

# **MING DA POLYESTER WADDING (MYANMAR) COMPANY LIMITED**

## **INITIAL ENVIRONMENTAL EXAMINATION**

**Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment**

Prepared by:



**MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED**

2/20/2024



No. (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 9777922169, (+95) 9777929885 Mobile: (+95) 9421137569; Website: www.myanweiconsulting .com

## **Commitment of Myanwei Environmental Solutions Company Limited**

IEE report describes the environmental condition of a project, including significant impact, formulation of mitigation measures and preparation of institutional requirements and environmental monitoring.

Myanwei Environmental Solutions Company Limited has prepared this report with all reasonable skill, care, and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking into account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

We strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.

A circular blue stamp is positioned above a signature. The stamp contains the text "MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED" around the perimeter, with "No....." and "Date....." in the center. Below the stamp is a handwritten signature in blue ink. Underneath the signature, the name "LIN HTEI SEIN" and title "DIRECTOR" are printed in blue, followed by "MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED." in a smaller blue font.

**LIN HTEI SEIN**  
**DIRECTOR**  
**MYANWEI ENVIRONMENTAL SOLUTIONS**  
**COMPANY LIMITED.**

## **Commitment of Ming Da Polyester Wadding (Myanmar) Company Limited**

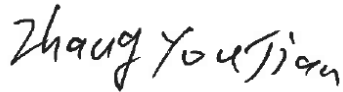
We refer to the captioned IEE report, which has been prepared by Myanwei Environmental Solutions Co., Ltd. (Third Party Consultant) in compliance with EIA procedure (2015) and other related laws/rules.

We believe, to the best of our knowledge at the time of writing, that;

- The report is accurate and complete
- The report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Ming Da Polyester Wadding (Myanmar) Company Limited will at all times comply fully with all commitment and obligations in the IEE report.

We acknowledge and understand that



**Mr. Zhang Youjian**

**Ming Da Polyester Wadding (Myanmar) Company Limited**

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APPENDIX B Monitoring Result

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## LIST OF ABBREVIATION

1. CEMP	= Construction Environmental Management Plan
2. CSR	= Corporate Social Responsibility
3. EMP	= Environmental Management Plan
4. EIA	= Environmental Impact Assessment
5. ECD	= Environmental Conservation Department
6. ECC	= Environmental Compliance Certificate
7. EMoP	= Environmental Monitoring Plan
8. GIIP	= Good International Industry Practices
9. HSE	= Health, Safety and Environment
10. IEE	= Initial Environmental Examination
11. IFC	= International Finance Corporation
12. NEQG	= National Environmental Quality (Emission) Guidelines
13. MIC	= Myanmar Investment Commission
14. MOECA	= Ministry of Environmental Conservation and Forestry
15. MONREC	= Ministry of Natural Resources and Environmental Conservation
16. OEMP	= Operation Environmental Management Plan
17. OSHA	= Occupational Safety and Health Administration
18. PPE	= Personal Protective Equipment
19. WHO	= World Health Organization
20. YESB	= Yangon City Electricity Supply Board
21. Sq meter	= Square meter
22. %	= Percentage
23. °C	= Degree Celsius
24. BOD	= Biochemical Oxygen Demand
25. COD	= Chemical Oxygen Demand
26. CO	= Carbon Monoxide
27. CO <sub>2</sub>	= Carbon Dioxide
28. NO <sub>2</sub>	= Nitrogen Dioxide
29. VOC	= Volatile Organic Compound
30. O <sub>3</sub>	= Ozone
31. dB (A)	= Decibel Unit
32. MT	= Metric Ton
33. Kt	= Kilo Ton
34. kWh	= Kilo Watt Hour
35. km	= Kilo Meter
36. PM	= Particulate Matter
37. ppm	= Part Per Million

## အစီရင်ခံစာအကျဉ်းချုပ်

Ming Da Polyester Wadding (Myanmar) Company Limited စက်ရုံသည် ၁.၀၄ သန်း ရင်းနှီးမြှုပ်နှံကာ ၁၀၀% နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် အကောင်အထည်ဖော် ဆောင်ရွက်နေပါသည်။ စက်ရုံအကျယ်အဝန်းမှာ ၁.၇၆၇ ဧက ဖြစ်၍ မြေကွက်အမှတ် (၄၈)၊ လှိုင်သာယာစက်မှုဇုန် (၁)၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး တွင် အထည်ချုပ်လုပ်ငန်းအမျိုးမျိုးတွင် အသုံးပြုရန်အတွက် Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting များ ထုတ်လုပ်ခြင်းနှင့် ရောင်းချခြင်းလုပ်ငန်းလုပ်ဆောင်မည်ဖြစ်ပါသည်။ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းဆိုင်ရာအစီရင်ခံစာသည် Ming Da Polyester Wadding (Myanmar) Company Limited မှပတ်ဝန်းကျင်အပေါ်အဓိကထိခိုက်မှု များကို လေ့လာဆန်းစစ်ပြီး လျော့ချရေးအစီအစဉ်များ၊ ကာကွယ်ထိန်းသိမ်းရေး အစီအစဉ်များကို အဓိပ္ပာယ်သတ်မှတ်ထားခြင်း ဖြစ်ပါသည်။

အဆိုပြု စီမံကိန်းသည် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်မှ ၂၀၁၇ ခုနှစ်၊ မေလ၊ ၉ ရက်နေ့တွင် (ခွင့်ပြုမိန့် အမှတ် ၁၂၇၀/၂၀၁၇)ဖြင့် ရရှိပြီးဖြစ်ပါသည်။ Ming Da Polyester Wadding (Myanmar) Company Limited ၏ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ၏ အတည်ပြုချက်ရယူရန်လိုအပ်ကြောင်း မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ မှာကြားခဲ့ပါသည်။ ထို့ကြောင့် မြန်မာနိုင်ငံပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) အရ၊ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်း Initial Environmental Examination (IEE) ပြုလုပ်ရန် လိုအပ်ကြောင်း မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ညွှန်ကြားထားပါသည်။ ထို့ကြောင့် သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဦးစီးဌာန (ECD)၏ ထုတ်ပြန်ထားသော ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်း လုပ်ထုံးလုပ်နည်း (EIA Procedure) ၂၀၁၅ အတိုင်း Ming Da Polyester Wadding (Myanmar) Company Limited သည် စက်ရုံအတွက် IEE အစီအရင်ခံစာ ရေးဆွဲခဲ့ပါသည်။ IEE အစီအရင်ခံစာအား တတိယအဖွဲ့အစည်းဖြစ်သော Myanwei Environmental Solutions Company Limited (Myanwei)မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။

ကနဦး ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း အစီရင်ခံစာအတွက် စက်ရုံကွင်းဆင်း လေ့လာချိန်တွင် တည်ဆောက်ရေးလုပ်ငန်း (Construction phase) ပြီးစီးနေပြီဖြစ်ပြီး ကုန်ထုတ်လုပ်မှု စတင်ချိန် (Operation phase) စတင်နေပြီ ဖြစ်ပါသည်။ စက်ရုံလည်ပတ်ရန်အတွက် မြေနေရာအားငှားရမ်းပြီး ကနဦး နှစ် ၂၀၊ သက်တမ်းတိုး၁၀နှစ်၂ကြိမ် စာချုပ်သက်တမ်းဖြင့် ငှားရမ်းအသုံးပြုမည်ဖြစ်သည်။ စီမံကိန်းတည်ဆောက်မှုကို မေလ၊ ၂၀၁၇ခုနှစ်တွင် စတင်ခဲ့ပြီး နိုဝင်ဘာလ၊ ၂၀၁၈ခုနှစ်တွင် စီးပွားဖြစ်စတင်လည်ပတ်ပါသည်။ စီမံကိန်းတည်ဆောက်သည့် စုစုပေါင်းအချိန်ကာလမှာ ၁၈လ ဖြစ်ပါသည်။

Ming Da Polyester Wadding (Myanmar) Company Limited တွင် လုပ်ငန်းလည်ပတ်ရန်အတွက် ခန့်မှန်းလုပ်သား အင်အား ၈၀ ဦး ဖြင့်လုပ်ဆောင်မည်ဖြစ်ပါသည်။ စက်ရုံတွင် နိုင်ငံသားလုပ်သားအများစုကို အလုပ်ခန့်၍ လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။ ပညာရှင် နှင့် စက်ရုံလုပ်သားများ တွဲဖက်၍ လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။ ထုတ်လုပ်မှု လုပ်ငန်းအတွက် automatic စက်ပစ္စည်းများကို အသုံးပြုပြီး လူစွမ်းအားကို စက်လည်ပတ်ခြင်းကို

ထိန်းညှိပေးခြင်း၊ အရည်အသွေးစစ်ဆေးခြင်းများတွင် အသုံးပြုပြီးလုပ်သော လုပ်ငန်းမျိုးဖြစ်ပါသည်။ အဓိကထုတ်ကုန်မှာ Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-punched Polyester, Vertical Polyester, Non-woven Fabric, quilting, အထည်နှင့် ဆက်စပ်ပစ္စည်းအမျိုးမျိုး ဖြစ်ပါသည်။ ထုတ်လုပ်ပုံမှာ ကုန်ကြမ်း Polyester အထုတ်များကို အရည်အသွေးမျှပြီး ဖွတ်ထုတ်သော စက်အတွင်းသို့ လိုအပ်သော ပမာဏအတိုင်း လုပ်သားမှထည့်ပေးပြီးနောက် ဖွတ်ထုတ်လာသော Polyester များကို အလိုအလျောက်လေစုတ် စက်များမှ သယ်ယူပြီး ဖြန့်ထုတ်သောစက်များမှ အလွှာလိုက် ဖြန့်ထုတ်ပါသည်။ ဝယ်ယူသူ၏ လိုအပ်ချက်အတိုင်း အလွှာကွဲပြားမှုရှိပါသည် (၃လွှာ/၄လွှာ/၅လွှာ) လိုအပ်သောအလွှာများထပ်ပြီးချိန်တွင် အလွှာများကွဲထွက်မသွားရန် ကော်ရည်ဖြင့် ဖြန်းပါသည်။ အပေါ်အောက် ကော်ရည်ဖြန်းပြီးနောက် ကော်ခြောက်ခံစက်အတွင်းတွင် အခြောက်ခံပြီး ကုန်ချော Polyester အချပ်များကို အလိုအလျောက် လိပ်ယူပြီး ထုတ်ပိုးခြင်းပြုလုပ်ပြီး ရောင်းချရန် ဝိုဒေါင်တွင်ထားရှိပါသည်။ အဓိကကုန်ပစ္စည်းများဖြစ်သော Polyester များအား တရုတ်နိုင်ငံမှ တင်သွင်းသည်။ အဓိက စက်ရုံအတွက်အသုံးပြုမှုများမှာ လျှပ်စစ်စွမ်းအင်၊ အရေးပေါ်ဓာတ်အားပျက်တောက်မှုအတွက် ဒီဇယ်ဆီသုံး ဂျင်နရေတာ၊ ဘွိုင်လာ နှင့် ဝန်ထမ်းများအတွက် သောက်သုံးရေ အသုံးပြုမှုတို့ဖြစ်သည်။ လျှပ်စစ်စွမ်းအင်အားသုံးစွဲမှုသည် စက်ကိရိယာများ လည်ပတ်နိုင်ရန်၊ အလင်းရောင်ရရှိရန်ဖြစ်သည်။

စီမံကိန်း နှင့် စီမံကိန်းပတ်ဝန်းကျင်တွင် ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ ဆူညံသံ၊ စက်ရုံတွင်းအပူချိန်၊ စိုထိုင်းဆ စသည့် အခြေခံစစ်တမ်းကောက်ယူမှုကို ပြုလုပ်ခဲ့ပါသည်။ အဆိုပါစစ်တမ်းကောက်ယူမှုကို ၂၀၁၈၊ နိုဝင်ဘာလ၊ ၉ ရက် တွင် ပြုလုပ်ခဲ့ပါသည်။ စီမံကိန်းဧရိယာ၏ လေအရည်အသွေး၊ ဆူညံသံ တို့ကို တိုင်းတာခဲ့ပါသည်။

အမျိုးအစား	တိုင်းတာမှု
လေအရည်အသွေး	Particulate Matter (PM <sub>10</sub> & PM <sub>2.5</sub> )
ဆူညံမှု	ဆူညံသံ (LAeq)

PM<sub>10</sub>, PM<sub>2.5</sub> တို့၏ တိုင်းတာမှု ရလဒ်များသည် အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ ထုတ်လွှတ်မှု လမ်းညွှန်ချက်များ အောက်တွင်ရှိကြောင်းတွေ့ရှိခဲ့ ရပါသည်။ ဆူညံသံတိုင်းတာမှုမှာ လမ်းညွှန်ချက်များအောက်တွင်ရှိကြောင်း တွေ့ရှိရပါသည်။ လှိုင်သာယာမြို့နယ်ဆိုင်ရာ အချက်အလက်များ ကောက်ယူခြင်းကို တိုင်းဒေသကြီးမှ တင်ပြထားသော အချက်အလက်များကို ထည့်သွင်းရေးသားထားပါသည်။

စီမံကိန်းလုပ်ဆောင်ချက်များကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အရင်းအမြစ်များ၊ စီးပွားဆိုင်ရာ အရင်းအမြစ်များ၊ အမှိုက်စွန့်ပစ်မှု စသည့် သက်ရောက်မှုများဖြစ်ပေါ်လာနိုင်ပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်ကြောင့်သက်ရောက်မှုများ နှင့် လျော့ချရေးနည်းများ အကျဉ်းချုပ်ကို အောက်တွင်ဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လုပ်ငန်းလည်ပတ်ခြင်းကာလ သိသာထင်ရှားသော သက်ရောက်မှုများ ခန့်မှန်းခြင်း နှင့် လျော့ချရေးနည်းလမ်းများ		

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လေထုညစ်ညမ်းမှု	အရေးပေါ်မီးစက်များ၊ လုပ်ငန်းသုံး မော်တော်ယာဉ်များမှ မီးခိုးများထွက်ခြင်း	လုပ်ငန်းသုံးယာဉ်များ၊ မီးစက်များ၊ စက်ပစ္စည်းများကို ပုံမှန်စစ်ဆေးခြင်း၊ ထိန်းသိမ်းခြင်း။ မီးစက်အသုံးပြုခြင်းအတွက် လေထုညစ်ညမ်းမှုမဖြစ်စေရန် မီးခိုးခေါင်းတိုင် မှ ဖြတ်သန်းစေ၍ ပတ်ဝန်းကျင် ထိခိုက်မှု လျော့နည်းအောင်ပြုလုပ်ခြင်း လုပ်ငန်းသုံးမော်တော်ယာဉ်များ၊ မီးစက်များကို စစ်ဆေးခြင်း။
မြေဆီလွှာညစ်ညမ်း မှု	မတော်တဆ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း။	လျော့ချရန်မလိုပါ။
ရေအရည်အသွေး	လုပ်သားများစွန့်ထုတ်ရေ၊ ကုန်ပစ္စည်းထုတ်လုပ်ခြင်း	စက်ရုံရှိကုန်ထုတ်လုပ်ခြင်းလုပ်ငန်းမှရေဆိုးထွ က်ရှိခြင်းမရှိပါ။ ကောင်းမွန်သည့်မိလ္လာကန်စနစ်များအားထားရှိ ခြင်း။
ဆူညံသံ	လုပ်ငန်းသုံးယာဉ်များမောင်းနှင်ခြင်း၊ မီးစက်များအသုံးပြုခြင်း။	အသံဆူညံသည့်နေရာများတွင်လုပ်ကိုင်ရပါက နားအကာအကွယ်ပစ္စည်းများဖြစ်သည့် နားကြပ်များအားထောက်ပံ့ပေးခြင်း။
ကုန်းနေ၊ ရေနေ အပင်နှင့် သတ္တဝါများ ပျက်စီးဆုံးရှုံးမှု	ကုန်ပစ္စည်းထုတ်လုပ်ခြင်း	လျော့ချရန်မလိုပါ။
မီးဘေးအန္တရာယ်	လျှပ်စစ်တပ်ဆင်အသုံးပြုမှုကြောင့် မတော်တဆ ဖြစ်ခြင်း၊အမှိုက်စွန့်ပစ်သည့် နေရာနှင့် ဓာတုပစ္စည်း သိုလှောင်သည့် နေရာမှ မီးလောင်ကျွမ်းနိုင်ခြင်း။	စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ဆေးဘူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း။ မီးသတ်ဆိုင်ရာ စက်ပစ္စည်းကိရိယာများကို ပုံမှန်စစ်ဆေးခြင်း၊အရေးပေါ်အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း။ စက်ရုံအတွင်းအရေးပေါ်အချက်ပေးစနစ်များ ထားရှိခြင်း။ အရေးပေါ် ထွက်ပေါက်များ တစ်လျှောက်တွင် ကုန်ပစ္စည်းများ ပိတ်ဆို့ခြင်းမရှိအောင် ရှင်းလင်း ထားရှိခြင်း။
လုပ်ငန်းခွင်ကျန်းမာ ရေးနှင့် လုံခြုံမှု	စက်ပစ္စည်းများ လည်ပတ်ခြင်းကြောင့် မတော်တဆ ထိခိုက်မှုများဖြစ်ပေါ်နိုင်ခြင်း။ ပစ္စည်းတင်ချပြုလုပ်ခြင်း၊ ပိတ်ဖြတ်ခြင်း၊ ထုတ်ပိုးခြင်း။	အရေးပေါ်အခြေအနေများအတွက် စက်ပစ္စည်း ကိုင်တွယ်မှု သင်တန်းပေးခြင်း၊ ကြက်ခြေနီ သင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း။



ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
		<p>လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင် ကောင်းစွာရရှိစေရန်နှင့် အမြင်အာရုံ မထိခိုက်စေရန် အလင်းရောင် လုံလောက်စွာထားရှိခြင်း။</p> <p>အလုပ်သမားများအတွက်တစ်ကိုယ်ရေကာကွယ်ရေးသုံး ပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုတ်၊ မျက်မှန် များ အသုံးပြုစေခြင်း။</p> <p>လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အတွက် ဝန်ထမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။</p>
ကျန်းမာရေး	အရေးပေါ် မီးစက်များမှ ဆူညံသံများ ထွက်ပေါ်လာခြင်း။	<p>လုပ်သားများအတွက်ကျန်းမာရေးမထိခိုက်စေရန် ရေမြောင်းများကိုစနစ်တကျထားရှိခြင်း။</p> <p>လုပ်သားများအတွက် ရှစ်နာရီအတွင်း လက်ခံနိုင်သည့်အာမြင့်ဆုံး ဆူညံမှု နှုန်းမှာ 90dB(A) ဖြစ်သည်။ အသံဆူညံမှု အမြင့်ဆုံးနေရာများတွင် နားကြပ်များ တပ်ဆင်စေခြင်း။</p>
စွန့်ပစ်အမှိုက်	ကုန်ပစ္စည်းထုတ်လုပ်ခြင်းမှထွက်ရှိသည့်အပိုင်းအစများ။ ကုန်ပစ္စည်းထုတ်ပိုးခြင်းမှထွက် ရှိသော အပိုင်းအစများ။ ရုံးခန်းမှ ထွက်ရှိသော အမှိုက်များ။	<p>စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။</p> <p>သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို၊ အမှိုက်ခြောက်များခွဲခြားစွန့်ပစ်ခြင်း။</p> <p>အမှိုက်များကို ရန်ကုန်မြို့တော် စည်ပင်သာယာရေး ကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။</p>
စွန့်ပစ်အရည်	မိလ္လာကန်နှင့်ရုံးခန်းမှ စွန့်ပစ်အရည်များ ထွက်ရှိခြင်း။	<p>မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း။</p> <p>သန့်စင်ခြင်းများပြုလုပ်ခြင်းဖြင့် စွန့်ပစ်အရည်များ စိမ့်ဝင်မှုများကိုလျော့ကျစေနိုင်ခြင်း။</p>
အန္တရာယ်ရှိအမှိုက်	မော်တော်ယာဉ်များ၊ စက်ပစ္စည်းများ ပြုပြင် ထိန်းသိမ်းခြင်းမှ ဆီများထွက်ရှိခြင်း။	<p>အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း။</p> <p>လုပ်ငန်းခွင်ကျန်းမာရေး လုံခြုံမှုနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာ လိုအပ်ချက်များ နှင့် ကိုက်ညီမှုရှိစေရန် ဓာတုပစ္စည်းများကို စနစ်တကျ စွန့်ပစ်ခြင်း။</p>

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
		အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို DOWA (သို့) ရန်ကုန်မြို့တော် စည်ပင်သာယာရေး ကော်မတီ (YCDC) နှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
<b>လုပ်ငန်းပိတ်သိမ်းခြင်းကာလအတွင်း သိသာထင်ရှားသော သက်ရောက်မှုများ ခန့်မှန်းခြင်း နှင့် လျော့ချရေးနည်းလမ်းများ</b>		
လေထုညစ်ညမ်းမှု	အဆောက်အဦများ ဖြိုချမှုများ။ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ။	လျော့ချရန်မလိုပါ။ လိုအပ်ပါက မြေပိုင်ရှင်တွင် တာဝန်ရှိပါသည်။
ရေထုညစ်ညမ်းမှု	မြေပေါ်မြေအောက်ရေများအပေါ်သက်ရောက်မှုမရှိနိုင်ပါ။	လျော့ချရန်မလိုပါ။ လိုအပ်ပါက မြေပိုင်ရှင်တွင် တာဝန်ရှိပါသည်။
မြေဆီလွှာညစ်ညမ်းမှု	စီမံကိန်းဖျက်သိမ်းပြီးချိန်တွင် မြေဆီလွှာ ညစ်ညမ်းမှု မရှိနိုင်ပါ။	လျော့ချရန်မလိုပါ။ လိုအပ်ပါက မြေပိုင်ရှင်တွင် တာဝန်ရှိပါသည်။
ဆူညံသံ	အဆောက်အဦများ ဖြိုချမှုများ။ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ။	လုပ်သားများ တစ်ကိုယ်ရေ ကာကွယ်ရေးသုံး ပစ္စည်းများ အသုံးပြုစေခြင်း။ (နားကြပ်၊ လက်အိပ်၊ ဖိနပ်၊ ဦးထုတ်၊ မျက်မှန်)
ကုန်းနေ၊ ရေနေ အပင် နှင့် သတ္တဝါများ ပျက်စီးဆုံးရှုံးမှု	စီမံကိန်းဖျက်သိမ်းမှုလုပ်ဆောင်ခြင်း။	လျော့ချရန်မလိုပါ။ လိုအပ်ပါက မြေပိုင်ရှင်တွင် တာဝန်ရှိပါသည်။
လုပ်ငန်းခွင် လုံခြုံမှု	စီမံကိန်းဖျက်သိမ်းစဉ်တွင် မတော်တဆ ထိခိုက်မှုများ ဖြစ်ပေါ်စေနိုင်ခြင်း။	လုပ်သားများ တစ်ကိုယ်ရေ ကာကွယ်ရေးသုံး ပစ္စည်းများ အသုံးပြုစေခြင်း။ (နားကြပ်၊ လက်အိပ်၊ ဖိနပ်၊ ဦးထုတ်၊ မျက်မှန်)
စွန့်ပစ်အစိုင်အခဲ	ဖျက်သိမ်းရာမှ ထွက်ရှိလာသော တည်ဆောက်ရေး ပစ္စည်းများ၊ အုတ်အကျိုးအပွဲ၊ အပိုင်းအစများ။	အမှိုက်ပုံးများထားရှိခြင်း၊ စနစ်တကျစွန့်ပစ်ခြင်း။ အမှိုက်များစနစ်တကျ ခွဲခြား၍ ရန်ကုန်မြို့တော် စည်ပင်သာယာရေး ကော်မတီနှင့် ချိတ်ဆက်ကာ စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	ကျန်ရှိသော မိလ္လာစနစ် နှင့် မိလ္လာကန်များ။	လျော့ချရန်မလိုပါ။ လိုအပ်ပါက မြေပိုင်ရှင်တွင် တာဝန်ရှိပါသည်။
အန္တရာယ်ရှိအမှိုက်	စက်ဆီများ၊ ဒီဇယ်ပုံးအခွံများ။	စွန့်ပစ်အမှိုက်များအား စနစ်တကျ စွန့်ပစ်ခြင်း။ အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများကို DOWA နှင့် ရန်ကုန်မြို့တော် စည်ပင်သာယာရေး ကော်မတီသို့ အကြောင်းကြား၍ စွန့်ပစ်ခြင်း။

သိသာထင်ရှားသော သက်ရောက်မှုများကိုတွက်ချက်ရာတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် ဆန်းစစ်ခြင်းအဖွဲ့အစည်း (IEMA) မှ ချမှတ်ထားသော နည်းလမ်းကို အသုံးပြု၍ ဆန်းစစ်ထားပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်များပေါ် မူတည်၍ ရလဒ်များ နည်းသည်၊ အလွန်နည်းသည်ကို ဖော်ပြထားပါသည်။

အချို့ရလဒ်များမှာ အသင့်အတင့် ရှိပါသည်။ လူမှုစီးပွားဆိုင်ရာတိုးတက်မှုများအနေဖြင့် ကောင်းမွန်သောသက်ရောက်မှု ရှိသည်ကို တွေ့ရှိရပါသည်။

စီမံကိန်းဖော်ဆောင်သည့်အချိန်အတွင်း ပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများ၊ လျော့ချရေးနည်းလမ်းများ၊ အစီအစဉ်များ၊ တိုင်းတာမှုများ စသည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို လုပ်ဆောင်ရပါသည်။ Ming Da Polyester Wadding (Myanmar) Company Limited မှ စက်ရုံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့စည်းခြင်း၊ ပုံမှန်ဆန်းစစ်လေ့လာခြင်းများ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ မိလ္လာစနစ်၊ စွန့်ပစ်အစိုင်အခဲ စွန့်ပစ်မှုများကို စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အဖွဲ့အစည်းမှ ဆန်းစစ်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းမှ လူထုအကျိုးပြုလုပ်ငန်းများနှင့် အရေးပေါ်ဆောင်ရွက်ချက်များ၊ ဒေသဆိုင်ရာ အကျိုးပြုလုပ်ငန်းများကို လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။

စီမံကိန်းသည် လှိုင်သာယာစက်မှုဇုန် (၁)၊ လှိုင်သာယာမြို့နယ်တွင်တည်ရှိသည်။ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်အပေါ်ဆိုးဆိုးဝါးဝါးထိခိုက်မှုများမရှိပါ။

**ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု ဆောင်ရွက်ချက်**

စီမံကိန်းဖော်ဆောင်သည့် အချိန်အတွင်း ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ၊ လျော့ချရေး နည်းလမ်းများ၊ အစီအစဉ်များ၊ တိုင်းတာမှုများ စသည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို လုပ်ဆောင်ရပါသည်။ စက်ရုံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့စည်းခြင်း၊ ပုံမှန်ဆန်းစစ်လေ့လာခြင်းများ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ မိလ္လာစနစ်၊ စွန့်ပစ်အစိုင်အခဲ စွန့်ပစ်မှုများကို စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အဖွဲ့အစည်းမှ ဆန်းစစ်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းမှ လူထုအကျိုးပြုလုပ်ငန်းများ နှင့် အရေးပေါ်ဆောင်ရွက်ချက်များ၊ ဒေသဆိုင်ရာ အကျိုးပြုလုပ်ငန်းများကို လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းသည် ရရှိလာသော အကျိုးအမြတ်၏ ၂% ကို လူမှုဖူလုံရေးလုပ်ငန်းများတွင် သုံးစွဲသွားမည် ဖြစ်ပါသည်။

**Ming Da Polyester Wadding (Myanmar) Company Limited ၏ လူထုအကျိုးပြုလုပ်ငန်းများဆောင်ရွက်မည့် အစီအစဉ်**

စဉ်	အကြောင်းအရာ	လှူဒါန်းမှု ရာခိုင်နှုန်း
၁။	စာသင်ကျောင်းများ	၀.၅%
၂။	သင်တန်းကျောင်းများ	၁%
၃။	ဝန်ထမ်းများ၏ ကျန်းမာရေးစောင့်ရှောက်မှု	၀.၅%

စက်ရုံအတွက် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာလုပ်ဆောင်ချက်များသည် စက်ရုံသို့ကွင်းဆင်းလေ့လာခဲ့သော ကျွမ်းကျင်ပညာရှင်များမှ စက်ရုံ၏ဆောင်ရွက်ချက်များ၊ စက်ရုံဝန်ထမ်းများ၊ နယ်ပယ်ဆိုင်ရာအဖွဲ့အစည်းများ၏

အမြင်များ နှင့် စက်ရုံမှ သက်ဆိုင်သူများ၏တိုင်ပင်ဆွေးနွေးအကြံပြုချက်များအပေါ် အခြေခံ၍ ရေးဆွဲပြင်ဆင်ထားပါသည်။ ဖြစ်နိုင်ချေရှိသော ပတ်ဝန်းကျင်ထိခိုက်မှုများအပေါ် မူတည်၍ လိုအပ်သည့် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုလုပ်ဆောင်ချက်များမှာ အောက်ပါအတိုင်းဖြစ်ပါသည်။

- ၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်
- ၂။ ဆူညံသံဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်
- ၃။ မီးဘေးအန္တရာယ် စီမံခန့်ခွဲမှုအစီအစဉ်
- ၄။ လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်
- ၅။ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအစီအစဉ်
- ၆။ စွန့်ပစ်အရည် (ရေဆိုး) စီမံခန့်ခွဲမှုအစီအစဉ်
- ၇။ အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအစီအစဉ်
- ၈။ အရေးပေါ်အခြေအနေဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်
- ၉။ အရေးပေါ်တုံ့ပြန်မှုနှင့် သဘာဝဘေးအန္တရာယ်စီမံခန့်ခွဲမှုအစီအစဉ်
- ၁၀။ သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုခြင်းနှင့် အစီရင်ခံခြင်း
- ၁၁။ သင်ကြားပို့ချမှု အစီအစဉ်

**အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေးခြင်း**

အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေးခြင်း အစီအစဉ်တွင် စက်ရုံ၏ IEE အစီရင်ခံစာ အကြောင်းကို ရှင်းလင်းတင်ပြခြင်းဖြစ်သည်။ အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေးခြင်း အစီအစဉ်ကို ၃၀ ရက်၊ ဇူလိုင်လ၊ ၂၀၁၉ ခုနှစ်တွင် sky hotel အစည်းအဝေးခန်းမ၌ ပြုလုပ်ခဲ့ပါသည်။ တွေ့ဆုံပွဲ အစည်းဝေးတွင် သက်ဆိုင်ရာ အစိုးရအဖွဲ့ရုံး၏ တာဝန်ရှိပုဂ္ဂိုလ်များ၊ စက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ တာဝန်ရှိပုဂ္ဂိုလ်များမှ လိုအပ်သည်များကို အကြံပေးခြင်း၊ စီမံကိန်း၏ အစီရင်ခံစာတွင် လိုအပ်သည်များကို ဖြည့်စွက်ပေးရန် အကြံပြုချက်များပေးခဲ့ပါသည်။ ပြုလုပ်ခဲ့သည့် အစီအစဉ်အကျဉ်းကိုပါ ထည့်သွင်းဖော်ပြထားပါသည်။

**လူထုတွေ့ဆုံပွဲအကျဉ်းချုပ်**

အချိန်	အင်္ဂါနေ့၊ ၃၀ရက်၊ ဇူလိုင်လ၊ ၂၀၁၉ခုနှစ်။ ၁၀း၃၀ မှ ၁၂:၃၀ ထိ။
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နေရာ	Sky Hotel အစည်းအဝေးခန်းမ၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
အစီအစဉ်အကျဉ်း	<ul style="list-style-type: none"> <li>• စက်ရုံနောက်ခံအကြောင်း</li> <li>• စက်ရုံလုပ်ငန်းအကြောင်း</li> <li>• ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရေးအစီအစဉ်</li> <li>• ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ်</li> <li>• အမေးအဖြေကဏ္ဍ</li> </ul>

**နိဂုံးနှင့် အကြံပြုချက်**

အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ကျင့်သုံးရန်တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။ စီမံကိန်းနှင့် သက်ဆိုင်သူများအား စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ ရှင်းလင်းတင်ပြခြင်း၊ အကြံပြုချက်များနှင့် ဆွေးနွေးတင်ပြလာသည့် သဘောထား အကြံဉာဏ်များကိုရယူပြီး အစီအရင်ခံစာတွင် ဖော်ပြထားပါသည်။

**အကြံပြုချက်များအရ-**

- အစီရင်ခံစာတွင် ဖော်ပြထားသည့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် ကတိကဝတ်များကို စီမံကိန်း၏ သက်တမ်းတလျှောက်တွင် အကောင်အထည်ဖော် ဆောင်ရွက်ရမည်။
- အစီအစဉ်နှင့် အရည် ဝန်ပစ်ပစ္စည်းများကို လှိုင်သာယာမြို့နယ် စည်ပင်သာယာရေး၏ စည်းကမ်းများအတိုင်း စွန့်ပစ်ရမည်။
- အလုပ်သမားများအား သင့်တော်သော သင်တန်းများပေးခြင်း၊ လုပ်ငန်းခွင်အတွင်း တစ်ကိုယ်ရည် ကာကွယ်ရေး ပစ္စည်းများ အသုံးပြုစေခြင်းများ ဆောင်ရွက်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်များကို နေ့စဉ်၊ လစဉ်နှင့် နှစ်စဉ် လုပ်ငန်းခွင်အတွင်း လုပ်ဆောင်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ် မှတ်တမ်းများကို သေချာသိမ်းဆည်း၍ တတိယအဖွဲ့အစည်း သို့ တင်ပြရမည်။
- ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒ လမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ရ မည်။

အချုပ်အားဖြင့်ဆိုသော် အဆိုပြုသူသည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာနမှ ညွှန်ကြားလာသော အဆိုပြုချက်များ၊ အကြံပြုချက်များကို လိုက်နာဆောင်ရွက်ရမည်။ ထိရောက်သော ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုကို အဆိုပြုသူမှ ဆောင်ရွက်ရမည်။ အဆိုပြုသူသည် ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊

ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒ လမ်းညွှန်ချက်များအတိုင်း လိုက်နာဆောင်ရွက်ရမည်။

## EXECUTIVE SUMMARY

The proposed factory is the 100% foreign investment by Ming Da Polyester Wadding (Myanmar) Company Limited with an investment amount of 1.04 million. The proposed factory is located at Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region and the total land area is 1.767 acres. The factory aims for Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment. This report describes the findings of the Initial Environmental Examination (IEE) for the Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment by Ming Da Polyester Wadding (Myanmar) Company Limited. The main objective of this report is to identify the major environmental impacts due to implementation of the project along with the effective measures to mitigate the potential adverse impacts.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), the said project requires an Initial Environmental Examination (IEE) to meet the environmental assessment according to requirements of MIC permit No. 1270/2017 on 9, May 2017. Therefore, Ming Da Polyester Wadding (Myanmar) Company Limited commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for IEE report study.

The term of the Lease shall be initial 20 years commencing from the date of signing of the Lease Agreement between Land Owner and Ming Da Polyester Wadding (Myanmar) Company Limited for proposed project site for 1.767 acres of land and extendable for 10 years in 2 times 2016 to 2056 total 40 years as recommended by the Yangon Region Government. Construction period is started in May 2017 and commercial operation is started in November 2018. Total estimated construction period is 18 months.

Production work will be done with the estimated 80 employees for Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment at Ming Da Polyester Wadding (Myanmar) Company Limited. Most people will be employed from local. Both skilled and non-skilled workers will be employed. It will use automatic machines for production and man powers are used for controlling of machines and quality inspection of the products. The proposed items products is spray adhesive cotton, chemical fiber materials will be after the opening from fiber bale, combing into the net and spread on the web net spray adhesive, after spray adhesive semi-finished products into the oven to dry, after rolling into roll machine, is the finished products. The Utilities for proposed factory include electrical power, fuel oil for emergency used generator and water for production and general purpose. Electric power will be used for the purpose of to run the production machinery and to provide lighting. Water will be required for general purpose.

The baseline environmental quality at the Project Site and its immediate surroundings was established by ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the

project site on 9 November 2018. The overall conditions of air quality, noise level are quoted from the project.

Item	Parameter
Air quality	Particulate Matter (PM <sub>10</sub> & PM <sub>2.5</sub> )
Noise level	Indoor sound level (LAeq)

The particulate matters of (PM<sub>10</sub>, PM<sub>2.5</sub>) concentration levels are within the National Environmental Quality (Emission) Guidelines. Noise source monitoring at the project site overall level of noise in the operation area is acceptable when compared with National Environmental Quality (Emission) Guidelines. The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. The potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure. Based line data are expressed by reference of Hlaing Thar Yar Township regional data.

