police departments.

### **EMERGENCY ACTION PLAN REVIEW**

The EAP shall be reviewed on an annual basis by the plan coordinator and at least three selected employees.

## **EMERGENCY EVACUATION PROCEDURE**

### **PURPOSE**

To establish a plan of action which ensures a rapid and orderly evacuation of all personnel in the event of an emergency, such as fire, tornado or other severe weather, chemical spill or release, neighbor facility emergency, derailment or motor vehicle accident, or bomb threat. The highest priority of this procedure is the safety and health of all personal related with Bel Ga Myanmar.

Specific attention must be paid to evacuation of any handicapped from the building. This procedure is designed to enhance the effective response to an emergency.

### **EVACUATION CONDITIONS**

Conditions which threaten the safety and health of personnel and may require the evacuation of the facility can occur as the result of an emergency inside the facility or from a situation outside. These may include, but are not necessarily limited to, fire, explosion, hazardous material spill, flammable gas leak, structural collapse, bomb threat, natural disaster, power outage, and severe weather.

The level of risk present within the facility must be compared with the level of risk existing outside the facility (i.e. severe weather) when considering evacuation.

### **EVACUATION PROCEDURES**

Any individual discovering a situation which presents a real or potential threat to the safety and health of personnel within the facility shall immediately sound the alarm. If a fire exists, or the emergency requires a complete evacuation of the facilities, announce over the Paging System and notify the most senior authority individual of the event. If time permits and the Evacuation teams can safely do so, the team member will announce the situation repeatedly over the public address system.

When the announcement is heard, all personnel will immediately discontinue activities and proceed to the nearest exit. **Do not linger or attempt to collect personal items before vacating the building.** Those personnel designated to assist the handicapped will do so. Once outside of the structure, go directly to designated assembly points and report to the Evacuation teams.



## MEDICAL DUTIES

Employees who are certified in First Aid and/or CPR may assist injured personnel until medical help arrives. Employees who **are not** certified in either First Aid or CPR **will not administer this assistance!**

## CLEARING AN EVACUATION

No person shall return to an area that has been evacuated until instructed to do so by the Evacuation Team and the fire or police official at the scene.

## HOW FIRES START

Fire is a chemical reaction involving rapid oxidation or burning of a fuel. Fire requires four elements to occur. If you remove any one of these facts, the fire cannot occur or will be extinguished if it was already burning.

### Fuel



Fuel can be any combustible material -- solid, liquid, or gas. Most solids and liquids become a vapor or gas before they will burn.

### Oxygen



The air we breathe is about 21 percent oxygen. Fire only needs an atmosphere with at least 16 percent oxygen.

### Heat



Heat is the energy necessary to increase the temperature of the fuel to a point where sufficient vapors are given off for ignition to occur.

### Chemical Reaction

A chain reaction can occur when the other three elements are present in the proper conditions and proportions. Fire occurs when this rapid oxidation, or burning takes place.

Take any one of these factors away, and the fire cannot occur or will be extinguished if it was already burning.

## HOW FIRES ARE CLASSIFIED

### Class A



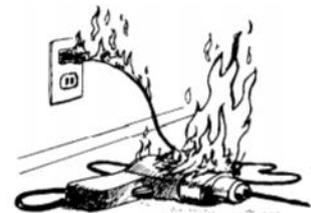
Ordinary combustibles or fibrous material, such as wood, paper, cloth, rubber, and some plastics.

### Class B



Flammable or combustible liquids.

### Class-C



Energized electrical equipment, such as appliances, switches, panel boxes and power tools.

## Class-D



Certain combustible metals, such as magnesium, titanium, potassium, and sodium. Explosive reactions can result from using common agents on Class D fires. Therefore, it is important to use the appropriate extinguishing agent for the type of metal that is burning.

### HOW TO PREVENT FIRES

#### Class-A -- Ordinary combustibles:

- Keep storage and working areas free of trash.
- Place oily rags in covered container.

#### Class-B --Flammable liquids or gases:

- Do not refuel gasoline-powered equipment in a confined space, especially in the presence of an open flame such as a furnace or water heater.
- Do not refuel gasoline-powered equipment while it's hot.
- Keep flammable liquids stored in tightly closed, self-closing, spill-proof containers. Pour from storage drums only what you'll need.
- Store flammable liquids away from spark-producing sources.
- Use flammable liquids only in well-ventilated areas.

#### Class-C --Electrical equipment:

- Look for old wiring, worn insulation and broken electrical fittings. Report any hazardous condition to your supervisor.
- Prevent motors from overheating by keeping them clean and in good working order. A spark from a rough-running motor can ignite the oil and dust in it.

- Investigate any appliance or electrical equipment that smells strange. Unusual odors can be the first sign of fire.
- Do not overload wall outlets. Two outlets should have no more than two plugs.

### WHEN NOT TO FIGHT A FIRE

#### Never fight a fire:

- If the fire is spreading beyond the spot where it started.
- If you cannot fight the fire with your back to an escape exit.
- If the fire can block your only escape.
- If you do not have adequate fire-fighting equipment.

In any of these situations, **DO NOT FIGHT THE FIRE YOURSELF. CALL FOR HELP.**

### HOW TO EXTINGUISH SMALL FIRES

**Class-A** Extinguish ordinary combustibles by cooling the material below its ignition temperature and soaking the fibers to prevent re-ignition. Use pressurized water, foam or multipurpose dry chemical extinguishers.

**Class-B** Extinguish flammable liquids, greases or gases by removing the oxygen, preventing the vapors from reaching the ignition source or inhibiting the chemical chain reaction. Foam, carbon dioxide, ordinary dry chemical, multi-purpose dry chemical and halon extinguishers may be used to fight Class B fires.

**Class-C** Extinguish energized electrical equipment by using an extinguishing agent that is not capable of conducting electrical currents. Carbon dioxide, ordinary dry chemical, multi-purpose dry chemical and halon fire extinguishers\* may be used to fight Class C fires. **DO NOT USE** water extinguishers on equipment.

**Class-D** Extinguish combustible metals such as magnesium, titanium, potassium, and sodium with dry power extinguishing agents specially designated for the material involved. In most cases, they absorb the heat from the material, cooling it below its ignition temperature.

Multi-purpose chemical extinguishers leave a residue that can harm sensitive equipment, such as computers and other electronic equipment. Carbon dioxide or halon extinguishers are preferred in these instances because they leave very little residue.

## **HOW TO IDENTIFY THE PROPER FIRE EXTINGUISHER**

All ratings are shown on the extinguisher faceplate. Some extinguishers are marked with multiple ratings such as AB, BC and ABC. These Extinguishers are capable of putting out more than one class of fire.

### **Class-A and B**

Extinguishers carry a numerical rating that indicates how large a fire an experienced person can safely put out with that extinguisher.

### **Class-C**

Extinguishers have only a letter rating to indicate that the extinguishing agent will not conduct electrical current. Class C extinguishers must also carry a Class A or B rating.

### **Class-D**

Extinguishers carry only a letter rating indicating their effectiveness on certain amounts of specific metals.

## **REMEMBER:**

- Should your path of escape be threatened.
- Should the extinguisher run out of agent
- Should the extinguisher prove to be ineffective
- Should you no longer be able to safely fight the fire

***LEAVE THE AREA IMMEDIATELY!***

## **HOW TO INSPECT YOUR FIRE EXTINGUISHERS**

- Know the locations of your fire extinguishers.
- Make sure the class of the extinguisher is safe to use on fires likely to occur in the immediate area.
- Check the seal. Has the extinguisher been tampered with or used before?
- Look at the gauge and feel the weight. Is the extinguisher full? Does it need to be recharged?
- Make sure the pin, nozzle and nameplate are intact.
- Report any missing, empty or damaged fire extinguishers.

## **HOW TO EVACUATE A BURNING BUILDING**

- The last one out of the room should not lock the door, just close it. Locking the door hinders the fire department's search and rescue efforts.
- Proceed to the exit as outlined in the Emergency Action Plan.
- Do not use elevators under any circumstances.

- Stay low and avoid smoke and toxic gases. The best air is close to the floor, so crawl if you must.
- If possible, cover your mouth and nose with a damp cloth to help you breathe

□ If you work in a building with multiple stories, a stairway will be your primary escape route.

- Once in the stairwell, proceed down to the first floor. Never go up.
- Once outside the building, report to a predetermined area so that a head count can be taken.

## **WHAT TO DO IF SOMEONE CATCHES ON FIRE**

**If you should catch on fire:**

**STOP** - where you are

**DROP** - to the floor

**ROLL** - around on the floor.

This will smother the flames, possibly saving your life. Just remember to

**STOP, DROP and ROLL.**

If a co-worker catches on fire, smother the flames by grabbing a blanket or rug and wrapping them up in it. That could save them from serious burns or even death.

## WHAT TO DO IF TRAPPED IN A BURNING BUILDING

- If you are trying to escape a fire, never open a closed door without feeling it first. Use the back of your hand to prevent burning your palm. If the door is hot, try another exit. If none exists, seal the cracks around the door and vents with anything available.
- If trapped, look for a nearby phone and call the fire department, giving them your exact location.
- If breathing is difficult, try to ventilate the room, but do not wait for an emergency to discover that windows cannot be opened.

If a Warning is issued or if threatening weather approaches:

- Move to a pre-designated shelter. See Tornado Shelter map.
- Move to an interior room or hallway get under a sturdy piece of furniture if you cannot make it to a pre-designated area.
- Stay away from windows.
- Get out of automobiles.
- Do not try to outrun a tornado in your car; instead, leave it immediately.
- If caught outside, lie flat in a nearby ditch or depression. Look out for fallen electric lines.

## Critique of Response and Follow-Up

All accidents, spills or release must be reported on the Accident response form. The Occupational Safety and Health Committee (Evacuation team) will make sure that sufficient details are collected for discussion.

Serious accidents will be discussed by a meeting with all operations management and the involved employees to determine the cause, how the accident could have been avoided, how to avoid the accident in the future, whether corrective action should be taken with any employee or manager. Specific recommendations shall be assigned to the appropriate personnel and a manager assigned to ensure follow-up.



Less serious accidents will be discussed at the next scheduled Safety meeting. And the appropriate actions taken. The actions decide on will be followed up at the next regularly scheduled meeting or a special meeting if deemed appropriate.

The policy is provided to employees will be in a form that can be easily understood.

Approved By  
Mr. Ben Cliteur  
Managing Director  
Bel Ga Myanmar Limited

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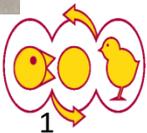
**Bel Ga Myanmar Ltd.**

Plot No. 312, 313 & 314, Myaung Dakar Industrial Zone, Hmawbi Township, Yangon, Myanmar

**ANNEX 11:**  
**Personal Protective Equipment**

# Safe handling of chemicals

Annex.11\_Personal Protective Equipment in working area



# Safe Working Area





**ANNEX 12:**  
**Environment, Health and Safety Policy**

## Bel Ga Myanmar Limited Environment, Health & safety Policy

This is the Environment, Health and Safety Policy Statement of Bel Ga Myanmar Limited in accordance with Environmental Conservation Law of Myanmar, 2012 (Pyidaungsu Hluttaw Law No 9/2012).

The objectives of this Policy are given hereunder:

- Commitment to employee safety and environmental health is grounded of our Credo which states our obligation to ensure working conditions are **“clean, orderly and safe”**
- Must maintain in good order the property we are privileged to use, protecting the environment and natural resources.
- Employee safety and environmental health are core Company values, integral to our purpose to profoundly change the trajectory of health for humanity.
- A clean environment, with healthy and functioning ecosystems, that ensures inclusive development and wellbeing for all employee.
- The complete value of environment is recognized and considered – both tangible and intangible values, including its significant spiritual values, ecological assets and cultural heritage, in addition to its direct benefits for humanity.

## **Awareness of Environment – Health – Society**

- 1) Bel Ga Myanmar Limited is accepted for determining and complying with all EH&S regulatory requirements applicable to all our business operations.
- 2) Our Goal is EH&S Standards to be ensure that globally, achieve and maintain a consistent, high level of EH&S performance.
- 3) Pollution and waste is to be avoided and minimized and enterprises will be adopted clean production principles and best practices.
- 4) All decisions on policies, plans, projects, and activities that could have environmental impacts will be subject to prior comprehensive assessment of the potential impacts, applying the precautionary principle, systematic risk assessment and the mitigation hierarchy.
- 5) Our EH&S Standards reflect industry best practices and address compliance where there may be gaps in legal or regulatory requirements and regularly updated.
- 6) We will actively promote an EH&S culture of caring, accountability, proactivity, learning, transparency, and inclusion in Myanmar.
- 7) While procedures, systems, and engineering controls play an important role in creating a safe and environmentally sustainable work environment, our daily behaviors define their effectiveness.
- 8) We foster an EH&S culture where every employee is responsible for their safety, and the safety of others. The EH&S culture at Bel Ga Myanmar Limited inspires every employee to make safety and environmental responsibility not only a way of working, but also a way of living, all day, every day.
- 9) We deploy risk-based assessments and prioritize prevention of severe injuries and incidents. While we continue to monitor and work to reduce high-frequency/low-severity incidents, we prioritize our resources and risk mitigation efforts to prevent those incidents that could result in life-threatening or life altering outcomes.
- 10) For workplace risks that could lead to severe injuries or fatalities, we follow the hierarchy of controls, favoring elimination of the risk, substitution, or engineering controls over administrative controls when feasible.
- 11) We focus on leading indicators to anticipate and prevent workplace injuries and environmental incidents.
- 12) training effectiveness and near misses, unsafe conditions and behaviors generated by our employee engagements efforts. We deploy a global data management system, digital tools, predictive analytics, and visualization tools to gain insights that help us anticipate and proactively mitigate risks that could lead to injuries or non-compliance.

- 13) We continually engage with our employees, customers, suppliers, and key external stakeholders. We believe engagement and transparency help us to learn and creates positive impact across and beyond our value chains.
- 14) We integrate EH&S into our business practices and strategies.
- 15) For EH&S to be sustainable, it must be integrated into day-to-day decision-making and business practices. EH&S is a design criterion for new equipment and new construction, and EH&S assessments are part of our new supplier, property, and business acquisition due diligence processes. Management of change processes include an assessment of the EH&S implications of the change and measures that should be taken to ensure ongoing legal compliance and conformance to our EH&S Standards.
- 16) We strive to continually improve our EH&S performance.
- 17) We set both short- and long-term EH&S goals and targets. We review our progress against these objectives on a regular basis at multiple levels of the organization, including site, segment, and Enterprise.

This EH&S Policy applies to all operations which were under by Bel Ga Myanmar Limited. All employees, on-site contractors and visitors must comply with this policy. We govern EH&S compliance and performance across multiple levels throughout the Enterprise, from the site level to Our Board of Directors.

We encourage employees to report to management any behavior inconsistent with this policy and to express ideas on how our EH&S performance might be improved. We ensure compliance with this policy and our Standards through an EH&S Management System.

Approved By

Mr. Ben Cliteur

Managing Director

Bel Ga Myanmar Limited

**ANNEX 13:**  
**Occupational Health and Safety Policy**

## **Bel Ga Myanmar Limited**

### **Occupational Health & Safety Policy**

This is the Occupational Health and Safety Policy Statement of Bel Ga Myanmar Limited in accordance with Occupational Safety and Health Law of Myanmar, 2019 (Pyidaungsu Hluttaw Law No 8 of 2019).

The objectives of this Policy are given hereunder:

- to implement Occupational Safety and Health matters effectively in the respective workplace.
- to provide adequate control of the health and safety risks arising from our work activities.
- to determine the duties of relevant persons applicable under this policy including Employers and Workers to lessen and mitigate occurrence of Occupational Diseases and Occupational Accidents.
- to consult with our employees on matters affecting their health and safety.
- to provide and maintain safe plant and equipment.
- to ensure safe handling and use of substances.
- to provide information, instruction, and supervision for employees.
- to ensure all employees are competent to do their tasks, and to give them adequate training.
- to prevent accidents and cases of work-related ill health.
- to maintain safe and healthy working conditions and
- to review and revise this policy as necessary at regular intervals.

#### **Responsibilities**

Overall and final responsibility for health and safety is that of the respective Manager of Bel Ga Myanmar Limited.

Day-to-day responsibility for ensuring this policy is put into practice is delegated to respective Manager.

To ensure health and safety standards are maintained and improved, the following positions have responsibility in the following areas as an Occupational Safety and Health Committee.

## Occupational Safety and Health Committee

### For Hatchery

Hatchery Manager – At the whole hatchery workplace	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Assist Manager	- Member (1 Person)
Technician	- Member (1 Person)
HR officer	- <u>Member (1 Person)</u>
TOTAL	6 Member

### For Farm

Farm Manager – At the whole Farm workplace	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Rearing Supervisors	- Members (2 Person)
Technician	- Member (1 Person)
HR officer	- <u>Member (1 Person)</u>
TOTAL	6 Member

## Health and safety risks arising from our work activities

- 1) Risk assessments will be undertaken by Occupational Safety and Health Committee\_of Bel Ga Myanmar.
- 2) The findings of the risk assessments will be reported to respective Manager.
- 3) Action required to remove/control risks will be approved by Managing Director.
- 4) The committee will be responsible for ensuring the action required is implemented.
- 5) Respective Manager will check that the implemented actions have removed/reduced the risks.
- 6) Assessments will be reviewed every two months or when the work activity changes, whichever is soonest.

## **Responsibilities of Occupational Safety and Health Committee**

The Management shall be responsible to: -

- 1) arrange as required to assess the risks of workplace, process, and machines and materials used thereat.
- 2) arrange as required to assess the likelihood of occurrence of hazards at the workplace and to the environment.
- 3) arrange to have Workers medical checked-up by the Recognized Doctor in accordance with stipulations whether they suffer from any Occupational Disease.
- 4) arrange to improve the Workplace until it is safe and good for health based on the findings as per sub-sections (1), (2) and (3).
- 5) provide enough personal protective clothing, materials and facilities prescribed as per nature of workplace to all workers to wear them while working.
- 6) prescribe precautionary plans and plans for emergency.
- 7) make necessary arrangements for managers, Workers and members of the Occupational Safety and Health Committee including (Employer) himself/herself to attend Occupational Safety and Health training courses stipulated by the company in accordance with all types of work.
- 8) make necessary arrangements to enable immediate reporting to the Person In-charge in case where a Worker suffers an Occupational Accident or his/her life, or health is likely to be in danger.
- 9) arrange to prevent any persons in the Workplace from Occupational Safety and Health risks occurred due to materials, machines or wastes used in the Workplace or Process.
- 10) Immediately stop the Process, evacuate Workers, and conduct necessary rescue plans if any Occupational Accident is about to occur. If possible, Workers will be relocated to another appropriate safe Workplaces.
- 11) display Occupational Safety and Health instructions, danger signs, notices, posters, and signage for directions in accordance with stipulations.
- 12) arrange to be complied with precautions when entering restricted hazardous Workplaces.
- 13) arrange to disseminate Occupational Safety and Health manuals and guidelines issued by the relevant Ministries of Myanmar Government for knowledge, technology, information, and skills.
- 14) lay down the fire safety plan, perform fire drilling and train Workers to use fire extinguishers systematically.
- 15) allow the Chief Inspection Officer and Inspection Officers from Myanmar Government to enter Workplaces, inquire, request documents and information or seize exhibits.

- 16) The Committee is responsible for ensuring that our employees working at locations under the control of other employers are given relevant health and safety information.
- 17) The Committee will consult directly with employees through team meetings and face-to-face discussions.

### **Responsibilities of All Employee**

- 1) must systematically use personal protective clothing and materials provided by the employer in accordance with the stipulations of the company for Occupational Safety and Health and systematically and correctly use machine and equipment.
- 2) must comply with instructions and advice made by the Occupational Safety and Health Committee.
- 3) must comply with Occupational Safety and Health instructions, conditions, signs, posters, notices, warnings, and prohibitions.
- 4) must systematically use and handle equipment, machines, parts of machines, vehicles, electricity, and other materials used in the Workplace.
- 5) must pay special attention in order not to damage safety and health of himself/herself as well as other Workers due to his/her acts or omissions in the Workplace.
- 6) must cooperate with the Occupational Safety and Health committee when they conduct their duties under this policy.
- 7) must immediately report to the committee member by the Worker himself/herself or via immediate supervisor if he/she finds out any condition or event that will have negative impacts on Occupational Safety and Health
- 8) can refuse to continue working in any condition where hazards are likely to occur but must not refuse to work if the committee arranges and relocates him/her to work in the safe Workplace.

### **Safe equipment**

The Committee will be responsible for identifying all equipment needing maintenance for ensuring effective maintenance procedures are drawn up and all identified maintenance is implemented.

The Committee will take employees' views into account before a final decision is made, respond to any concerns and questions raised and explain the final decision and why it has been taken.

Any problems found with equipment should be reported to the Managing Director immediately.

Managing Director will check that new equipment meets health and safety standards before it is purchased.

### **Competency for tasks and training**

Induction training and Job specific training will be arranged to provide for all employees by the HR department.

Training will be identified, arranged, and monitored by HR Department and need to take approval from Managing Director.

Training records will keep by HR department.

### **Accidents, first aid and work-related ill health**

Health surveillance is not required in relation to any jobs at Bel Ga Myanmar limited.

The first aid boxes are kept inside cabinet of respective workplace and check by respective supervisor for effective medical materials.

All accidents and cases of work-related ill health are to be recorded in the accident book. The book is kept by respective supervisor inside the cabinet of respective workplace.

The committee members are responsible for reporting accidents, diseases, and dangerous occurrences to the enforcing authority.

### **Emergency procedures – fire and evacuation**

- 1) Management is responsible for ensuring the fire risk assessment is undertaken and implemented. Escape routes are needed to check every day.
- 2) Fire extinguishers, alarms and emergency evacuation drills are maintained and checked every month.
- 3) A Fire Drill Procedure is carried out periodically and the procedure is on display situated by the Fire Extinguishers on each workplace.
- 4) HR Department will be arranged for Fire Fighting training monthly to all employee.
- 5) Managing Director will be made available to support the committee with all tasks due to the legal obligation of Bel Ga Myanmar and supporting the committee in post with day to day running.

### **Monitoring**

To check our working conditions, and ensure our safe working practices are being followed, we will:

- Carry out inspections and spot checks
- Investigate any accidents or sickness absences that occur.
- Investigating accidents and investigating work-related causes of sickness absences.
- Monitoring for acting on investigation findings to prevent a recurrence.

The policy is provided to employees will be in a form that can be easily understood.

Approved By  
Mr. Ben Cliteur  
Managing Director  
Bel Ga Myanmar Limited

**ANNEX 14:**  
**Environmental and Social Management Plan of Bel Ga  
Myanmar Ltd.**

## Bel Ga Myanmar Limited Environment and Social Management Plan

This is the Environment and Social Management Plan of Bel Ga Myanmar Limited in accordance with Environmental Conservation Law of Myanmar, 2012 (Pyidaungsu Hluttaw Law No 9/2012).

### Purpose Of ESMP

The purpose of this environmental management plan is to describe, and outline of Bel Ga Myanmar limited will ideally avoid but at least mitigate its effects on the surrounding areas and overall environment.

The objectives of this Plan are given hereunder:

- Commitment to environmental and Social health is grounded of our Credo which states our obligation to ensure working conditions are **“clean, orderly and safe”**
- Must maintain in good order the property we are privileged to use, protecting the environment and natural resources.
- A clean environment, with healthy and functioning ecosystems, that ensures inclusive development and wellbeing for all employee.
- The complete value of environment is recognized and considered – both tangible and intangible values, including its significant spiritual values, ecological assets, and cultural heritage, in addition to its direct benefits for humanity.

### Responsibilities

- Overall and final responsibility for Environment and Social Management Plan is that of the respective Manager of Bel Ga Myanmar Limited.
- Day-to-day responsibility for ensuring this plan is put into practice is delegated to respective Manager.
- To ensure Awareness of Environment – Health – Society points are maintained and improved, the following positions have responsibility in the following areas as an Environment and Social Management Committee.

## Environment and Social Management Committee

### For Hatchery

Hatchery Manager – At the whole environment hatchery	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Assist Manager	- Member (1 Person)
Technician	- Member (1 Person)
HR officer	<u>- Member (1 Person)</u>
TOTAL	6 Member

### For Farm

Farm Manager – At the whole environment of Farm	- In charge (1 Person)
Production Supervisors	- Member (2 Person)
Rearing Supervisors	-Members(2Person)
Technician	- Member (1 Person)
HR officer	<u>- Member (1 Person)</u>
TOTAL	6 Member

## **Awareness of Environment – Health – Society**

- 1) Bel Ga Myanmar Limited is accepted for determining and complying with all EH&S regulatory requirements applicable to all our business operations.
- 2) Our Goal is EH&S Standards to be ensure that globally, achieve and maintain a consistent, high level of EH&S performance.
- 3) Pollution and waste is to be avoided and minimized and enterprises will be adopted clean production principles and best practices.
- 4) All decisions on policies, plans, projects, and activities that could have environmental impacts will be subject to prior comprehensive assessment of the potential impacts, applying the precautionary principle, systematic risk assessment and the mitigation hierarchy.
- 5) Our EH&S Standards reflect industry best practices and address compliance where there may be gaps in legal or regulatory requirements and regularly updated.
- 6) We will actively promote an EH&S culture of caring, accountability, proactivity, learning, transparency, and inclusion in Myanmar.

- 7) While procedures, systems, and engineering controls play an important role in creating a safe and environmentally sustainable work environment, our daily behaviors define their effectiveness.
- 8) We foster an EH&S culture where every employee is responsible for their safety, and the safety of others. The EH&S culture at Bel Ga Myanmar Limited inspires every employee to make safety and environmental responsibility not only a way of working, but also a way of living, all day, every day.
- 9) We deploy risk-based assessments and prioritize prevention of severe injuries and incidents. While we continue to monitor and work to reduce high-frequency/low-severity incidents, we prioritize our resources and risk mitigation efforts to prevent those incidents that could result in life-threatening or life altering outcomes.
- 10) For workplace risks that could lead to severe injuries or fatalities, we follow the hierarchy of controls, favoring elimination of the risk, substitution, or engineering controls over administrative controls when feasible.
- 11) We focus on leading indicators to anticipate and prevent workplace injuries and environmental incidents.
- 12) training effectiveness and near misses, unsafe conditions and behaviors generated by our employee engagements efforts. We deploy a global data management system, digital tools, predictive analytics, and visualization tools to gain insights that help us anticipate and proactively mitigate risks that could lead to injuries or non-compliance.
- 13) We continually engage with our employees, customers, suppliers, and key external stakeholders. We believe engagement and transparency help us to learn and creates positive impact across and beyond our value chains.
- 14) We integrate EH&S into our business practices and strategies.
- 15) For EH&S to be sustainable, it must be integrated into day-to-day decision-making and business practices. EH&S is a design criterion for new equipment and new construction, and EH&S assessments are part of our new supplier, property, and business acquisition due diligence processes. Management of change processes include an assessment of the EH&S implications of the change and measures that should be taken to ensure ongoing legal compliance and conformance to our EH&S Standards.
- 16) We strive to continually improve our EH&S performance.
- 17) We set both short- and long-term EH&S goals and targets. We review our progress against these objectives on a regular basis at multiple levels of the organization, including site, segment, and Enterprise.

This EH&S Policy applies to all operations which were under by Bel Ga Myanmar Limited.

All employees, on-site contractors and visitors must comply with this policy. We govern EH&S compliance and performance across multiple levels throughout the Enterprise, from the site level to Our Board of Directors.

We encourage employees to report to management any behavior inconsistent with this policy and to express ideas on how our EH&S performance might be improved. We ensure compliance with this policy and our Standards through an EH&S Management System.

Approved By

Mr. Ben Cliteur

Managing Director

Bel Ga Myanmar Limited

ရန်ကုန်တိုင်းဒေသကြီး၊ မော်ဘီမြို့နယ်၊ မြောင်းတကာစက်မှုဇုန်၊ အကွက်မှတ် (၃၁၂၊ ၃၁၃၊ ၃၁၄)ရှိ Bel Ga Myanmar Co., Ltd. မှ ဒုတိယအကြိမ် ပြန်လည်တင်ပြ လာသော ကြက်သားပေါက်ထုတ်လုပ်ရောင်းချခြင်းလုပ်ငန်းနှင့် ပတ်သက်၍ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်း (Initial Environmental Examination - IEE) အစီရင်ခံစာပေါ် စိစစ်တွေ့ရှိချက်နှင့် သုံးသပ်အကြံပြုချက်များ (2<sup>nd</sup> Revised)

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
၁။	အကျဉ်းချုပ်အစီရင်ခံစာ			
	<p>အစီရင်ခံစာတွင် အပိုင်း (Chapter) အလိုက် အဓိကအချက်များ ပါဝင် သော အောက်ဖော်ပြပါအချက်အလက်များအား ထည့်သွင်းဖော်ပြရန်-</p> <ul style="list-style-type: none"> <li>- ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်၊</li> <li>- ကတိကဝတ်၊ မူဝါဒ၊ ဥပဒေနှင့်အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ၊</li> <li>- ဆိုးကျိုးသက်ရောက်မှုများအားဆန်းစစ်ခြင်းနှင့် လျော့နည်းစေရေး ဆောင်ရွက်မည့် နည်းလမ်းများ၊</li> <li>- စီမံကိန်းကြောင့် ထိခိုက်ခံစားရသည့်ဒေသခံပြည်သူများအတွက် ဆောင်ရွက်ပေးမည့် ဖွံ့ဖြိုးရေးအစီအစဉ်၊</li> <li>- နိဂုံးနှင့် အကြံပြုချက်၊</li> </ul>	<p>စာမျက်နှာ (၇) နှင့် (၂၉) အထိ အကျဉ်းချုပ် အစီရင်ခံစာအား အင်္ဂလိပ်/ မြန်မာနှစ်ဘာသာဖြင့် ဖြည့်စွက် ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရ ပါသည်။</p>	<p>သဘောထားမှတ်ချက်ပေးရန်မရှိပါ။</p>	
၂။	ကတိကဝတ်			

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<p>အစီရင်ခံစာတွင် စီမံကိန်းအဆိုပြုသူမှ အောက်ဖော်ပြပါ ကတိကဝတ်များကို လိုက်နာဆောင်ရွက်မည်ဖြစ်ကြောင်း သီးခြားဝန်ခံကတိပြုလွှာအား လက်မှတ်ရေးထိုး၍ ထည့်သွင်းဖော်ပြရန်-</p> <ul style="list-style-type: none"> <li>- ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှုသည် တိကျခိုင်မာကြောင်းနှင့် ပြည့်စုံကြောင်း၊</li> <li>- ဤလုပ်ထုံးလုပ်နည်းအပါအဝင် သက်ဆိုင်ရာဥပဒေများကို တိကျစွာလိုက်နာ၍ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းကို ဆောင်ရွက်ထားကြောင်း၊</li> <li>- စီမံကိန်းသည် ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းအစီရင်ခံစာပါ ကတိကဝတ်၊ ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ချရေးလုပ်ငန်းများနှင့် အစီအစဉ်များကို အပြည့်အဝ အစဉ်အမြဲလိုက်နာ ဆောင်ရွက်မည်ဖြစ်ကြောင်း၊</li> </ul>	<p>စာမျက်နှာ (၆၂ မှ ၆၃) တို့တွင် ကတိကဝတ်နှင့် ပတ်သက်၍ ဖြည့်စွက်ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</p>	<p>သဘောထားမှတ်ချက်ပေးရန်မရှိပါ။</p>	
၃။	<p>မူဝါဒ၊ ဥပဒေနှင့်အဖွဲ့အစည်းဆိုင်ရာမူဘောင်</p>			
	<p>အစီရင်ခံစာတွင် ရုပ်သိမ်းပြီး ဥပဒေများပါဝင်ပါက ထည့်သွင်းဖော်ပြခြင်းမပြုရန်နှင့် လိုအပ်ပါက စီမံကိန်းနှင့်သက်ဆိုင်သည့် အောက်ဖော်ပြပါ တည်ဆဲ ဥပဒေများအားလိုက်နာရမည့် ပုဒ်မများကိုညွှန်းဆို၍ legal commitment များဖြင့် ထပ်မံဖြည့်စွက်ဖော်ပြရန်-</p>	<ul style="list-style-type: none"> <li>- စာမျက်နှာ (၃၅ မှ ၅၅) အထိ ပြန်လည်ပြင်ဆင်ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- အစီရင်ခံစာတွင် မူဝါဒ၊ ဥပဒေနှင့်အဖွဲ့အစည်းဆိုင်ရာမူဘောင်နှင့်ပတ်သက်၍ အောက်ပါအချက်များကို ထည့်သွင်းဖော်ပြရန်-</li> </ul>	

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<ol style="list-style-type: none"> <li>1. The prevention and control of communicable disease law (1995)</li> <li>2. The workmen compensation act (1951)</li> <li>3. Payment of wages law (2016)</li> <li>4. Social security law (2012)</li> <li>5. Environmental Impact Assessment Procedure (2015)</li> <li>6. National Environmental Quality (Emission) Guidelines (2015)</li> </ol>	<p>- ပြန်လည်ပြင်ဆင်ဖော်ပြထားရာတွင် Payment of wages law (2016)နှင့် Social security law (2012)တို့အား ထည့်သွင်းထားခြင်း မရှိသည်ကို တွေ့ရှိရပါသည်။</p>	<ul style="list-style-type: none"> <li>- မြန်မာနိုင်ငံရင်းနှီးမြုပ်နှံမှုဥပဒေ (၂၀၁၆)</li> <li>- မြန်မာနိုင်ငံရင်းနှီးမြုပ်နှံမှုနည်းဥပဒေများ (၂၀၁၇)</li> <li>- Payment of wages law (2016)</li> <li>- Social security law 2012</li> <li>- မော်တော်ယာဉ်ဥပဒေ (၂၀၁၅)</li> <li>- စံချိန်စံညွှန်းသတ်မှတ်ခြင်းဆိုင်ရာဥပဒေ (၂၀၁၄)</li> <li>- မြန်မာနိုင်ငံအင်ဂျင်နီယာကောင်စီ ဥပဒေ (၂၀၁၃)</li> <li>- ရန်ကုန်တိုင်းဒေသကြီး စည်ပင်သာယာရေးအဖွဲ့ များဥပဒေ (၂၀၁၈)</li> </ul>	<p>Pg -54</p> <p>Pg-54</p> <p>Pg-59-60</p> <p>Pg-57</p> <p>Pg-60</p> <p>Pg-55</p> <p>Pg-61</p> <p>Pg-61</p>
၄။	စီမံကိန်းအကြောင်းအရာဖော်ပြချက်နှင့်အခြားနည်းဆောင်ရွက်နိုင်သောနည်းလမ်းများ			
	<p>- စီမံကိန်းတည်နေရာ၊ ဆက်စပ်နေရာများ၊ အနီးစပ်ဆုံးမြစ်ချောင်းများ အပါအဝင် ဆက်စပ်နေရာအားလုံးကို ဖော်ပြထားသော layout Map ဖြင့် ရှင်းလင်းစွာဖော်ပြပါရန်၊</p>	<p>- စီမံကိန်းတည်နေရာ၊ ဆက်စပ်နေ ရာများ၊ မြစ်ချောင်းများ စသည်တို့ ပါဝင်သော Google Earth၊ စက်ရုံ၏ layout Mapနှင့်</p>	<p>အစီရင်ခံစာတွင် စီမံကိန်းအကြောင်းအရာနှင့် ပတ်သက်၍</p>	

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<ul style="list-style-type: none"> <li>- အစီရင်ခံစာတွင် အဆိုပြုလုပ်ငန်းအတွက် လိုအပ်သော ကုန်ကြမ်းပစ္စည်းများရယူသည့်နေရာ၊ အသုံးပြုသည့်ပမာဏ၊ သယ်ယူမည့်အစီအစဉ်နှင့်သိုလှောင်ထားရှိမည့် နည်းလမ်းတို့အား ဖော်ပြရန်၊</li> <li>- အသုံးပြုသည့် Chemical ရယူသည့်နေရာ၊ အသုံးပြုသည့်ပမာဏ၊ သယ်ယူမည့်အစီအစဉ်နှင့် သိုလှောင်ထားရှိမည့် နည်းလမ်း ဖော်ပြ ပေးရန်၊</li> <li>- စက်ရုံမှစွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ)များနှင့်ပတ်သက်၍ ထွက်ရှိမှု ပမာဏနှင့် စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုစနစ် (Collection Transportation Treatment Disposal)ကို ဖော်ပြပေးရန် (Layout Map များဖြင့်လည်း ဖော်ပြပေးရန်)၊</li> <li>- တစ်နှစ်အတွက် လောင်စာဆီလိုအပ်ချက်တို့ကို ထည့်သွင်းဖော်ပြရန်၊</li> <li>- စီမံကိန်း၏တည်နေရာမြေပုံ၊ Plant Layout Plan များကို ရှင်း လင်းစွာဖော်ပြရန်၊</li> <li>- အစီရင်ခံစာတွင် အဆောက်အဦများ၏ Layout Plan ကို ဖြည့်စွက် ဖော်ပြပေးရန်၊</li> </ul>	<ul style="list-style-type: none"> <li>စက်ရုံ၏ Internal Layout Mapများ ထည့်သွင်းဖော်ပြထားကြောင်း တွေ့ရှိ ရပါသည်။</li> <li>- နယ်သာလန်နိုင်ငံ၏ National Veterinary Department မှ အသိအမှတ်ပြုသည့် ကုန်ကြမ်း (Hatching Eggs) များအားကွန်တိန်နာများဖြင့် ရေကြောင်းလမ်းမှ တင်သွင်းပြီး စက်ရုံဝင်းရှိ အပူထိန်း ညှိထားသည့် လုံခြုံသော သီးသန့် အဆောက်အအုံတစ်ခုထဲတွင် သိုလှောင်ထားကြောင်း စိစစ်တွေ့ရှိရ ပါသည်။</li> <li>- နယ်သာလန်နိုင်ငံ၏ National Veterinary Department မှ အသိ အမှတ်ပြုသည့် အသုံးပြုမည့် Chemical များအားကွန်တိန်နာများဖြင့် ရေကြောင်းလမ်းမှ တင်သွင်းပြီး စက်ရုံဝင်းရှိ Chemical သိုလှောင်ခန်းတွင်ထားရှိပြီး သိုလှောင်ခန်းများကို စောင့်ကြပ်ကြီးကြပ် သူများခန့်ထားကြောင်း၊ တစ်ပတ်လျှင် အသုံးပြု</li> </ul>	<ul style="list-style-type: none"> <li>အောက်ပါအချက်များကို ထည့်သွင်းဖော်ပြရန်- <ul style="list-style-type: none"> <li>- စီမံကိန်းတည်နေရာအား ညွှန်ပြသည့် ကိုဩဒိနိတ်အမှတ်များ လွှဲမှားနေသည်ကို ပြန်လည်ဆန်းစစ်ဖော်ပြရန်၊</li> <li>- အစီရင်ခံစာတွင် လုပ်ငန်းဆောင်ရွက်ရန်အတွက် ရယူထားသည့် ခွင့်ပြုချက်များ၊ လုပ်ငန်းလိုင်စင်များ စသည်တို့အားဖော်ပြရန်၊</li> <li>- တစ်နေ့ကြက်သားပေါက်အကောင်ရေဖောက်မည့် Hatching Eggs ပမာဏအားထည့်သွင်းဖော် ပြရန်၊</li> <li>- ထုတ်လုပ်ရောင်းချမည့်ကြက်သားပေါက်များအား Customers သို့ ပို့ဆောင်မည့်အစီအစဉ်အား ဖော်ပြရန်၊</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Pg-33, 1<sup>st</sup> Paragraph</li> <li>Pg-33 (Annex.6)</li> <li>Pg-37 Sector 2.2, Para-2</li> <li>Pg-38 Last two sentences.</li> </ul>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<ul style="list-style-type: none"> <li>- Generator (၂)လုံးအတွက် အသုံးပြုသွားမည့်ခန့်မှန်း လောင်စာဆီပမာဏ၊ သိုလှောင်ထားရှိမည့် အခြေအနေများကို ဖြည့်စွက်ဖော်ပြ ပေးရန်၊</li> <li>- စီမံကိန်းတည်ဆောက်ခြင်း၊ လုပ်ငန်းလည်ပတ်ခြင်းနှင့် ပိတ်သိမ်းခြင်းကာလအတွက် စတင်/ပြီးစီးသည့်ရက်များ၊ ကြာမြင့်မည့်ကာလများကို ခန့်မှန်းဖော်ပြထားသော စီမံကိန်းအကောင်အထည်ဖော်မည့် အချိန်ဇယားအား ထည့်သွင်းဖော်ပြရန်၊</li> <li>- စီမံကိန်း၏ လက်ရှိအခြေအနေနှင့် အကောင်အထည်ဖော်ဆောင်ရွက်နေသည့်အချိန်ဇယားအား ထည့်သွင်းဖော်ပြရန်၊</li> </ul>	<p>သည့် Chemical ပမာဏ မှာ ၅kg သုံးစွဲကြောင်းဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</p> <p>- Domestic Waste and General Waste တို့မှ နေ့စဉ် ၅ ကီလိုဂရမ် ထွက်ရှိကြောင်း၊ စွန့်ပစ်ပစ္စည်းအမျိုးအစားလိုက် စွန့်ပစ်ရန် အမှိုက်ပုံးကြီးများထားရှိ/စုဆောင်းပြီး စက်မှုဇုန်တွင်းရှိ အများစွန့်ပစ်နေရာတွင် တစ်ပတ်နှစ်ကြိမ် YCDCနှင့် ချိတ်ဆက်စွန့်ပစ်ကြောင်း၊ Hazardous Wastes နေ့စဉ်ထွက်ရှိသော ပမာဏမှာ ၀.၇ ကီလိုဂရမ်ရှိကြောင်း၊ မစွန့်ပစ်မီ ကွန်တိန်နာများဖြင့် စုဆောင်းပြီး လစဉ် Golden DOWA's နှင့်ချိတ်ဆက်စွန့်ပစ်ကြောင်း၊ လုပ်ငန်းစဉ်မှထွက်ရှိသော ကြက်ဥအခွံများမှာ တစ်နေ့စဉ် ၅ ကီလိုဂရမ်ဖြစ်ပြီး နေ့စဉ်ငါးမွေးမြူ ရေးလုပ်ငန်းများသို့ ကွန်တိန်နာဖြင့် ပြန်လည်ရောင်းချကြောင်း ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။</p>	<ul style="list-style-type: none"> <li>- အစီရင်ခံစာ ရေးသားပြုစုသည့် တတိယအဖွဲ့အစည်း၏ အကြောင်းအရာ အချက်အလက်များအား ဖော်ပြထားသော်လည်း ဆက်သွယ်ရန်လိပ်စာ၊ဖုန်းနံပါတ်၊ဖက်စ်၊ အီးမေးလ်၊ Website စသည်တို့အား ထည့်သွင်းဖော်ပြရန်၊</li> <li>- စီမံကိန်းတွင် အသုံးပြုမည့်စက်ပစ္စည်းနှင့် ယန္တရားအင်အားစာရင်းအား ထည့်သွင်းဖော်ပြရန်၊</li> <li>- စက်ရုံ၏ စီးဆင်းရေ (storm water) နှင့် ရေမြောင်းစနစ် (Drainage System) အခြေအနေတို့အား ထည့်သွင်းဖော်ပြရန်၊</li> <li>- စီမံကိန်းတွင် အသုံးပြုမည့်နည်းပညာ၊ ဒီဇိုင်း၊ တည်နေရာတို့နှင့်</li> </ul>	<p>Pg-51</p> <p>Pg-40 Chapter.2.3</p> <p>Pg-42 Chapter-2.5 (Annex.7)</p> <p>Pg-47 Chapter-2.9</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
		<ul style="list-style-type: none"> <li>- စီမံကိန်းအတွက်လိုအပ်သော လောင်စာဆီလိုအပ်ချက် တစ်နှစ်လျှင် ၁၈၀၀၀ လီတာခန့်မှန်းသုံးစွဲကြောင်းနှင့် Generator ၂ လုံးအတွက် အသုံးပြုသွားမည့် ခန့်မှန်းလောင်စာဆီပမာဏ ၅၀၀ လီတာ သုံးစွဲကြောင်း စာမျက်နှာ ၃၇ တွင် ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။</li> <li>- စာမျက်နှာ ၃၀ တွင် စီမံကိန်းတည်ဆောက်ခြင်းနှင့် လုပ်ငန်းလည်ပတ်ခြင်းများ စတင်/ပြီးစီးသည့်ကာလတို့နှင့် ပိတ်သိမ်းသည့်ကာလအား စဉ်းစားထားခြင်း မရှိသေးကြောင်း (လည်ပတ်ကာလနှစ်ပေါင်း ၅၀ ဆောင်ရွက်မည်ဖြစ်သောကြောင့်) ဇယားဖြင့် ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။</li> </ul>	ပတ်သက်၍ အခြားဆောင်ရွက်နိုင်သော နည်းလမ်းရှိ/မရှိ ဖော်ပြရန်၊	2 <sup>nd</sup> and 3 <sup>rd</sup> Para:
၅။	လက်ရှိပတ်ဝန်းကျင်အခြေအနေ			
	- စက်ရုံ၏အနီးဝန်းကျင်ရှိ လူမှုရေးပတ်ဝန်းကျင်အခြေအနေများ ဖြစ်သော လူမှုရေးဆိုင်ရာ အချက်အလက်များ၊ စီးပွားရေးဆိုင်ရာ အချက်အလက်များ ကို ဖော်ပြပေးရန်၊	- အစီရင်ခံစာတွင် စီမံကိန်းတည်ရှိ သည့် မှော်ဘီမြို့၏ လူမှုစီးပွားဆိုင်ရာ အချက်အလက်များ၊ အဆိုပြုလုပ်ငန်းမှ (၁) ကီလို	- အစီရင်ခံစာတွင် စီမံကိန်းတည်ရှိသည့် မှော်ဘီမြို့၏ ရာသီဥတု / မိုးလေဝသ/မြေမျက်နှာသွင်ပြင်	Pg-75-76

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	-စက်ရုံစီမံကိန်း၏ အနီးဝန်းကျင်ရှိ ယဉ်ကျေးမှုဆိုင်ရာ အစိတ်အပိုင်းဖြစ်သော ဘာသာရေးဆိုင်ရာအချက်အလက်များ၊ ရိုးရာဓလေ့များကို ဖြည့်စွက် ဖော်ပြပေးရန်၊	မိတာ အကွာအဝေးရှိ ကျေးရွာများ (ကုန်းကလေး၊ ကန်ကလေး၊ အစုလေး) ၏ လူမှုစီးပွားရေးဆိုင်ရာအချက်အလက်များ၊ စီမံကိန်းအနီးတွင် ထင်ရှားသည့်ယဉ်ကျေးမှုအမွေအနှစ်များမရှိကြောင်းနှင့် ဘာသာရေးဆိုင်ရာအချက်အလက်များနှင့် ပတ်သက်၍ စီမံကိန်း တည်ရှိသည့် မှော်ဘီမြို့၏ ဂျပန်ဘုရားအကြောင်းသာ ထည့်သွင်းဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။	နှင့် ပထဝီဆိုင်ရာအချက်အလက်များကို ဖော်ပြရန်နှင့် သက်ဆိုင်သောအချက်အလက်များကို ထည့်သွင်းဖော်ပြရန်၊	
၆။	ဆိုးကျိုးသက်ရောက်မှုများအားဆန်းစစ်ခြင်းနှင့် လျော့နည်းစေရေးဆောင်ရွက်မည့်နည်းလမ်းများ			
	- စက်ရုံလည်ပတ်မှုလုပ်ငန်းစဉ်များမှ အဓိကထွက်ရှိသော ညစ်ညမ်းမှုများနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုများကို သတ်မှတ်ဖော်ပြပေးရန်နှင့် လျော့နည်းစေရေး ဆောင်ရွက်မည့် နည်းစနစ်များအား ဖော်ပြရန်၊ -စီမံကိန်းလုပ်ငန်းဆောင်ရွက်ခြင်းမှ ထွက်ရှိလာမည့် စွန့်ထုတ်အရည်အသွေး တိုင်းတာမှုရလဒ်တို့အား မည်သည့်နေရာမှ ကောက် ယူခဲ့သည့် ရလဒ်ဖြစ် ကြောင်း ထည့်သွင်းဖော်ပြရန်၊	- စက်ရုံလည်ပတ်မှုလုပ်ငန်းစဉ်များမှ ထွက်ရှိသော ညစ်ညမ်းမှုများကြောင့် လူမှုပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများနှင့် ပတ်သက်၍ Environmental Management Plan ခန်းတွင်ဖော်ပြထားသော စီမံကိန်းတည်ဆောက်ခြင်း၊ လည်ပတ်ခြင်းကာလတို့ တွင် လူမှုပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် လျော့ချမည့်နည်းလမ်းများကို စာမျက်နှာ (၉၃ မှ ၉၅) အထိ ယေ	-အစီရင်ခံစာတွင် စီမံကိန်းခြေအနေ (တည်ဆောက်ခြင်း၊ လည်ပတ်ခြင်း၊ ရပ်ဆိုင်းခြင်း) ကြောင့် ပတ်ဝန်းကျင်ပေါ်သက်ရောက်မှုများကို ဆန်းစစ်ဖော်ပြရန်နှင့် လျော့ချရန် ဆောင်ရွက်ထားသည့် နည်းလမ်းများဖော်ပြရန်၊	Pg- 110 to 113 (C_7.3 & 7.4)