The project activities may cause impacts on environmental resources, ecological resources, human and waste disposal. The potential impacts will occur in operation and decommissioning phases. The summary of impacts with respect to project activities and mitigation measures are described as below:

#### Significant Impacts and Mitigation Measures for Operation Phase

Categories	Source of Impact	Mitigation Measure
Air Quality	<ul style="list-style-type: none"> <li>Emission from using emergency diesel generator and vehicle movement</li> </ul>	<ul style="list-style-type: none"> <li>To control air pollution, the vehicles, generators, and machineries have to check and maintain regularly.</li> <li>The factory uses chimney for generator through which the flue gas is emitted for reducing the impact of stack emission on environment.</li> <li>Ensuring vehicles, compressor and generator are well maintained.</li> </ul>
Water Quality	<ul style="list-style-type: none"> <li>Production process</li> </ul>	<ul style="list-style-type: none"> <li>No wastewater effluent from production process because this is simple garment factory</li> <li>Currently, practice of the wastewater effluents discharge facilities of sewage for sanitation and septic system</li> </ul>
Soil	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>
Noise	<ul style="list-style-type: none"> <li>Generating noise from the vehicle movement &amp; especially from generator, compressor</li> </ul>	<ul style="list-style-type: none"> <li>Use personal protective equipment (PPE) like ear plug/ear muffs in the noisy</li> </ul>



Categories	Source of Impact	Mitigation Measure
		workplace like generator room, compressor room
Flora and fauna on terrestrial and aquatic life	<ul style="list-style-type: none"> <li>• Operation of the factory</li> </ul>	<ul style="list-style-type: none"> <li>• No Mitigation Measure</li> </ul>
Fire	<ul style="list-style-type: none"> <li>• Accidental cases cause by operating machines.</li> </ul>	<ul style="list-style-type: none"> <li>• To provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases.</li> <li>• Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening.</li> <li>• The emergency fire alarms are installed at the factory for alerting the workers in case of fire.</li> <li>• The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.</li> </ul>
Occupational Safety	<ul style="list-style-type: none"> <li>• Accidental cases cause by operating machines.</li> <li>• Unloading, cutting, and packaging activities.</li> </ul>	<ul style="list-style-type: none"> <li>• First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers.</li> <li>• According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers.</li> <li>• Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department.</li> <li>• To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.</li> </ul>
Health	<ul style="list-style-type: none"> <li>• Influx of people</li> <li>• Noise from the generating of the emergency generators</li> </ul>	<ul style="list-style-type: none"> <li>• Manage the drainage systems of the factory to prevent health risk of the workers.</li> <li>• The maximum allowable noise level for workers is 90 dB(A) for 8hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas.</li> </ul>
Solid Waste	<ul style="list-style-type: none"> <li>• Wastes from production process and packaging materials</li> <li>• Domestic Waste from office.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides separate garbage bins at each building.</li> <li>• All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste storage area</li> <li>• Final wastes should be disposed by connecting with YCDC's municipal service</li> </ul>

Categories	Source of Impact	Mitigation Measure
Liquid Waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office.</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and cleaning the oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.</li> </ul>
Hazardous Waste	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	<ul style="list-style-type: none"> <li>Proper inspection and maintenance in storage of fuel.</li> <li>Dispose of used fuel container in accordance with occupational health, safety and environmental requirements.</li> <li>The empty fuel containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are disposed by connecting with DOWA or YCDC's service.</li> </ul>

**Potential Impacts and Mitigation Measures for Decommissioning Phase**

Categories	Source of Impacts	Mitigation Measures
Air Quality	<ul style="list-style-type: none"> <li>Dust and particulate matters from decommissioning of construction materials</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation measures</li> </ul> <p>Noted: If there are responsible from land owner.</p>
Water Quality	<ul style="list-style-type: none"> <li>No impact on surface water and ground water</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation measures</li> </ul> <p>Noted: If there are responsible from land owner.</p>
Soil	<ul style="list-style-type: none"> <li>No impact on soil at the decommissioning phase</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul> <p>Noted: If there are responsible from land owner.</p>
Noise	<ul style="list-style-type: none"> <li>Decommission activities</li> <li>Transportation of demolished materials</li> </ul>	<ul style="list-style-type: none"> <li>Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles should be provided</li> </ul>
Flora and fauna on terrestrial and aquatic life	<ul style="list-style-type: none"> <li>Operation of the factory demolishing activity</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul> <p>Noted: If there are responsible from land owner.</p>

Occupational Safety	<ul style="list-style-type: none"> <li>Accidental cases can cause by decommissioning activities</li> </ul>	<ul style="list-style-type: none"> <li>Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles should be provided</li> </ul>
Solid Waste	<ul style="list-style-type: none"> <li>Demolished debris such as bricks, concrete materials</li> </ul>	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types disposed by connecting with YCDC service.</li> </ul>
Liquid Waste	<ul style="list-style-type: none"> <li>Residual septic system and sewage.</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation measures</li> </ul> <p>Noted: If there are responsible from land owner.</p>
Hazardous Waste	<ul style="list-style-type: none"> <li>Residual empty fuel container and oil from operation</li> </ul>	<ul style="list-style-type: none"> <li>The empty fuel containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are transported by specially licensed carriers and disposed by connecting with YCDC service.</li> </ul>

Modified method of Institute of Environmental Management and Assessment (IEMA) from United Kingdom is applied in this report to assess the significance of the impacts. Results of analysis mention that most of the project activities are very low/low significant and some are moderate significant to be improved for environmental performance. Social and economic developments are positive impacts of the proposed project.

The project is located in Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region and there are no local people affected by project.

### **Environmental Management Action**

The Environmental Management Plan (EMP) formulated with the anticipated impacts, mitigation measures, management and monitoring plans during all phases are implemented. Ming Da Polyester Wadding (Myanmar) Company Limited has organized Environmental Management Team to accomplish these plans and to review IEE regularly for improvements and modifications. Ambient air quality, noise, water quality, sewage and solid waste disposal are monitored by Team Leaders of Committee. The project proponent has performed Corporate Social Responsibility (CSR) plan and Emergency Preparedness for the benefits of residents and local community. Ming Da Polyester Wadding (Myanmar) Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar.

**CSR plan of Ming Da Polyester Wadding (Myanmar) Company Limited**

No	Particle	Contribution
1	Public school	0.5%
2	Non-profit training	1
3	Employee healthcare	0.5%

The environmental management action for the factory has been prepared to address potential issues based upon discussion with factory management, workers, local community’s view, stakeholder consultation and from the site visit of experts. The IEE is additional to and compliments the factory’s safety management system. The following environmental issues that require environmental management action based upon the potential impacts of activities:

1. Air pollution/Dust Management Plan
2. Noise Management Plan
3. Fire Management Plan
4. Occupational Safety and Health Management Plan
5. Solid Waste Management Plan
6. Liquid Waste Management Plan
7. Hazardous Waste Management Plan
8. Energy Management Plan
9. Emergency Response and Disaster Management Plan
10. Environmental Monitoring Schedule and Reporting
11. Capacity Building and Training Plan

**Public Consulting**

This chapter presents results of public consultation and information disclosure conducted for the Ming Da Polyester Wadding (Myanmar) Company Limited. Public participation can consider as the required element of the IEE process. In this study various stakeholder participation were made. Public consultation during preparation of IEE report was conducted on 30 July 2019, following the EIA procedure. The project’s stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the IEE process for environmental and social clearance and issuing operation permits for proposed development projects. For this factory, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department. Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, Factories and General Labor Law Inspection Department, Public Health Department, Industrial Supervision and Inspection Department.

**Summary of Public Consultation Meeting**

Time and Date	Tuesday, 30 July 2019 10:30-12:30
Venue	Meeting Hall, Sky Hotel, Hlaing Tharyar Township, Yangon.
Agenda	Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation Environmental Management Plan and Monitoring Plan

Received and Answer from feedback of participants
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### **Conclusion and Recommendation**

In Conclusion, the environmental management practices, procedures and responsibilities are defined here in to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar. All the feed backs, desired and needs of local public recorded in public consultation meetings are well addressed and incorporated in formulation of IEE. It has been figured out that, the proposed factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to Yangon City Development Committee rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this IEE and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third-party environment audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this IEE report. Once concerned authorities approve IEE, effective implementation of IEE by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

# CHAPTER 1 PROJECT DESCRIPTION

## 1.1. INTRODUCTION

This report describes the findings of the Initial Environmental Examination (IEE) for the Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment by Ming Da Polyester Wadding (Myanmar) Company Limited. The main objective of this report is to identify the major environmental impacts due to implementation of the project along with the effective measures to mitigate the potential adverse impacts.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), the said project requires an Initial Environmental Examination (IEE) to meet the environmental assessment according to requirements of MIC permit No. Permit No. 1270/2017 on 9, May 2017. Therefore, Ming Da Polyester Wadding (Myanmar) Company Limited commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for IEE report study.

## 1.2. LOCATION OF PROPOSED PROJECT

The proposed factory is located at Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region. The proposed factory is located at the coordinates of North Latitude 16°50'46.45"N and East Longitude 96°4'43.82"E. Location of the proposed project area was shown in Figure 1-1.

## 1.3. PROJECT IMPLEMENTATION PROGRAM

The proposed factory is the 100% foreign investment by Ming Da Polyester Wadding (Myanmar) Company Limited with an investment amount of USD (1.04) million. The proposed factory is located at Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region and the total land area 1.767 Acres. The factory aims for Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment by using semiautomatic process control system with production process. The construction phase of the proposed factory initiated in May, 2017 and then commercial running operation stage is November, 2018. The proposed duration of the investment shall be 20 years extendable 10 years periods two times. The term of the Lease shall be initial 20 years commencing from the date of signing of the Lease Agreement between Land Owner and Ming Da Polyester Wadding (Myanmar) Company Limited for proposed project site for 1.767 acres of land and extendable for 10 years in 2 times 2016 to 2056 total 40 years as recommended by the Yangon Region Government.

## 1.4. CONSTRUCTION PHASE

The project identification of construction phase is machinery and equipment installation period. Project proponent was leased the project area from previous owner; this area already constructed the warehouse building. The installation of machinery and equipment started in June 2017. The Installation project is completed as scheduled on the first week of November 2018.

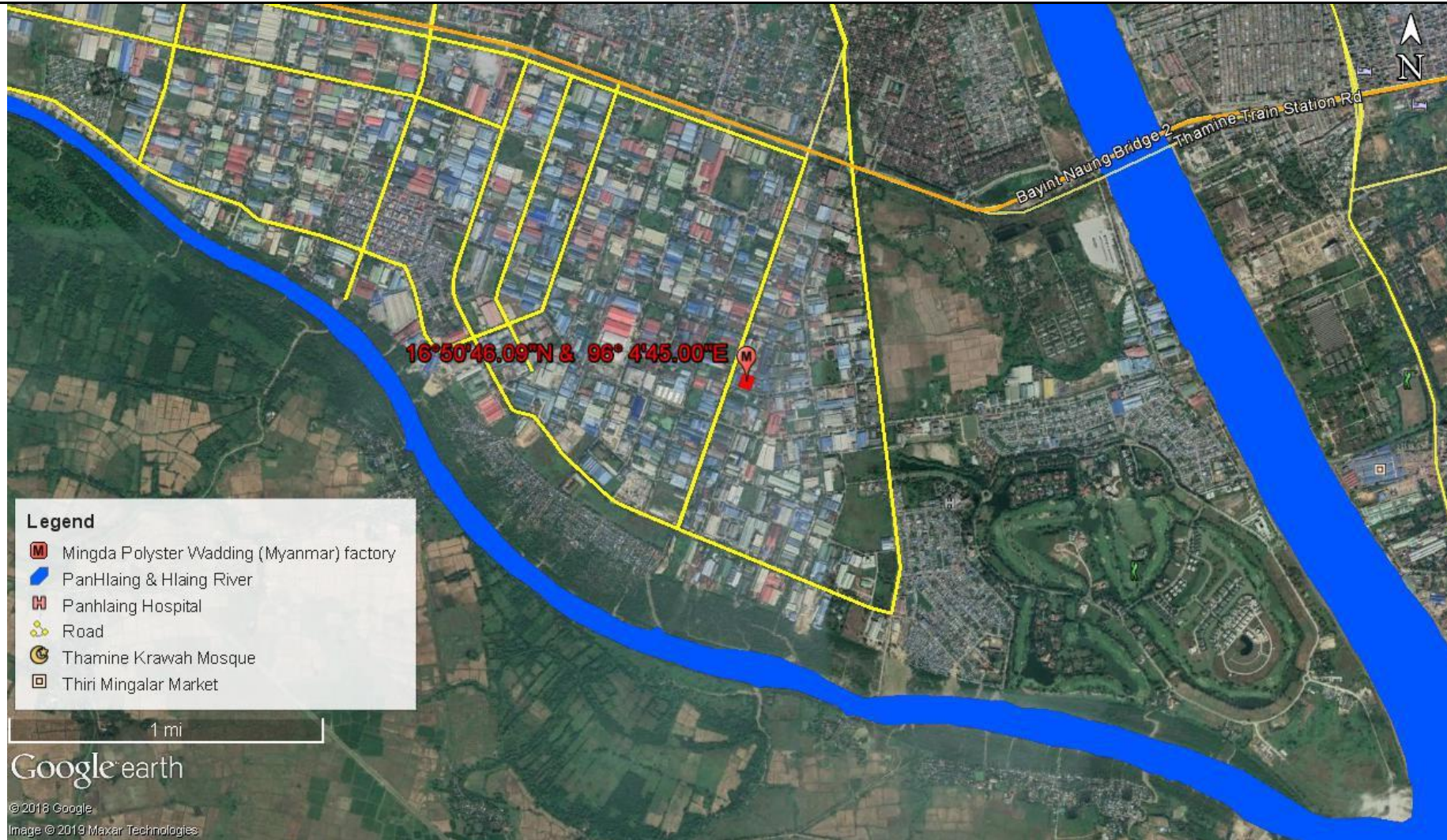


Figure 1-1 Location Map of the Project



Figure 1-2 Adjacent Location Map of the project



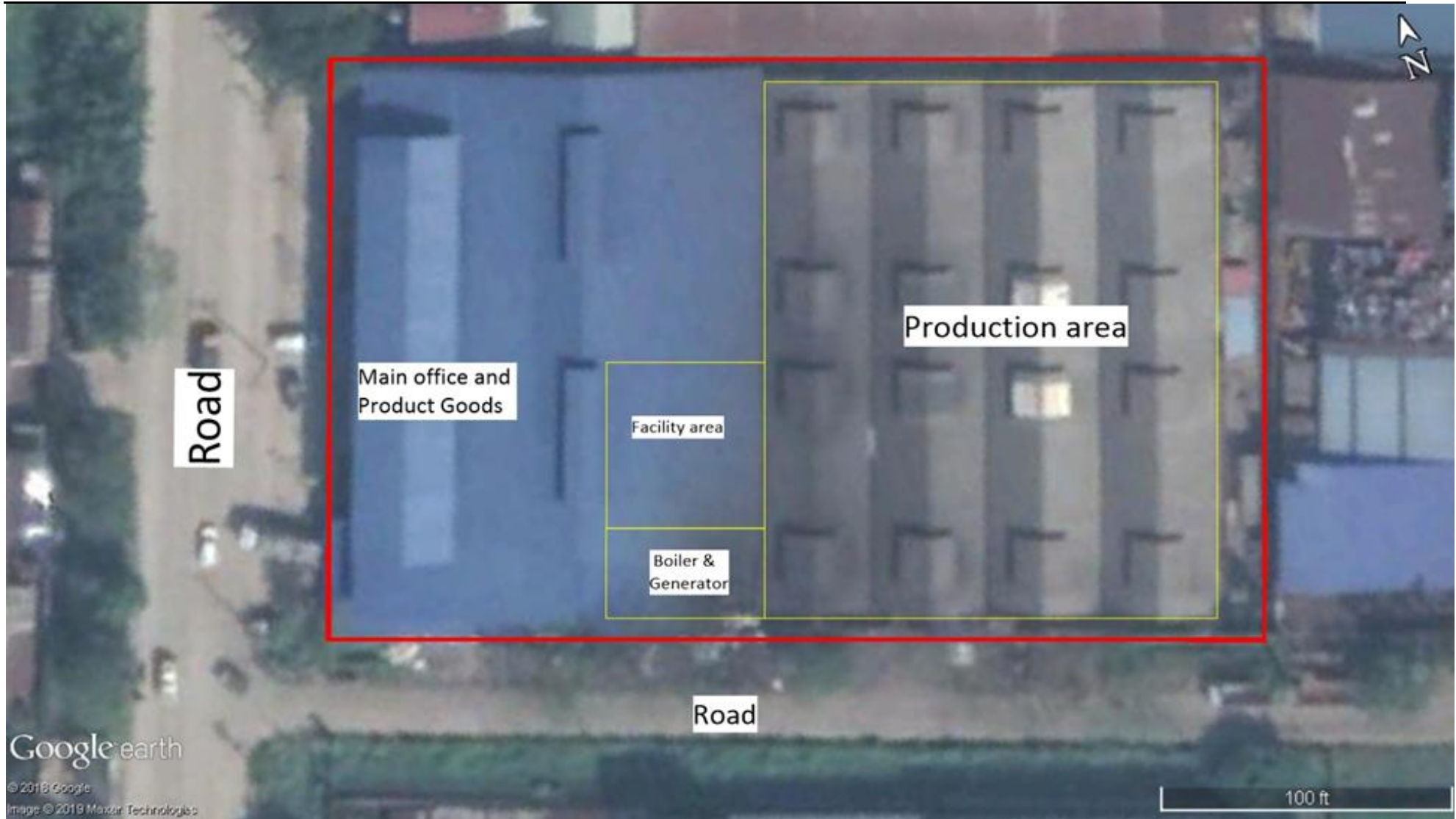


Figure 1-3 Factory Layout Map

### 1.5. OPERATION PHASE

The designed area includes production building (one story); (80' × 180') and office building (two storied); (20' × 50'). The facility of production is installed by utilities of transformer room, boiler room, guardhouse and general utility room, water tank and canteen facilities etc. Number of people 55 employees working at Ming Da Polyester Wadding (Myanmar) Company Limited. Most are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. The estimated production rate is 169,640 pieces per annually of production rate.

### 1.6. PRODUCTION PROCESS OF GARMENT MANUFACTURING ON CMP BASIS

The proposed items products are a spray adhesive cotton, chemical fiber materials will be after the opening from fiber bale, combing into the net and spread on the web net spray adhesive, after spray adhesive semi-finished products into the oven to dry, after rolling into roll machine, is the finished products. Process flow diagram is mention in Figure 1-4.