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<p>- စက်ရုံမှထွက်ရှိသော စွန့်ပစ်အရည်၊ အစိုင်အခဲများ၏ ထွက်ရှိမှု ပမာဏ၊ နောက်ဆုံးစွန့်ပစ်မည့်နည်းလမ်းများအား ထည့်သွင်းဖော်ပြရန်၊</p> <p>- ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချမည့် လုပ်ငန်းများဆောင်ရွက်ရမည့် အဖွဲ့အစည်း၊ တာဝန်ယူမည့်ဝတ္တရားများ၊ အသုံးပြုမည့် ရန်ပုံငွေအားဖော်ပြရန်၊</p>	<p>ဘုယျသာ ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။</p> <p>- စွန့်ထုတ်အရည်နှင့်ပတ်သက်၍ sample ရယူသည့် ကိုဩဒီနိတ် အမှတ်များ၊ နေ့ရက်၊ အချိန်၊ တိုင်းတာ ရရှိသည့်ရလဒ်များ၊ ဓာတ်ခွဲခန်းရ လဒ်များအား IFC Guideline များနှင့် နှိုင်းယှဉ်ဖော်ပြထားရာတွင် pH သည် သတ်မှတ်တန်ဖိုးထက် ကျော်လွန်နေသည်ကို တွေ့ရှိရပါသည်။</p> <p>- စက်ရုံမှထွက်ရှိသော စွန့်ပစ်အရည်၊ အစိုင်အခဲများနှင့်ပတ်သက်၍ စီမံကိန်း အကြောင်းအရာအခန်းတွင် ဖော်ပြထားကြောင်း ညွှန်းဆိုထားသည်ကို တွေ့ရှိရပါသည်။</p> <p>- ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ချမည့် လုပ်ငန်းများဆောင်ရွက်ရမည့်အဖွဲ့အစည်း၊ တာဝန်ယူမည့်ဝတ္တရားများ၊ အသုံးပြုမည့် ရန်ပုံငွေများနှင့်ပတ်သက်၍ Environmental Management Plan ခန်း</p>	<p>- အစီရင်ခံစာ၏ အခန်း (၇) တွင် တိုင်းတာဖော်ပြထားသော လေအရည်အသွေး၊ ဆူညံသံနှင့် တုန်ခါမှု၊ မြေဆီလွှာအရည်အသွေး၊ ရေ အရည်အသွေးတို့အား အခန်း ၆၊ လက်ရှိ ပတ်ဝန်းကျင်အခြေအနေအထားတွင် ထည့်သွင်းဖော်ပြရန်၊</p> <p>- စီမံကိန်းသည် ၁၄.၂.၂၀၁၈ တွင် လည်ပတ်နေပြီဖြစ်ပါသဖြင့်လည်ပတ်စဉ်အတွင်း စီမံကိန်း ဧရိယာအတွင်းနှင့် အနီးပတ်ဝန်းကျင်ရှိ နေရာများမှ လေထု၊ ရေထု၊ မြေထု၊ ဆူညံသံနှင့် တုန်ခါမှုတို့အား တိုင်းတာ၍ NEQEG Guidelines တန်ဖိုးများနှင့် နှိုင်းယှဉ်ပြီး သတ်မှတ်တန်ဖိုးထက်ကျော်လွန်နေပါက လျော့ချမည့်နည်းလမ်းများကို ဖော်ပြရန်၊</p>	<p>Pg-76 to 103(C_6.5)</p> <p>-Pg.81-82 (Air)</p> <p>-Pg.85 (Noise )</p> <p>-Pg.90 (Vibration)</p> <p>-Pg.95(Soil) (T.22)</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
		စာမျက်နှာ (၁၀၉ မှ ၁၁၈) အထိ ဖော်ပြထားကြောင်း ညွှန်းဆိုထားသည်ကို တွေ့ရှိရပါသည်။	<ul style="list-style-type: none"> <li>- စီမံကိန်းထုတ်လုပ်စဉ်အတွင်း ထွက်ရှိသော Effluent level အား NEQEG Guideline ၂.၂.၄ ပါ Parameters များဖြင့် နှိုင်းယှဉ်ဖော်ပြပြီး သတ်မှတ်တန်ဖိုးထက် ကျော်လွန်နေပါက လျော့ချမည့် နည်းလမ်းများကို ဖော်ပြရန်၊</li> <li>- အစီရင်ခံစာတွင် စီမံကိန်းနှင့် သက်ဆိုင်သော ဘေးအန္တရာယ်များ (ဥပမာ- စက်မှုဆိုင်ရာဘေးအန္တရာယ်များနှင့် အန္တရာယ်ရှိသောပစ္စည်းများကိုင်တွယ်ခြင်း၊ ယိုဖိတ်မှုများ၊ ပေါက်ကွဲမှုများ၊ ယာဉ်မတော်တဆမှုများ၊ ထုတ်လုပ်ရေးစက်ရုံများတွင် ပျက်စီးမှုများစသည်ဖြင့်) ကို သတ်မှတ်ဖော်ထုတ်၍ ဆန်းစစ်ရန်နှင့်</li> </ul>	<p>-Pg.98-99 (Water, T.27) 3<sup>rd</sup> and 4<sup>th</sup> Para:</p> <p>Pg.110 (Operational Phase), Pg.113(Annex.10) &amp; ESMP (142to 143)</p> <p>Pg-128-129 and Pg.152 (C-9.4.6 &amp; C_9.4.7)</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
			<p>ထိန်းချုပ်ဆောင်ရွက်မည့် အစီအစဉ် များကို ထည့်သွင်းဖော်ပြရန်၊</p> <ul style="list-style-type: none"> <li>- စာမျက်နှာ (၈၂ မှ ၈၄) အထိ ဖော်ပြထားသော Ecological baseline information အား အစီရင်ခံစာ၏ အခန်း၆၊ လက်ရှိ ပတ်ဝန်းကျင်အခြေအနေအထားတွင် ထည့်သွင်းဖော်ပြရန်၊</li> <li>- သတ်မှတ်ရန်ပုံငွေနှင့် လုံလောက်မှုမရှိပါက ထပ်မံဖြည့်သွင်းဆောင်ရွက်မည်ဖြစ်ကြောင်း ထည့်သွင်းဖော်ပြရန်၊</li> </ul>	<p>Pg-101-103 (Chapter_6.5.5)</p> <p>Pg-121-122 (C_8.4)</p>
၇။	ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့်စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်			
	<p>- ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်းတို့ ဆောင်ရွက်မည့်အဖွဲ့အစည်းအမည်၊ ၎င်းတို့၏ တာဝန်နှင့်ဝတ္တရားများ၊ စောင့်ကြပ်ကြည့်ရှုခြင်း လုပ်ငန်းစဉ်တို့ကို ထည့်သွင်းဖော်ပြရန်၊</p>	<p>ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်း အစီအစဉ်နှင့်ပတ်သက်၍ စာမျက်နှာ ၉၇ မှ ၁၁၉ အထိ စီမံကိန်း တည်ဆောက်ခြင်း၊ လည်ပတ်ခြင်းနှင့် ပိတ်သိမ်းခြင်းကာလတို့တွင် ပတ်ဝန်းကျင်အပေါ်</p>	<p>- အစီရင်ခံစာတွင် ထိခိုက်နိုင်မှုများနှင့် ပတ်သက်၍ ပြင်းထန်နိုင်မှု အခြေနေကို (နိမ့်၊လယ်၊မြင့်)ဟု သတ်မှတ်ထားရာမည်သည့်အချက်အလက်</p>	<p>Pg-109-110 (C-7.2.2)</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<p>- စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်တွင် လုပ်ငန်းလည်ပတ်ခြင်း ထွက်ရှိလာမည့် စွန့်ပစ်ပစ္စည်းများအတွက် Parameter သတ်မှတ်ဖော်ပြရန်၊</p> <p>- ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချမည့် လုပ်ငန်းစဉ်နှင့် ထွက်ရှိလာမည့် စွန့်ပစ်ပစ္စည်းများအပေါ် စောင့်ကြပ်ကြည့်ရှုရန်အတွက် သုံးစွဲမည့်ရန်ပုံငွေအား ထည့်သွင်းဖော်ပြရန်၊</p>	<p>သက်ရောက်နိုင်သည့် အခြေအနေများ (နိမ့်၊ လယ်၊ မြင့်) သတ်မှတ်ခြင်း၊ စောင့်ကြပ်ကြည့်ရှုမည့် အကြောင်းအရာ၊ Parameterများ နှင့် အကြိမ်အရေအတွက်၊ သုံးစွဲမည့် ရန်ပုံငွေ၊ တာဝန်ယူမည့် အဖွဲ့အစည်းစသည်တို့အား ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။</p>	<p>က်ပေါ်အခြေခံ၍ သတ်မှတ်ထားကြောင်း ထည့်သွင်းဖော်ပြရန်၊</p> <p>-Continuous Emission Monitoring System နှင့်ပတ်သက်၍ ဆောင်ရွက်ထားရှိခြင်းများ ထည့်သွင်းဖော်ပြရန်၊</p> <p>-ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမည့် အစီအစဉ်များအတွက် ကုမ္ပဏီမှ တာဝန်ယူမည်ဖြစ်ကြောင်းဖော်ပြထားသော်လည်း တာဝန်ယူမည့်အဖွဲ့ဝင်များနှင့် တာဝန်ဝတ္တရားများကို ဖော်ပြရန်၊</p> <p>-ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမည့် အစီအစဉ်များအတွက် လျာထားရန် ရန်ပုံငွေလုံ လောက်မှုမရှိပါက</p>	<p>Pg.111 (2<sup>nd</sup> Para)</p> <p>Pg -149 (Annex-149)</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
			ထပ်မံဖြည့်သွင်း ဆောင်ရွက်ပေးမည့်အစီအစဉ်များကို ဖော်ပြရန်၊	Pg -121-122
၈။	အရေးပေါ်အခြေနေအတွက် ကြိုတင်စီမံထားရှိမှုအခြေအနေ			
	<p>-ဘေးအန္တရာယ်ကင်းရှင်းရေးတို့နှင့်ပတ်သက်၍ ဆောင်ရွက်ထားရှိသည့် အစီအစဉ် နှင့် ဝန်ထမ်းများအတွက်နေထိုင်ရေးနှင့် သန့်ရှင်းသော သောက်သုံးရေရရှိရေး ဆောင်ရွက်ထားရှိမှု အစီအစဉ်တို့အား ထည့်သွင်းဖော်ပြရန်၊</p>	<p>-ဝန်ထမ်းများအတွက် စက်ရုံဝင်းတွင်းနေထိုင်ရေးနှင့်ပတ်သက်၍ ဆောင်ရွက်ပေးခြင်း မရှိသော်လည်း ဝန်ထမ်းကြို/ပို့သည့် အစီအစဉ်အား စီမံပေးကြောင်း၊ သောက်သုံးရေနှင့် ပတ်သက်၍ သောက်ရေသန့်များ၊ ဝန်ထမ်းများအတွက် ထောက်ပံ့ပေးထားသော ယူနီဖောင်းများ၊ ဝတ်ရုံများသန့်ရှင်းရေးအတွက် ပင်မင်းဆိုင်များတွင် အပ်နှံပေးကြောင်း ဖော်ပြထားသည်ကို စာမျက်နှာ ၆၂ တွင် တွေ့ရှိရပါသည်။</p> <p>- ဘေးအန္တရာယ်ကင်းရှင်းရေးတို့နှင့် ပတ်သက်၍ ဥပဒေခန်း စာမျက်နှာ ၆၀ မှ ၆၂ အထိ ကျန်းမာရေးနှင့် လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေး၊ မီးဘေးကာကွယ်</p>	<p>- သဘာဝဘေးအန္တရာယ်များ (ဥပမာ -လျင်လှုပ်ခြင်း၊ ရေကြီးခြင်း၊ မြေပြိုခြင်း စသည်ဖြင့်) ကျရောက်လာပါက ဆောင်ရွက်မည့် အစီအစဉ်နှင့် ကြိုတင်ဆောင်ရွက်ထားရှိမှုများအား ဖော်ပြရန်၊</p> <p>-ဝန်ထမ်းများအတွက် ထောက်ပံ့ပေးသည့် PPEများကို မှတ်တမ်း ဓါတ်ပုံများနှင့် ဖော်ပြရန်၊</p> <p>- ဘေးအန္တရာယ်ကင်းရှင်းရေးတို့နှင့်ပတ်သက်၍ စာမျက်နှာ (၆၀ မှ ၆၂) အထိ ကျန်းမာရေးနှင့် လုပ်</p>	<p>Pg-153 (C_ 9.4.9)</p> <p>Pg-149 (C_9.4.1, 2<sup>nd</sup> Para) Annex.11</p>

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
		တားဆီးရေး၊ ဓာတုပစ္စည်းများ ဘေးအန္တရာယ် ကာကွယ်တားဆီးရေးနှင့် အရေးပေါ်ကိစ္စရပ်များအတွက် စီမံဆောင်ရွက်ထားရှိမှုစသည်တို့အား ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။	ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်းရေး၊ မီးဘေးကာကွယ် တားဆီးရေး၊ ဓာတုပစ္စည်းများဘေးအန္တရာယ်ကာကွယ် တားဆီးရေးနှင့် အရေးပေါ်ကိစ္စရပ်များအတွက် စီမံဆောင်ရွက်ထားရှိမှုစသည်တို့အား Emergency Management Plan အခန်းတွင် ထည့်သွင်းဖော်ပြပေးရန်၊	Pg-149 to 152 (C_9.4)
၉။	အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်း			
	-စက်ရုံဝန်းကျင်ရှိ အများပြည်သူ၏ ဆန္ဒသဘောထားရယူရန်နှင့် အများပြည်သူနှင့် ဆွေးနွေးပြောကြားချက်၊ တောင်းဆိုချက်၊ ဆွေးနွေးမှုရလဒ်နှင့် ဆောင်ရွက်ပေးမည့် အစီအစဉ်တို့အား ဖော်ပြ၍ မှတ်တမ်းခါတ်ပုံများ၊ အမေးအဖြေပုံစံများဖြင့် ပူးတွဲဖော်ပြပေးရန်၊	စာမျက်နှာ ၈၈ မှ၉၂ အထိ အများ ပြည်သူတို့၏ ဆွေးနွေးတောင်းဆိုမှုတို့အား ဆောင်ရွက်ပေးမည့်အစီအစဉ်တို့ကို အမေးအဖြေပုံစံဇယား၊ မှတ်တမ်းခါတ်ပုံများဖြင့် ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။	လုပ်ငန်းလည်ပတ်စဉ်ကာလအတွင်း အများပြည်သူမှ မကျေနပ်မှုများ၊ နစ်နာမှုများရှိပါက မကျေနပ်ချက်များကို လက်ခံခြင်း၊ ဖြေရှင်းခြင်းတို့အတွက် ဆောင်ရွက်ပေးမည့် အစီအစဉ်များကို ဖော်ပြပေးရန်၊	Pg-122-123 (C_8.5)
၁၀။	စီမံကိန်းကြောင့်ထိခိုက်ခံစားရသည့် ဒေသခံပြည်သူများအတွက်ဆောင်ရွက်ပေးမည့်ဖွံ့ဖြိုးရေးအစီအစဉ်			

စဉ်	ကနဦးတင်ပြမှုအပေါ် စိစစ်သုံးသပ်၍ သဘောထားပြန်ကြားချက်	ထပ်မံတင်ပြလာမှုအပေါ် စိစစ်တွေ့ရှိချက်	ကနဦးပြန်ကြားမှုအပေါ် လိုအပ်သည်များအတွက် ထပ်မံတင်ပြရန် အကြံပြုချက်	မှတ်ချက်
	<p>-ဒေသခံဖွံ့ဖြိုးရေးလုပ်ငန်းများနှင့်ပတ်သက်၍ ထိခိုက်ခံစားရသည့် ရေရှည်လူမှုစီးပွားရေးဖွံ့ဖြိုးတိုးတက်စေမှုအတွက် ရန်ပုံငွေထူထောင်ခြင်းနှင့် လုပ်ငန်းများဖော်ဆောင်ပေးခြင်းတို့ကို ထည့်သွင်း ဖော်ပြရန်၊</p> <p>စီမံကိန်းကြောင့် ဒေသခံပြည်သူတို့၏ လုံလောက် သည့်</p>	<p>စာမျက်နှာ ၉၂ တွင် လုပ်ငန်း၏ အကျိုးအမြတ်မှ ၂ ရာခိုင်နှုန်းအား ဒေသခံပြည်သူတို့၏ ရေရှည်လူမှုစီးပွားရေးဖွံ့ဖြိုးတိုးတက်စေမှုအတွက် ပညာရေး၊ လမ်းပန်းဆက်သွယ်ရေး၊ မီးဘေးအန္တရာယ်များ၊ သဘာဝဘေးအန္တရာယ်တို့တွင် အသုံးပြုသွားမည် ဖြစ်ကြောင်း ဖော်ပြထားသည်ကို တွေ့ရှိရပါသည်။</p>	<p>-စီမံကိန်းကြောင့် ထိခိုက်ခံစားရသည့် ဒေသခံပြည်သူများအတွက် ဒေသဖွံ့ဖြိုးရေးလုပ်ငန်းများ ဆောင်ရွက်မည့်အစီအစဉ်အတွက် အသုံးပြုမည့် ရန်ပုံငွေလျာထားချက်ပမာဏနှင့် လုံလောက်မှုမရှိပါက ထပ်မံဖြည့်သွင်းဆောင်ရွက်မည်ဖြစ်ကြောင်း ဖော်ပြရန်၊</p> <p>- အခြားဆောင်ရွက်ပေးမည့် အစီအစဉ်များရှိပါက ထည့်သွင်းဖော်ပြရန်၊</p>	<p>Pg-121 (C_8.4)</p>
၁၁။	<p>အထွေထွေ</p> <ul style="list-style-type: none"> <li>- အစီရင်ခံစာအား ပေးပို့ထားသော အကြံပြုချက်များအတိုင်း ပြင်ဆင်ပြီး ပြန်လည်တင်ပြသည့်အခါ ပြင်ဆင်ချက်ဇယား (အခန်းအပိုဒ်၊အကြံပြုချက်၊ ပြင်ဆင်ချက် (သို့မဟုတ်) ဖြေရှင်းချက်၊ တတိယအကြိမ်အစီရင်ခံစာ၏ စာမျက်နှာ) တို့ပါဝင်သည့် နောက်ဆက်တွဲ တစ်ခုအဖြစ်ထည့်သွင်းဖော်ပြရန်၊</li> <li>- အစီရင်ခံစာအားပေးပို့ထားသော အကြံပြုချက်များအတိုင်းပြင်ဆင်ပြီး ပြန်လည်တင်ပြသည့်အခါ အဆိုပြုလုပ်ငန်းနှင့်သက်ဆိုင်သည့်အခန်းများတွင်သာ ထည့်သွင်းဖော်ပြရန်၊</li> <li>- ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းအစီရင်ခံစာအား ရေးသားပြုစုရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း၊ အပိုဒ် ၃၆ ပါအတိုင်းရေးသားတင်ပြရန်၊</li> </ul>			

## **ANNEX.15:**

### **Commitment of the Client: Belga Myanmar and Consultant**

Please see ANNEX.15 in front of the Executive Summary

**ANNEX.16:**

**Project-development-plan-BG-Myanmar-Hatchery**

**Project and Development plan Bel Ga Myanmar hatchery**

Bel Ga Myanmar Ltd, established in 2018, consists nowadays of 2 own and 1 lease location. The hatchery, constructed in 2017, with a state of the art Petersime equipment, contains a capacity of 2,300,000 Hatching Eggs, equal to 1,900,000 Day Old Chickens on maximum capacity. The modern equipment installed, allows our experienced specialists from Europe and Vietnam, to follow the machines, amend settings if needed and train the in-house local team.

After a solid period operating, branding and customer satisfaction, plans are designed to expand the current hatchery capacity to align with the market demand. Efficiency and quality are the main pillars to make livestock successful. For that reason, the expansion is divided in 2 phases.

Phase 2A, focusses on the complete civil and mechanical, electrical and plumbing works of entire phase 2 however excludes the complete set of incubation machines. Efficiency and the production planning of the parent stock farms in place, are the main drivers for this project development plan.

Phase 2B, allows Bel Ga Myanmar, with only an investment in incubators, to maximize the output of hatchery to more than 5,000,000 Hatching eggs per month.

Drivers for the exact time line of the Phase 2 project depend strongly on national, geopolitical as well as internal developments. Bel Ga is committed to Myanmar with our joint venture partner De Heus Animal Nutrition.



*Bel Ga Myanmar hatchery design included the phase 1 and 2.*

**ANNEX.17:**  
**TCR & CVs\_SEAM**



**Areas of Expertise Permitted**  
**(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)**

1. Air Pollution Control,
2. Geology and Soil,
3. Ground water and Hydrology,
4. Mining engineer,
5. Noise and Vibration,
6. Social and Public health,
7. Water Pollution Control,
8. Zoology



**EXTENSION**  
 သက်တမ်းတိုးမြှင့်ခြင်း  
 The VALIDITY of this certificate is extended  
 for one year from (1.1.2020) to (31.12.2020)  
 ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)  
 ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing* 18.2.2020  
 For Director General  
 (Soe Naing, Director)  
 Environmental Conservation Department

**EXTENSION**  
 သက်တမ်းတိုးမြှင့်ခြင်း  
 The VALIDITY of this certificate is extended  
 for six month from (1.1.2021) to (30.6.2021)  
 ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)  
 ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
 For Director General  
 (Soe Naing, Director)  
 Environmental Conservation Department

**EXTENSION**  
 သက်တမ်းတိုးမြှင့်ခြင်း  
 The VALIDITY of this certificate is extended  
 for six months from (1.7.2021) to (31.12.2021)  
 ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁)  
 ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
 For Director General  
 (Soe Naing, Director)  
 Environmental Conservation Department

**EXTENSION** (သက်တမ်းတိုးမြှင့်ခြင်း)  
 The VALIDITY of this certificate is extended  
 for one year from (1.1.2022) to (31.12.2022)  
 ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂)  
 ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
 For Director General  
 (Soe Naing, Director)  
 Environmental Conservation Department

## TRANSITIONAL CONSULTANT REGISTRATION FORM FOR PERSON

*This form was set out by ECD-MOECAF in accordance with Article 17 (a) of EIA Procedure No. 616/2015, i.e. smooth application and registration for person who wishes to undertake an IEE / EIA study during the transitional period — until coming into force of “Consultant Registration Scheme”.*

### SECTION A – PERSONAL INFORMATION

Full Name (Sur name, Given name)	<b>Zin Mar Lwin</b>
Courtesy Title (Prof, Dr, Mr., Mrs., Ms)	<b>Dr,</b>
Date of birth	<b>21<sup>st</sup> November 1978</b>
Identity card number (Citizen in Myanmar)*	<b>12/ Ma Ga Da (Naing) 108042</b>
Passport number (Foreigners only)*	
Organization	<b>SOCIAL &amp; ENVIRONMENTAL ASSOCIATES MYANMAR</b>
Job Title	<b>Environmental Consultant</b>

\* A copy of ID card or Passport must be attached to this form.