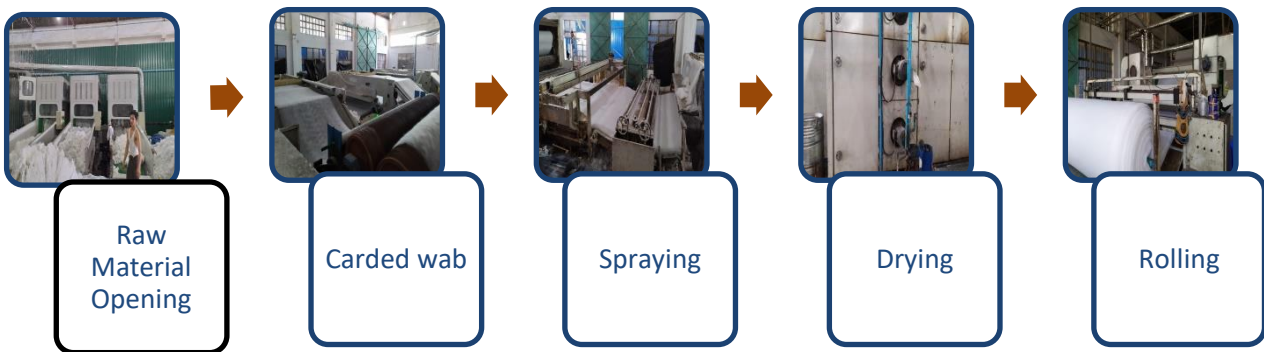


Figure 1-4 Production Process of Ming Da Polyester Wadding (Myanmar) Company Limited

### 1.7. PRODUCTS

The products of the factory are Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-punched Polyester, Vertical Polyester, Non-woven Fabric, quilting and Lining Cloth. Annual production rate is presented in Table 1-1.

Table 1-1 Annual Production Rate

No	Product	Unit	Year 1-2	Year 3-10
1	Spraying Collodion Polyester	Ton	500	510
2	Imitation Silk Polyester	Ton	200	205
3	Eiderdown Polyester	Ton	200	205
4	Needle-punched Polyester	Ton	50	55
5	Vertical Polyester	Ton	30	35
6	Non-woven Fabric	Ton	50	55
7	Lining Cloth	Ton	50	55
8	Quilting	Meter	500,000	550,000

## 1.8. UTILITIES

### 1.8.1. Machinery and Equipment

Automation systems for fully automatic and semiautomatic systems control of each process machine or complete processing line will be implemented. List of machinery and equipment required for the proposed factory are listed in Table 1-2. The machinery and equipment are imported from China.

**Table 1-2 List of Machinery and Equipment**

No	Description	Unit	Quantity
	Acupuncture Cotton Equipment		
1	Carding machine	Set	7
2	Feeder	Set	6
3	Needle-punching machine	Set	4
4	Main opener	Set	2
	Non-woven lining cloth equipment		
5	Cross lapper	Set	5
6	Feeder	Set	2
7	Heating roller	Set	1
8	Winder and cutter	Set	3
9	Main opener	Set	1
	C Cloth equipment		
10	The shelf	Set	1
11	Cross lapper	Set	2
12	Ironing machine	Set	2
13	Winder and cutter	Set	2
14	Felt drafter	Set	2
15	Screw	Set	2
16	Feeding machine	Set	1
17	Electric cabinet	Set	11
18	Numerical control type needle quilting machine	Set	17
19	Eiderdown cotton machine	Set	1
20	Pearl cotton machine	Set	1

No	Description	Unit	Quantity
21	Batching machine	Set	2
22	Air pump	Set	1
23	Vortex pump	Set	2
24	Glue pump	Set	2
25	Opener	Set	5
26	Layer oven	Set	1
27	Boiler (11 ton)	Set	1

### 1.8.2. Raw Material

The main materials for production are Chemical fiber and Textile rubber less, which are imported from China. Annual raw material requires for production process are provided in Table 1-3. Raw materials require for a piece of product is described in Table 1-4.

**Table 1-3 Annual Raw Material Requirement**

No	Particular	Specification	Unit	Year-1-2	Year-3-4	Year-5-10
1	Chemical fiber	Low melt fiber	Ton	150	153	153
2		0.9 D fiber	Ton	170	174.25	174.25
3		3.3 × 64	Ton	45	49.5	49.5
4		1.65 × 51	Ton	35	38.5	38.5
5		2.75 × 51	Ton	31	36.75	36.75
6		6.6 × 65	Ton	290	296.5	296.5
7	Textile rubber less	HD 404	Ton	200	204.2	204.2
8		HD 601	Ton	175	178.5	178.5
9		HD 604	Ton	140	143.5	143.5

**Table 1-4 Raw material require for a piece of product**

Product	Unit	Raw material requirement								
		Low melt fiber	0.9 D fiber	3.3 × 64	1.65 × 51	2.75 × 51	6.6 × 65	HD 404	HD 601	HD 604
Spraying Collodion Polyester	Ton	0.3	-	-	-	-	0.3	0.32	0.35	-
Imitation Silk Polyester	Ton	-	-	-	-	-	0.7	0.2	-	0.7
Eiderdown Polyester	Ton	-	0.85	-	-	-	-	-	-	-
Needle-punched Polyester	Ton	-	-	-	0.7	-	-	-	-	-
Vertical Polyester	Ton	-	-	-	-	1.05	-	-	-	-
Non-woven Fabric	Ton	-	-	0.4	-	-	-	-	-	-

Product	Unit	Raw material requirement								
		Low melt fiber	0.9 D fiber	3.3 x 64	1.65 x 51	2.75 x 51	6.6 x 65	HD 404	HD 601	HD 604
Lining Cloth	Ton	-	-	0.5	-	-	-	-	-	-

### 1.8.3. Human Resource

The proposed Factory of Ming Da Polyester Wadding (Myanmar) Company Limited, have the employees are 80 people, most are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. Currently, one shift (8 hours + overtime 2 hours) of production is running or operating. Management and team member detail of human resource is mentioned in Table 1-5.

**Table 1-5 Manpower List**

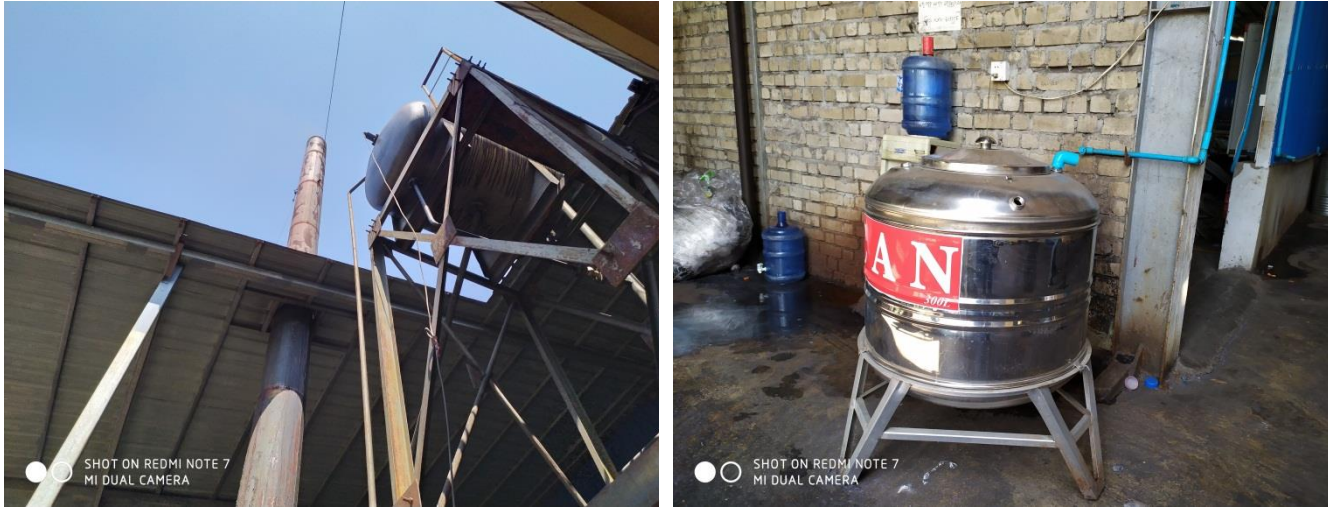
Foreigner	
Factory manager	1
Production manager	2
Engineer	3
Technician	4
Local	
Finance manager	1
Human resource manager	1
Supervisor	3
Quality control	2
Account staff	1
Admin staff	1
Marking staff	1
Security	2
Driver	1
Cleaner	2
Skilled worker	55

### 1.8.4. Water Supply System and Water Usage

The project was used groundwater for domestic use and firefighting. The groundwater stores in the three storage tanks on one-ground tanks with capacity of 3,366 gallons for fire-fighting, one overhead tank with capacity of 3,740 gallons for domestic use and one steel tank 1000 liters for drinking water.

The factory has 2 separated water distribution systems comprising domestic use system and fire water system. Groundwater contains in ground storage tank with capacity of 3,366 gallons for fire-fighting. Fire water distribute via main type to distribute water for fire-fighting equipment such as, sprinkler system, fire hose within the factory by firewater pump with capacity of 833 gallon per minute. Domestic use of water is treated by filtration system by oxidation tower, chlorine-dosing system, de-iron filter (FRP),

carbon filter, and cartridge filter. Treated water pumps to be stored in the overhead tank with 3,740 gallons on the water tower then water distribute to the factory operation area via pipes by gravity.



**Figure 1-5 Overhead Water Tank and Drinking Water Supply**

### 1.8.1. Water Requirement

The main water use in the proposed project is for domestic usage such as for personal washing, food preparation, and washing of utensils. The direct tube well water will be stored in the raw tanks, get treated, and then filtered before using in the industry. There is a separate tank for the treated water and also a tank for firefighting.

Main source of water supply will be provided by tube well water (ground water) in which ground water will be pumped (50kw) with 6 inches PVC pipe and will be treated by oxidation tower, chlorine dosing system, de-iron filter (FRP), carbon filter, and cartridge filter. There are installed water tanks (raw water tank 8 m<sup>3</sup>, treated water tank (2000 liter) and firefighting water (25,000 gal). Daily water consumption is 1,375 gal per day (six days per week) current condition.

#### 1.8.1.1. Water Drainage and Flood Protection

Kitchen and dishwashing sink drainage pipe with 4-inch diameter PVC to drain wastewater from washing area into the concrete channel. Within the factory compound, there was drainage channel with concrete to collect rainwater in the factory area. The factory has already provided internal rainwater drainage system in connection with Industrial drainage system outside the factory.

### 1.8.2. Electricity and Fuel Requirement

The proposed project is intended to get required electricity supply form Yangon City Electricity Supply Board (YESB) and distributed by 500 kVA transformer. Another source of energy 500 kVA generator and 350 kVA generator will also be kept as the emergency generator if normal electricity supply could not provide for the proposed project. Estimate electricity usage is 4.95 Mega Watt hour per day (MW.hr/day) (six working days per week). According to the MIC proposal, an annual fuel requirement for proposed factory is 108,000 gallons and annual electricity consumption is 260,000 Unit. Required diesel for vehicles and generator are purchased from the nearest fuel station. Fuel requirement is about 23,940 gallons per year. Diesel is stored in separated tank by safety required.

## 1.9. FACILITIES

### 1.9.1. Fire Hazards Protect Facility

For fire safety plan, Ming Da Polyester Wadding (Myanmar) Company Limited has a plan to keep sufficient amount of fire extinguishers, in case of emergency fire problems in factory building. Firefighting training plan is also prepared for all employees by using the instructions, techniques and guidelines in concern with fire emergency matters according to the guidelines of Myanmar Fire Services Department. Moreover, smoking inside the building is strongly prohibited to avoid unwanted fire problems and fire water will be stored by capacity of (170 m<sup>3</sup>) of ground water tank. It can be seen for the preparedness of firefighting system and firefighting equipment, adopted in the factory of Ming Da Polyester Wadding (Myanmar) Company Limited.

**Table 1-6 Emergency Contact Numbers**

1	Fire Station	01-666912, 622460, 666900
2	Fire Force	067-420025
3	Yangon Region Fire Force	01-252000, 252022
4	Hlaing Thar Yar	01-707550

#### 1.9.1.1. Lighting Arrester

This project is a lighting avoidance building, the lighting arrester will connect the whole metal construction steel as a whole and format a lightning avoidance cage net.

#### 1.9.1.2. Fire Fighting

This project buildings apply the refractory materials and its wall, girder, pole, roof is all inflammable. The connection of the electricity complies with the requirements and regulations of the departments concerned of government. The specific measures as follow:

- a) Firefighting spacing: among the buildings, reserve enough space as the fireproof isolation belt and fire engine access.
- b) Water supply: design the branch water supply system along the fire engine access, connect the firefighting water supply water supply net with the factory's, the fire hydrants out of buildings and structures, the water flow should fulfill water supply requirements,

#### 1.9.1.3. Firefighting Electricity Supply

Fire power equipment according to level 2 load power supply and using a separate power supply circuit of, have clearly marked, fire protection tube wear measures to ensure that the fire electricity, fire accident lighting and the evacuation of indication for power supply time not less than 40 minutes. Important parts such as control enter room set automatic fire alarm device.

### 1.9.2. Human Waste Control Facility

The number of staff and workers required in the day shift for the factory is maximum 80 persons during operation. Solid waste generated from maximum number of operators and office staffs with assumption of waste generation rate at 31.2 kg/day was calculated based on solid waste generation rate of 0.39 kg/person/day.

Domestic wastewater generated by maximum amount of 80 persons with assumption rate at 8 m<sup>3</sup>/day was calculated based on domestic wastewater generated rate of 0.1 m<sup>3</sup>/person/day<sup>1</sup>. This water will be released in operation hour discharge to septic tank or factory drainage.

### **1.9.3. Industrial Waste Management Facility**

Most activities of this factory will generate the relatively low level of waste. Solid waste from production sector will consists of process waste such as Industrial waste would be generated from operation such as fabric scraps, fabric paper tube, plastic bags, cardboard, paper board, plastic string, etc. and food waste, plastic, paper, glass, metal can, sanitary napkins, tissue paper, garden waste, etc. However, proposed factory has been implemented the solid waste disposal system by the segregation of waste type such as paper waste, food waste, production waste and hazardous waste according to their environmental health and safety guideline. The required rubbish bins have been provided and regularly checked and monitored by assigned person of proposed factory. Before send to Yangon City Development Committee (YCDC), the proper disposal waste facilities and temporary waste disposal site have been provided in the factory site and they should be followed and monitored the solid waste disposal system with the help of Yangon City Development Committee (YCDC) guidelines.

### **1.9.4. Toilet Facilities**

Currently toilet facilities have hygienic toilets already provided and categorized by gender, marked distinctly for men and women by signs and symbols. In addition, toilet areas will also be provided with water sinks, necessary toiletries, and hand washing soaps, hand drying facilities, and waste bins. Total numbers of toilet for male are 10 rooms and for female are 20 rooms.

### **1.9.5. Ventilation System**

The factory ventilation systems consist of natural ventilation system and mechanical ventilation system. The mechanical ventilation system is provided in office room, production area, canteen and warehouse area.

### **1.9.6. Medical and Health Facility for Employments**

The factory will provide a clinic and full-time nurse-aid has been employed to treat employees for minor injuries, sickness and emergency medical care. Medicines and first aid kits will be provided in this clinic. Moreover, these medicines and first aid kits are provided for emergency cases of workers. First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles will be provided for relevant department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.

- a) Medicine and first aids are placed at factory and clinic room as emergency matters happen
- b) In factory there are first aids boxes and a resting in clinic room for sickness people as a plan

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\* The Yangon City solid waste generation rate as of 2012 is 0.39 kg per person per day (Pollution Control and Cleansing Department, Yangon City Development Committee, 2014).

\*The domestic wastewater generation was based on typical wastewater generation rate of 0.1 m<sup>3</sup> per person per day (Metcalf & Eddy, 2004)



- c) One who gets injury shall be sent to social welfare hospital as a care
- d) We will provide employees to learn in training concern with health care for one time in three months. The factory will pay the cost of hospital to employees who are working in long term at factory as a plan for health.
- e) We will supply the cost of medicine according to requirement for healthy of employees who are working long time.

#### **1.10. DECOMMISSIONING PHASE**

The proposed project investment duration is initial 20 years can be extendable 10 years in two time and they will close out the project according to their MIC proposal.

## CHAPTER 2 PROJECT PROPONENT PROFILE

### 2.1. PROJECT INFORMATION

The project approved for the investment endorsement from the Myanmar Investment Committee (MIC) Permit No. 1270/2017 on 9 May 2017 in **Appendix A**. Myanmar Investment Commission announce for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in Manufacturing of Garment on CMP basis under the name of Ming Da Polyester Wadding (Myanmar) Company Limited as a wholly foreign owned investment. This is the information of project proponent from the registration of MIC, which is described in below Table 2-1 and Table 2-2.

**Table 2-1 Information of Ming Da Polyester Wadding (Myanmar) Company Limited**

Investor Name:	Mr. Zhang Youjian
Citizenship:	Chinese
ID No./ Passport No	P.P. No-E-46648672
Address of Registration office:	Liao Ning Sheng, Da Lian Shi Zhong Shan Qu Hai Le Jie (17) Hao, People's Republic of China

**Table 2-2 Director List**

Name of Shareholder	Nationality	Percentage of Shares
Mr. Zhang Youjian	Chinese	70%
Ms. Zhao Lingzhi	Chinese	30%

**Table 2-3 Salient feature of the project**

Type of Proposed Business:	Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment
Type of investment:	100% Foreign Investment
Type of Share:	Ordinary Share
Type of land:	Industrial Land
Total land area:	1.767 Acres
Type of building	One Storey Building (80 ft × 180 ft) Two storied office building (20 ft * 50 ft)
Land lease year:	40 years
Construction period:	18 months
Address:	Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region
Contact person:	Zhang YouJian (General Manager)
Mobile:	01 3681404
Email	dlmdwfbxgs@163.com

## CHAPTER 3 ENVIRONMENTAL CONSULTANT PROFILE

### 3.1. SCOPE OF IEE STUDY

The IEE study firstly established baseline environmental setting within 100 meters of the project area, including existing conditions of air quality, water quality, noise, weather and local climate, waste, landscape and social assessment. The field studies were carried out by Myanwei Environmental Solutions Co., Ltd conducted field survey, assessment activities, and prepared the report.

A reconnaissance study was performed on the proposed project site and baseline environmental data were also collected from possible sources using the appropriate measuring devices. Data interpretation and analysis were made based on those collected data for the present and potential future conditions. Suitable measures were proposed for the impacts to be mitigated to reduce to acceptable ones.

#### 3.1.1. The specific objectives of the IEE study are as follows:

- To conduct preliminary examination of the environmental consequences of the project
- To describe the existing environmental condition of the proposed project site
- To collect detailed information about used of process, technology, equipment and machinery for proposed project
- To assess the potential environmental impacts of the proposed project
- To develop environmental management plan (EMP) with site specific environmental mitigation measures and monitoring standards guidelines for the proposed project
- To carry our public consultants to address any issues in concern with implementation of this project

### 3.2. IDENTIFICATION OF IEE STUDY TEAM

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED prepares the Initial Environmental Examination (IEE) with the Environmental Management Plan (EMP) for the proposed project. The environmental study was carried out by the study team and the following is a summary of team member's responsibilities during the study period.