#### HOME Address:

<b>No.26, No 2 street,</b>	
<b>Ballonequin Quarter,</b>	
<b>Htaukkyant, Mingalardon, Yangon</b>	
Postcode: MMR 013002	Country: Myanmar

#### WORK/ OFFICE Address:

<b>SOCIAL &amp; ENVIRONMENTAL ASSOCIATES MYANMAR CO., LTD (SEAM)</b>		
<b>N0 76, MYINTZUTHAKA STREET, APINE 4, PAUKKONE QUARTER</b>		
<b>MINGALARDON TOWNSHIP, YANGON</b>		
Postcode: MMR 013002	Country: Myanmar	
<b>Preferred address:</b> All future correspondence will be sent to the address indicated.	<b>Home</b> <input type="checkbox"/>	<b>Work</b> <input checked="" type="checkbox"/>

#### Contact Information :

Telephone: (+95) 09975805630	E mail: <a href="mailto:zlwin@myseam.com">zlwin@myseam.com</a>
Fax: (+95)	Mobile phone: (+95) 9 250260654 (+95) 9975805630

<b>Area of expertise</b>	
<p>Note :</p> <p>(i) Individual applicant can select up to <u>four (4) areas</u> (at least one (1) area shall be selected) from the list of areas of expertise below.</p>	
(i) Ecology and Biodiversity	<p>Area of Expertise</p> <p>a) Air Pollution Control;</p> <p>b) Ecology and Biodiversity;</p> <p>c) Facilitation of meeting;</p> <p>d) Geology and Soil;</p> <p>e) Ground water and Hydrology;</p> <p>f) Land use;</p> <p>g) Legal Analysis;</p> <p>h) Meteorology, Modelling for Air Quality;</p> <p>i) Modelling for Water Quality;</p> <p>j) Noise and Vibration;</p> <p>k) Risk Assessment and Hazard Management;</p> <p>l) Socio-Economy;</p> <p>m) Water Pollution Control;</p> <p>n) Waste Management; and</p> <p>o) Others</p>
(ii) Risk Assessment and Hazardous Management	
(iii) Water Pollution Control	
(iv) Waste Management	
<p><b>Team Leading</b></p> <p>If you have an experience of 'Team Leading', please select the most recent cases up to 3 and describe here the summarized information of each case:</p>	
Duration	Summary of the case
2016-2017	<ul style="list-style-type: none"> <li>- LNG power project in Shwe Thaung Yan Township of Ayeyarwaddy Region</li> <li>- Hydro power project in Nan Lim River of Tachileik, Eastern Shan State</li> <li>- ESIA study for Land Mark Project at Yangon, Yoma Spa</li> <li>- Trainer in environmental safeguard and monitoring, capacity building and inspection trainings for ECD staffs from upper and lower Myanmar, sponser by ADB</li> <li>- Water management and ESIA study for Rivers of Yangon and Mandalay</li> </ul>
2015-2016	- 12000 TCD Katha Sugar mill project ESIA study
	- 8000 TCD Maung Kong and 1000 TCD Madaya Sugar mill projects ESIA studies
	- 1000 acres Ton Lone Sugarcane Plantation project ESIA study
	- IEE studies for two Rice mill projects of DAEWOO
	- EMP study for Weatherford welhouse project

Further explanation on your expertise (optional)

**Environmental Assessment**

- Initial environmental examination for information technology park development project, social management plans and environmental management plan
- Prepared and delivered training courses on disaster and climate risk management for development projects and project proposal writing in ASEAN
- Reviewed on payment for environmental services, clean development mechanism CDM, carbon trading, resource use efficiency projects and papers
- Agro-ecosystem analysis, water quality control and sustainable livelihood management in causal loop and conceptual framework for local community

**Pollution Control**

- Application of Landscape ecology principle in Inle Lake ecosystem management project, watershed management, ridge to reef conceptual approach, strategic planning, driver-pressure-state-impact- response(DPSIR) and strength-weakness-opportunity and threat (SWOT)analysis
- Economic valuation of the mangrove ecosystem in support to ecotourism in snake island, Honda bay, Palawan, Philippines in response of cost-benefit analysis, with and without project scenario

**Waste management**

- Analysis on Institutional awareness and solid and liquid waste management techniques for waste segregation and suitable operations methods, controlling open dumping of hazardous wastes for co-existing disposition to systematic sanitary landfill and incineration/thermal treatment process
- Reviewed numerous publications and guidelines on operation to abandonment of resource extracting industries, sustainable production and mitigation, air and noise pollution control, climate change, environmental and social governance, green economy, policies recommendation

**Climate Change**

- Good knowledge in proactive approach and early warning system, hazard management by reducing vulnerability and exposure, risk avoidance, residual management, coping, adaptation and resilience of natural ecosystems

- Good knowledge in sources of greenhouse gases, mainly CO<sub>2</sub> emission reduction, carbon credit and trading, clean development mechanism (CDM), payment for environmental services(PES), innovative practices for renewable energy sources and technologies for climate change mitigation
- Training about international conventions and related organizations as Basal, Stockholm, Minamata etc, and global temperature changes and increasing sea surface temperature creating storm and extreme weather conditions

### **Sound Chemical Management**

- Assessment on Floating garden tomato production, water quality degradation and sustainable livelihood in Inle Lake, Myanmar.
- Assessment on lifespan of agro-chemicals pesticides residues, lethal dose and persistence mainly of organo-chlorine, organophosphate and carbamate group for human health and natural ecosystem equilibrium.
- Identification of organic and synthetic fertilizers contamination, pollution, eutrophication on lake ecosystem
- Knowledge on point source and non-point source pollution, effluent discharge without treatment to public water and water quality management
- Reviewed on hazardous waste management practices, surveying, classification, monitoring and evaluation for policy recommendation and guidelines.
- Training on hazard of dioxin from incomplete burning of household and hazardous wastes, improper waste management practices in developing countries and related chronic diseases

### **Sustainability**

- Assessment on tomato production practices and income generation of local community in Inle Lake for sustainable livelihood at southern Shan state, Myanmar
- Identification on social institutions for environmental education and awareness raising
- Assessment on physical, chemical and biological water quality analysis in Inle Lake, Myanmar
- Assessment on plant species diversity of home gardens including farming in rain-fed and irrigated areas
- Analysis on Simpson diversity index of plant species richness and evenness in different ecosystem
- Experiment on varietal improvement by cross breeding of green gram species

## SECTION B: ACADEMIC QUALIFICATIONS

Year Started	Year completed	Full or part time	Course title	Institution	Title of degree / certificate*	Description of subject areas studied
2010	2013	Full	Doctor of Philosophy in Environmental science	SESAM, University of the Philippines Los Banos, (UPLB) Philippines	Ph.D	Environmental Science and management Major in Environmental impact assessment, pollution control and Landscape ecology. Minor in Strategic planning, Public policy analysis and Research methodology
2005	2007	Full	Master of Agricultural Science	Yezin Agricultural University, YAU	M. Agr. Sc	Master of Agricultural Science (Specialization in Agricultural Botany) Ecosystem base species diversity analysis
1996	2002	Full	Bachelor of Agricultural Science	Yezin Agricultural University (YAU)	B. Agr. Sc (Q) Credit	Agricultural Sciences (specialization in crop science)
2014	2014	Part time	Initiative for ASEAN integration	Myanmar-Singapore Training centre	Certificate	Project Proposal Writing in ASEAN by Temasek Polytechnic, Singapore
2014	2014	Part time	Initiative for ASEAN integration	Myanmar-Singapore Training centre	Certificate	Trade Negotiation by Civil Service Collage, Singapore
2011	2011	Part time	Research methods	UPLB, SESAM	Certificate	Training on Research methods by international environmental experts
2013	2013	Full time	Gamma Sigma Delta	The Horner society of Agriculture	Certificate	The Horner Society of Agriculture Gamma Sigma Delta

\*Please ensure copies of certificates or any proof of the academic qualification are enclosed. If those supporting evidence is written in other than Myanmar or English language, those shall be provisionally translated into Myanmar or English language.

**Others**

- On Job training on agricultural research in crop production and agribusiness management in ARAVA international centre for agricultural training (AICAT) in Israel.
- Training on research methods, modelling and data analysis, natural resources management and biodiversity conservation practices
- Participant for Asia-Pacific Regional Conference on Community Development in college of social work and community development, UP Diliman, in Philippines.
- Trainer on liaison officers for English language proficiency, international protocol and practices for ASEAN summit and related ministerial meetings
- Trainer on mainstreaming disaster risk and climate risk management into national development planning for government staffs
- Knowledge on trade negotiation, small and medium enterprises development projects, laws, intellectual property right on geographic region and products

## SECTION C: WORKING EXPERIENCE

Period	Organization or client	Position	Responsibilities	Verification Source – contact details of the organization / client
2016-2017	Ramboll Environ Myanmar Co.Ltd	Team member, and coordinator	All ESIA and IEE reports Developed by Environ Myanmar Co.Ltd and capacity building training assistant for the following projects: <ul style="list-style-type: none"> <li>- LNG power project ESIA</li> <li>- Hydro power project ESIA</li> <li>- Eenvironmental safe-guard, monitoring and Inspection training for ECD staffs from upper and lower Myanmar, sponser by ADB</li> <li>- Water management and ESIA study for Rivers of Yangon and Mandalay</li> </ul>	<i>Flordeliz Y.Guarin PhD</i> <i>Technical Director &amp; Principal Consultant</i> <i>D (95) 1 654914</i> <i>M (95) 9 788811455</i> <i>fguarin@ramboll.com</i> <i>MICT Park</i> <i>Building 17 4th Floor</i> <i>Hlaing Township</i> <i>Yangon Myanmar</i> <a href="http://www.ramboll-environ.com">www.ramboll-environ.com</a>
2015- 2016	Ramboll Environ Myanmar Co.Ltd	Project Manager & Team member	IEE reports preparation for two rice mill project for Goldarn Lace & DAEWOO Co.,Ltd  EMP developer for Weatherford Co.Ltd ESIA report preparation for 1200 TCD Katha Sugar Mill Project ESIA report preparation for 8000 TCD	

<b>Period</b>	<b>Organization or client</b>	<b>Position</b>	<b>Responsibilities</b>	<b>Verification Source – contact details of the organization / client</b>
			Maung Kone Sugar Mill Project and 1000 TCD Madaya Sugar Mill Project  ESIA report preparation for 1000 Acres Ton Lon Sugarcane Plantation Project for GW-Wilmar Holding Co Ltd	
2015-2016	Ramboll Environ Myanmar Co. Ltd	Team member and reviewer	ESIA report preparation and coordinator for public engagement	Yoma Strategic Holdings LTD SPA, FMI Centre, Level 8, 380 Bogyoke Aung San Road, PPT, Yangon
2010-2013	University of the Philippines Los Banos	ESIA Team member	Social and environmental management plan ESMP preparation for (IT Park project) IEE	School of Environmental Science and Management SESAM, and UPLB Research and Development Department
	University of the Philippines Los Banos	Team member	Economic valuation of the mangrove ecosystem in support to ecotourism	School of Environmental Science and Management SESAM, and Snake Island, Honda bay, Palawan province, Philippines
2002-2010	Ministry of Agriculture and Irrigation MOAI	Deputy Programme officer	Agricultural production project development planner, progress reporter, Capacity building trainer	Agricultural planning Department, MOAI Office 15, Nay Pyi Taw

## SECTION D: DECLARATION

I hereby apply for registration and agree to observe and abide by the Code of Conduct specified in the final part of this form. I certify that the statements contained in this form and the supporting evidence are correct to the best of my knowledge and belief.

<b>Signature :</b> 	<b>Date :</b>  <b>6/13/2017</b>
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### CODE OF CONDUCT

All Registered Consultants are obliged to improve the standing of the environmental impact assessment profession by rigorously observing the following Codes of Conduct. Failure to conform may result in suspension or deregistration. All registrants shall:

*To act professionally, accurately and in an unbiased manner;*

*Strive to increase the competence and prestige of the environmental impact assessment profession;*

*Assist those under my supervision (if relevant) in developing their management, professional and environmental impact assessment skills;*

*Not to represent conflicting or competing interests and to disclose to any client or employer any relationship that may influence my judgment;*

*Not to accept any inducement, commission, gift or any other benefit from any interested party or knowingly allow colleagues to do so;*

*Not to intentionally communicate false or misleading information that may compromise the integrity of any EIA / IEE study; and*

*Not to act in a manner detrimental to the reputation of any of the stakeholders including the Ministry and the client.*

#### FOR OFFICE USE ONLY

Date received:

Attachment:

Copy of ID card or Passport

Professional Resume

Recorded by:

Copies of certificate / any proof for academic qualification  
(written in or translated into Myanmar or English language)

Additional comments, notes or recommendations (attached if necessary):

# ZIN MAR LWIN .PhD

## **Environmental Consultant**

### **Ph.D in Environmental Science**

(University of the Philippines Los BAños) Philippines

Zin mar lwin studied Ph.D in environmental science at the University of the Philippines Los Baños, in the Philippines and she has experience on Environmental and social Impact assessment, Ecosystem structure and dynamics (system analysis),Landscape ecology including climate change, economic valuation of environmental and natural resources, pollution control, waste management, water quality analysis, sustainable livelihood analysis.

Over 10 years of experience in agricultural science, plant species diversity analysis and social science, strategic planning, public policy and reporting agricultural projects.

Good knowledge and experiences in Watershed management, Ecology and natural resource conservation, reviewing environmental and social impact assessments of environmentally critical projects. She has lots of experiences in capacity building training on impact assessing, mainstreaming disaster risk and climate risk management into development planning and promoting green technologies.

Broad spectrum of professional roles on advisory services, investment screening, environmental training and agrochemicals pollution control, industrial production practices based impact assessment and environmental management plans. She joined as an environmental consultant in Environ Myanmar Company Limited under Ramboll Groups of Company and she has good experiences in international environmental and social impact assessment (ESIA), environmental management plans (EMP) development with multidisciplinary approaches and social engagement. At present, she joined as a senior consultant in SEAM, Social and Environmental Associates Myanmar.

### **MARKETS AND SERVICES**

Environment, Water Quality Analysis and pollution control  
Environment, Strategic environmental assessment - SEA  
Environment, Environmental impact assessment - EIA  
Environment, Natural resources management  
Social impact assessment -SIA  
Occupational health and safety

### **WORK EXPERIENCES**

2.5 years of work experience in international Environmental Consultant Firm Ramboll Environ (Environ Myanmar Co.,Ltd)

### **NATIONALITY**

Myanmar



### **CONTACT INFORMATION**

**Dr. Zin Mar Lwin**

[zlwin@myseam.com](mailto:zlwin@myseam.com)  
+95 09250260654  
0975805630

SEAM

No.76, Myintzuthaka  
Street, Apine 4,  
Paukkone Qt,  
Mingalardon Township,  
Yangon, Myanmar

**DATE OF BIRTH**

1978-11-21

**CAREER**

2014- to 2017

**Environmental Consultant, Environ Myanmar Co., Ltd**

Project manager of ESIA projects, IEE and EMP projects,

2002-2014

**Assistant Programme Officer (MOAI)**

Agricultural and livelihood development planning projects

**ACADEMIC TITLE**

**PhD in Environmental Science**

**EDUCATION**

2010-2013

**Ph.D in Environmental Science**

SESAM, University of the Philippines Los Banos, UPLB , Los Banos, Manila, Philippines

2005-2007

**M. Agr. Sc**

Yezin Agricultural University, YAU, Yezin, Nay Pyi Taw, Myanmar

1996-2002

**B. Agr. Sc (Credit,Q)**

Yezin Agricultural University, YAU, Yezin, Nay Pyi Taw, Myanmar

**COURSES/CERTIFICATIONS**

Biodiversity conservation, Landscape Ecology, Pollution control and monitoring, Research Methodology,

**COMPUTER SKILLS**

Microsoft word, excel, power point,

**LANGUAGE SKILLS**

Burmese (mother tongue), English

**PROJECT EXPERIENCES**

2015-2017

**Project manager, Assistant manager and team members of**

ESIA study for Nam Lin Hydro power plant project of Ayeyarmon River and Port Development Company in Tachileik of Eastern Shan State.

Water quality analysis and environmental impact assessment of JICA Project

ADB capacity building project for environmental safeguard, inspection and monitoring

ESIA study for LNG 600 MW power plant project of Supreme Group of Company in Ayeyarwaddy Region

ESIA study for Land Mark Project of Yoma Strategic Holding in Yangon

EMP development for Weather Ford Company in Hlaing Tharyar Industrial Zone

Two IEE study for Rice mill project of Golden Lace and DAEWOO company in Ayeyarwaddy Region

ESIA study for three Sugar mill projects and 1000ac Sugarcane plantation project of GW-Wilmar Holding, Myanmar in Sagaing and Mandalay Region

**TEACHING EXPERIENCE**

2013-2015

Inspection report development, environmental safeguard and Monitoring Trainings for ECD staffs with the support of ADB TA.

English Language and diplomacy trainings for liaison officer to serve at ASEAN summit and related meeting,

Project proposal writing in ASEAN for Government Staff in Nay Pyi Taw.

Mainstreaming disaster risk and climate risk management into development planning in Myanmar for Government staff in Nay Pyi Taw, Myanmar.

**MEMBERSHIPS**

SEARCA alumni, UPLB alumni, SESAM alumni, Gamma Sigma Delta UP Chapter

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title</b>	Quality Control Specialist
<b>Name of Expert:</b>	Professor Dr. Aung Shein
<b>Date of Birth:</b>	07 August 1949
<b>Country of Citizenship/Residence</b>	Myanmar

**Education:**

PhD in Engineering – Mining (Honorary Doctorate Degree), Yangon Technical University (YTU), Yangon (2000)

Master in Mineral Production Management and Economics, Royal School of Mines, Imperial College of Science and Technology, London University, London, England (1988)

Bachelor of Engineering in Mining, Rangoon Institute of Technology (RIT) (now YTU), Yangon, Myanmar (1970)

**Employment record relevant to the assignment:**

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	Social & Environmental Associates – Myanmar (SEAM)  Lead Quality Control Specialist  For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"> <li>- Supervising and managing environmental and social surveys for developments of EIAs, IEEs, EMPs and water quality surveys for various projects</li> <li>- Conducting public consultations for all EIAs, IEEs, and EMPs projects</li> <li>- Providing environmental and social safeguards trainings to SEAM team, ECD, YCDC, and MCDC (in JICA and ADB funded projects)</li> <li>- Supervising all quality control measures for all projects</li> </ul>
2010 to 2016	Electrum Mining Co., Ltd	<ul style="list-style-type: none"> <li>- Supervising and managing environmental related issues in mining operations and coordinating environmental surveys for the mining projects</li> </ul>
1998 to 2009	Mining Engineering Department YTU	<ul style="list-style-type: none"> <li>- Professor and head of the department</li> <li>- Academic, Research, and Management</li> </ul>

		<ul style="list-style-type: none"> <li>- Designing post graduate degrees and courses</li> <li>- Offering academic trainings</li> <li>- Supervising masters and PhD candidates</li> </ul>
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**Language Skills (indicate only languages in which you can work):** Myanmar and English

**Expert's contact information:** (e-mail - ashein@myseam.com, phone- 0943168166)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Dr. Aung Shein

*A. Shein*

8 September 2020

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Name of Expert

Signature

Date

Than Soe

*Than Soe*

10 September 2020

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Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title</b>	Environmental and Social Specialist
<b>Name of Expert:</b>	Mr. Josiah Bowles
<b>Date of Birth:</b>	26 October 1966
<b>Country of Citizenship/Residence</b>	USA

**Education:**

Master of Engineering in Water and Wastewater Engineering, Asian Institute Technology (AIT), Thailand (2012)

Bachelor of Engineering in Environmental Engineering, Catholic University of America, Washington, D.C, USA (2005)

**Employment record relevant to the assignment:**

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	DOH and DRRD under the Ministry of Construction <ul style="list-style-type: none"> <li>- Environmental and social safeguards specialists</li> </ul> For references: e-mail- flerp.moc@gmail.com; U Myint Oo, Project Director Director	<ul style="list-style-type: none"> <li>- Environmental management and capacity building</li> <li>- Social safeguards</li> <li>- Reviewing project activities with respects to safeguards</li> <li>- Handling grievances and resettlement issues</li> <li>- Overseeing developments in contracts with international firms</li> <li>- Monitoring and capacity building of contractors on EMP compliance</li> </ul>
2017 - present	Social & Environmental Associates – Myanmar (SEAM)  Lead environmental and social specialist  For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"> <li>- Supervising and managing environmental and social surveys for developments of EIAs, IEEs, EMPs and water quality surveys for various projects</li> <li>- Conducting public consultations for all EIAs, IEEs, and EMPs projects</li> <li>- Providing environmental and social safeguards trainings to SEAM team, ECD, YCDC, and MCDC (in JICA and ADB funded projects)</li> </ul>
2014 to 2016	Ramboll – Environ Myanmar Co., Ltd.	<ul style="list-style-type: none"> <li>- Supervising and managing environmental and social surveys for developments of</li> </ul>

	Lead environmental and social specialist	EIAs, IEEs, EMPs and water quality surveys for various projects <ul style="list-style-type: none"> <li>- Conducting public consultations for all EIAs, IEEs, and EMPs projects</li> <li>- Providing environmental and social safeguards trainings to SEAM team, ECD, YCDC, and MCDC (in JICA and ADB funded projects)</li> </ul>
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**Language Skills (indicate only languages in which you can work):** Myanmar and English

**Expert's contact information:** (e-mail - jbowles@myseam.com, phone- 09255922861)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Mr. Josiah Bowles

28 August 2020

Name of Expert

Signature

Date

Than Soe

7 September 2020

Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## TRANSITIONAL CONSULTANT REGISTRATION FORM FOR PERSON

*This form was set out by ECD-MOECAP in accordance with Article 17 (a) of EIA Procedure No. 616/2015, i.e. smooth application and registration for person who wishes to undertake an IEE / EIA study during the transitional period — until coming into force of “Consultant Registration Scheme”.*

### SECTION A – PERSONAL INFORMATION

Full Name (Sur name, Given name)	<b>Khing Thwe Oo</b>
Courtesy Title (Prof, Dr, Mr., Mrs., Ms)	<b>Daw</b>
Date of birth	<b>25<sup>st</sup> May 1987</b>
Identity card number (Citizen in Myanmar)*	9/ Ah Ma Za (N) 004885
Passport number (Foreigners only)*	
Organization	<b>SOCIAL &amp; ENVIRONMENTAL ASSOCIATES MYANMAR</b>
Job Title	<b>Senior key consultant</b>

\* A copy of ID card or Passport must be attached to this form.

#### HOME Address:

<b>No.76 Myit Zu Tha Ka St. Apine 4, Pauk Kone</b>	
<b>Mingalardon, Yangon</b>	
Postcode:	Country: Myanmar

#### WORK/ OFFICE Address:

<b>SOCIAL AND ENVIRONMENTAL ASSOCIATES MYANMAR CO., LTD</b>		
<b>N0 76, MYINTZUTHAKA STREET, APINE 4, PAUKKONE QUARTER</b>		
<b>MINGALARDON TOWNSHIP, YANGON</b>		
Postcode: MMR 013002	Country: Myanmar	
<b>Preferred address:</b> All future correspondence will be sent to the address indicated.	<b>Home</b> <input type="checkbox"/>	<b>Work</b> <input checked="" type="checkbox"/>

<b>Contact Information :</b>	
Telephone: (+95) 9255922861	E mail: <a href="mailto:khingthweoo@gmail.com">khingthweoo@gmail.com</a>
Fax: (+95)	Mobile phone: (+95) 9976175898

<b>Area of expertise</b> Note : (i) Individual applicant can select up to <u>four (4) areas</u> (at least one (1) area shall be selected) from the list of areas of expertise below.	
(a) Air Pollution Control	Area of Expertise a) Air Pollution Control; b) Ecology and Biodiversity; c) Facilitation of meeting; d) Geology and Soil; e) Ground water and Hydrology; f) Land use; g) Legal Analysis; h) Meteorology, Modelling for Air Quality; i) Modelling for Water Quality; j) Noise and Vibration; k) Risk Assessment and Hazard Management; l) Socio-Economy; m) Water Pollution Control; n) Waste Management; and o) Others
(m) Water pollution control	
(n) Risk Assessment and Hazard Management	
(o) Public consultation	
<b>Team Leading</b> If you have an experience of 'Team Leading', please select the most recent cases up to 3 and describe here the summarized information of each case:	
Duration	Summary of the case
2016- Present	Social & Environmental Associates - Myanmar Work as key consultant for SEAM Project manager for Hazardous materials regulations and policies Provide training Facilitate consultation meetings

2014-2016	ENVIRON Myanmar Developed EIA, IEE, and EMP reports, Provided environmental quality control training
2013-2014	PEER – SEA Project (Partnership for Enhanced Engagement in Research)

Further explanation on your expertise (optional)

### **Environmental and Social Impact Assessment**

- Carried out environmental and social impact assessments for sugar mills, plantation, hydro power dam, and LNG power plant
- Developed ESMPs and Resettlement Action Plan and managed the implementation
- Involved as senior consultant for several initial environmental impact assessments, environmental and social impact assessments, and environmental management plans for various projects
- Prepared and delivered training courses on EIA practices, pollution controls, and inspection & monitoring
- Took part in developing training materials and provided training for capacity building of YCDC, MCDC, DISI and ECD staffs (for environmental pollution management and monitoring)

### **Water and Wastewater**

- Involved in study of river systems, pollution issues, and river management
- Consulted for water quality improvement and wastewater treatment systems
- Oversaw water supply systems and wastewater treatment small scale systems
- Conducted water quality monitoring and wastewater monitoring
- Overlooked capacity of water treatment and wastewater treatment systems
- Involved in study for groundwater pollution

### **Waste Management and Hazardous Materials Regulations and Policies**

- Initiating hazardous materials rules, regulations, and policies
- Facilitating meetings for promotion of hazardous materials policies for all stakeholders
- Managed waste management programs for displaced populations in northern Thailand
- Involved in promoting 4Rs activities in waste management
- Took part in the study for waste generation in residential areas and industrial activities

### **Community Development and Public Participation**

- Took part in awareness promotion programs for improving progressive participation of communities
- Conducted surveys in communities
- Participated in public consultations
- Mobilized community groups

**Others**

- Took part in air pollution control
- Attended environmental and social assessment training
- Participated in water pollution management programs
- Participated in water resources management program and training
- Took part in study on effects on groundwater by burning practices
- Involved in various community participatory meetings and approaches for hygiene promotion

## SECTION B: ACADEMIC QUALIFICATIONS

Year Started	Year completed	Full or part time	Course title	Institution	Title of degree / certificate*	Description of subject areas studied
2012	2014	Full	Master of Engineering	Asian Institute of Technology	MS	M.E. Environmental Engineering and Management
2010	2012	Full	ME.	Technological University Mandalay	MS	M.E. Chemical Engineering
2005	2009	Full	BE	Technological University Mandalay	BE	B.E Chemical Engineering

\*Please ensure copies of certificates or any proof of the academic qualification are enclosed. If those supporting evidence is written in other than Myanmar or English language, those shall be provisionally translated into Myanmar or English language.

## SECTION C: WORKING EXPERIENCE

Period	Organization or client	Position	Responsibilities	Verification Source – contact details of the organization / client
2016 - Present	<p>Social and Environmental Associates – Myanmar</p> <p>Hazardous materials regulations and policies</p>	Key environmental and social consultant	<p>Carrying out environmental and social impact assessments</p> <p>Building up institutional capacity in environmental and social management plans</p> <p>Managing and running environmental and social safeguards programs</p>	<p>Swe Sin Htet, Office administrator SEAM, 76 Myit Zu Tha Ka Street Apine 4, Pauk Kone, Mingalardon, Yangon. 09795275683</p>

**SECTION C: WORKING EXPERIENCE**

2014-2016	ENVIRON Myanmar	Senior consultant	Developing EIAs, IEEs, and field surveys, Involved in Institutional capacity building program for ECD, YCDC, and MCDC	<p><i>Flordeliz Y. Guarin PhD</i>  <i>Technical Director &amp; Principal Consultant</i>  <i>D (95) 1 654914</i>  <i>M (95) 9 788811455</i>  <i>fguarin@ramboll.com</i>  <i>MICT Park</i>  <i>Building 17 4th Floor, Hlaing Township</i>  <i>Yangon Myanmar</i>  <i>www.ramboll-environ.com</i></p>
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## SECTION D: DECLARATION

I hereby apply for registration and agree to observe and abide by the Code of Conduct specified in the final part of this form. I certify that the statements contained in this form and the supporting evidence are correct to the best of my knowledge and belief.