Myanwei Environmental Solutions Company Limited	No. 49(B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.	env@myanweiconsulting.com www.myanweiconsulting.com.
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**Table 3-1 Member of IEE Study Team**

Name	Qualification	Responsibility
<b>Myanwei Environmental Solutions Company Limited</b>	<b>Transition Consultant Registration Certificate No. 0069</b>	<b>EIA Organization</b>
Mr. Lin Htet Sein <b>(Project Director)</b>	MSc (Regional Geology) BSc (Hons) Geology Dip in Environmental Science	Environmental Consultant, Project Management

	Certificate in Environmental & Social Assessment <b>TCR No. 0048</b>	
Dr. Hein Lynn Aung <b>(Project Director)</b>	M.B, B.S (Yangon), Business Management (International Collage of Management Sydney, Australia)	Public Health Consultant, Project Management
Mr. Htun Lin Kyaw <b>(Senior Environmental Consultant)</b>	B.Sc (Hons) Geology M.Sc. Geology (Structural)	Public consultation, Social Economic Investigation, Preparing the EMP, IEE and EIA Report, Site Visit and Environmental Quality Monitoring,
Ms. Su Myat Hlaing <b>(Environmental Consultant)</b>	B.E. Civil Engineering B. Tech Civil Engineering	Preparation of EMP, IEE, and EMoP Report, Baseline Study Preparation, Site Visit and Environmental Quality Monitoring, Participating and Presentation of Public Consultation Meeting, Social Surveying and Data Analysis
Mr. Saw Yan Naung <b>(Environmental Consultant)</b>	B.E. Chemical Engineering B. Tech Chemical Engineering	Communication with the Government and the Clients, Site Visit, Baseline data Monitoring and Analysis
Mr. Kaung Sett Lwin <b>(Environmental Consultant)</b>	B.Sc (Hons) Geology Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Site Surveying and Environmental Quality Monitoring, Document Administration, Preparing the EMP, IEE Report
Mr. Si Yan Hein <b>(Environmental Consultant)</b>	B.Sc (Hons) Geology Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Site Surveying and Environmental Quality Monitoring, Collect and Analysis the monitoring data, Drawing the Maps Preparing the EMP, IEE, EMoP Report
Ms. May Soe Kyi <b>(Junior Environmental Consultant)</b>	B.Agr.Sc (Qualified) PGDCSM- 6 Post Graduate Diploma in Civil Service Management	Participating and Presentation in Public Consultation Meeting, Site Visit and Preparing the EMP, IEE Report
Ms. Pyae Phyo Win <b>(Junior Environmental Consultant)</b>	M.Sc (Botany) B.Sc. (Hons) Botany	Participating and Presentation in Public Consultation Meeting, Site Visit and Preparing the EMP, IEE Report
Mr. Aung Kyaw Htet <b>(Junior Environmental Consultant)</b>	B.Sc (Geology)	Site Surveying and Environmental Quality Monitoring, Drawing the Maps Preparing the EMP, IEE Report
Mr. Lynn Than Thaug <b>(Junior Environmental Consultant)</b>	B.Sc (Forestry)	Site Surveying and Environmental Quality Monitoring, Writing Report

## CHAPTER 4 POLICY, LEGAL AND INSTITUTIONAL FRAME WORK

This section provides a brief summary of relevant national environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention for the proposed project.

### 4.1. MYANMAR REGULATORY FRAMWORK

The Ministry of Environmental Conservation and Forestry (MOECAF) was reformed as the Ministry of Natural Resources and Environmental Conservation (MONREC) in April 2016 to be the focal point and coordinating agency for environmental management.

The Environmental Conservation Department (ECD) was established in October 2012 based on Environmental Conservation Law. ECD is responsible for managing the EIA process in Myanmar

#### 4.1.1. Fundamental Laws and Regulations Related to Environmental and Social Considerations

The fundamental laws and regulations related to the environmental and social considerations and health in Myanmar and major international agreements and treaties that the Myanmar government has ratified related to the environmental and social considerations are shown in below:

#### 4.1.2. National Environmental Policy of Myanmar, (Notification No. 26/94 dated 5 December 1994)

Purpose: To achieve harmony and balance between socioeconomic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.

#### 4.1.3. Environmental Conservation Law, 30 March 2012

Objectives	to contract a healthy and clean environmental and to conserve natural and cultural heritage for the benefit of present and future generations; to maintain the sustainable development through effective management of natural resources and to enable to promote international, regional and bilateral cooperation in the matters of environmental conversation.
Chapter IV Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	(d) prescribing environmental quality standards including standards on emissions, effluents, solid wastes, production procedures, processes and products for conservation and enhancement of environmental quality;
Chapter VI Environmental Quality Standards: Section10	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (a) suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, 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 wastes standards; (i) other environmental quality standards stipulated by the Union Government.
Section 14	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Chapter X Prior Permission Section 24	The Ministry may, in issuing the prior permission, stipulate terms and conditions relating to environmental conservation. It may conduct inspection whether or not it is performed in conformity with such terms and conditions or inform the relevant Government departments, Government organizations to carry out inspections.
Chapter XIII Offences and Penalties Section 32	Whoever violates any prohibition contained in the rules, notifications, orders, directives and procedures issued under this Law shall, on conviction, be punished with imprisonment for a term not exceeding one year, or with fine, or with both.

#### 4.1.4. Environmental Conservation Rules, 2014

Chapter XIII Prohibitions Section 69	(a) Any person shall not emit, cause to emit, dispose, cause to dispose, pile and cause to pile, by any means, the pollutants to environment and the hazardous waste or hazardous material stipulated by notification under the Law and any of these rules at any place which may affect the public directly or indirectly.  (b) Any person shall not carry out the actions which can be damaged to natural environment which is changing due to ecosystem and such system, except the permission of the relevant Ministry in order to the interest of the public.
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#### 4.1.5. Environmental Impact Assessment Procedure, December 2015

CHAPTER VIII. Responsibility for all Adverse Impacts Section 102	The Project Proponent shall bear full legal and financial responsibility for: a) all of the Project Proponent's actions and omissions and those of its contractors, subcontractors, officers, employees, agents, representatives, and consultants employed, hired, or authorized by the Project acting for or on behalf of the Project, in carrying out work on the Project; and b) PAPs until they have achieved socio-economic stability at a level not lower than that in effect prior to the commencement of the Project, and shall support programs for livelihood restoration and resettlement in consultation with the PAPs, related government agencies, and organizations and other concerned persons for all Adverse Impacts.
Section 103	The Project Proponent shall fully implement the EMP, all Project commitments, and conditions, and is liable to ensure that all contractors and subcontractors of the Project comply fully with all applicable Laws, the Rules, this Procedure, the EMP Project commitments and conditions when providing services to the Project.
Section 104	The Project Proponent shall be responsible for, and shall fully and effectively implement, all requirements set forth in the ECC, applicable Laws, the Rules, this Procedure and standards.
Section 105	The Project Proponent shall timely notify and identify in writing to the Ministry, providing detailed information as to the proposed Project's potential Adverse Impacts.
CHAPTER IX. Monitoring	The Project Proponent shall, during all phases of the Project (pre-construction, construction, operation, decommissioning, closure and post-closure), engage in

Section 106	continuous, proactive and comprehensive self-monitoring of the Project and activities related thereto, all Adverse Impacts, and compliance with applicable laws, the Rules, this Procedure, standards, the ECC, and the EMP.
Section 107	The Project Proponent shall notify and identify in writing to the Ministry any breaches of its obligations or other performance failures or violations of the ECC and the EMP as soon as reasonably possible and in any event, in respect of any breach which would have a serious impact or where the urgent attention of the Ministry is or maybe required, within not later than twenty-four (24) hours, and in all other cases within seven (7) days of the Project Proponent becoming aware of such incident.
Section 108	The Project Proponent shall submit monitoring reports to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP, or periodically as prescribed by the Ministry.
Section 109	The monitoring reports shall include: a) documentation of compliance with all conditions; b) progress made to date on implementation of the EMP against the submitted implementation schedule; c) difficulties encountered in implementing the EMP and recommendations for remedying those difficulties and steps proposed to prevent or avoid similar future difficulties; d) number and type of non-compliance with the EMP and proposed remedial measures and timelines for completion of remediation; e) accidents or incidents relating to the occupational and community health and safety, and the environment; and f) Monitoring data of environmental parameters and conditions as committed in the EMP or otherwise required.
Section 110	Within ten (10) days of completing a monitoring report as contemplated in Article 108 and Article 109 in accordance with the EMP schedule, the Project Proponent shall make such report (except as may relate to National Security concerns) publicly available on the Project's website, at public meeting places (e.g. libraries, community halls) and at the Project offices. Any organization or person may request a digital copy of a monitoring report and the Project shall, within ten (10) days of receiving such request, submit a digital copy via email or as may otherwise be agreed upon with the requestor.
Section 113	For purposes of monitoring and inspection, the Project Proponent: a) shall grant to the Ministry and/or its representatives, at any time during normal working hours, access to the Project's offices and to the Project site and any other location at which the Project activities or activities related to the Project are performed; and b) from time to time as and when the Ministry may reasonably require, shall grant the Ministry access to the Project's offices and to the Project site and any other location at which the Project activities or activities related to the Project are performed.
Section 115	In the event of an emergency, or where, in the opinion of the Ministry, there is or may exist a violation or risk of violation of the compliance by the Project with all applicable environmental and social requirements, the Project shall grant full and immediate access to the Ministry at any time as may be required by the Ministry.
Section 117	The Project Proponent shall further ensure that the Ministry's rights of access hereunder shall extend to access by the Ministry to the Project's contractors and sub-contractors.

**4.1.6. Myanmar Investment Law, 2016**

<p>Chapter XII Rights to be used land Section 50</p>	<p>(d)The investor shall register the land lease contract at the Office of Registry of Deeds in accordance with the Registration Act.</p>
<p>Chapter XIII Employment of Staff and Workers Section 51</p>	<p>The investor:</p> <p>(a) may appoint of any citizen who is a qualified person as senior manager, technical and operational expert, and advisor in his investment within the Union in accordance with the Laws;</p> <p>(b) shall appoint them to replace, after providing for capacity building programs in order to be able to appoint citizens to different level positions of management, technical and operational experts, and advisors;</p> <p>(c) shall appoint only citizens for works which does not require skill;</p> <p>(d) shall appoint skilled citizen and foreign workers, technicians, and staff by signing an employment contract between employer and employee in accordance with the labor laws and rules;</p> <p>(e) shall ensure to obtain the entitlements and rights in the labor laws and rules, including minimum wages and salary, leave, holiday, overtime fee, damages, compensation of the workman, social welfare, and other insurance relating to workers in stipulating the rights and duties of employers and employees and occupational terms and conditions in the employment contract;</p> <p>(f) shall settle disputes arising among employers, among workers, between employers and workers, and technicians or staff in the investment in accordance with the applicable laws.</p>
<p>Chapter XVI Responsibilities of Investors Section 65</p>	<p>The Investor:</p> <p>(f) shall not make any significant alteration of topography or elevation of the land on which he is entitled to lease or to use, without the approval of the Commission;</p> <p>(g) shall abide by applicable laws, rules, procedures and best standards practiced internationally for this investment so as not to cause damage, pollution, and loss to the natural and social environment and not to cause damage to cultural heritage;</p> <p>(i) shall close and discontinue the investment only after payment of compensation to employees in accordance with applicable laws for any breach of employment contracts, closure of investment, sale and transfer of investment, discontinuation of investment, or reduction of workforce;</p> <p>(j) shall pay wages and salaries to employees in accordance with applicable laws, rules, procedures, directives and so forth during the period of suspension of investment for a credible reason;</p> <p>(k) shall pay compensation and indemnification in accordance with applicable laws to the relevant employee or his successor for injury, disability, disease and death due to the work;</p> <p>(l) shall supervise foreign experts, supervisors and their families, who employ in their investment, to abide by the applicable laws, rules, orders and directives, and the culture and traditions of Myanmar;</p>
<p>Chapter XVII Insurance Section 73</p>	<p>The investor shall ensure the types of insurance stipulated in the provision of the rules at any insurance enterprise which is entitled to carry out insurance businesses within the Union.</p>

**4.1.7. Myanmar Insurance Law (1993)**

<p>Chapter II Establishment and Aim Section 4</p>	<p>The Myanmar Insurance is established with the following aims: - social and economic losses which the people may encounter, due to common perils;</p>
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	(b) to promote the habit of savings individually by effecting life assurance, thus contributing to the accumulation of resource, of the State; (c) to win the trust and confidence of the people in the insurance system by providing effective insurance safeguards which may become necessary in view of the social and economic developments.
Chapter VI Effecting Insurance and Granting of Benefits Section 15	Owners of motor vehicles shall effect compulsory Third Party Liability Insurance with the Myanmar Insurance.
Section 16	An entrepreneur or an organization operating an enterprise which may cause loss to State-owned property or which may cause damage to the life and property of the public or which may cause pollution to the environment shall affect compulsory General Liability Insurance with the Myanmar Insurance.

**4.1.8. The Myanmar Fire Force Law (2015)**

Purpose	To ensure to prevent the fire, to provide the precautionary material and apparatuses, if the fire caused in the project area to be defeated because the project is business in which electricity and any inflammable materials such as petroleum are used. So, the project owner has to institute the specific fire service in line with the above law.
Section 25	The project proponent has to institute the specific fire services. The project owner has to provide materials and apparatuses for fire precaution and prevention.

**4.1.9. Myanmar Investment Rules, 2017**

Rule 202	The project proponent has to comply with the conditions of the permit issued by the MIC and applicable laws when making the investment
Rule 206.	The project proponent has to submit the passport, expert evidence or document of degree and profile to the MIC office for approval if decide to appoint a foreigner as senior management, technician expert or consultant according to subsection (a) of section 51 of Myanmar Investment Law
Rule 212	The investor obtained the permit or tax exemption or relief shall insure the relevant insurance out of the following types of the insurance at any insurance business entitled to carry out insurance business within the Union based on the nature of the business: (a) Property and Business Interruption Insurance; (b) Engineering Insurance; (c) Professional Liability Insurance; (d) Bodily Injury Insurance; (e) Marine Insurance; or (f) Workmen Compensation Insurance.

**4.1.10. The Private Industrial Enterprise Law, 1990**

Chapter III Registration of Private Industrial Enterprises Section 4	(a) Any person desirous of conducting any private industrial enterprise; (b) Any person conducting any private industrial enterprise on the day this Law is enacted; by using any type of power which is three horsepower and above or manpower of ten wage-earning workers and above shall register under this Law.
Chapter VI Duties and Rights of the Entrepreneur Section 13	The duties of the entrepreneur are as follows: - (b) shall abide by the terms and conditions of the registration certificate; (l) shall shift the place of enterprise, change the nature of enterprise, amalgamate enterprises and split up enterprises only with the approval of the Directorate;

	(g) shall abide by the orders and directives issued from time to time by the Ministry and the Directorate;
Section 15	The entrepreneur has the right to carry out the followings: (a) appointing foreign exports and technicians with the approval of the Ministry; (b) Carrying out change of the name of enterprise, transfer of ownership, temporary suspension or permanent closing down of the enterprise in the manner prescribed and with the approval of the Directorate.