<b>Signature :</b> 	<b>Date :</b>  30/08/2018
---	---------------------------------

### CODE OF CONDUCT

All Registered Consultants are obliged to improve the standing of the environmental impact assessment profession by rigorously observing the following Codes of Conduct. Failure to conform may result in suspension or deregistration. All registrants shall:

*To act professionally, accurately and in an unbiased manner;*

*Strive to increase the competence and prestige of the environmental impact assessment profession;*

*Assist those under my supervision (if relevant) in developing their management, professional and environmental impact assessment skills;*

*Not to represent conflicting or competing interests and to disclose to any client or employer any relationship that may influence my judgment;*

*Not to accept any inducement, commission, gift or any other benefit from any interested party or knowingly allow colleagues to do so;*

*Not to intentionally communicate false or misleading information that may compromise the integrity of any EIA / IEE study; and*

*Not to act in a manner detrimental to the reputation of any of the stakeholders including the Ministry and the client.*

#### FOR OFFICE USE ONLY

Date received:

Attachment:

Copy of ID card or Passport

Professional Resume

Recorded by:

Copies of certificate / any proof for academic qualification  
(written in or translated into Myanmar or English language)

Additional comments, notes or recommendations (attached if necessary):

**Lists of Certificates**

- Master of Engineering (Environmental Engineering and Management) from Asian Institute of Technology, Thailand, May 2014
- Master of Engineering (Chemical Engineering) from Mandalay Technological University, February 2012
- Bachelor of Engineering (Chemical Engineering) from Mandalay Technological University, March 2009
- Bachelor of Technology (Chemical Engineering) from Mandalay Technological University, June 2008
- Diploma in Food and Chemical Engineering (Chemical Engineering) from Associateship of Government Technical Institute, October 2005
- Certificate of Attendance “Total Water Treatment Training Modules Program: RWT:301 Operate, Control and Monitor Raw Water Treatment Course” by Myanmar Engineering Society in June 2016
- Certificate of Achievement for Agriculture and the world we live in by MASSEY University (University of New Zealand), December 2015.
- Certificate of Achievement for Marine and Antarctic Science by University of TASMANIA, December 2015.
- Certificate of Achievement for Emergency Management by MASSEY University (University of New Zealand), December 2015.
- Certificate of Attendance in 33<sup>rd</sup> Conference of ASEAN Federation of Engineering Organizations (CAFEO 33), Penang, Malaysia, November-2015

- Certificate of Attendance for technical visit in 33rd CAFEO by The Institution of Engineers, Malaysia, November-2015
- Certification of Technical paper presentation in 33rd CAFEO by The Institution of Engineers, Malaysia, November-2015
- Certificate of competition for 34 courses of Health and Safety online training by ENVIRON global Health and Safety Department
- Certificate of Achievement for Water in a Thirsty World by open 2 study
- Certificate of Achievement for Climate Change by MACQUARIE University Sydney-Australia
- Certificate of Achievement for Principles of Project Management by polytechnic WEST
- Regional Workshop on Hazardous Chemical Management held in Yangon, Myanmar
- First Annual Review Workshop and Technical Training of PEER-SEA Research Network “Assessment of Impacts of the Emission Reduction Measures of Short-lived Climate Forcing Pollutants on Air Quality and Climate in Southeast Asia” in Bangkok, Thailand
- Delivered an oral presentation in the Fourth National Conference on Science and Engineering (Northern Myanmar)
- Certification of Technical paper presentation in 30th CAFEO by The Institution of Engineers, Cambodia, December 2012
- The Special Seminar on “Geotechnical Engineering for Landslides, Foundations and Geotechnical Investigation” , Mandalay, Myanmar
- “*Japan-East Asia Network of Exchange for Students and Youths Programme*” by Japan International Cooperation Centre, in Japan.



The Board of Trustees of the  
**Asian Institute of Technology**

On the Recommendation of the Academic Senate  
Has Conferred Upon

**KHING THWE OO**

The Degree of  
**Master of Engineering**  
(Environmental Engineering and Management)  
With all of its Privileges and Obligations  
Given this twenty-third day of May 2014



Certified true copy

A blue ink signature of Laarni B. Roa.

Laarni B. Roa  
Registry Coordinator

A blue ink signature of Professor Worsak Ranok-Rukulchai.

Professor Worsak Ranok-Rukulchai  
President of the Institute

A blue ink signature of Dr. Subin Pinkayan.

Dr. Subin Pinkayan  
Chairman of the Board

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title</b>	Stakeholder engagement specialist
<b>Name of Expert:</b>	Daw Kathy Soe Myint
<b>Date of Birth:</b>	22 Feb 1971
<b>Country of Citizenship/Residence</b>	Myanmar

#### Education:

Master of Public Health, Mahidol University, Thailand (2004)

Bachelor of Science (Hons) Zoology, Yangon University, Yangon, Myanmar (1994)

#### Employment record relevant to the assignment:

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	Social & Environmental Associates – Myanmar (SEAM) Social and biodiversity specialist  For references: Tel - 09795852122/e-mail-seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"><li>- Development of components in ESIA for new Kunglon Bridge project (2020)</li><li>- Managing social components and public consultations for LNG storage project in Thanlyin (2020)</li><li>- Doing components in developing ESIA for LNG power plant and land acquisition, public consultations, stakeholder engagement (Ayeyarwaddy, 2016-2017)</li><li>- Doing components in developing ESIA for 500KV transmission line, land acquisition, public consultations, stakeholder engagement (Ayeyarwaddy, 2018-2019)</li><li>- Doing components in developing ESIA for LNG power plant and land acquisition, public consultations, stakeholder engagement (Ayeyarwaddy, 2016-2017)</li><li>- Doing components in developing ESIA for 500KV transmission line, land acquisition, public consultations, stakeholder engagement (Taungoo to Yangon, 2018-2019)</li><li>- Doing components in developing ESIA for De Heus animal feed factory, land acquisition, public consultations,</li></ul>

		<p>stakeholder engagement (Myotha, 2017-2018)</p> <ul style="list-style-type: none"> <li>- Doing components in developing ESIA for Chicken Hatchery Plant, land acquisition, public consultations, stakeholder engagement (Hleeku, 2018-2019)</li> </ul>
2014 to 2016	<p>Ramboll – Environ Myanmar Co., Ltd. Project manager</p> <p>For references: Tel - 09255922861/e-mail- joeunh88@hotmail.com; Josiah, field environmental specialist</p>	<ul style="list-style-type: none"> <li>- IEE for two rice mills in Twontay</li> <li>- ESIA for Katha sugar mill</li> <li>- ESIA for sugar cane plantation</li> <li>- IFC compliance monitoring and land acquisition for Myingyan Power plant</li> <li>- EIA for Yoma Strategic Holding Ltd., ‘s Landmark project</li> <li>- All ESIA and IEE reports Developed by Environ Myanmar Co.Ltd and capacity building training assistance</li> </ul>

**Language Skills (indicate only languages in which you can work):** \_\_\_\_\_

Myanmar and English

**Expert’s contact information:** (e-mail - kmyint@myseam.com, phone- 09450062646)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Kaythi Soe Myint

2<sup>nd</sup> September 2020

Name of Expert

Signature

Date

Than Soe

7 September 2020

Name of authorized Representative of the Consultant (the same who signs the Proposal)

Signature

Date

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title and No.</b>	Junior Environmental Consultant and Environmental Baseline Monitoring Specialist
<b>Name of Expert:</b>	MIN ZARNI AUNG
<b>Date of Birth:</b>	11 <sup>st</sup> , July 1991
<b>Country of Citizenship/Residence</b>	Myanmar

**Education:**

Bachelor of Technology (Mining Engineering), Mandalay Technological University (2012)  
Diploma in Technology (Mining Engineering), Mandalay Technological University (2009)

**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	<p>Social &amp; Environmental Associates – Myanmar (SEAM)</p> <p>Junior Environmental Consultant and Environmental Baseline Monitoring Specialist</p> <p>For references: Tel - 09795852122/e-mail-seamgroup@myseam.com; U Win Aung, Director</p>	<ul style="list-style-type: none"> <li>- Preliminary Environmental and Social Assessment Report for (10) Solar Sites: Ta Nyaung, Nyaung Pin Gyi, Ohn Taw, Thae Phyu, Oak Shit Kone, Shwe Taung, Kamanet, Shwe Myo, Nay Pyi Taw (1) and Nay Pyi Taw(2), KT Services and Logistics Co., Ltd, Site Assessment survey and social survey</li> <li>- Preliminary Environmental and Social Assessment Report for (4) Solar Sites: Kyaiklatt, Atoke, Khangyihtuant, Myan Aung; Energy Absolute Public Company Limited and Ayeyar Hinthar Holdings Co., Ltd, Site Assessment survey and social survey</li> <li>- Developing ESIA for Agro-Chemicals factories of Piti Pyae Sone Company Ltd, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing</li> </ul>

		<ul style="list-style-type: none"> <li>- Air, Noise and Vibration Monitoring Assessment on Gas Turbine Plant, Ngantae village, Mawlamyaing (May 2020)</li> <li>- Wind speed and Wind direction Monitoring Assessment on Transmission lines Project of Htet Bhone Pyae Company Ltd., Tharyar village, Bawlagae district, Kayah State (May2020)</li> <li>- Air, Noise, Vibration, Wind Speed and Wind Direction Monitoring Assessment of Myanmar Survey Research Company Ltd. (Yangon,May, 2020)</li> <li>- Air, Noise and Vibration Monitoring Assessment of Myanmar Survey Research Company Ltd. (Yangon,June, 2020)</li> <li>- Developing ESIA for New Kunlong Bridge Project, Ministry of Construction, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, public consultations, GRM, ESMP, compliance monitoring, Environmental baseline report writing, stakeholder engagement (2019-Ongoing)Thanlwin River, Kunlgon township, Northern Shan State, Myanmar</li> <li>- Developing IEE for Pulses and Beans Trading Project:Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, Environmental baseline report writing, (2019-Ongoing) Bright Light Company Co.,Ltd, Shwe Pyi Thar Industrial Zone (2)</li> <li>- Developing ESIA for LNG power plant and Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Ayeyarwaddy, 2016-2017)</li> <li>- Developing ESIA for 500KV transmission line Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing,</li> </ul>
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		<p>public consultations, compliance monitoring, stakeholder engagement (Taung Goo, 2018-2019)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for rubber plantation, public consultations, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing ESMP, stakeholder engagement, compliance monitoring (Thanbyuzayet, 2019-2019)</li> <li>- Developing ESIA for De Heus animal feed factory, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing public consultations, GRM, ESMP, compliance monitoring, stakeholder engagement (Myotha, 2017-2018)</li> <li>- Developing ESIA for BelGa Chicken Poultry Farm Plant, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing, GRM, ESMP, compliance monitoring, stakeholder engagement (Hleeku, 2018-2019)</li> <li>- JICA water quality surveys in Yangon and Mandalay (2016-2018)</li> <li>- Emergency flooding and Landslide Recovery Project in Chin Region, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Hakha, 2019-2019)</li> <li>- Developing ESIA for Han Htay Aung Co., Ltd of Industrial Raw Materials Manufacturing Project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2019-2019)</li> <li>- Environmental Baseline Monitoring Report for IAIDP, Air, Noise and Vibration Monitoring, water quality testing, and Environmental Baseline report writing (PyawBwe, 2019-2019)</li> </ul>
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		<ul style="list-style-type: none"> <li>- Developing EMP for JOC Garment Project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for Southland Myanmar Rubber co., ltd project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for Mount Treasure co., ltd project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for BelGa Myanmar Chicken Hatchery Plant, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2018-2019)</li> </ul>
2016 to 2017	<p>Ramboll – Environ Myanmar Co., Ltd.</p> <p>Technical Support</p> <p>For references: Tel - 09255922861/e-mail- joeunh88@hotmail.com; Josiah, field environmental specialist</p>	<ul style="list-style-type: none"> <li>- IEE for two rice mills in Twontay, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Yangon, 2017-2017)</li> <li>- ESIA for Katha sugar mill, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Katha, 2016-2017)</li> <li>- ESIA for sugar cane plantation, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Madaya, 2016-2017)</li> <li>- Providing ADB training for environmental safeguards monitoring, Support to safeguards monitoring training (Yangon and Mandalay, 2017)</li> <li>- EIA for Yoma Strategic Holding Ltd., 's Landmark project, Air, Noise and Environmental Air and Noise report writing (Yangon, 2016-2017)</li> </ul>

		<p>- ESIA for LNG power plant at Mee Long Gyant, Air and Noise Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Ayeyarwaddy, 2016-2017)</p> <p>- ESIA for Solar Power Plant Project at KyaukSe, Air and Noise Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (KyaukSe, 2016-2017)</p> <p>- All ESIA and IEE reports Developed by Environ Myanmar Co., Ltd and capacity building training assistant</p>
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**Language Skills (indicate only languages in which you can work):** Myanmar and English

**Expert's contact information:** (e-mail - maung@myseam.com, phone- 09953351190)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

MIN ZARNI AUNG

08 September 2020

Name of Expert

Signature

Date

Than Soe

08 September 2020

Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title and No.</b>	Social specialist
<b>Name of Expert:</b>	Nay Soe Tun
<b>Date of Birth:</b>	4 <sup>th</sup> , Jan 1987
<b>Country of Citizenship/Residence</b>	Myanmar

**Education:**

Bachelor of Science (Geology), Sittway University (2008)

**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	<p>Social &amp; Environmental Associates – Myanmar (SEAM) Geology/Geotechnical and Soil Specialist</p> <p>For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director</p>	<ul style="list-style-type: none"> <li>- Developing ESIA for 500KV transmission line, Geology and Soil, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, public consultations, GRM, ESMP, compliance monitoring, GIS mapping and analysis, stakeholder engagement (Ayeyarwaddy, 2018-2019)</li> <li>- Developing ESIA for rubber plantation, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, biodiversity survey, public consultations, GRM, ESMP, GIS mapping and analysis, stakeholder engagement (Thanbyuzayet, 2018-2019)</li> <li>- Developing ESIA for 500KV transmission line, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, GRM, public consultations, GRM, ESMP, compliance monitoring, Developing ESIA for De</li> </ul>

		<p>Heus animal feed factory, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Myotha, 2017-2018)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for BelGa Chicken Poultry Farm Plant, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Hleeku, 2018-2019)</li> <li>- JICA water quality surveys in Yangon and Mandalay (2016-2018)</li> <li>- Emergency Flooding and Landslide Recovery Project in Region, socio-economic survey, public consultations, stakeholder engagement, land acquisition and GRM system (Gwa-Thandwe 2018-2019)</li> <li>- Emergency Flooding and Landslide Recovery Project in Chin Region, support to biodiversity survey and environmental baseline report writing (Hakha, 2019-2019)</li> <li>- Developing ESIA for Han Htay Aung Co., Ltd of Industrial Raw Materials Manufacturing Project, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2019-2019)</li> <li>- Environmental Baseline Monitoring Report for IAIDP, support to Air, Noise and Vibration Monitoring, water quality testing, and environmental baseline report writing (PyawBwe and Natmauk, 2019-2019)</li> <li>- Developing EMP for JOC Garment Project, socio-economic survey, public consultations, stakeholder engagement, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> </ul> <p>- Developing IEE for Southland Myanmar Rubber co., ltd project socio-economic</p>
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		<p>survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</p> <ul style="list-style-type: none"> <li>- Developing IEE for Mount Treasure co., ltd project, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for BelGa Myanmar Chicken Hatchery Plant, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> </ul>
2016-2017	<p>For references: Tel - 09255922861/e-mail- joeunh88@hotmail.com; Josiah, field environmental specialist</p>	<ul style="list-style-type: none"> <li>- EIA for Yoma Strategic Holding Ltd., 's Landmark project, Air, Noise and Environmental Air and Noise report writing (Yangon, 2016-2017)</li> <li>- ESIA for LNG power plant at Mee Long Gyant, Air and Noise Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (Ayeerwaddy, 2016-2017)</li> <li>- ESIA for Solar Power Plant Project at KyaukSe, Air and Noise Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey and Environmental Baseline report writing (KyaukSe, 2016-2017)</li> </ul> <p>All ESIA and IEE reports Developed by Environ Myanmar Co., Ltd and capacity building training assistant</p>

**Language Skills (indicate only languages in which you can work):** \_\_\_\_\_  
Myanmar, Arakanese and  
English

**Expert's contact information:** (e-mail – ntun@myseam.com, phone- 09454017212)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Nay Soe Tun



08 Spet 2020

Name of Expert

Signature

Date

Than Soe



08 Sept 2020

Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title and No.</b>	Social specialist
<b>Name of Expert:</b>	Than Soe
<b>Date of Birth:</b>	22 <sup>nd</sup> , May 1981
<b>Country of Citizenship/Residence</b>	Myanmar

#### **Education:**

Bachelor of Science (Mathematics), East University Yangon (2005)

**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	Social & Environmental Associates – Myanmar (SEAM) Social Specialist  For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"><li>- Developing IEE for Pulses and Beans Trading Project: Support to Social Economic Survey, water quality testing, Environmental baseline report writing, (2019-2020) Bright Light Company Co.,Ltd, Shwe Pyi Thar Industrial Zone (2)</li><li>- Developing ESIA for New Kunlong Bridge Project, Ministry of Construction, GRM, ESMP, compliance monitoring, Environmental baseline report writing, stakeholder engagement (2019-2020) Thanlwin River, Kunglon township, Northern Shan State, Myanmar</li><li>- Developing ESIA for LNG power plant and socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Ayeyarwaddy, 2016-2017)</li><li>- Developing ESIA for 500KV transmission line socio-economic survey, public consultations,</li></ul>

		<p>stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing, (Taung Goo, 2018-2019)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for rubber plantation, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Thanbyuzayet, 2019-2019)</li> <li>- Developing ESIA for De Heus animal feed factory, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Myotha, 2017-2018)</li> <li>- Developing ESIA for BelGa Chicken Poultry Farm Plant, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Hleeku, 2018-2019)</li> <li>- JICA water quality surveys in Yangon and Mandalay (2016-2018)</li> <li>- Emergency Flooding and Landslide Recovery Project in Region, socio-economic survey, public consultations, stakeholder engagement, land acquisition and GRM system (Gwa-Thandwe 2018-2019)</li> <li>- Emergency Flooding and Landslide Recovery Project in Chin Region, support to biodiversity survey and environmental baseline report writing (Hakha, 2019-2019)</li> <li>- Developing ESIA for Han Htay Aung Co., Ltd of Industrial Raw Materials Manufacturing Project, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2019-2019)</li> </ul>
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		<ul style="list-style-type: none"> <li>- Environmental Baseline Monitoring Report for IAIDP, support to Air, Noise and Vibration Monitoring, water quality testing, and environmental baseline report writing (PyawBwe and Natmauk, 2019-2019)</li> <li>- Developing EMP for JOC Garment Project, socio-economic survey, public consultations, stakeholder engagement, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for Southland Myanmar Rubber co., ltd project socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for Mount Treasure co., ltd project, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> <li>- Developing IEE for BelGa Myanmar Chicken Hatchery Plant, socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (Yangon, 2018-2019)</li> </ul>
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**Language Skills (indicate only languages in which you can work):** Myanmar and English

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**Expert’s contact information:** (e-mail – [tsoe@myseam.com](mailto:tsoe@myseam.com), phone- 09779907751)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Than Soe



20 August 2020

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Name of Expert

Signature

Date

Than Soe



20 August 2020

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Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title</b>	Health and safety Officer
<b>Name of Expert:</b>	Min Min Oo
<b>Date of Birth:</b>	17 March 1977
<b>Country of Citizenship/Residence</b>	Myanmar

#### Education:

B.A(Myanmar), U.D.E, YGN

Certificate in ALO & HLO Landing Training Course

Certificate in Site Safety Training Course

Certificate in Hazardous Wastes Controlling Training Course

Certificate in Advance Fire Fighting Course

#### Employment record relevant to the assignment:

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2017 - present	Social & Environmental Associates – Myanmar (SEAM)  Health and Safety Officer  For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"><li>- Supervising all health and safety measures for all projects</li><li>- Creating and implementing the health and safety policies in accordance with the latest legislation</li><li>- Ensuring those policies to be implemented by management and employees</li><li>- Ensuring that each member of staff is aware of and adheres to this policy</li><li>- Undertaking the regular inspections and risk assessments,</li><li>- Taking recording and thoroughly investigating any accident, recommending any improvements in safety standards if necessary</li><li>- Training all staff in safety issues, and advising them on protective clothing and equipment where necessary</li><li>- Working very closely with management</li><li>- Taking the responsibilities for safeguarding machinery, fire safety, occupational health, noise, control of hazardous substance, manual handling, working with display screen equipment, and environmental health</li></ul>

2007 to 2010	Manager Khun Htein Quarry Mine and Production Project, Nay Pyi Taw, Myanmar	- Doing project concern which it from raw to fine demand size for site constructions
2000 to 2006	Logistics Technician TOTALFINAELF Yadana Co.,ltd Onshore Oil & Gas Production, Kanbauk, Dawei(PLC)	- Flight Passenger Manifest - Transportation/Marine and Aviation Site Fuel Consumption
1998 to 2000	Logistics Assistance Mc CONNELL DOWELL Constructors (AUST) PTY. LTD. YETAGUN ONSHORE PIPELINE CONSTRUCTION PROJECT, KANBAUK, DAWEI, MYANMAR	- Monitoring Vehicles and Equipment for Servicing and Maintenance, - Stock Ordering and Receiving - Monitoring Transportation Site Fuel Consumption

**Language Skills (indicate only languages in which you can work):** Myanmar and English

**Expert's contact information:** (e-mail - ashein@myseam.com, phone- 0943168166)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Min Min Oo



8 September 2020

Name of Expert

Signature

Date

Than Soe



10 September 2020

Name of authorized  
Representative of the Consultant  
(the same who signs the Proposal)

Signature

Date

## TRANSITIONAL CONSULTANT REGISTRATION FORM FOR PERSON

*This form was set out by ECD-MOECAP in accordance with Article 17 (a) of EIA Procedure No. 616/2015, i.e. smooth application and registration for person who wishes to undertake an IEE / EIA study during the transitional period — until coming into force of “Consultant Registration Scheme”.*

### SECTION A – PERSONAL INFORMATION

Full Name (Sur name, Given name)	Su Su Mon
Courtesy Title (Prof, Dr, Mr., Mrs., Ms)	Mrs.
Date of birth	5 November 1990
Identity card number (Citizen in Myanmar)*	9/PAKAKHA(N)014589
Passport number (Foreigners only)*	-
Organization	Social and Environmental Associates Myanmar
Job Title	Water Quality Specialist

\* A copy of ID card or Passport must be attached to this form.

#### HOME Address:

<b><u>No.76,Myintzuthaka Street,Sector 4,Pauk Kone, Mingalardon Township, Yangon</u></b>	
<b><u>Ph : +95 (9) 978884840</u></b>	
Postcode: MMR 013002	Country: Myanmar

#### WORK/ OFFICE Address:

<b><u>SOCIAL AND ENVIRONMENTAL ASSOCIATE-MYANMAR CO., LTD</u></b>		
<b><u>No.76,Myintzuthaka Street,Sector 4,Pauk Kone, Mingalardon Township, Yangon</u></b>		
Postcode: MMR 013040		Country: Myanmar
<b>Preferred address:</b> All future correspondence will be sent to the address indicated.	<b>Home</b> <input type="checkbox"/>	<b>Work</b> <input checked="" type="checkbox"/>

<b>Contact Information :</b>	
Telephone: (+95) 9 978884840	E mail : smon@myseam.com
Fax: (+95)	Mobile phone: (+95) 09978884840 (+95)

Area of expertise	
<p>Note :</p> <p>(i) Individual applicant can select up to <u>four (4) areas</u> (at least one (1) area shall be selected) from the list of areas of expertise below.</p>	
(i) Water Pollution Control;	<p>Area of Expertise</p> <p>a) Air Pollution Control;</p> <p>b) Ecology and Biodiversity;</p> <p>c) Facilitation of meeting;</p> <p>d) Geology and Soil;</p> <p>e) Ground water and Hydrology;</p> <p>f) Land use;</p> <p>g) Legal Analysis;</p> <p>h) Meteorology, Modeling for Air Quality;</p> <p>i) Modeling for Water Quality;</p> <p>j) Noise and Vibration;</p> <p>k) Risk Assessment and Hazard Management;</p> <p>l) Socio-Economy;</p> <p>m) Water Pollution Control;</p> <p>n) Waste Management; and</p> <p>o) Others</p>
(ii) Facilitation of meeting;	
(iii) Modeling for Water Quality;	
(iv) Waste Management;	
<p><b>Team Leading</b></p> <p>If you have an experience of 'Team Leading', please select the most recent cases up to 3 and describe here the summarized information of each case:</p>	
Duration	Summary of the case

<p><b>2016-2017</b></p>	<ul style="list-style-type: none"> <li>-Project for Capacity Development in Basic water Environment Management</li> <li>-Water Quality Analyst</li>   <li>-Slow Sand Filtration System at BPS 8 in Mandalay</li> <li>- Water Quality Analyst</li>   <li>-Basic Laboratory Statics &amp; Control Sample at Mandalay City Development Committee Laboratory</li> <li>- Water Quality Analyst</li>   <li>-Mandalay Urban Services Improvement Project at Mandalay City Development Committee Laboratory</li> <li>-Gender</li>   <li>- Mandalay Urban Services Improvement Project at Mandalay City Development Committee Laboratory</li> <li>-Socio – economic survey</li> <li>- Mandalay City Development Committee Laboratory</li> <li>-Water Quality Analyst</li> </ul>

Further explanation on your expertise (optional)

- Chemical Engineer
- Water Quality Expert

## SECTION B: ACADEMIC QUALIFICATIONS

Year Started	Year completed	Full or part time	Course title	Institution	Title of degree / certificate*	Description of subject areas studied
2006	2006	Part Time	Software	KMD Computer Centre	Certificate	-Window Operating System -Microsoft word 2003 - Microsoft Excel 2003 - Microsoft Power Point 2003 -Using Internet & Email -Adobe Page Maker 7.0
2007	2010	Full time	Chemical Engineering	Mandalay Technological University	Bachelor of Technology (Chemical Engineering)	Chemical Engineering
2011	2012	Full time	Chemical Engineering	Mandalay Technological University	Bachelor of Engineering (Chemical Engineering)	Chemical Engineering
2012	2013	Part Time	Nurse Aid	Aung Myae Thar Si	Certificate	Nurse Aid & Pharmacy Training Course
2014	2015	Part Time	Nurse Aid	Aung Myae Thar Si	Certificate	Nurse Aid & Pharmacy Course & Academic Medical Training Course
2016	2016	Part time	Flood Hazard	MCDC	Certificate	Workshop on flood Hazard Mapping
2017	2017	Part time	GIS	MCDC	Certificate	Training Course on Geographic Information System using QGIS

\*Please ensure copies of certificates or any proof of the academic qualification are enclosed. If those supporting evidence is written in other than Myanmar or English language, those shall be provisionally translated into Myanmar or English language.