4.1.11. Public Health Law (1972)

<p>အခန်း(၂) ပြည်သူ့တို့၏ ကျန်းမာရေး ကိုကာကွယ်ခြင်း ဥပဒေပုဒ်မ (၃)</p>	<p>အခြားတည်ဆဲတရားဥပဒေများတွင်မည်သို့ပင်ပါရှိစေကာမူအစိုးရသည်လုပ်သားပြည်သူတို့၏ကျန်းမာရေးကိုပိုမိုတိုးတက်စေကောင်းမွန်လာစေရန်လည်းကောင်း၊လုပ်သားပြည်သူတို့၏ကျန်းမာရေးကိုထိခိုက်ခြင်းမှကာကွယ်ရန်လည်းကောင်းအောက်တွင်ဖော်ပြသောကျန်းမာရေးဆိုင်ရာကိစ္စရပ်များကိုအကြံပေးခြင်း၊စစ်ဆေးခြင်း၊ကြီးကြပ်ခြင်း၊ပြုပြင်ခြင်း၊တားမြစ်ခြင်းစသည့်လုပ်ငန်းတို့ကိုလုပ်ဆောင်ရမည်။</p> <p>(၁) ပတ်ဝန်းကျင်ကျန်းမာရေးဆိုင်ရာလုပ်ငန်းများ</p> <p>(က) လူအများနေထိုင်ရာပတ်ဝန်းကျင်တွင်အမှိုက်သရိုက်၊အညစ်အကြေးများကိုသိမ်းဆည်းစွန့်ပစ်ခြင်း</p> <p>(ခ) လူအများအတွက်သောက်သုံးသောရေများကိုအပြည့်ပြည့်ဆိုင်ဆိုင်ရရှိစေရန်နှင့်ကာကွယ်စောင့်ရှောက်ခြင်း</p> <p>(ဂ) လူအများနေထိုင်ရာ ပတ်ဝန်းကျင်လေထုတွင် လူတို့ကို ဘေးအန္တရာယ်ဖြစ်စေမည့် အခိုးအငွေ့၊ အနံ့အသက်၊ အမှုန့်အမွှား၊ အသံပလံနှင့် ဓါတ်ရောင်ခြည်များကြောင့် ညစ်ညမ်းခြင်းမှ ကာကွယ်ခြင်း။</p> <p>(ဃ) မြို့ရွာစည်ပင်သာယာရေး၊ အိမ်ယာဆောက်လုပ်ရေးနှင့် လုပ်သားပြည်သူတို့ သွားလာနေထိုင်အသုံးပြုသည့် အဆောက်အအုံ၊ သို့မဟုတ် နေရာများ၏ ကျန်းမာသန့်ရှင်းရေးအတွက် ဆောင်ရွက်ခြင်း။</p> <p>(၂) လုပ်သားပြည်သူတို့ထုတ်လုပ်ရောင်းချသောအစားအသောက်နှင့်ပတ်သက်သည့်ကိစ္စများ</p> <p>(က) အစားအသောက်ထုတ်လုပ်ရောင်းချသည့် အလုပ်ရုံ၊ စက်ရုံလုပ်ငန်းဌာနများကို မှတ်ပုံတင်ခြင်း၊ မှတ်ပုံတင်ခြင်းမှ ပယ်ဖျက်ခြင်းနှင့် ပြန်လည်မှတ်ပုံတင်ခြင်း။</p> <p>(ခ) လုပ်သားပြည်သူတို့ရောင်းချသောအစားအသောက်တို့ကိုကျန်းမာသန့်ရှင်းစေခြင်း</p> <p>(ဂ) လုပ်သားပြည်သူတို့ ရောင်းချသော အစားအသောက်များကို အတုအပြုလုပ်ခြင်း၊ အခြားယုတ်ညံ့သောပစ္စည်းများနှင့် ရောစပ်ခြင်း၊ အစားအသောက်ထဲတွင် ရိုယင်းစွဲ ဝတ္ထုပစ္စည်းများ အားထုတ်နှုတ်ခြင်းတို့မှ ကာကွယ်ခြင်း</p> <p>(ဃ) အစားအသောက်ထုတ်လုပ်ရောင်းချသော အလုပ်ရုံ၊ စက်ရုံလုပ်ငန်းဌာနတို့ကို ကျန်းမာသန့်ရှင်းစေခြင်း</p> <p>(င) အစားအသောက်ရောင်းချသော ဥပစာအဆောက်အအုံများကို ကျန်းမာသန့်ရှင်းစေခြင်း။</p> <p>(စ) လုပ်သားပြည်သူတို့ ရောင်းချသော အစားအသောက်များ ထုတ်လုပ်ရောင်းချသည့်နေရာများတွင် ကူးစက်ရောဂါရှိသူများ ဝင်ရောက်အမှုထမ်းခြင်းမှ ကာကွယ်ခြင်း</p> <p>(ဆ) ဘေးအန္တရာယ်ဖြစ်စေသော အစားအသောက်များကို သိမ်းဆည်းဖျက်ဆီးခြင်း၊</p> <p>(ဇ) အစားအသောက်နှင့် ပတ်သက်သည့်ကိစ္စရပ်များကို စစ်ဆေးကြည့်ရှု လိုအပ်လျှင် အစိုးရဓာတ်ခွဲခန်းများသို့ ပို့၍စစ်ဆေးခြင်း</p> <p>(ဈ) အစားအသောက်များကို အစိုးရကအခါအားလျော်စွာ သတ်မှတ်ပေးသောစံချိန်နှင့် ကိုက်ညီစေရန်ဆောင်ရွက်ခြင်း</p> <p>(၃) လုပ်သားပြည်သူများအတွက်အသုံးပြုရန်ဖြစ်သောနေအိမ်သုံးပစ္စည်းများနှင့်အလှကုန်ပစ္စည်းများနှင့်ပတ်သက်သည့်ကိစ္စများ</p> <p>(က) နေအိမ်သုံးပစ္စည်းများနှင့် အလှကုန်ပစ္စည်းများ ထုတ်လုပ်သော အလုပ်ရုံ၊ စက်ရုံများမှတ်ပုံတင်ခြင်း၊ မှတ်ပုံတင်မှပယ်ဖျက်ခြင်းနှင့် ပြန်လည်မှတ်ပုံတင်ခြင်း</p>
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	<p>(ခ) ထုတ်လုပ်သောနေ အိမ်သုံးပစ္စည်းများနှင့် အလှကုန်ပစ္စည်းများသည် လုပ်သားပြည်သူတို့အတွက် ဘေးအန္တရာယ် ဖြစ်ပွားနိုင်လျှင်သော်လည်းကောင်း၊ အဆိပ်အတောက် ဖြစ်စေနိုင်လျှင်သော်လည်းကောင်း၊ ဘေးအန္တရာယ် ဖြစ်စေတတ်သော ဓါတ်ရောင်ခြည်ပါရှိလျှင်သော်လည်းကောင်း ၎င်းကုန်ထုတ်လုပ်ခြင်းကိုတားမြစ်ခြင်း။</p> <p>(ဂ) ဘေးအန္တရာယ်ရှိသော ထုတ်လုပ်ပြီးသည့် နေအိမ်သုံးပစ္စည်းများနှင့် အလှကုန်ပစ္စည်းများကို လုပ်သားပြည်သူများအား ဘေးအန္တရာယ်မရှိစေသော နည်းဖြင့်ဖယ်ရှားခြင်း</p> <p>(ဃ) ကုန်ရောင်းဆိုင်များမှ ဘေးအန္တရာယ်ရှိစေသော နေအိမ်သုံးပစ္စည်းများနှင့် အလှကုန်ပစ္စည်းများကို သိမ်းဆည်း ဖျက်ဆီးခြင်း</p> <p>(င) နေအိမ်သုံးပစ္စည်းများနှင့် အလှကုန်ပစ္စည်းများကို အစိုးရက အခါအားလျော်စွာ သတ်မှတ်ပေးသောစံချိန်နှင့် ကိုက်ညီစေရန်ဆောင်ရွက်ခြင်း။</p>
<p>ဥပဒေပုဒ်မ (၅)</p>	<p>ကိုယ်ပိုင်ဆေးကုဂေဟာများနှင့်ပတ်သက်သည့်ကိစ္စများ</p> <p>(က) ကိုယ်ပိုင်ဆေးကုဂေဟာများနှင့်ပတ်သက်၍လိုအပ်သည့်စည်းကမ်းချက်များကိုသတ်မှတ်ခြင်း</p> <p>(ခ) ကိုယ်ပိုင်ဆေးကုဂေဟာအားလုံးကိုမှတ်ပုံတင်ခြင်း၊မှတ်ပုံတင်မှပယ်ဖျက်ခြင်းနှင့်ပြန်လည်မှတ်ပုံတင်ခြင်း။</p>

**4.1.12. Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)**

<p>Chapter 2 Prevention and Response Section 3</p>	<p>(a) In order to prevent the outbreak of communicable diseases, the Department of Health shall implement the following activities systematically under the guidance of the Ministry of Health:</p> <p>(i) immunization of children by injection or orally;</p> <p>(ii) immunization of those who have attained eligible target group including adult by injection or orally, when necessary;</p> <p>(iii) carrying out health education activities relating to communicable disease;</p> <p>(iv) carrying out the activities of surveillance, prevention and control concerning communicable disease;</p> <p>(v) carrying out the activities of medical examination for prevention of communicable disease in cross-border entrance and exit of the country, international airport, seaport, other necessary airport, seaport and bus terminal;</p> <p>(vi) prohibition or restriction of movements at home, hotel, motel and guest house;</p> <p>(vii) isolation of infected person of communicable disease or suspect of being infected there with;</p> <p>(viii) carrying out the activities of spraying, immunization by injection or orally and environmental sanitation necessary for prevention and control according to communicable diseases;</p> <p>(ix) giving advice to and coordinating with relevant Government departments, organizations and non-governmental organizations for construction of healthy housing, obtaining safe drinking water and fresh water for use, proper waste disposal in order to prevent occurrence of communicable disease for workers who are carrying out activities of social and economic development;</p> <p>(x) carrying out other functions prescribed by the Ministry of Health, from time to time.</p>
<p>Section 4</p>	<p>The public shall comply with the measures undertaken by the Ministry of Health and the Department of Health under section 3 in respect of prevention of the occurrence and spread of communicable disease and control thereof."</p>
<p>Section 9</p>	<p>Sub-sections (d) and (e) contained in section 11 of the Prevention and Control of Communicable Diseases Law shall be substituted as follows:</p> <p>"(d) other necessary investigation;</p>

	(e) prohibition of the right of movement of the vehicle carrying animal or animal product suspected of having epidemic disease."
Section 11	After sub-section (e) of section 14 of the Prevention and Control of Communicable Diseases Law, sub-section (f) shall be inserted as follows: "(f) right of movement of the vehicle carrying animal or animal product suspected of having epidemic disease."

#### 4.1.13. The Labor Organization Law (2011)

Chapter V Rights and Responsibilities of the Labour Organization Section 17	The labour organizations shall have the right to carry out freely in drawing up their constitution and rules, in electing their representatives, in organizing their administration and activities or in formulating their programmes. The Labour Organizations have the right to negotiate and settle with the employer if the workers are unable to obtain and enjoy the rights of the workers contained in the labour laws and to submit demands to the employer and claim in accord with the relevant law if the agreement cannot be reached.
Section 18	The labour organization has the right to demand the relevant employer to re-appoint a worker if such worker is dismissed by the employer and if there is cause to believe that the reasons of such dismissal were based on labour organization membership or activities, or were not in conformity with the labour laws.
Section 19	The labour organizations have the right to send representatives to the Conciliation Body in settling a dispute between the employer and the worker. Similarly, they have the right to send representatives to the Conciliation Tribunals formed with the representatives from the various levels of labour organizations.
Section 20	In discussing with the Government, the employer and the complaining workers in respect of worker's rights or interests contained in the labour laws, the representatives of the labour organization also have the right to participate and discuss.
Section 21	The labour organizations have the right to participate in solving the collective bargains of the workers in accord with the labour laws.
Section 22	The labour organizations shall carry out peacefully in carrying out holding of meetings, going on strike and carrying out other collective activities in accord with their procedures, regulations, by-laws and any directives prescribed by the relevant Labour Federation.

#### 4.1.14. Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)

This law was enacted 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 settling the dispute of employer and worker justly. It stipulates that employer in which more than 30 workers are employed shall form the workplace coordinating committee consisting of the representatives of workers and the representatives of employer.	
Section 38	No employer shall fail to negotiate and coordinate in respect of the complaint within the prescribed period without sufficient cause.
Section 39	No employer shall alter the conditions of service relating to workers concerned in such dispute at the consecutive period before commencing the dispute within the period under investigation of the dispute before the Arbitration Body or Tribunal, to affect the interest of such workers immediately.
Section 40	The project proponent has to not close the work without negotiation, discussion on dispute in accord with this law, decision by Tribunal
Section 51	The project proponent has to pay the compensation decided by Tribunal if violates any act or any omission to damage the interest of labour by reducing of product without efficient cause.

#### 4.1.15. The Employment and Skills Development Law (2013)

<p>This law was enacted for safeguarding the right of workers or having skillful of workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. Employer shall conduct occupational training to enhance the skills of workers.</p>	
<p>Chapter (3) Making Contract of Employment Section 5</p>	<p>(a)(1) After the employer has employed a worker for any job, he shall within 30 days of so doing, sign a Contract of Employment with the worker. This clause however shall not apply to permanent workers of government departments and organizations.</p> <p>(2) If prior to employment, the worker is required to attend any per-employment training for a period or appointed on probation for a period, sub-section (1) shall not apply for that period.</p> <p>(c) The workplace rules in the Employment Contract shall conform to the rules made under existing laws and the rights of the workers in the Contract shall not be less than those in existing laws.</p>
<p>Chapter (5) Implementing Training Programs and Skills Development of Workers Section 14</p>	<p>Employer shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency.</p>
<p>Chapter (8) Establishing and Utilizing Workers' Skills Development Fund Section 30</p>	<p>(a) The employers of Industrial and Service Enterprises shall pay contribution to the fund every month without fail amounting to not less than below 0.5% of the payroll of his workers up to the level of supervisors of the workers.</p> <p>(b) The employer shall not deduct the contribution paid under sub-section (a) to the fund from the wages of the workers.</p>

#### 4.1.16. The Minimum Wage Law (2013)

<p>The minimum wage law, passed in March 2013, was replaced the 1949 Minimum Wage Act. The law provides a framework for minimum wage determination: the presidential office establishing a tripartite minimum wage committee shall decide minimum wage with industrial variation based on a survey on living costs of workers possibly every two years. This also stipulates equal payment.</p>	
<p>Chapter VII The Duties of the Employee Section 12</p>	<p>The employer:</p> <p>(a) shall not pay wage to the worker less than the minimum wage stipulated under this Law</p> <p>(b) may pay more than the minimum wage stipulated under this Law;</p> <p>(c) shall not have the right to deduct any other wage except the wage for which it has the right to deduct as stipulated in the notification issued under this Law;</p> <p>(d) Shall pay the minimum wage to the workers working in the commercial, production and service business in cash. Moreover, if the specific, benefits, interests or opportunities are to be paid, it may be paid in cash and partly in property, with prevailing regional price, jointly according to the desire of the worker;</p> <p>(e) In paying minimum wage to the workers working in the agricultural and livestock business, some cash and some property at prevailing regional price may be paid jointly according to local customer desire of the majority of workers or collective agreement. Such payment shall be for any personal use and benefit to the worker and his family and the value shall also be considerable and fair.</p>
<p>Section 13</p>	<p>The employer:</p> <p>(a) shall inform the workers the rates of minimum wage relating to the business among the rates of minimum wage stipulated under this Law and advertise it at the workplace to enable to be seen by the relevant workers;</p> <p>(b) shall prepare and maintain the lists, schedules, documents and wages of the workers correctly;</p> <p>(c) shall report the lists, schedules and documents prepared and maintained under subsection (b) to the relevant department in accord with the stipulations;</p>

	<p>(d) Shall accept the inspection when summoned by the inspection officer. Moreover, he shall produce the said lists and documents upon asking to submit;</p> <p>(e) shall allow the entry and inspection of the inspection officer to the commercial, production and service businesses, agricultural and livestock breeding workplaces and give necessary assistances;</p> <p>(f) if the workers cannot work due to sickness, shall give them holiday for medical treatment in accord with the stipulations;</p> <p>(g) if the funeral matter of the member of the family of worker or his parent occurs, shall give holiday without deducting from the minimum wage, in accord with the stipulations.</p>
<p>Chapter IX Assigning Duty to the Inspection Officer, Inspection and Taking Action Section 18</p>	<p>The inspection officer:</p> <p>(a) has the right to enter and inspect the relevant commercial, production and service work places, agricultural and livestock breeding workplaces and inspect whether or not they comply with and carryout in accord with the rules, notifications, orders, directives and procedures under this Law, whether or not the lists, schedules and documents, wages relating to the workers are prepared correctly, and whether or not such lists, schedules and documents are reported to the Department in accord with the stipulations;</p> <p>(b) May summon, inspect the relevant persons under the assignment of duty by the Department, asking and copying for the relevant lists, schedules and documents.</p> <p>(c) if there are outside workers at employer, has the right to inspect information relating to such outside workers, their names and addresses and the right to ask for and copy their lists and documents and lists relating to minimum wage;</p> <p>(d) in carrying out under sub-section (a), (b) and (c) relating to inspection, if required by the employer to produce the document, shall show the civil service identify car disused by the relevant department;</p> <p>(e) report to the Department in accord with the stipulations relating to the finding under sub-sections (a), (b) and (c), and documents and papers called for.</p>

**4.1.17. Payment of Wages Law (2016)**

<p>The Payment of Wage Act defines the payment obligation to the workers employed in the factories or railway administration. It stipulates the method of payment stating that the payment should be made in cash on a regular payday, and allows legal action against delayed payment or un-agreeable deduction.</p>	
<p>Chapter II Methods and Time of Payment of Wages Section 3</p>	<p>The employer:</p> <p>(a) shall pay wages to the workers employing in his business in local currency or foreign currencies stipulated by the Central Bank of Myanmar. Such payment may be paid in cash or cheque or deposit into the bank account of the worker with the agreement between the employer and the worker.</p> <p>(b) In paying such wages:</p> <p>(i) if it is necessary to pay particular benefit, profits and opportunities for workers working in commerce, production and service businesses, it may be paid in cash or some in cash and some in things set up by local price on own volition of workers in accordance with the stipulations.</p> <p>(ii) For workers employing in agriculture and livestock breeding business, it may be paid some wage in cash and something set up by local price according to custom, or on the volition of majority of worker or by collective agreement. In paying so, it shall be for personal use and the interest of his family, and shall be appropriate and equitable.</p> <p>(c) If any worker is conscripted under the Public Military Service Law, the (60) days of wages shall be paid as a special right</p>
<p>Section 4</p>	<p>The employer:</p> <p>(a) shall pay wages at the end of the work or at the time agreed to pay to the worker for hourly, daily, weekly or other part time work, or temporary or piece work;</p> <p>(b) shall not exceed one month than the period agreed with the worker under sub-section to pay wages;</p> <p>(c) shall pay the wages for the permanent work monthly. In making such payment:</p>

	<p>(i) if workers are not more than 100, wages shall be paid at the end of the period for payment of wage;</p> <p>(ii) If workers are more than 100, it shall be paid no later than five days after the end of the period for payment of wage;</p> <p>(d) shall pay the due wages within two working days from the date of termination, if a worker is terminated;</p> <p>(e) shall pay the wages at the end of the period for payment of wages, if a worker resigns on his own volition by sending prior written notice of resignation;</p> <p>(f) shall pay the due wages to a legal heir within two working days after the decease, if a worker is deceased;</p> <p>(g) shall pay all wages on a working day</p>
Section 5	If an employer encounters difficulty to make payment under sub-section(c) of the Section 4 due to any unexpected condition, including natural disaster, the employer shall submit that which date has been altered for the payment of wages with the consent of the workers to the Department on reasonable ground.
Chapter III Deduction from Wages Section 13	<p>The employer:</p> <p>(a) may deduct from wages, except leaves which are entitled wages under the relevant law and public holidays, for the absent period from work;</p> <p>(b) may deduct expenses which are allowance accommodation and ferry service are arranged by the employer, meal allowance, electricity charges, water service charges and income taxes liable to be paid by worker and cash paid in excess under a mistake, which are not included in the expression of wages under this Law;</p> <p>(c) may deduct advance payment or reimburse or savings for the worker or any contribution under any law demanded by a worker from wages;</p> <p>(d) may deduct from the wages of the worker under a decision of a Court or Arbitration Council or Arbitration Body.</p>
Chapter IV Overtime Wages Section 14	The worker has the right to enjoy overtime wages stipulated by the law if he works over time.

#### 4.1.18. The Leave and Holidays Rules (1951, partially revised in 2018)

This act has been used as the basic framework for leaves and holidays for workers with minor amendment in 2006 and 2014. This defines the public holidays that every employee shall be granted with full payment. It also defines the rules of leaves for workers including medical leave, earned leave and maternity leave.	
Chapter (3) Leave Section 23	A worker has the right to take leave with respective wages or with respective salary according to the type of leave and designated period set-up by the law. However, workers are entitled to take earned leave with respective average wages or average salary.
Section 24	Workers have the right to take casual leave, medical leave or maternity leave within the probation period.
Section 25	For days in which a worker is not in the workplace after the end of a period of leave, such days shall not be counted as leave.
Section 26	If there are holidays just before or right after one's leave commences, these days cannot be counted as part of the leave period.
Section 27	Subjecting a worker to relocation, suspension of duty, reduction of salary or termination within their leave period is not allowed.
Chapter (4) Duties and Responsibilities of Worker Section 49	<p>The worker</p> <p>(a) must ask for leave from the employer or the manager or from an authorized person with Form</p> <p>(1) within the normal working hours.</p>

	<p>(b) must report to the employer or to the manager or to an authorized person when the worker is back in the workplace after taking leave.</p> <p>(c) must inform employer or manager or authorized person, by phone or any other method, if the worker is unable to return to the workplace from their current location by the end of leave due to natural disaster or unforeseen happenings or accident occurring within the leave period.</p>
<p>Chapter (5) Duties and Responsibilities of an Employer Section 50</p>	<p>The employer</p> <p>(a) must provide the worker casual leave, medical leave and maternity leave with respective wages or salary. Moreover, must allow the worker earned leave with respective average wages or average salary. If the employer normally pays the cost of living, then the cost of living must also be included.</p> <p>(b) must provide the worker with earned leave starting from the day of entitlement within 12 months, with respective average wages or with average salary, and also must advance the entitled wage prior to the worker taking leave.</p> <p>(c) must announce the number of entitled earned leave calculations within three months starting from the last day of the 12-month period or entitled earned leave. In this way, workers can take leave by turns (alternatively). Moreover, to fix the eligibility period within which workers can take earned leave.</p> <p>(d) if the worker resigns or is terminated or in case of death, has to pay the respective wages/salary within two business/working days starting from the date of incidence.</p> <p>(e) has to pay the eligible wage/salary for earned leave to his/her official representative (if the worker is deceased).</p> <p>(f) has to pay for the respective earned leave period if there is a temporary or permanent shutdown.</p> <p>has to allow eligible earned leave if the nature of work is less than twelve months.</p> <p>(g) is not allowed to suspend, to reduce the salary, to relocate or to terminate a worker due to the worker taking maternity leave or medical leave.</p> <p>(h) has to fill up Form (1), (2), (3), (4), (5) and (6) according to the law. These forms shall be easily accessible from the Inspector. The employer must maintain these documents for up to twelve months' period.</p> <p>(i) has to record the leave taken in Form (7) and submit to the Inspector not later than every seventh day of each month.</p> <p>(j) wants the worker to work on a gazette holiday, the employer must receive consent from the worker. The employer must submit Form (8) to the Inspector for approval.</p>

#### 4.1.19. The Amended Law for Factories Act, 1951 (Amended in 2016)

<p>Hygiene in Working Environment: Section 3</p>	<p>Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.</p>
<p>Safety in Working Environment: Section 4</p>	<p>States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exits, chemical storage and fire protection system to avoid accident.</p>

#### 4.1.20. The Workmen's Compensation Act, 1923

<p>It stipulates that employer is required to make payments to employees who become injured or who die in any accidents arising during and in consequence of their employment. Such compensation also must be made for diseases which arise as a direct consequence of employment, such as carpal tunnel syndrome.</p>	
<p>Chapter IV Determining the Categories of Work Section 6</p>	<p>The National Committee shall determine, by notification, commercial, production and service, agricultural and livestock breeding business which shall be applied by the provisions relating to minimum wage contained in this Law, in the whole</p>



	country or relevant Union, Region or State. Moreover, it may amend the said businesses in accord with the changing situation from time to time.
Chapter VII The Duties of the Employer Section 12	<p>The employer:</p> <p>(a) shall not pay wage to the worker less than the minimum wage stipulated under this Law;</p> <p>(b) may pay more than the minimum wage stipulated under this Law;</p> <p>(c) shall not have the right to deduct any other wage except the wage for which it has the right to deduct as stipulated in the notification issued under this Law;</p> <p>(d) shall pay the minimum wage to the workers working in the commercial, production and service business in cash. Moreover, if the specific benefits, interests or opportunities are to be paid, it may be paid in cash or partly in cash and partly in property, with prevailing regional price, jointly according to the desire of the worker;</p> <p>(e) in paying minimum wage to the workers working in the agricultural and livestock business, some cash and some property at prevailing regional price may be paid jointly according to local custom or desire of the majority of workers or collective agreement. Such payment shall be for any personal use and benefit of the worker and his family and the value shall also be considerable and fair.</p>
Section 13	<p>The employer:</p> <p>(a) shall inform the workers the rates of minimum wage relating to the business among the rates of minimum wage stipulated under this Law and advertise it at the workplace to enable to be seen by the relevant workers;</p> <p>(b) shall prepare and maintain the lists, schedules, documents and wages of the workers correctly;</p> <p>(c) shall report the lists, schedules and documents prepared and maintained under subsection (b) to the relevant department in accord with the stipulations;</p> <p>(d) shall accept the inspection when summoned by the inspection officer. Moreover, he shall produce the said lists and documents upon asking to submit;</p> <p>(e) shall allow the entry and inspection of the inspection officer to the commercial, production and service businesses, agricultural and livestock breeding workplaces and give necessary assistances;</p> <p>(f) if the workers cannot work due to sickness, shall give them holiday for medical treatment in accord with the stipulations;</p> <p>(g) if the funeral matter of the member of the family of worker or his parent occurs, shall give holiday without deducting from the minimum wage, in accord with the stipulations.</p>
Chapter IX Assigning Duty to the Inspection Officer, Inspection and Taking Action Section 18	<p>The inspection officer:</p> <p>(a) has the right to enter and inspect the relevant commercial, production and service workplaces, agricultural and livestock breeding workplaces and inspect whether or not they comply with and carry out in accord with the rules, notifications, orders, directives and procedures under this Law, whether or not the lists, schedules and documents, wages relating to the workers are prepared correctly, and whether or not such lists, schedules and documents are reported to the Department in accord with the stipulations;</p> <p>(b) may summon, inspect the relevant persons under the assignment of duty by the Department, asking and copying for the relevant lists, schedules and documents.</p> <p>(c) if there are outside workers at employer, has the right to inspect information relating to such outside workers, their names and addresses and the right to ask for and copy their lists and documents and lists relating to minimum wage;</p> <p>(d) in carrying out under sub-section (a), (b) and (c) relating to inspection, if required by the employer to produce the document, shall show the civil service identify card issued by the relevant department;</p> <p>(e) Report to the Department in accord with the stipulations relating to the finding under sub-sections (a), (b) and (c), and documents and papers called for.</p>

#### 4.1.21. The Export and Import Law (2012)

Objectives	The objectives of this law are as follows: (a) To enable to implement the economic principles of the State successfully. (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 international trade standards. (d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
Section 7	A person who obtained any license shall not violate the conditions contained in the license.

#### 4.1.22. The Law on Standardization (2014)

Chapter (IX) Offences and Penalties Section 25	<b>Any person who commits any of the following acts shall, on conviction, be punished with imprisonment for a term not exceeding three years or with fine not more than three million Kyats or with both:</b> (c) advertising, selling or possessing in order to sell any product or advertising or carrying out any service that is not in conformity with mandatory standard prescribed by the Council knowingly or likely to know
Chapter (IX) Offences and Penalties Section 26	If any person who obtained certificate of certification uses standardization mark on the product which is not in conformity with the relevant standard or relating to service shall be punished with imprisonment for a term not exceeding one year or with fine not more than one million Kyats or with both.

#### 4.1.23. Underground Water Act (21st June, 1930)

The underground water act enacted on the date of 21st June in 1930 whereas it is expedient to conserve and protect underground sources of water supply in the Union of Burma. This act prohibits sinking of a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Township Officer or sub-divisional officer had power to close a license tube after exercising jurisdiction over the local area concerned and the expense of such closure shall be recoverable from the owner of the tube as if it were an arrear of land-revenue.	
Section 3	No person shall sink a tube for the purpose of obtaining underground water except under and in accordance with the terms of a licence granted by the water officer. Every person owning a tube which was in existence before the extension of this Act to the local area concerned shall apply to the water officer for a licence for the said tube, and such licence shall be granted free of charge.
Section 6	The President of the Union may make rules 1- (a) prescribing the conditions subject to which licences may be granted by the water officer under section 3; (b) prescribing the form of and the procedure for granting such licences and the fees payable for the issue thereof; (c) Prescribing the information to be supplied to the water officer under section 5.

#### 4.1.24. Myanmar Engineering Council Law, 2013

Chapter 2 Objectives Section 3	The Objectives of this law are as follows: (a) to develop the dignity, ethical principles and ability of Myanmar citizen engineers, graduate technologists and technicians who are working in the engineering services (b) to explore beneficial, useful and good methods to research and develop the State's natural resources and human resources with the least environmental impact by a combination of engineering technology and information technology; (c) to guide, control, maintain and take necessary action with regard to specified standards and norms relating to specified subjects, systematic methods, safety and ethical principles and duties in teaching engineering subjects and in technological research and services; (d) to perform engineering and technological activities of the State and tasks assigned by the relevant ministry or organization from time to time;
Chapter 13 Prohibitions and Penalties Section 37	No one shall perform any engineering work and technological work which are specified as being dangerous to the public by a rule enacted under this law without having received a registration certificate issued by the council, except for engineers appointed in a government department or an organization in the performance of their duties.
Section 37	No engineer, graduate technologist and technician shall use, together with his name, a title which is not compatible with his status.
Section 38	No registered engineer, graduate technologist and technician- (a) shall transfer his registration certificate to anyone or allow it to be used by anyone; (b) shall fail to return his registration certificate to the council within 30 days from the day on which a decision is passed, or an administrative action is taken, under this law to cancel the registration certificate.
Section 39	Anyone convicted of having violated the prohibition contained in section 37 shall be punished with imprisonment for not more than 2 years or with a fine or with both.
Section 40	any registered engineer, graduate technologist or technician convicted of having violated the prohibition contained in section 38 shall be punished with imprisonment of not more than 1 year or with a fine or with both.
Section 41	Any registered engineer, graduate technologist or technician convicted of having violated the prohibition contained in 39 shall be punished with imprisonment of not more than 1 year or with a fine or with both.
Section 42	Any registered engineer, graduate technologist or technician convicted of having violated any prohibition under this law shall be punished with imprisonment of not more than 6 months or with a fine or with both.

#### 4.1.25. The Conservation of Water Resources and Rivers Law, 2016

Chapter II Aims Section 3	The aims of this Law are as follows: (a) to conserve and protect the water resources and rivers system for beneficial utilization by the public; (b) to smooth and safety waterways navigation along rivers and creeks; (c) to contribute to the development of State economy through improving water resources and river system; (d) to protect environmental impact.
Chapter V Prohibitions Section 8	No person shall: (a) carry out any act or channel shifting with the aim to ruin the water resources and rivers and creeks.

	(b) cause the wastage of water resources wilfully.
Section 11	No person shall: (a) dispose of engine oil, chemical, poisonous material and other materials which may cause environmental damage, or dispose of explosives from the bank or from a vessel which is plying, vessel which has berthed, anchored, stranded or sunk.
Section 19	No one shall dispose of any substance into the river-creek that may cause damage to waterway or change of watercourse from the bank or vessel which is plying, vessel which has berthed, anchored, stranded or sunk.
Section 22	No one shall, without the permission of the directorate, pile sand, shingle and other heavy materials for business purposes in the bank area and waterfront area.
Chapter VI Penalties Section 29	Whoever attempts or conspires or abets in the commission of an offence under this Law shall be punished with the punishment provided for such offence in this Law.
Chapter VII Miscellaneous Section 30	Any government department and organization or any person desirous of constructing drainage, utilizing river water intake, constructing bridges spanning rivers, connecting underground pipe, connecting underground electric power cable, connecting underground telecom cable or digging in rivers and creeks, bank boundary and waterfront boundary, under the requirement of work, shall in order not to adversely affect the water resources and rivers and creeks, carry out only after obtaining the approval of the Ministry of Transport.

#### 4.1.26. The Commercial Tax Law (1990) Amended 2014

Chapter 5 Registration and Intimation of Commencement of Enterprise Article 11 (b)	Any Person who commences operation of a goods production enterprise or service enterprise shall furnish letter of intimidation on the commencement of the operation as such to the relevant Township Revenue Officer as stipulated by regulations.
Chapter 6 Monthly Payment of Tax and Sending of Three-Monthly Return Article 12 (a)	Any person who has taxable proceed of sale or receipt from service within a year, shall pay due monthly tax within ten days after the end of the relevant month. Moreover, a three-monthly return shall be furnished to the relevant Township Revenue Officer within one month after the end of relevant three-month.
Article 12 (b)	The Township Revenue Officer may intimate any person to pay due monthly tax and send three-monthly return if there is cause to consider that he has taxable proceed of sale or receipt from service within a year.
Article 12 (c)	If it is failed to pay tax under sub-section (a) or (b), or if there is cause to consider that the tax paid is less than the tax payable, the Township Revenue Officer may, based on the information received, estimate and claim the tax payable or the additional tax payable.
Article 12 (d)	The tax paid under sub-section (a), (b) or (c) shall be set-off from the tax due in the assessment.
Article 12 (e)	The tax payable on goods imported under sub-section (c) of section 4 of the Law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.

#### 4.1.27. The Prevention of Hazard from Chemical and Related Substances Law, 2013

Chapter II Aims Section 3	This law was enacted with the objectives of: a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances;
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	<p>b. To supervise systematically in performing the chemical and related substances business with permission for being safety;</p> <p>c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;</p> <p>d. To perform the sustainable development for the occupational safety, health and environmental conservation.</p> <p>Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, mostly dating from colonial times; hence the legislation is in many respects related to the British framework. The Factory Act and the Public Health Act contain the provisions for chemicals management and storage. Some chemicals are likely to require permits.</p>
Section 15	<p>A person who has obtained a licence, before starting the respective chemical and related substances business: -</p> <p>(a) shall be inspected for the safety and the power of resistance of the machinery and equipment by the respective Supervisory Board and Board of Inspection;</p> <p>(b) shall be attended the person who serve in the work to the respective foreign trainings or the trainings and the expert trainings on prevention of hazard from the chemical and related substances opened by the government department and the government organizations.</p>
Section 16	<p>A person who has obtained a licence: -</p> <p>(a) shall abide the licence regulations;</p> <p>(b) shall perform to abide strictly the instructions for being safety in using the chemical and related substances by himself and also the persons who serve the work;</p> <p>(c) shall keep the required safety equipment enough in the chemical and related substances businesses, furthermore shall grant the personal protection equipment and dresses free of charge to the working persons;</p> <p>(d) shall make the course of training and study and instruction if necessary to the working persons for using the occupational safety equipment, the personal protection equipment and the dresses systematically in the chemical and related substances business;</p> <p>(e) shall be inspected by the respective Supervisory Board and Boards of Inspection in respect of whether or not the hazard may impact on the Human Being and Animals' health and the environment;</p> <p>(f) shall make medical checkup the working persons who will work in the chemical and related substances business and shall permit to serve in that work after obtaining the recommendation that his health is suitable for that work. This medical checkup records shall be kept systematically;</p> <p>(g) shall send the copy of informative letter of the permission to the respective Department of Township Administration, if the hazardous chemical or related substances are permitted to store;</p> <p>(h) shall acquire in advance the guidance and agreement of the respective Department of Fire Brigade, if the business that is worried to fire hazard is operated by using the fire hazard substances or the explosive substances;</p> <p>(i) shall transport only the permitted amount of the chemical and related substances in accordance with the prescriptive stipulations, if they are transported in local;</p> <p>(j) shall take the permission from the Central Supervisory Board if the chemical and related substance is altered and transferred from one place to any other place which contained in the license;</p> <p>(k) shall abide and perform in accordance with the related environmental laws not to impact and damage to the environment in operating the chemical and related substances business.</p>
Section 17	<p>A person who has obtained a licence, shall put the insurance in accordance with the prescriptive stipulations to be able to pay the compensation, if the impact and damage is occurred on the Human Being and Animals or the environment in respect of the chemical and related substances businesses.</p>
Section 22	<p>A person who has obtained the registration certificate shall abide the regulations consisted in the registration certificate furthermore shall also abide the order and instructions issued occasionally by the Central Supervisory Board.</p>

<p>Chapter IX Hazard Control and Decrease Section 27</p>	<p>A person who has obtained the licence to be complied the following matters to control and decrease the hazard of the chemical and related substances: - (a) classifying the hazard level to protect in advance the hazard according to the properties of the chemical and related substances; (b) expressing the Material Safety Data Sheet and Pictogram; (c) providing the safety equipment, the personal protection equipment to protect and decrease the accident and attending to the training to be used systematically; (d) performing in accordance with the stipulations in respect of transporting, possessing, storing, using, discharging the chemical and related substances;</p>
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#### 4.1.28. The Social Security Law (2012)

<p>The Social Security Law, enacted in 2012, was amended the Social Security Act in 1954. It stipulates the formation and implementation of social security systems.</p>	
<p>Chapter II Objectives Section 3</p>	<p>The objectives of this Law are as follows: (a) to support the development of the State's economy through the development of production by causing to enjoy more security in social life and health care by the workers who are major productive force of the State by the collective guaranty of the employer, worker and the State; (b) to enjoy more security in social life and medical care by the public by effecting their insurance voluntarily; (c) to raise public confidence upon the social security scheme by providing benefits which are commensurate with the realities; (d) to have the right to draw back some of the contributions paid by the employers and the workers as savings, in accord with the stipulations; (e) to obtain the right to continued medical treatment, family assistance benefit, invalidity benefit, superannuation benefit, survivors' benefit, unemployment benefit, the right to residency and ownership of housing after retirement in addition to health care and pecuniary benefit for sickness, maternity, death, employment injury of the workers.</p>
<p>Chapter V Social Security System and Benefits Section 11</p>	<p>(a) The following establishments shall be applied with the provisions for compulsory registration for social security system and benefits contained in this Law if they employ minimum number of workers and above determined by the Ministry of Labour in co-ordination with the Social Security Board: (i) production industries doing business whether or not they utilize mechanical power or a certain kind of power, works of production, repairing or services, or engineering works, mills, warehouses, establishments; (ix) works carried out with foreign investment or citizen investment or joint ventured businesses; (b) Any establishment which is applied with the provisions of compulsory registration under sub-section (a) shall continue to be applied by this Law even though any of the following situations occurs if it continues to carry out such work: (i) carrying out work by employing under stipulated minimum number of workers but more than one worker; (ii) changing the employer or changing the type of business.</p>
<p>Social Security System Section 13</p>	<p>The Social Security Board shall manage and keep the following social security systems in accord with the stipulations that insured persons may enjoy social security benefits: (b) Family Assistance Insurance System: i) education allowance benefit for the children of insured persons who earn below the specified amount of income; ii) health care and aid benefit in time of natural disaster; iii) suitable benefit for dependent family members.</p>
<p>Section 15</p>	<p>(a) The following funds are included in the Social Security Fund: (i) health and social care fund;</p>