**SECTION C: WORKING EXPERIENCE**

Period	Organization or client	Position	Responsibilities	Verification Source – contact details of the organization / client
1	Mandalay City Development Committee	Technical Support	-Surface water Analyst -Ground water Analyst -Wastewater Analyst	-34St; Between 84 & 85 St, Mandalay City Development Committee

## SECTION D: DECLARATION

I hereby apply for registration and agree to observe and abide by the Code of Conduct specified in the final part of this form. I certify that the statements contained in this form and the supporting evidence are correct to the best of my knowledge and belief.

<b>Signature :</b> 	<b>Date : 13/7/2017</b>
---	-------------------------

### CODE OF CONDUCT

All Registered Consultants are obliged to improve the standing of the environmental impact assessment profession by rigorously observing the following Codes of Conduct. Failure to conform may result in suspension or deregistration. All registrants shall:

*To act professionally, accurately and in an unbiased manner;*

*Strive to increase the competence and prestige of the environmental impact assessment profession;*

*Assist those under my supervision (if relevant) in developing their management, professional and environmental impact assessment skills;*

*Not to represent conflicting or competing interests and to disclose to any client or employer any relationship that may influence my judgment;*

*Not to accept any inducement, commission, gift or any other benefit from any interested party or knowingly allow colleagues to do so;*

*Not to intentionally communicate false or misleading information that may compromise the integrity of any EIA / IEE study; and*

*Not to act in a manner detrimental to the reputation of any of the stakeholders including the Ministry and the client.*

#### FOR OFFICE USE ONLY

Date received:

Attachment:

- Copy of ID card or Passport
- Professional Resume
- Copies of certificate / any proof for academic qualification (written in or translated into Myanmar or English language)

Recorded by:

Additional comments, notes or recommendations (attached if necessary):

## PERSONAL INFORMATION:



Name : SU SU MON  
Date of Birth : 12-5-1990  
National ID : 9/ Pakakha (N) 014589  
Sex : Female  
Marital Status : Married  
Father Name : U Khin Maung Myint  
Nationality : Myanmar  
Religion : Buddhist  
Languages Known : Burmese (mother tongue), English  
Address : Sector 4, Pauk Kone, Mingalardone Township, Yangon  
Email Address : sumon21412@gmail.com  
Contact No. : 09978884840 , 09762003264

## EDUCATIONAL QUALIFICATION

- February 2013 : Bachelor of Engineering at Mandalay Technological University  
Major : Chemical
- January 2011 : Bachelor of Technology at Mandalay Technological University  
Major : Chemical
- January 2015 : Nurse Aid & Advanced Pharmacy Course & Academic Medical Training Course
- July 2013 : Nurse Aid & Pharmacy Training Course

## OTHER SKILLS

- Microsoft Office
- Using E-mail & Internet
- Communicative English

## **WORKING EXPERIENCE**

- From August 2015 to June 2017 : Water Quality Analyst at Mandalay City Development Committee
- February 2016 : Water Sampling With JICA Expert
- May 2017 : Social Engineer at ADB Office
- February 2015 : Pharmacist at Drug Shop

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title and No.</b>	GIS Specialist
<b>Name of Expert:</b>	Thet Paing Oo
<b>Date of Birth:</b>	27 <sup>st</sup> April 1990
<b>Country of Citizenship/Residence</b>	Myanmar

#### **Education:**

BSc in Geology – University of East Dagon Myanmar (2012)

Diploma in Post Graduate of Global Information System – University of East Dagon Myanmar (2016)

**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
2018 - present	Social & Environmental Associates – Myanmar (SEAM) GIS specialist  For references: Tel - 09795852122/e-mail- seamgroup@myseam.com; U Win Aung, Director	<ul style="list-style-type: none"><li>- Developing ESIA report for 500KV and 230 KV transmission line project: leading to baseline survey assessment, public consultations, stakeholder engagement, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, Biodiversity survey, GIS mapping and analysis, Technical Control of the report (Mee Linn Gyaint, 2020-ongoing)</li> <li>- Preliminary Environmental and Social Assessment Report for (10) Solar Sites: Ta Nyaung, Nyaung Pin Gyi, Ohn Taw, Thae Phyu, Oak Shit Kone, Shwe Taung, Kamanet, Shwe Myo, Nay Pyi Taw (1) and Nay Pyi Taw(2), KT Services and Logistics Co., Ltd: Leading the baseline environmental and social survey assessment (June 2020)</li> <li>- Preliminary Environmental and Social Assessment Report for (4) Solar Sites:</li></ul>

		<p>Kyaiklatt, Atoke, Khangyihtuant, Myan Aung; Energy Absolute Public Company Limited and Ayeyar Hinthar Holdings Co., Ltd: Leading the baseline environmental and social survey assesment (June 2020)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for Agro-Chemicals factories of Piti Pyae Sone Company Ltd, Air, Noise and Vibration Monitoring, water quality testing, GIS mapping and analysis, (March, 2020-Ongoing)</li> <li>- Air, Noise and Vibration Monitoring Assessment on Gas Turbine Plant, Ngantae village,Mawlamyaing (May, 2020)</li> <li>- Wind speed and Wind direction Monitoring Assessment on Transmission lines Project of Htet Bhone Pyae Company Ltd., Tharyar village, Bawlagae district, Kayah State (May, 2020)</li> <li>- Air, Noise, Vibration, Wind Speed and Wind Direction Monitoring Assessment of Myanmar Survey Research Company Ltd.(Yangon, May, 2020)</li> <li>- Air, Noise and Vibration Monitoring Assessment of Myanmar Survey Research Company Ltd. (Yangon,June, 2020)</li> <li>- Developing ESIA for New Kunlong Bridge Project, Ministry of Construction, Thanlwin River, Kunglon township, Northern Shan State, Myanmar: Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, public consultations, GRM, compliance monitoring, GIS mapping and analysis, stakeholder engagement (2019-Ongoing)</li> <li>- Developing IEE for Pulses and Beans Trading Project: Bright Light Company Co.,Ltd, Shwe Pyi Thar Industrial Zone (2): Air, Noise and Vibration Monitoring, Support to Social</li> </ul>
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		<p>Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, (2019-Ongoing)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for Liquefied Petroleum Gas Project: Ceca Gold Company Ltd.,Thilawah industrial zone, Yagon: Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, (2019-ongoing)</li> <li>- Developing EMPs for Tannery Project, Tannery Factories in Myin Gyan Township,Mandalay Division: Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, (2019)</li> <li>- Developing ESIA for 500KV transmission line project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, public consultations, GRM, compliance monitoring, GIS mapping and analysis, stakeholder engagement (Ayeyarwaddy, 2018-2019)</li> <li>- Developing ESIA for rubber plantation factory: Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, biodiversity survey, public consultations, GRM, ESMP, GIS mapping and analysis, stakeholder engagement (Thanbyuzayet, 2018-2019)</li> <li>- Developing ESIA for 500KV transmission line project, MOEE: Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, GRM, public consultations, GRM, ESMP, compliance monitoring, stakeholder engagement (Taungoo to Yangon, 2018-2019)</li> <li>- Developing ESIA for De Heus animal feed factory, Air, Noise and Vibration Monitoring,</li> </ul>
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		<p>Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, GRM, ESMP, compliance monitoring, stakeholder engagement (Myohta, 2017-2018)</p> <ul style="list-style-type: none"> <li>- Developing ESIA for Chicken Hatchery Plant, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity Survey, GIS mapping and analysis, public consultations, GRM, ESMP, compliance monitoring, stakeholder engagement (Hleku, 2018-2019)</li> <li>- Emergency flooding and Landslide Recovery Project in Chin Region, Air, Noise and Vibration Monitoring, water quality testing, Biodiversity survey, GIS mapping and analysis (Hakha, 2019-2019)</li> <li>- Developing ESIA for Han Htay Aung Co., Ltd of Industrial Raw Materials Manufacturing Project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, (Yangon, 2019-2019)</li> <li>- Environmental Baseline Monitoring Report for IAIDP, Air, Noise and Vibration Monitoring, water quality testing, GIS mapping and analysis, (PyawBwe &amp; Nat Mauk, 2019-2019)</li> <li>- Developing IEE for Southland Myanmar Rubber co., ltd project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis (Yangon, 2018-2019)</li> <li>- Developing IEE for Mount Treasure co., ltd project, Air, Noise and Vibration Monitoring, Support to Social Economic Survey, water quality testing, Biodiversity survey, GIS mapping and analysis, (Yangon, 2018-2019)</li> </ul>
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2016-2018	In Mai Kha Co.,ltd. GIS specialist  For references: Tel – 018610253 / <a href="mailto:inmaikhaagro2016@gmail.com">e-mail-          inmaikhaagro2016@gmail.com</a>	- Developing for Organic Farming Project, plantation design, land use, GIS mapping and analysis (Bago and Kalaw 2016-2018)
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**Language Skills (indicate only languages in which you can work):** \_\_\_\_\_

Myanmar and

English

**Expert’s contact information:** (e-mail - [thetpaingoo@myseam.com](mailto:thetpaingoo@myseam.com), phone- 09975112401)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

Thet Paing Oo



08 September 2020

Name of Expert

Signature

Date

Than Soe

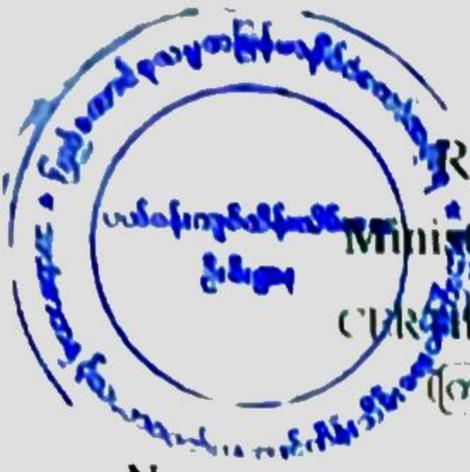


08 September 2020

Name of authorized  
 Representative of the Consultant  
 (the same who signs the Proposal)

Signature

Date



REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)



No. 0000066

Date 01/03/2017

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

- (a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်) U Thet Paing Oo
- (b) Citizenship (နိုင်ငံသား) Myanmar
- (c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်) 12/ Ma Ga Da (N) 154544  
၁၂/မဂဒ (နိုင်) ၁၅၄၅၄၄
- (d) Address (ဆက်သွယ်ရန်လိပ်စာ) 18/Bandarbin Street, Kyi Myin Daing Township, Yangon.  
[tpo.thetpaingoo.tpo@gmail.com](mailto:tpo.thetpaingoo.tpo@gmail.com) , 09 975112401
- (e) Organization (အဖွဲ့အစည်း) AMK and Associate EIA Consultant Group
- (f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား) Person
- (g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်) 31 March 2018

**EXTENSION**  
 သက်တမ်းတိုးမြှင့်ခြင်း  
 The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)  
 ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။  
 E.N. 2018  
 For Director General (See Naing, Director) Environmental Conservation Department

*Handwritten signature in blue ink.*

Director General  
Environmental Conservation Department  
Ministry of Natural Resources and Environmental Conservation

## FORM TECH-6

### CURRICULUM VITAE (CV)

<b>Position Title and No.</b>	Environmental and Public Consultation Specialist
<b>Name of Expert:</b>	YIN YIN NWET
<b>Date of Birth:</b>	20 June 1979
<b>Country of Citizenship/Residence</b>	Myanmar

**Education:**

Master of Science in Agricultural Economics, University of Philippines Los Banõs (UPLB), Philippines

Bachelor of Agricultural Science (B.Agr.Sc), Yezin Agricultural University (YAU), Yezin, Naypyitaw, MYANMAR

Diploma in A.G.T.I (Electrical Power), Government Technical Institute, Chauck Township, Magwe Region, MYANMAR

**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

<b>Period</b>	<b>Employing organization and your title/position. Contact info for references</b>	<b>Summary of activities performed relevant to the Assignment</b>
March, 2018 - present	Environmental and Public Consultation Specialist,  Social & Environmental Associates – Myanmar (SEAM)  For references: Tel – 09795852122 e-mail- seamgroup@myseam.com; U Win Aung, Director	- Developing ESIA report for 500KV and 230 KV transmission line project: leading to baseline survey assessment, public consultations, environmental Baseline report writing, compliance monitoring, stakeholder engagement, Impact assessment and ESMP, Technical Control of the report (Mee Linn Gyaint, 2020-ongoing)  - Developing Preliminary Assessment Report for (10) Solar Sites: Ta Nyaung, Nyaung Pin Gyi, Ohn Taw, Thae Phyu, Oak Shit Kone, Shwe Taung, Kamanet, Shwe Myo, Nay Pyi Taw (1) and Nay Pyi Taw (2), KT Services and Logistics Co., Ltd (June 2020)

		<ul style="list-style-type: none"> <li>• Leading and Coordinating with the client in order to facilitate the survey in the solar sites</li> <li>• Technical Write up for the preliminary environmental and social assessment report for (10) solar sites</li> </ul> <p>- Developing Preliminary Environmental and Social Assessment Report for (4) Solar Sites: Kyaiklatt, Atoke, Khangyihtuant, Myan Aung; Energy Absolute Public Company Limited and Ayeyar Hinthar Holdings Co., Ltd (June 2020)</p> <ul style="list-style-type: none"> <li>• Coordinating with the client in order to facilitate the survey in the solar sites</li> <li>• Technical Write up for the preliminary environmental and social assessment report for (4) solar sites</li> </ul> <p>- Developing Bathymetry Survey report on Ngamoeyeik creek (June 2020)</p> <ul style="list-style-type: none"> <li>- Technical Write up for the report</li> </ul> <p>- Developing EMP Report on Agro-Chemicals factories of Piti Pyae Sone Company Ltd. Biodiversity and Environmental Monitoring, report writing, Impact Assessment, ESMP, stakeholder engagement, compliance monitoring and technical control of the report (March-August 2020)</p> <p>- ESIA on New Kunlong Bridge Project, Ministry of Construction: Thanlwin River, Kunglon township, Northern Shan State, Myanmar: socio-economic survey, public consultations, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing (2019-2020)</p>
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		<ul style="list-style-type: none"> <li>- Developing Air, Noise and Vibration Monitoring Assessment report on Gas Turbine Plant, Ngantae village, Mawlamyaing: Leading and coordinating with the client and Assessment report writing (May 2020)</li>   <li>- Developing Wind speed and Wind direction Monitoring Assessment report on Transmission lines Project of Htet Bhone Pyae Company Ltd., Tharyar village, Bawlagae district, Kayah State: Leading and coordinating with the client and Assessment report writing (May 2020)</li>   <li>- Developing Air, Noise, Vibration, Wind Speed and Wind Direction Monitoring Assessment of Myanmar Survey Research Company Ltd.: Leading and coordinating with the client and Assessment report writing (May, 2020)</li>   <li>- Developing IEE Report on Pulses and Beans Trading Project: Bright Light Company Co., Ltd, Shwe Pyi Thar Industrial Zone (2): socio-economic survey, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey and environmental baseline report writing, Impact Identification and ESMP, Technical Control of the report (2019-2020)</li>   <li>- Developing ESIA report on Liquefied Petroleum Gas Project: Ceca Gold Company Ltd., Thilawah industrial zone, Yangon: socio-economic survey, stakeholder engagement, land acquisition, GRM system, support to biodiversity survey, Impact Assessment and ESMP, and technical control for environmental baseline report</li> </ul>
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		<p>writing (2019-2020)</p> <ul style="list-style-type: none"> <li>- Developing 17 EMPs' Report for Tannery Project: Tannery Factories in Myin Gyan Township, Mandalay Division. Public Consultation, Impact Identification and ESMP, baseline report, and Technical Control of the EMP report (2019)</li> <li>- Developing ESIA report for 500KV transmission line Leading to public consultations, baseline survey assessment, Environmental Baseline report writing, compliance monitoring, stakeholder engagement, Technical Control of the report (Taung Goo, 2018-2019)</li> <li>- Developing IEE Report for rubber crumb production factory, public consultations, Support to Social Economic Survey, and Environmental Baseline report writing, ESMP, stakeholder engagement, compliance monitoring and technical control of the IEE report (Thanbyu zayet, 2019- July2020)</li> <li>- Developing ESIA report for Han Htay Aung Co., Ltd of Industrial Raw Materials Manufacturing Project, Impact Assessment, ESMP and Environmental Baseline report writing (Yangon, 2019-2019)</li> <li>- Developing IEE for Southland Myanmar Rubber co., ltd project, Leading to Public Consultation, and Environmental Baseline report writing (Yangon, 2018-2019)</li> </ul>
2017 May-2018 February	<p>Social and Public Consultation Specialist  Social and Environmental Associates-Myanmar  For references: Tel – 09250260654  e-mail- zinmarlwin02@gmail.com  Dr. Zin Mar Lwin, Environmental Consultant</p>	<ul style="list-style-type: none"> <li>- Developing ESIA for De Heus animal feed factory, Leading to Social Economic Survey and Public Consultation, Report on Social Component and PCM, Biodiversity survey and Environmental Baseline Assessment, compliance monitoring, stakeholder engagement (Myohta, 2017-2018)</li> </ul>

		<ul style="list-style-type: none"> <li>- Developing ESIA for BelGa Chicken Poultry Farm Plant, Leading to Social Economic Survey and Public Consultation, Report on Social Component and PCM, and compliance monitoring, stakeholder engagement (Hleeku, 2018-2019)</li> </ul>
01 March 2018 – 30 June 2018	<p>Agricultural Economist Consultant Integrated Seed Sector Development (ISSD) Office, Office No.43, Nay Pyi Taw</p> <p>Abishkar Subedi, PhD, abishkar.subedi@wur.nl</p>	<p>“Integrated Seed Sector Development (ISSD) Project in Myanmar” (funded by Wageningen University &amp; Research, Netherlands)</p> <ul style="list-style-type: none"> <li>- Lead the survey and interviews at seed farms to collect the necessary data for cost benefit analysis of all seed classes</li> <li>- Make overall coordination for the survey among the seed farms and for the secondary data collection from the concerned departments and regional offices</li> <li>- Lead the survey to collect the primary data from the seed farms</li> <li>- Take responsibility in data entry and data analysis</li> <li>- Take responsibility for writing up the Early Generation Seed’s study report on Cost Benefit Analysis for All Classes of Different Seeds in Public Seed System of Central Dry Zone, Myanmar</li> </ul>
June, 2016 – February 2017	<p>Research Assistance, Economy and Environment Program for Southeast Asia (EEPSEA) Dr. Thandar Kyi Policy Specialist Email: Ph:09448534742 thanda2010.kyi@gmail.com</p>	<p>Project on Land Degradation and Sustainable Land Management in Myanmar funded by Economy and Environment Program for Southeast Asia (EEPSEA)</p> <ul style="list-style-type: none"> <li>- Taking responsibility in surveying for data collection, data entry and data analysis</li> <li>- Assisting in writing up the economics analysis portion</li> <li>- Collecting the secondary data as per necessary</li> <li>- Writing the consultation meeting reports as per requirement</li> <li>- Assisting in preparing the pamphlets and manual book concerned with land degradation</li> </ul>

7 months in 2014	Research Associate Assisting for Thesis on Master of Development study Ms. Maw Maw Lwin Email: mawmawlwinwlt@gmail.com  Ph:09420058048	Project on Non-Farm Activities and Poverty among Rural Farm Households in the selected Area of Wetlet Township, Sagaing Region - Took responsibility in data entry and data analysis - Collecting the secondary data as per necessary - Took responsibility for writing up for some parts of project report
27 December 2013- 30 June 2017	Deputy Program Officer ASEAN Division, Department of Planning, Ministry of Agriculture, Livestock and Irrigation, Office No.15, Nay Pyi Taw	Negotiating with inter-agencies under the Ministry concerning the Agricultural Cooperation Sector in ASEAN+3 and ASEAN Dialogue Partners Assisting in reporting and compilation of agricultural Statistics Taking the responsibilities of collection and analysis of data for the reports relating to the agricultural sector - Assisting in formulating the agricultural project proposals and monitoring the agricultural projects implementing in MOAI especially for the projects which was supported by the Ministry of Agriculture, Forestry and Fisheries-MAFF.
28 February 2008-26 December 2013	Assistant Programme Officer	Organizing the activities under ASEAN, the Ayeyarwaddy - Chao Phraya - Mekong Economic Cooperation Strategy-ACMECS and Greater Mekong Sub region-GMS agriculture cooperation Note-taking and writing the reports of the ASEAN meetings and the progress of agro- based and food and agriculture sectors under the CLMV countries Assisting the agriculture related seminars and workshops, trainings which are conducted by other ministries and Initiative for ASEAN Integration-IAI which was implemented by ASEAN Economic Community-AEC Blue Print.
12 July 2004 -27 February 2008	Deputy Assistant Programme Officer	Assisting in the preparation of reports and documents for ASEAN Meetings Participating in collecting data and surveying

	ASEAN Section, Department of Agricultural Planning, Ministry of Agriculture and Irrigation	Working together with Senior Officer to cooperate with ASEAN countries in agricultural economic sector
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**Regional and International Experiences**

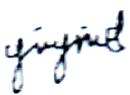
1. Workshop on Agricultural Investment in ASEAN Countries, Bangkok, Thailand (7-8 November 2016)
2. 13th Annual Meeting of the GMS Working Group on Agriculture, Dan Nang, Vietnam (28- 29 July 2016)
3. FAO Regional Training Workshop: Enhancing Effective Participation of Codex activities in ASEAN Countries, Tokyo, Japan (8– 11 September 2015)
4. Participating in National Secretariate for 36<sup>th</sup> AMAF and 14<sup>th</sup> AMAF+3 Meetings, Royal ACE Hotel Nay Pyi Taw (22-27 September 2014)
5. Teaching Assistant of US Trainer for English Language Proficiency of Liaison Officer, Royal ACE Hotel, Nay Pyi Taw (Every Weekend during July, 2014)
6. 11<sup>th</sup> Meeting of Working Group on Agriculture, Thingaha Hotel, Nay Pyi Taw, Myanmar (25-26 March 2014)
7. ERIA capacity Building Seminar 2013 in Myanmar on RCEP, SME, Competition Law, Consumer Protection and IPR, Thingaha Hotel, Nay Pyi Taw, Myanmar (28-30 November 2013)
8. In-Country Workshop for Implementation of the IAI Work Plan II in the CLMV Countries, Myat Taw Win Hotel, Nay Pyi Taw, Myanmar (20-22 March 2012)
9. ASEAN Japan Youth Friendship Program, Japan (31 May 2006 - 22 June 2006)

**Language Skills (indicate only languages in which you can work):** Myanmar and English

**Expert’s contact information:** (e-mail - ynwet@myseam.com, phone- 09798242504)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by DOB.

YIN YIN NWET		8 September 2020
Name of Expert	Signature	Date

Than Soe		8 September 2020
Name of authorized Representative of the Consultant (the same who signs the Proposal)	Signature	Date

## CURRICULUM VITAE



**Name of Candidate:** Htun Aung  
**Date of Birth:** 07/03/1959  
**Country of Citizenship/Residence:** Myanmar/Yangon

**EDUCATION:**

**09/1976-09/1982**                      **Bachelor of Veterinary Science**  
 University of Veterinary Science, Yangon  
 Subjects: Livestock breeding; veterinary medicine; farm economics  
  
 2010 Academic Year                      Postgraduate diploma of Development Study  
 Yangon Institute of Economics  
 Many local and international training in the area of rural and  
 community development.