	<p>(ii) family assistance fund;</p> <p>(iii) invalidity benefit, superannuation pension benefit, and survivors' benefit fund;</p> <p>(iv) unemployment benefit fund;</p> <p>(v) other social security fund for social security system of compulsory registration and contribution specified by the Ministry of Labour, in co-ordination with the Social Security Board, according to clause (2) of subsection (e) of section 13;</p> <p>(vi) other social security fund specified as to which contribution may be paid after voluntary according to clause (2) of sub-section (e) of section 13;</p> <p>(vii) fund for Social Security Housing Plan;</p>
Section 18	(b) The employer shall deduct contributions to be paid by worker from his remuneration and pay to the social security fund together with contribution to be paid by him. The employer shall also bear the expenses for such contribution.
Chapter VI Application to Employment Injury Benefit Insurance System, Employment Injury Benefit Fund and Benefits Section 45	<p>The provisions contained in this Law relating to the employment injury benefit insurance system shall apply to the following workers:</p> <p>(a) workers at establishments which are applied to social security system who have registered compulsorily in accord with sub-section (a) of section 16 and contributed to the social security funds contained in clauses (1), (3), (4) and (5) of sub-section (a) of section 15;</p> <p>(b) workers specified as being applied to provisions of compulsory registration for employment injury benefit insurance system by notification of the Ministry of Labour, in co-ordination with the Social Security Board with the approval of the Union Government.</p>
Section 48	<p>(a) The employer shall affect insurance by registering for employment injury benefit insurance system contained in section 45 at the relevant township social security office and pay contribution to employment injury benefit fund in accord with stipulations in order that workers applied to provisions of compulsory registration may obtain the employment injury benefits;</p> <p>(b) The employers may affect insurance by registering voluntarily for insurance of the workers who are not applied to provisions of compulsory registration for employment injury benefit insurance system, by paying stipulated contribution to employment injury benefit insurance fund;</p> <p>(c) When registering to effect insurance for employment injury benefit in accord with sub-sections (a) and (b), the worker shall submit medical certificate.</p>
Section 49	<p>Non-application to the Workmen's Compensation Act</p> <p>(a) The employers and insured persons of establishments where the employer had registered compulsorily in accordance with sub-section (a) of section 48 or where the employer had registered voluntarily in accord with sub-section (b) of section 48 who have paid contribution to employment injury benefit fund shall not apply to the provisions contained in the Workmen's Compensation Act as regards the employment injury benefit;</p> <p>(b) The insured persons who has affected insurance for employment injury benefit in accord with sub-sections (a) and (b) of section 48 shall be entitled only to the employment injury insurance benefits contained in this Law.</p>
Section 53	(a) The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plans for safety and health in order to prevent employment injury, contracting disease and decease owing to occupation and in addition to safety and educational work of the workers and accident at the establishment;
Section 75	<p>The employer of establishments applied by this Law:</p> <p>(a) shall prepare and keep the following records and lists correctly and submit to the relevant township social security office in accord with the stipulations:</p> <p>i) records and lists of workers' daily attendance;</p>

	<p>ii) records of appointing new worker, employing worker by changing of work, suspension from work, dismissal from work and resignation from work;</p> <p>iii) records of promotion and paying remuneration;</p> <p>iv) records and lists of employers, managers, and administrators; and records of changes of them;</p> <p>(b) shall inform the relevant township social security office if the following matters arise:</p> <p>i) change in number of workers and address of establishment;</p> <p>ii) change of employer, change of business, suspension from work, and termination of work;</p> <p>iii) employment injury, employment death, and occupational diseases;</p> <p>(c) shall produce work records and lists on requirement of inspection team or official assigned duty under this Law by the Social Security Head Office and various Regional Social Security Offices.</p>
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#### 4.1.29. Occupational Safety and Health Law (2019)

Purpose:	To effectively implement measures related to safety and health in every industry and to set occupational safety and health standards;
Section-26 Sub-section (e)	The project proponent has to provide adequate and relevant personal protective equipment to workers free of charge and make them wear it during work so as not to expose workers to any serious occupational diseases or hazards.
Section-26 Sub-section (1)	The project proponent has to arrange and display occupational safety and health instructions, warning signs, notices, posters, and signboards.
Section-30 Sub-section (a)	The worker shall wear or use at all times any protective clothes, equipment and tools provided by the employer for the purpose of safety and health.
Section-30 Sub-section (d)	The worker shall proper and systematic use any equipment and tools, machines, any parts of the machines, vehicles, electricity and other substances being used at the workplace.
Section-30 Sub-section (e)	The worker shall take reasonable care for the safety and health of himself/ herself and of other persons who may be affected by his/ her acts or omissions at work.

#### 4.1.30. Natural Disaster Management Law (2013)

Chapter II Objectives Section 3	<p>The objectives of this Law are as follows:</p> <p>(a) to implement natural disaster management programmes systematically and expeditiously in order to reduce disaster risks;</p> <p>(b) to form the National Committee and Local Bodies in order to implement natural disaster management programmes systematically and expeditiously;</p> <p>(c) to coordinate with national and international government departments and organizations, social organizations, other non-government organizations or international organizations and regional organizations in carrying out natural disaster management activities;</p> <p>(d) to conserve and restore the environment affected by natural disasters;</p> <p>(e) to provide health, education, social and livelihood programmes in order to bring about better living conditions for victims.</p>
Chapter VI Natural Disaster Management Section 13	<p>The department, organization or person that has been assigned responsibility under this Law:</p> <p>(a) shall undertake the following functions after laying down the plan in accord with the natural disaster management plans in order to reduce damage and losses that are likely to be caused by natural disaster;</p> <p>(i) preparatory and preventive measures for natural disaster risk reduction in pre-disaster period;</p> <p>(ii) emergency responses including search and rescue during natural disaster;</p>



	<p>(iii) rehabilitation and reconstruction activities for improving better living standard in post disaster period and conservation of the environment that has been affected by natural disaster;</p> <p>(b) shall give priority and protect infants, the elderly, the disabled and women (especially pregnant women or mothers and suckling mother) in carrying out the functions contained in sub-section (a);</p> <p>(c) shall refrain from the act that causes injuring human dignity in supporting the victims.</p>
Chapter VIII Offence and Penalties Section 25	Whoever, if the natural disaster causes or is likely to be caused by any negligent act without examination or by willful action which is known that a disaster is likely to strike, shall be punished with imprisonment for a term not exceeding three years and may also be liable to fine.
Section 26	Whoever interferes, prevents, prohibits, assaults or coerces any natural disaster management to the department, organization or person assigned by this Law shall, on conviction, be punished with imprisonment for a term not exceeding two years or with fine or with both.
Section 27	Whoever misinforms about the natural disaster for the purpose of dread to the public shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both.
Section 28	Any department, organization or person assigned by this Law commits any of the following acts or omissions shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both: (a) falsification of data on damage and losses caused by natural disasters dishonestly; (b) willful failure to perform assigned responsibility.
Section 29	Whoever violates any prohibition contained in rules, notifications and orders issued under this Law shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both.
Section 30	Whoever commits any of the following acts or omissions shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both: (a) willful failure to comply with any of the directives of the department, organization or person assigned by this Law to perform any of the natural disaster management; (b) entering into the area or building affected by natural disaster without permission; (c) utilizing, trading, preventing or destroying food, relief items and rehabilitation materials provided for victims dishonestly; (d) making a false application for food, relief items and rehabilitation materials or cash assistance to the department, organization or person assigned by this Law as it is affected by natural disaster.
Section 31	Whoever fails willfully to comply with the direction of remove or evacuation from an area or building at risk natural disaster to the public in such place for the purpose of reduction of damage and losses when the natural disaster strikes or it will be a natural disaster and for the purpose of no obstruction to the prevention and reduction activities of the natural disaster shall, on conviction, be punished with imprisonment for a term not exceeding one month or with fine or with both.

**4.1.31. Myanmar Fire Brigade Law, 2015**

Chapter II Objectives Section 3	<p>The objectives of this Law are as follows:</p> <p>(a) to prevent destruction of State-owned property, private property, cultural heritage and the lives and property of the public by fire and other natural disaster;</p> <p>(b) to organize the Fire brigade systematically and to train members of the fire brigade;</p> <p>(c) to carry out extinguishing fire, prevention and search and rescue when fire, other natural disaster, epidemic disease or any kind of sudden disaster occurs;</p>
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	<p>(d) to educate, organize and incite extensively so as to achieve public cooperation when any disaster occurs;</p> <p>(e) to participate and help, if necessary, for the State safety, peace of the public and the rule of law</p>
<p>Chapter VIII Activities for Fire Safety Section 15</p>	<p>The different levels of Fire Safety Body shall:</p> <p>(a) perform the activities for fire safety in accord with the procedures laid down by the Central Body;</p> <p>(b) organize and educate to obtain the cooperation of the public in the activities for fire safety;</p> <p>(c) supervise as may be necessary the participation of all the relevant members of fire brigade in accord with the work programmes laid down by the Central Body when fire hazard, other natural disaster, epidemic disease or sudden disaster occurs;</p> <p>(d) appoint fire safety warning groups in coordination with the relevant administrative organizations.</p>
<p>Section 16</p>	<p>The person-in-charge of the Township Fire Services Department shall:</p> <p>(a) issue, from time to time, the directives on fire safety to be abided by the residents in the city, ward or village - tract;</p> <p>(b) inspect or cause to inspect in accord with the stipulations whether the residents in the city, ward or village - tract abide by the directives issued under sub-section (a) and arrange to enable warning or taking action, as may be necessary, against those who do not abide by.</p>
<p>Chapter XI Prohibitions Section 24</p>	<p>No person shall fail to abide by the directives of fire safety issued under section 16 by the head of the relevant Township Department of Fire Services.</p>
<p>Section 25</p>	<p>The owner or manager of the factory, workshop, bus terminal, airport, port, hotel, motel, lodgings, condominium, market, department, organization or business exposed to fire hazard shall, in accord with the directive of the Department of Fire Services:</p> <p>(a) not fail to form the Reserve Fire Brigade;</p> <p>(b) not fail to provide fire safety equipment.</p>
<p>Section 26</p>	<p>No person shall, knowing that there is no outbreak of fire, report fraudulently the outbreak of fire to the Fire brigade.</p>
<p>Section 25</p>	<p>No person shall, without cause, obstruct, block, disturb, or attack the members of the fire brigade and vehicles which departed to extinguish the fire and direct by any means to the place which is not related to the outbreak of fire.</p>

**4.1.32. The Electricity Law (2014)**

<p>In 2014, the new Electricity Law, a comprehensive piece of legislation covering licensing, a new regulatory commission, standards, inspection, tariff, and restrictions, replaced the Electricity Law of 1984. The Electricity Law divides projects into “small” (up to 10 MW), “medium” (between 10 MW to 30 MW) and large (upwards of 30 MW); the states and regions can issue permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The authorities have a legal right to use land for the purpose of power plants under the Electricity Law, and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.</p>	
<p>Purpose</p>	<p>To ensure compliance with the conditions of permission for productions of in line with the above law.</p>
<p>Section 10 (b)</p>	<p>The project proponent will implement the project with the best practices to reduce the damages on the environment, health and socio-economy also will pay compensation for the damages and will pay the fund for environmental conservation.</p>
<p>Section 18</p>	<p>The project proponent has to take the certificate of electric safety, issued by the chief-inspector, before the commencement of power generation.</p>

Section 21 (a)	The project proponent has to be liable for damages to any person or enterprise by failure to abide by the quality standards or rules, regulation, by-law, order, and a directive issued
Section 22 (a)	The project proponent has to be liable for damages to any person or enterprise by the negligence of project owner.
Section 26 (a, b)	The project owner has to comply with the permission for electric searching and generation.
Section 27	The project proponent will inform promptly to chief-inspector and head officer of related office while occurring of accident in electricity generation.
Section 40	The project proponent will comply with the standards, rules, and procedure. Moreover, will allow the inspection by respected governmental department and organization if it is necessary.
Section 68	The project proponent will pay the compensation to anyone who is injured or caused to death in electric shock or fire caused by the negligence or omitting of the project owner or representative of the project owner.

**4.1.33. Vehicles Safety and Motor Vehicle Management Law, 2020**

Objectives	<p>When the constructions periods and if it is needed in operation and production period for all vehicles</p> <p>The project proponent has to promise to abide by the nearly all provisions of said law and rules, especially the provisions related to air pollution, noise pollution and life safety.</p>
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**4.1.34. National Land Use Policy, 2014 October**

Chapter I Basic Principles of the National Land Use Policy Section 8	<p>In terms of the National Land Use Policy:</p> <p>(a) It shall use the land resources of the State sustainably and systematically by conserving and protecting them for the interest of all peoples of the State;</p> <p>(b)It shall enact the National Land Law which harmonize the existing laws relating to use of land resources and land tenures in the whole country including rural and urban areas and which may be implemented systematically;</p> <p>(c) It shall cause to decide the matters relating to land disputes arisen between the land users and the stakeholders transparently and truly in accord with the National Land Law;</p>
Section 8	<p>In implementing the continued entry of the foreign direct investments, sustainable economic development, effectiveness of the environmental conservation and protection, social harmonization, firmness of land tenures, immoveable property right and settlement of land dispute:</p> <p>(a) It shall increase responsible undertaking and respect the rule of law;</p> <p>(b)It shall strengthen the clean governance system by carrying out land use management, land tenure management in accord with law systematically and truly;</p> <p>(c) It shall establish modernized systems to enable to have access to correct information relating to land use management and land tenure management;</p> <p>(d)It shall establish the land dispute settlement mechanism which is easily implementable and impartial;</p> <p>(e) It shall arrange and carry out coordination process with the Stakeholder’s transparently.</p>
Chapter II	The State has arranged and carried out to expand agricultural land use by the State-owned organizations, cooperative societies, associate on, joint ventures, other organizations which acquire agricultural land for businesses and individual

The Situation of the Existing Land Management Mechanism Section 12	agriculturalists after forming the Vacant, Fallow and Virgin Lands Management Central Committee under the Notification 44/91 dated 13 <sup>th</sup> November, 1991.
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## 4.2. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES (NEQG) (DECEMBER 2015)

### 4.2.1. Objectives

To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.

### 4.2.2. Scope of Application

Provisions of the general and applicable industry-specific Guidelines shall be reflected in project environmental management plan (EMP) and environmental compliance certificate (ECC) and together constitute a project's commitment to take necessary measures to avoid, minimize and control adverse impacts to human health and safety, and the environment through reducing the total amount of emissions generation; to adopting process modifications, including waste minimization to lower the load of pollutants requiring treatment; and as necessary, to apply treatment techniques to further reduce the load of contaminants prior to release or discharge.

### 4.2.3. CHAPTER II, Implementation Procedures

As specified in the EIA Procedure, all projects are obliged to use, comply with and refer to applicable national guidelines or standards or international standards adopted by the Ministry. These Guidelines will henceforth be applied by the Ministry in satisfying this requirement until otherwise modified or succeeded by other guidelines or standards

Section 10 As specified in the EIA Procedure, following project approval a project shall commence implementation strictly in accordance with the project EMP and any additional requirements set out in the project ECC, which will encompass conditions relating to 3 emissions. In this regard, the Ministry will require that project sad here to general and applicable industry guidelines asset out in Annex 1.

Section 11 While these Guidelines generally apply to all projects subject to the EIA Procedure, it is the prerogative of the Ministry to decide how the Guidelines should be applied to existing projects as referred to in the EIA Procedure, as distinguished from new projects. At the Ministry's discretion less stringent levels or measures than provided for in these Guidelines may be specified as appropriate, and a timeframe agreed for a project to fully comply with these Guidelines.

Section 12 As specified in the EIA Procedure, projects shall engage in continuous, proactive and comprehensive self-monitoring of the project and comply with applicable guidelines and standards. For purposes of these Guidelines, projects shall be responsible for the monitoring of their compliance with general and applicable industry-specific Guidelines as specified in the project EMP and ECC.

Section 13 Air emissions, noise, odor, and liquid /effluent discharges will be sampled and measured at points of compliance as specified in the project EMP and ECC.

#### 4.2.4. General Guidelines

##### 4.2.4.1. Air Emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines<sup>1</sup> for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO’s Air Quality Guidelines for Europe<sup>2</sup> for air pollutants not included in the following Table 4-1.

**Table 4-1 NEQG’s Air Quality Guideline**

Parameter	Averaging Period	Guideline Value
Nitrogen Dioxide	1-year	40
	1-hour	200
Ozone	8-hour	100
Particulate Matter PM10 <sup>a</sup>	1-year	10
	24-hour	50
Particulate Matter PM2.5 <sup>b</sup>	1-year	10
	24-hour	25
Sulfur dioxide	24-hour	20
	10-minute	500

<sup>a</sup>Particulate matter 10 micrometers or less in diameter

<sup>b</sup>Particulate matter 2.5 micrometers or less in diameter

##### 4.2.4.2. Noise Levels

Noise prevention and mitigation measures should be taken by all projects where predicted or measured noise impacts from a project facility or operation exceed the applicable noise level guideline at the most sensitive point of reception. Noise impacts should not exceed the levels shown below, or result in a maximum increase in background levels of three decibels at the nearest receptor location off-site.

**Table 4-2 Noise Level Standard of NEQG**

Receptor	One Hour LAeq (dBA)	
	Day Time (7:00-22:00) (10:00-22:00 for public holidays)	Night Time (22:00-7:00) (22:00-10:00 for public holidays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

##### 4.2.4.3. Wastewater

Industry-specific guidelines apply during the operations phase of projects and cover direct or indirect discharge of wastewater to the environment. They are also applicable to industrial discharges to

sanitary (domestic) sewers that discharge to the environment without any treatment. Wastewater generated from project operations includes process wastewater, wastewater from utility operations, runoff from process and storage areas, and miscellaneous activities including wastewater from laboratories, and equipment maintenance shops. Projects with the potential to generate process wastewater, sanitary sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety or the environment. Industry-specific guidelines summarized hereinafter shall be applied by all projects, where applicable, to ensure that effluent emissions conform to good industry practice.

For project types where industry-specific guidelines are not set out in these Guidelines, the following general guideline values, or as stipulated on a case-by-case basis, apply during project operations.

**Table 4-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (general application)<sup>2</sup>**

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	S.U. <sup>a</sup>	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1

<sup>2</sup>Pollution prevention and abatement handbook. 1998. Toward cleaner production. World Bank Group in collaboration with United Nations Environment Programme and the United Nations Industrial Development Organization.

Parameter	Unit	Guideline Values
Temperature increase	°C	<3 <sup>b</sup>
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Standard Unit

b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

#### 4.2.5. Garment, Textile and Leather Products Manufacturing

This guideline applies to textile manufacturing using natural fibers, synthetic fibers (made entirely from chemicals), and regenerated fibers (made from natural materials by processing these materials to form a fiber structure). It does not include polymer synthesis and natural raw material production.

##### 4.2.5.1. Effluent Levels

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	30
Absorbable organic halogens	mg/l	1
Ammonia	mg/l	10
Cadmium	mg/l	0.02
Chemical oxygen demand	mg/l	160
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Cobalt		0.5
Color		7 (436 nm <sup>a</sup> , yellow) 5 (525 nm, red) 3 (620 nm, blue)
Copper	mg/l	0.5
Nickel	mg/l	0.5
Oil and grease	mg/l	10
Pesticides		0.05-010 <sup>b</sup>
pH	S.U. <sup>c</sup>	6-9
Phenol	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	°C	<3 <sup>d</sup>
Total coliform bacteria	100 ml	400
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50

Parameter	Unit	Guideline Value
Zinc	mg/l	2

a Nanometers

b 0-05 mg/l for total pesticides (organ phosphorus pesticides excluded); 0.10 mg/l for organo phosphorus pesticides

c Standard Unit

b at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

#### 4.2.5.2. Air Emission Levels

Parameter	Unit	Guideline Value
Ammonia	mg/Nm <sup>3a</sup>	30
Carbon disulfide	mg/Nm <sup>3</sup>	150
Chlorine	mg/Nm <sup>3</sup>	5
Formaldehyde	mg/Nm <sup>3</sup>	20
Hydrogen sulfide	mg/Nm <sup>3</sup>	5
Particulates	mg/Nm <sup>3</sup>	50 <sup>b</sup>
Volatile organic compounds	mg/