**EXPERIENCES IN PROJECTS**

Period	Organization, Title/Position, Contact information for references	Country	Summary of Activities Performed relevant to the Assignment
September 2020 to January 2021	National Social Safeguard Specialist	YCDC, Yangon	<ul style="list-style-type: none"> <li>• Lead and coordinate the department safeguards team’s efforts in providing advice, building capacity, and advancing the development of safeguards policies.</li> <li>• Work with other Department’s safeguards team to ensure that appropriate resources and capacity are deployed to effectively cover the safeguards policies of projects in preparation and implementation within the Department.</li> <li>• Lead and facilitate as needed liaison and contact with clients, non-government organizations (NGOs), development partners.</li> <li>• Take charge of public information and disclosure initiatives.</li> </ul>
Jan 2016- May 2018:	Team Leader, Township Technical Assistance of NCDDP Project,	Chaung Zone Township, Mon State	<ul style="list-style-type: none"> <li>• Enhance capacity building to community</li> <li>• Enhance capacity building to DRD staffs</li> <li>• Mobilize &amp; facilitate, to community for village development concepts</li> </ul>

	<p>World Bank &amp; GOMM</p> <p>Ms Anne Marie Schreven Country Director, NCDDP PROJECT VNG International 95-9766057691</p>		<ul style="list-style-type: none"> <li>· Implementation of community management committee training</li> <li>· Supervise &amp; control the village development Fund</li> <li>· Coordinate the township level authority &amp; Gov agency to implement village development activities</li> <li>· Project staffs management &amp; capacity building</li> <li>· Overall management &amp; Reporting of township CDD project activities</li> </ul>
<p><b>June 2015 – December 2015</b></p>	<p><b>EO, Myanmar Livestock Federation</b></p>	<p>Yangon, Myanmar</p>	<ul style="list-style-type: none"> <li>· Provision of livestock production advice to the private sector.</li> <li>· Facilitating livestock trade with other countries, liaising with potential partners globally.</li> <li>· Seeking advice from international livestock experts, primarily FAO, Win Rock International, USA (farmer to farmer program).</li> <li>· Management of 10 members of staff and an approximate budget of USD 100,000. <ul style="list-style-type: none"> <li>· Analysis of training requirements of farmers and putting in place appropriate training solutions.</li> </ul> </li> <li>· Delivery of training courses for farmers.</li> <li>· Data collection/ analyze for domestic consumption and production.</li> <li>· Advise technical information and current information of livestock products trade</li> </ul>
<p>Sept 2014- May 2015</p>	<p>Director-Livestock Breeding and Veterinary Department</p>	<p>Saggine Region, Myanmar</p>	<ul style="list-style-type: none"> <li>· Encouraging farmers to increase their livestock providing advice and guidance farming techniques; veterinary public health; veterinary regulations; food safety; pasture management; farming and forest conversation.</li> <li>· Initiating advocacy meeting at village level to implement; livestock banking; micro-finance (in cooperation with GRESS &amp; other NGOs and concern GOV departments); food security; promotion of income generation.</li> <li>· Initiating, developing and delivering training at community level to prevent animal disease. Eg. Community Animal Health Worker training funded by Regional GOV.</li> </ul>

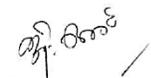
			<ul style="list-style-type: none"> <li>· Line management of staff within 7 Districts and 37 townships.</li> <li>· Effective budget management of approximately USD 600,00.</li> <li>· Cooperating with other government departments (particularly DRD, DGA, Agri: dept, Cooperative etc.) to support rural development activities at the regional level.</li> <li>· Implement Mya Sein Yaung Village Livestock Development Project funded by MoLFRD.</li> <li>· Arrange to get loan from Rural Development Bank Ltd to boost farmer's farming extension.</li> <li>· Advise to Regional government for Sustainable</li> <li>· Member of Regional land Management Committee</li> </ul>
<b>June 2013 – Aug 2014</b>	<b>Deputy Director ASAEN Section, Ministry of Livestock, Fisheries and Rural Development</b>	Nay Pyi Taw, Myanmar	<ul style="list-style-type: none"> <li>· Arranging ASEAN activities for the livestock Sector and reporting to the Ministry of National Planning and Economic Development including</li> <li>-Trade activities and food security</li> <li>· Ensuring that ASEAN protocols and agreements were adhered to.</li> </ul>
<b>Jan 2008- Dec2012</b>	<b>Deputy Director, Animal Health and Development, Livestock Breeding Department</b>	Nay Pyi Taw, Myanmar	<ul style="list-style-type: none"> <li>· Analyzing training requirement, developing and delivering training for Department staff (finance, Management, livestock production advance Technologies)</li> <li>· Liaising with international expert to source high quality, specialized training.</li> <li>· Working with international and local NGOs to provide expert, technical input into their training programs.</li> <li>· Analyzing training need, developing plans and delivering training for farmers and INGO/NGO staff.</li> <li>· Carrying out pre and post training analysis of skill and knowledge levels.</li> <li>· In line with ASEAN standard, implemented, Good Animal Husbandry Practice ( GAHP ) and Food safety procedures, through brainstorming and</li> </ul>

			<p>high level advocacy meetings ( high level, Chaired by Minister )</p> <ul style="list-style-type: none"> <li>· National coordinator/ National project Manager of Small Scale Dairy Development Project funded by FAO ( 2010-2012 ).</li> <li>· National School Milk Program Manager, School Milk Project funded by FAO ( 2010-2012 ).</li> </ul>
Dec 1989- Dec 2007	Various positions with Livestock Breeding and Veterinary Department (LBVD)	Region and State, Myanmar	<ul style="list-style-type: none"> <li>· Promotion of livestock production and veterinary services at the township and district level.</li> <li>· Planning and delivering training at the township level, in cooperation with village tracts.</li> <li>· Planning for village tract in relation to farming activities.</li> <li>· Livestock Banking for rural livestock production and income generation.</li> </ul>
Jan 1996- Sep 1998	Township Peace and Development Council- Secretary- Special duty assigned by GOV.	Kyaukpadaung township, Mandalay, Myanmar	<ul style="list-style-type: none"> <li>· General management for township development – all sectors: social; infrastructure; political and administration</li> </ul>
June 1983- Dec 1989	Junior Conservationist- Forest Department	Mt. Popa & Shwe Set Taw Wildlife Sanctuary, Myanmar	<ul style="list-style-type: none"> <li>· Conservation of wild animals through explaining to villages the value of wild animals and encouraging cooperation in their conversation.</li> </ul>
<b>Language Skills (indicate only languages in which you can work):</b> Myanmar, Mon (native speaker), English (fair)			
<b>Microsoft skills – fair</b>			
<b>Expert's contact information:</b> htunaung568@gmail.com Tel: 09-251079107			

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV Correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank.

**Signature**

  
Htun Aung

## TRANSITIONAL CONSULTANT REGISTRATION FORM FOR PERSON

*This form was set out by ECD-MOECAF in accordance with Article 17 (a) of EIA Procedure No. 616/2015, i.e. smooth application and registration for person who wishes to undertake an IEE / EIA study during the transitional period — until coming into force of “Consultant Registration Scheme”.*

### SECTION A – PERSONAL INFORMATION

Full Name (Sur name, Given name)	<b>Khin, Zaw</b>
Courtesy Title (Prof, Dr, Mr., Mrs., Ms)	<b>Mr.</b>
Date of birth	<b>24/07/1969 (D/M/Y)</b>
Identity card number (Citizen in Myanmar)*	<b>17PE00020 (Permanent Resident Card, Myanmar)</b>
Passport number (Foreigners only)*	<b>-G1718796 (Canada)</b>
Organization	<b>SOCIAL &amp; ENVIRONMENTAL ASSOCIATES-MYANMAR CO., LTD (SEAM)</b>
Job Title	<b>Technical Writer/Public Consultation/ Social Specialist</b>

\* A copy of ID card or Passport must be attached to this form.

#### HOME Address:

<b>No. (76), Myintzuthaka Street, Qtr 4, Pauk Kone, Mingalardon Township, Yangon Region.</b>	
Postcode: MMR 013040	Country: Myanmar

#### WORK/ OFFICE Address:

<b>SOCIAL AND ENVIRONMENTAL ASSOCIATES MYANMAR CO., LTD (SEAM)</b>		
<b>N0 76, MYINTZUTHAKA STREET, APINE 4, PAUKKONE QUARTER</b>		
<b>MINGALARDON TOWNSHIP, YANGON</b>		
Postcode: MMR 013040	Country: Myanmar	
<b>Preferred address:</b> All future correspondence will be sent to the address indicated.	<b>Home</b> <input checked="" type="checkbox"/>	<b>Work</b> <input type="checkbox"/>

<b>Contact Information:</b>	
Telephone: (+95)	E mail: khinzaw77@gmail.com
Fax: (+95)	Mobile phone: (+95) 09778088699

Area of expertise	
<p>Note :</p> <p>(i) Individual applicant can select up to <u>four (4) areas</u> (at least one (1) area shall be selected) from the list of areas of expertise below.</p>	
d) Ecology and Biodiversity;	<p>Area of Expertise</p> <p>a) Air Pollution Control;</p> <p>b) Ecology and Biodiversity;</p> <p>c) Facilitation of meeting;</p> <p>d) Geology and Soil;</p> <p>e) Ground water and Hydrology;</p> <p>f) Land use;</p> <p>g) Legal Analysis;</p> <p>h) Meteorology, Modelling for Air Quality;</p> <p>i) Modelling for Water Quality;</p> <p>j) Noise and Vibration;</p> <p>k) Risk Assessment and Hazard Management;</p> <p>l) Socio-Economy;</p> <p>m) Water Pollution Control;</p> <p>n) Waste Management; and</p> <p>o) Others</p>
c) Facilitation of meeting;	
l) Socio-Economy;	
o)Others (Technical writing, Public Consultation)	
<p><b>Team Leading</b></p> <p>If you have an experience of 'Team Leading', please select the most recent cases up to 3 and describe here the summarized information of each case:</p>	
Duration	Summary of the case
2017-2018	Technical writer; Writing technical papers (English & Myanmar) on EMP/IEE/ESIA study report, Lead Socio-Economic Study, Public Consultation/ Stakeholder Engagement and Biodiversity assessment, JOC EMP project/Mount Treasure IEE project/ Soutland Myanmar Rubber IEE project
2015-2017	Provided English language training to Parliament and DRD staff (Department of Rural Development)→Skill Acquire: Facilitation, Socio-Economy, Clear Writing, Presentation and Communication skills
2011-2015	Lead a team of IT equipment installation and Network equipment configuration on large enterprise client sites,.

Further explanation on your expertise (optional)

Specializations in

Ecology and Biodiversity → -ESIA and Biodiversity Training, MCRB, March 2018  
-ArcGIS, GIS Training, One Map Myanmar, December 2017  
-Biodiversity field training, Sept 2017

Facilitation of meeting → Lead JOC EMP project/Mount Treasure IEE project/ Southland Myanmar Rubber IEE project

Socio-Economy → Lead JOC EMP project/Mount Treasure IEE project/ Southland Myanmar Rubber IEE project

Others → Technical Writing- Provide editing, clarifying, and proofreading documents for EMP/IEE/ESIA report (De Heus, Bel Ga, JOC, Mount Treasure, Southland Myanmar)

Public Consultation → Taking the lead in conducting public consultations for the projects for Mount Treasure CO., Ltd. IEE project and Southland Myanmar Rubber IEE Public Consultation

## SECTION B: ACADEMIC QUALIFICATIONS

Year Started	Year completed	Full or part time	Course title	Institution	Title of degree / certificate*	Description of subject areas studied
1997	2002	Full	Computer Science	University of Toronto, Canada	Bachelor of Science in Computer Science	Computer Science and maths
2017	2017	Full	GIS	One Map Myanmar and Forest Department	GIS Certificate	GIS-Beginner level (ESRI ARCGIS, GPS AND GOOGLE EARTH PRO)
2018	2018	Full	ESIA	AITVN	Certificate	Environmental & Social Impact Assessment
-						

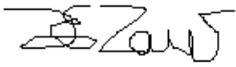
\*Please ensure copies of certificates or any proof of the academic qualification are enclosed. If those supporting evidence is written in other than Myanmar or English language, those shall be provisionally translated into Myanmar or English language.

## SECTION C: WORKING EXPERIENCE

Period	Organization or client	Position	Responsibilities	Verification Source – contact details of the organization / client
2017-Present	SOCIAL & ENVIRONMENTAL ASSOCIATES-MYANMAR CO., LTD (SEAM)	Technical Writer and Social Specialist	Writing accurate, clear, and concise Report. Providing editing, clarifying, and proofreading documents written by others,	SOCIAL & ENVIRONMENTAL ASSOCIATES-MYANMAR CO., LTD (SEAM)
2017-2017	Mon state Parliament and DRD in Mawlamyaine, Mon State	English Teacher	Provided English language training to Parliament and DRD staff (Department of Rural Development)	Mon state Parliament and DRD in Mawlamyaine, Mon State
2015-2016	Myanmar Naypyidaw	English Teacher	Provided English language training to Parliament and DRD staff (Department of Rural Development)	Myanmar PyidaundSu Hluttaw and DRD in Naypyidaw
2011-2015	IBM	Tech Lead	Lead a team of IT equipment installation and Network equipment configuration on large enterprise client sites,.	IBM, Canada

## SECTION D: DECLARATION

I hereby apply for registration and agree to observe and abide by the Code of Conduct specified in the final part of this form. I certify that the statements contained in this form and the supporting evidence are correct to the best of my knowledge and belief.

<b>Signature :</b> 	<b>Date:</b>  <b>03/09/2018</b>
---	---------------------------------------

### CODE OF CONDUCT

All Registered Consultants are obliged to improve the standing of the environmental impact assessment profession by rigorously observing the following Codes of Conduct. Failure to conform may result in suspension or deregistration. All registrants shall:

*To act professionally, accurately and in an unbiased manner;*

*Strive to increase the competence and prestige of the environmental impact assessment profession;*

*Assist those under my supervision (if relevant) in developing their management, professional and environmental impact assessment skills;*

*Not to represent conflicting or competing interests and to disclose to any client or employer any relationship that may influence my judgment;*

*Not to accept any inducement, commission, gift or any other benefit from any interested party or knowingly allow colleagues to do so;*

*Not to intentionally communicate false or misleading information that may compromise the integrity of any EIA / IEE study; and*

*Not to act in a manner detrimental to the reputation of any of the stakeholders including the Ministry and the client.*

#### FOR OFFICE USE ONLY

Date received:

Attachment:

Copy of ID card or Passport

Professional Resume

Copies of certificate / any proof for academic qualification  
(written in or translated into Myanmar or English language)

Recorded by:

Additional comments, notes or recommendations (attached if necessary):

## **KHIN ZAW**

khinzaw77@gmail.com, 09778088699

Khin Zaw has joined Social & Environmental Associates – Myanmar as Technical writer, Social and Public Consultations Specialist since 2017.

Khin Zaw is passionate about the conservation of environment and social entities. He has experience in conducting public consultations, promoting community participation, dealing with grievance issues, facilitating dialogues with communities and offering trainings. He has Bachelor's in Computer Science from University of Toronto, Canada. He has been involved in volunteering governmental organization and environmental and social conservation in Myanmar.



### **SUMMARY**

- Promoting community participation, making connection with peoples, learning and listening issues from the peoples, arousing peoples' interest in matters important to them, and navigating ways to solve disputes with consistent approaches
- Dedication to improve social improvement of the peoples in Myanmar, strong interest in promoting environmental conservation and public participation in programs, and having belief in sustainable development with the involvement of the peoples
- Key parts of writing for De Heus ESIA project, Bel Ga IEE project, JOC EMP project, Mount Treasure IEE project, Southland Myanmar Rubber IEE project
- Proven record of writing accurate, clear, and concise documentation. Proven communications and teamwork skills and strong initiative. Editing, clarifying, and proofreading documents written by others, and coach non-writers on ways to improve their writing skills.
- ESL teacher with experience in instructing Myanmar Parliamentary and DRD staff. Created activities by identifying students who need extra help and those ahead of the curve that measurably improved student English level. Developed individualized plans to better meet the student's needs.
- 7 years of accomplished Network, Applications/Systems, and desktop computer support professional with demonstrated ability to lead a team of IT equipment installation on-sites, Network equipment configuration with large enterprise.

## **PROFESSIONAL EXPERIENCE**

### **Technical Writer / Social and Public Consultation Specialist**

**Social & Environmental Associate – Myanmar, Yangon** December 2017 - Present

- Key parts of writing for De Heus ESIA project, Bel Ga IEE project, JOC EMP project, Mount Treasure IEE project, Southland Myanmar Rubber IEE project
- Taking the lead in conducting public consultations for the projects
- Providing editing, clarifying, and proofreading documents written by others, and coaching beginners to improve their writing skill
- Writing accurate, clear, and concise documentation.
- Establishing grievance mechanisms and training teams to implement grievance mechanisms
- Providing social safeguards training
- Conducting socio-economic surveys and making analysis
- Dealing with land compensation issues for projects
- Assessing Safeguards policies from ADB, World Bank, and ECD for improvement training to the team
- Carrying out environmental and social surveys

### **ESL teacher**

**Mon State Parliament and DRD state office in Mawlamyine June 2017 – December 2017**

**Myanmar Parliament and DRD in Naypyidaw** August 2015 – July 2016

Provide English language and computer training to Parliament and DRD staff (Department of Rural Development)

- Plan, prepare and deliver lessons to Foundation and Intermediate level English
- Prepared tests, and exercises
- Helped students improve their listening, speaking, reading and writing skills via individual and group sessions
- Provided appropriate feedback on oral and written work
- Attended and contributed to coordination and training sessions with other training providers
- Prepared activities and information for inspection visits and other exercises
- Manage classroom, attendance records, classroom report, and student registers

**Desktop Support II at IBM, Toronto, Canada** May 2015 – July 2015

Provide desktop support for Win 7/8.1 deployment project at RBC & Scotia bank branches in AcrossCanada.

- Provided desktop support for Information Technology hardware and software.
- Travelled across Canada to support hardware and software deployment issues, data migration issues to RBC branches
- Keep track of inventory, schedule, issues and closed ticket to IBM command center
- Use of SCCM, Active Directory, Group Policy
- Recommended hardware and software solutions regarding personal computers in assigned area

- Break/Fix, Add/Delete computer from AD DS, and troubleshoot PXE boot for SCCM

### **Desktop Support II at CSC, Toronto, Canada** November 2014 – April 2015

Responsible for Win 7/8.1 refresh project support to Pratt & Whitney and Kidde Canada on behalf of Computer Science Corporation Canada.

- Provided technical support to more than 300 users for both hardware and software refresh independently
- Recommended hardware and software solutions regarding personal computers in assigned area
- Installed software/hardware and networking components to meet personal computer needs
- Diagnosed and Trouble shoot problems with individual or multi-computer system in order to maintain proper functioning
- Resolved issues including contacting and assisting vendors
- Provided hardware and software deployment issues, data migration issues
- Keep track of inventory, schedule, issues and closed ticket in Remedy system

### **Desktop Support II at IBM, CSC, Hilton, Lob laws, Trillium Hospital, Toronto Canada** April 2014 – October 2014

Provide desktop support for Win 7 deployment/Migration duties and resolve problems for day to day issues

- Use of SCCM, ARS, Active Directory, and Group policy
- Trouble shoot and resolve problems for day to day issues
- Provided hardware and software deployment issues, data migration issues
- Keep track inventory, schedule, issues and report to project manager

### **Desktop Support II at TELUS, Toronto, Canada** November 2013 – March 2014

Provide Windows 7 deployment/Migration duties, Migrating Windows XP to Windows 7.

- Provides desktop support for Information Technology hardware and software.
- Use of SCCM , PC mover and Remedy, Active Directory, Group Policy
- Test new image to hardware compatibility for production use
- Break/Fix, Add/Delete computer from AD DS, and troubleshoot PXE boot for SCCM
- Keep track inventory of hardware and weekly report to project manager

### **Project Deployment Field Technician at IBM Canada, Toronto, Canada**

August 2012 – October 2013

**Provided onsite IT equipment installation and technical support to Loblaw, Toys R Us, and McDonald's store network systems and POS systems across Canada.**

- Lead IBM equipment install team and responsible for the quality of installation to vendor specifications, technical standard and timely to complete deployment
- Deploy PC, POS, Controllers, Hyper-V, Windows 2003 server, CISCO switches and routers, wireless AP and act as a technical escalation point for the outstanding issues
- Work with third parties such as NCR, and Bell teams for resolving network issues
- Interacts closely with other vendors such as GC, Electrician, H and K to ensure successful installation and maintaining health checks
- Walk through with store manager about new system, test systems functions and sign off
- Complete customer Satisfaction Survey at each sites with 100% satisfactory
- Documented and reported store specific information to Project manager
- Created tickets in IBM quickbase ticketing system.

**Desktop Support II at FORD, Toronto, Canada** December 2011 – May 2012

**Lead Windows 7 & Office 2010 deployment team at FORD Canada head office and plants in Oakville and Windsor locations.**

- Lead Windows 7 deployment team, and responsible for reporting, training, assigning jobs to team member, and timely deployment
- Staged and deployed over 1000 Dell PC and Laptops for FORD users
- Created and managed system backups/recovery onsite & remote sites
- Software push, SCCM, SMS, and USMT, Microsoft Virtual PC
- Prioritized and Scheduled users for daily deployment
- Reported daily and weekly job progress and issues to both Dell and Ford project manager

**Deployment Field Technician at Dollar Tree Store, Toronto, Canada**

September 2011 – December 2011

- **Lead Dollar Tree conversion project** at Dollar Giant stores around GTA and nearby cities
- Installed and configured WAN and LAN equipment: NETGATE router, cable modem, wireless AP, SENSOR, wireless and 3COM switches
- Installed Manager PC, POS NCR register, Phone, PINPAD, TIME CLOCK Equipment
- Tested POS system transaction and trouble shoot problems
- Tested Manager Station and POS system for overall completion of the system readiness

**Computer Technician at IBM Customer Solution Center, Toronto, Canada**

September 2008 – October 2010

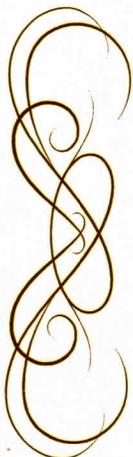
- Implemented information systems for **IBM customers: McDonald's, Wal-Mart, Loblaw's, NLLC, Royal Bank, CN rail, Canadian Tire, Indigo Bookstore, Air Canada, Cineplex** at IBM Customer Solution Center
- Assembled network cabinets with routers, switches, UPS and IBM server
- Tested code on routers, switches according to requirements
- Built/Tested IBM Anyplace Kiosk system for clients; Indigo, Air Canada, and Cineplex
- Assembled ATM machine, installed required software and tested as per requirements
- Integrated overall IT system hardware; POS, server, workstations, network printers, receipt printers scanners, handheld scanners, passport reader and barcode reader for readiness testing
- Created and maintained documentation for established work instructions
- Conducted repairs and assessments on ThinkPad laptops and Desktops

## **EDUCATION & Training**

ESIA and Biodiversity Training, MCRB March 2018

GIS Basic Training, One Map Myanmar, December, 2017

Bachelor of Science in Computer Science, UNIVERSITY OF TORONTO, November 2002



# CERTIFICATE OF COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

**U Khin Zaw**

for successfully completing the course

**GEOGRAPHIC INFORMATION SYSTEMS (GIS) - BEGINNER LEVEL  
(ESRI ARCGIS, GPS AND GOOGLE EARTH PRO)**

organized by OneMap Myanmar and Forest Department  
in Mawlamyine (Mon State) from 4th to 8th December 2017 (5 days)

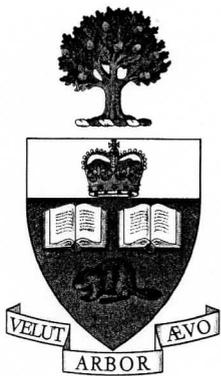
**U Min Thein Myint**

(Director of Forest Department, Mon State)



**Patrick Oswald**

(OMM - Regional Research and GIS Coordinator)



# University of Toronto

This is to certify that

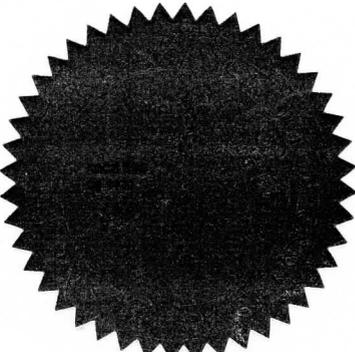
*Zaw Khin*

has fulfilled the requirements of the  
University of Toronto  
and has been admitted under the  
authority of the Governing Council of the  
University of Toronto to the degree of

*Bachelor of Science*

In witness whereof we have hereto  
subscribed our names and affixed the  
academic seal of the University

NOVEMBER 19, 2002



*Carl H. Amrhein*

DEAN OF THE FACULTY OF  
ARTS AND SCIENCE

*Maril O'Neill Karch*

PRINCIPAL OF WOODSWORTH COLLEGE

*Robert J. Birgeon*

PRESIDENT

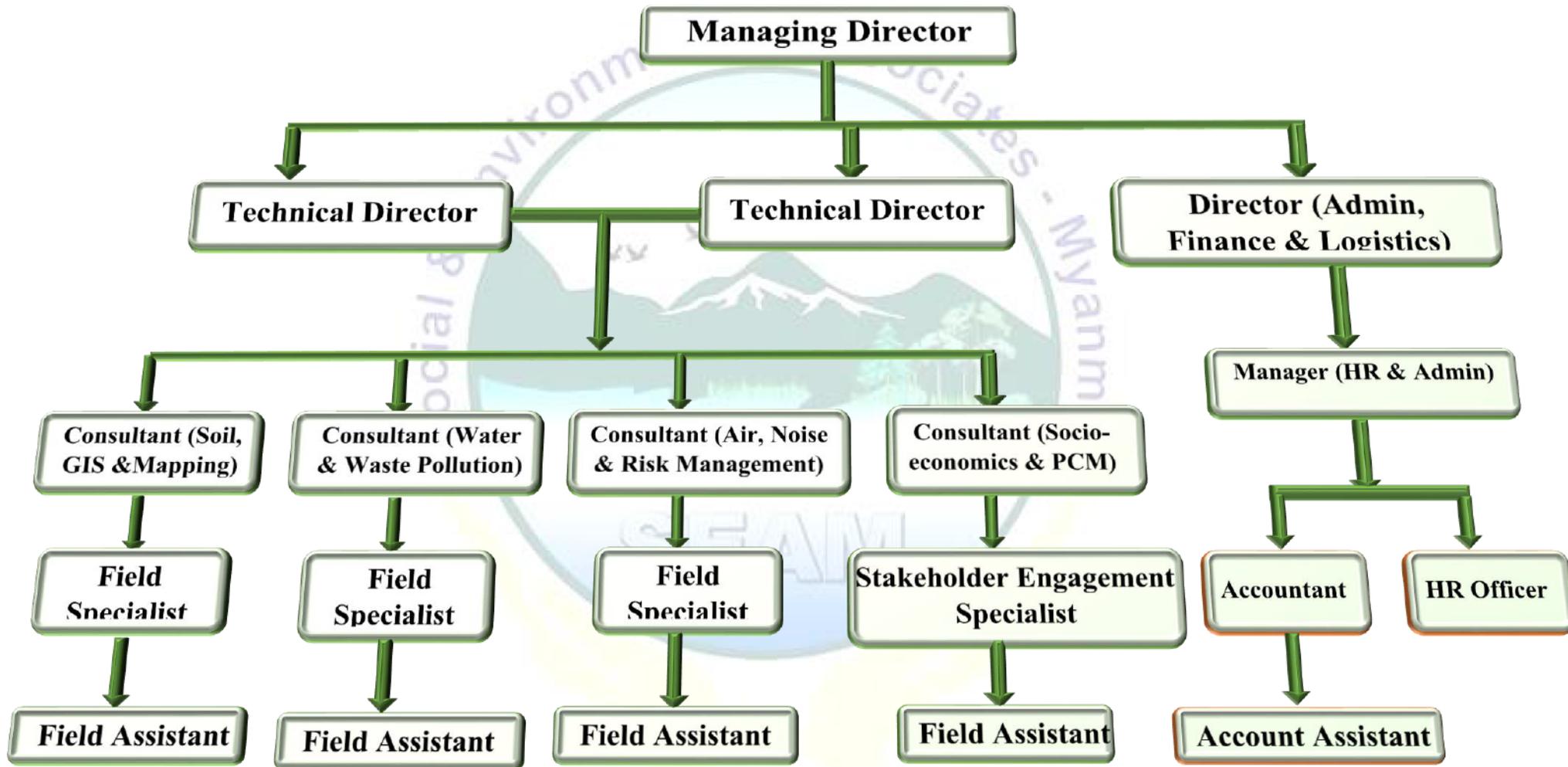
*Louise G. ...*

SECRETARY OF THE GOVERNING COUNCIL

**ANNEX.18:**  
**OrganizationChart & Duties and Functions\_SEAM**



**SOCIAL AND ENVIRONMENTAL ASSOCIATES-MYANMR(SEAM) ORGANIZATION**





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## **DUTIES AND FUNCTIONS OF SEAM TEAM**

### **TECHNICAL DIRECTORs**

- Delivering sustainability strategies, management plans, Environmental Impact Assessments and Sustainability Appraisals;
- Technical checker of environmental and sustainability deliverables and undertake project reviews in line with our business and environmental management systems;
- Engaging with a diverse range of clients and stakeholders at a Senior level, from both the public and private sector. This could be via public consultation events, stakeholder workshops, public inquiries or industry events;
- Involving in monitoring resources, managing budgets, undertaking project management, assisting with contract and risk management and attendance at client meetings
- Preparing of fee estimates, proposal writing and general business development activities
- Taking a key role in delivering Environmental and Social services and growing the business;
- Coaching and mentoring of senior team members in their technical and career development, as well as supporting them with their line management duties of the junior staff.
- leading and managing project teams undertaking scoping, preparation and delivery of environmental appraisals and assessments, programming EIA processes, environmental risk management and the co-ordination of environmental, social and sustainability specialists
- Undertaking technical approvals of environmental and social deliverables and undertake project reviews in line with business and environmental management systems

### **DIRECTOR (Administration, Finance and Logistic)**

- Further develop human resources and administration, enhancing professional development, performance evaluation, training, and recruiting.
- Ensure that recruiting processes are consistent and streamlined.
- Establish and manage a comprehensive training program to educate employees regarding staff tools, policies, and procedures.
- Work closely and transparently with all external partners including third-party vendors and consultants.
- Oversee administrative functions as well as facilities to ensure efficient and consistent operations as the organization scales
- Analyze and present financial reports in an accurate and timely manner; clearly communicate monthly and annual financial statements; collate financial reporting materials, and oversee all financial, project/program and accounting.
- Coordinate and lead the annual audit process, liaise with external auditors and the finance committee of the board of directors; assess any changes necessary.
- Oversee and lead annual budgeting and planning process; administer and review all financial plans and budgets; monitor progress and changes;
- Manage organizational cash flow and forecasting.



- 
- Implement a robust contracts management and financial management/ reporting system; ensure that the contract billing and collection schedule is adhered to and that financial data and cash flow are steady and support operational requirements.
  - Update and implement all necessary business policies and accounting practices; improve the finance department's overall policy and procedure manual.
  - Effectively communicate and present the critical financial matters to the board of directors.
  - Management of own work, including technical delivery, management of finances, and programme delivery

## **CONSULTANTS**

- Provide technical advices to the Project team on environmental issues, where required
- Assist in providing solutions for environmental issues which arise on site
- Industrial Emissions and Integrated Pollution Control support, and Environmental Management Systems
- Implements through site/location safety personnel safety, loss prevention and occupational health programs for compliance with applicable local and regional SHE regulations for multiple sites within a business unit
- Support, coordinate and analyze occupational safety and health, industrial hygiene and appropriate environmental regulations and laws and recordkeeping for completeness and consistency
- Provide environmental support and advices to the projects and business units, including air quality, noise, contaminated land and environmental pollution related matter
- Working with a wide range of clients including private sector and government
- Developing the client proposals, draft reports and presentations
- Attending seminars/conferences on related topics, and sharing knowledge gained with the team
- Understanding Quality, HSE and Company Systems and ensuring that they are applied in all lines of work
- Effectively communicate with contractors and other organizations within Project team on issues of environmental compliance
- Co-ordination with the environmental regulator where required
- Attends regular and ad-hoc Project meetings
- Co-ordinating updates to risk assessments and method statements

## **MANAGER**

- Develops and maintains a proactive working relationship with clients while delivering agreed upon expectations
- Serves as an interface with internal and external audit/regulatory entities



- Negotiates with clients and internal functions effectively with ability to influence the decision-making process
- Ensures clear and concise communication within the team
- Understands client's needs and requirements
- Understands contract deliverables and is able to identify out of scope work
- Executes service that meets contractual requirements
- Resolves questions and issues with client
- Proactively strives to simplify, standardise and improve processes locally and internationally

### **FIELD SPECIALIST**

- Complete site visits and fieldwork, prepare figures and reports, interact with clients, develop and track budgets, and support other projects as needed
- Plan and schedule on-site assessments or other work as assigned
- Monitoring environmental remediation projects and maintenance of environmental remediation systems
- Provide general environmental compliance support to clients
- Focus on project delivery and the ability to work in a team environment
- Adaptability and flexibility to meet project requirements in high pressure situations
- Oversee field examinations and report the environmental risk and hazardous locations and materials.
- Maintain management information systems that identify the location of hazardous sites, chemical inventories, and complaint investigations.
- Develop and recommend solutions to eliminate pollution and environmental hazards.
- Design and implement effective employee training programs
- Collect and analyze test samples of air, noise, vibration, soil, water, and biodiversity
- Perform research and report your findings on the current environmental conditions.
- Prepare clear and detailed written reports about field inspections.
- Implement spill prevention programs and hazardous waste regulations.

### **FIELD ASSISTANT**

- Maintain and evaluate environmental records and documentation
- Collecting environmental documentation, interacting with laboratories,
- Receiving phone calls, working with documents,
- Assisting in designing, developing environmental documentation, project protection, negotiations, work with clients
- Assisting the environmental survey activities such as air, noise, vibration, soil, water and flora and fauna assessment

**ANNEX.19:**  
**Cultural Records\_Belga\_Hatchery Plant\_IEE**

**ANNEX. 19: Mawbi Japanese Pagoda Cultural Photolog**



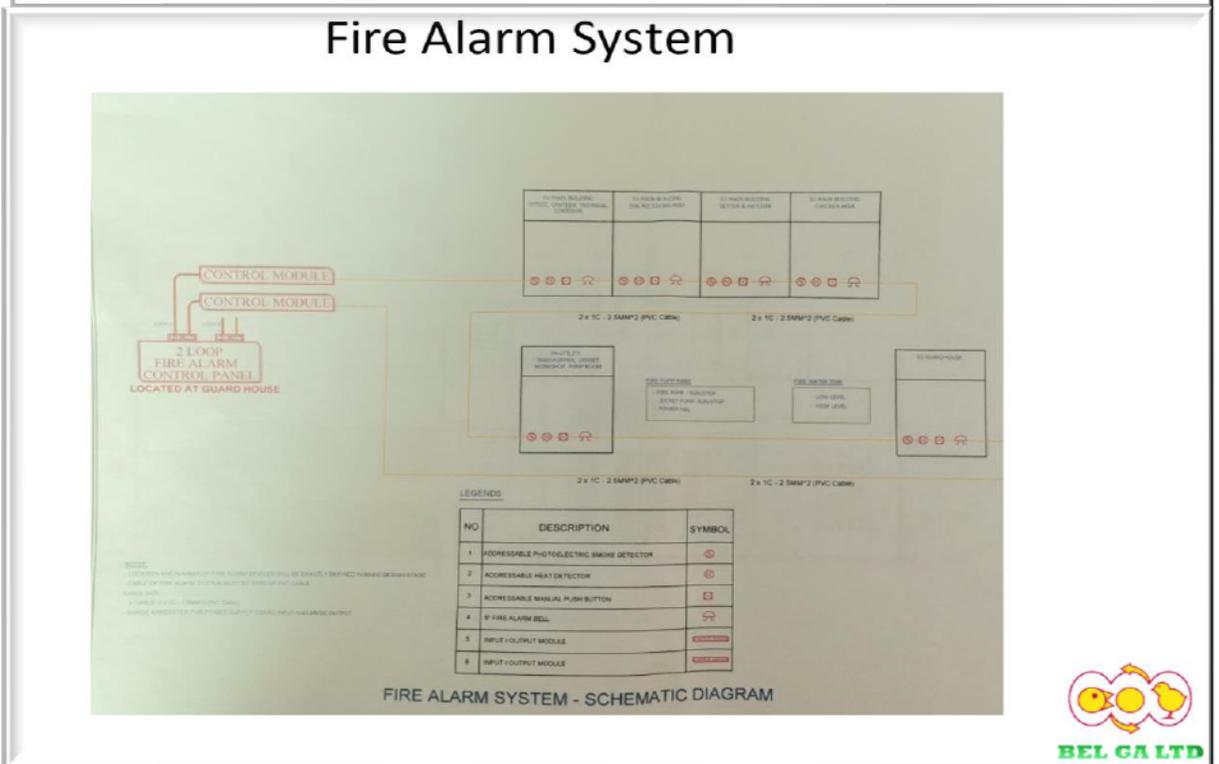
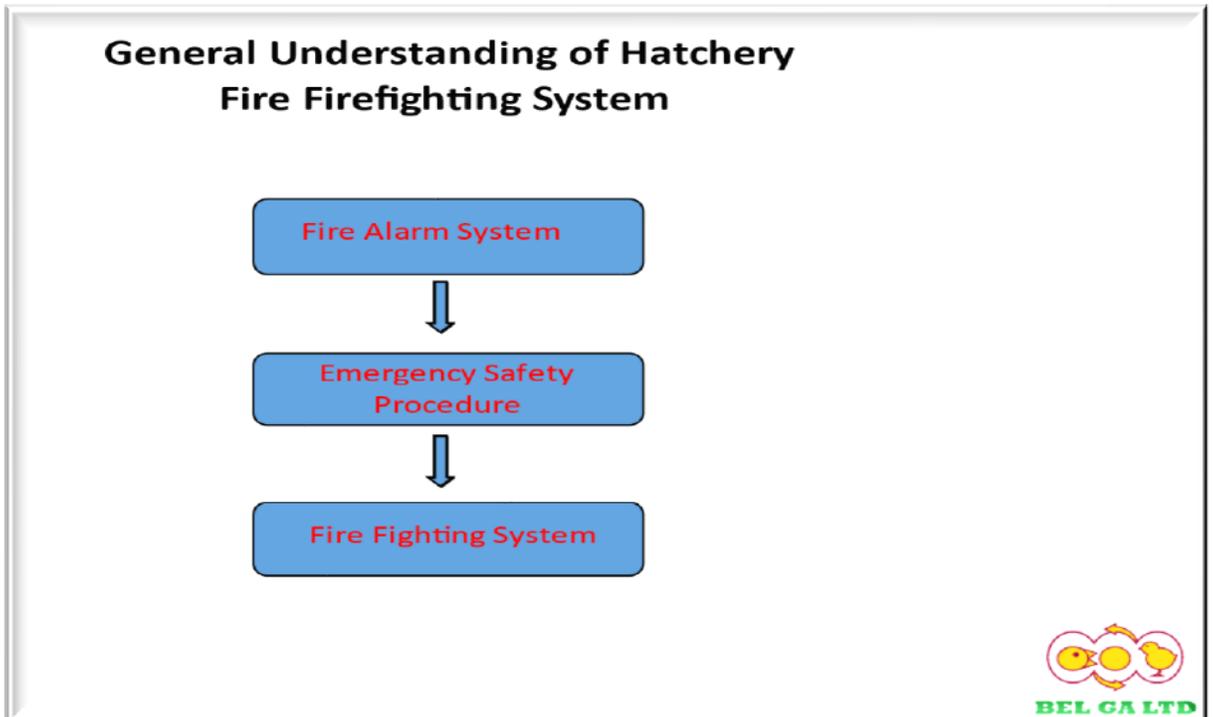


**ANNEX.20:**

**EMERGENCY Equipments\_Belga Hatchery Plant\_IEE**

**ANNEX.20: အရေးပေါ်အခြေအနေများအတွက် တုန့်ပြန်မှုအစီအစဉ်တွင် လိုအပ်သော ပစ္စည်းကိရိယာများ**

**1. Fire Fighting System and Fire Fighting Equipment of Hatchery: Bel Ga Myanmar Company Limited**





## Handheld Fire Protection Chemical



## Fire Fighting System



Fire Water Tank



Income Water

Outgoing Water



77 KW Diesel Cummins machinery engine



45 KW Hydrant and 3.0 KW Jokey Pump



Outside Fire Hose



Fire Tank



## Inside Fire Fighting System



## Weekly Monitoring Checklist of Water Supply Usage and Fire System

BEL GA MYANMAR LIMITED				
Inspection and Maintenance of Water Supply for Usage and Fire System			Document code	BG/HT/TE-F-027
မီးသတ်ရန်နှင့် အသုံးပြုရန် ရေထောက်ပံ့မှုကို ပြုပြင်ထိန်းသိမ်းမှု မှတ်တမ်း			Revision number	00
			Effective date	15.5.2020
			Review date	15.5.2022
			Pages	1 of 1
Date/Time ရက်/အချိန်	Equipment of checking စစ်ဆေးရမည့် ပစ္စည်းများ	Machine status စက်အခြေအနေ	Remark မှတ်ချက်	Checked by စစ်ဆေးသူ
30 / 3 / 2022  9:57AM	Electric cabinet of water pump	OK		Rooney
	Electric cabinet of fire water pump	Normal		
	Well pump 1	OK		
	Well pump 2	OK		
	Spare pump	OK		
	Electric fire pump	OK		
	Diesel fire pumps	OK		
	Compensatory pump	OK		
	Reserve water reserve	OK		
	The amount of water used	13m <sup>3</sup>		
	The amount of water to be filtered	15m <sup>3</sup>		
	Filter system	OK		
	Water meter index	211.45m <sup>3</sup>		
The amount of fuel for pumping diesel engine	18Gall			
Hygienic	OK			

Regulation: Weekly Updat (အပတ်စဉ် မှတ်တမ်း ရေးရန်)

## 2. Spill Clean- up Equipment

Spill clean-up equipment are as follow together with the figures of equipment:

- Face masks, goggles, eye showers for Eye Protection: Protect the responder from splashes of liquid on the skin or protection the eyes from hazardous fumes and liquids.
- Respirators for Respiratory protection: Protect the responder from breathing in dangerous fumes or vapors.
- Gloves for Hand Protection: Protects the hands from burns or absorption of hazardous liquids.
- Boots for Foot Protection: Protect responders feet from exposure to hazardous materials
- Protective suits, long sleeved clothing for Skin Protection: offer protection from vapors and hazardous material splashes on the skin.



Figure 1: Respirator mask, goggles, gloves, and Protective suits

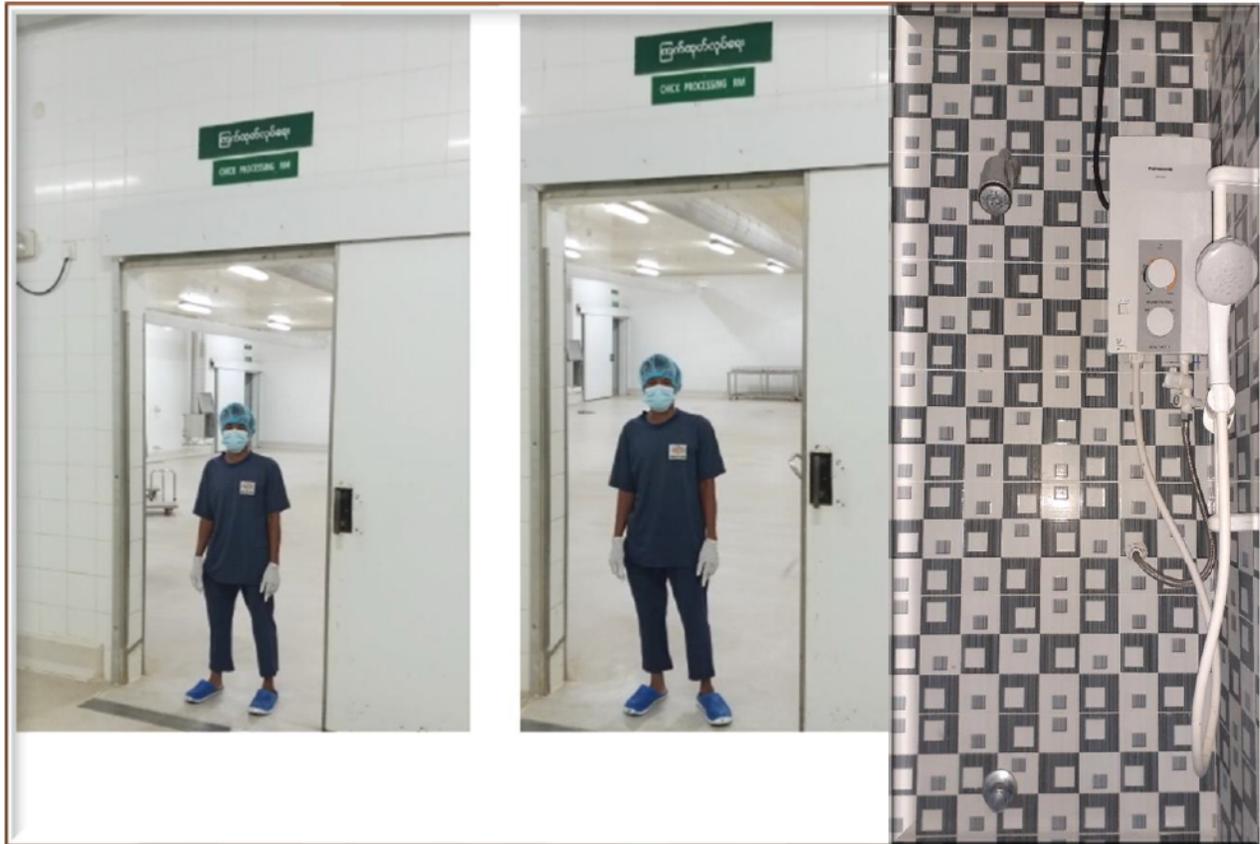


Figure 2: Face mask, shower cap, gloves, protective suits, boots, and shower room for clean-up of spill

### 3. First Aid Supplies and Medical Clinics

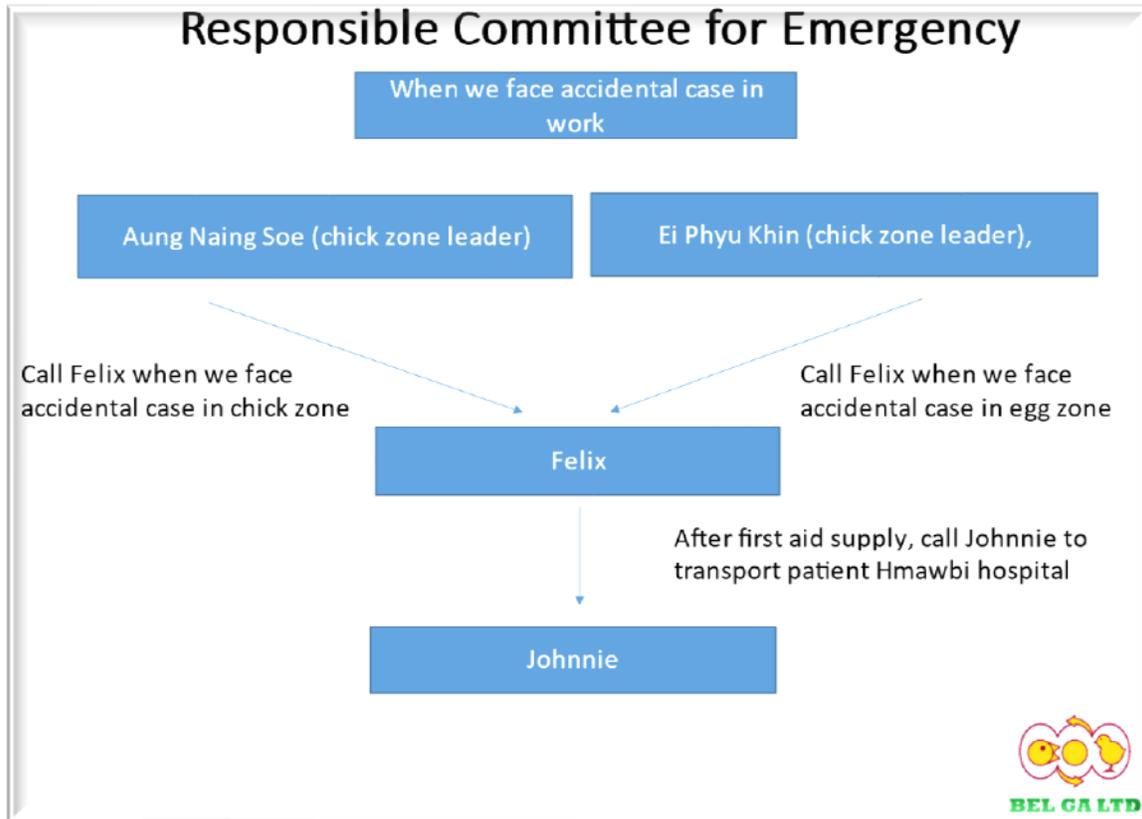
We have a medical clinic and the following first aid supplies are ready for any accidental cases at the factory. Dr. Aung Kyaw Htet and his assistant: Ms. Khin Myo Lin Sein was taking the responsibilities for any fever of the employee and any accidental cases at the clinics.

#### First Aid Supplies

- We have 2 first aid kits and medical box for emergency supply
- Responsible Person— Dr.Aung Kyaw Htet (Felix, address— Belga Hatchery, 09-971323399), Assist by Khin Myo Lin Sein (address – Hmawbi, 09-251054389)

Medical Kit Item Lists		
No.	Description	Qty
1	Scissor (5.5) inches	1
2	Tweezer	1
3	Single Glove (105 Plastic)	1
4	Gauze (2 inches)	1
5	Asceptidine (15 ml)	1
6	Alcohol Pad (1 X1 inches)	1
7	Rubber, Hansaplast, Blade	1
8	Thermometer, Hand Carry	1
9	Medical Cotton	2
10	Paper Plaster (1/2 inches)	3
11	Toingue (for control blood)	1
12	Face Mask (10- pcs), plastic sheet (40X30cm)	1
13	Sterilized Gauze (3 X3 cm)	1





#### 4. Emergency Vehicles

One vehicle is always ready for any emergency cases and Mr. Aung Kyaw Min and Johnnie are taking the responsibilities for arranging immediately the vehicle in time for any emergency case.

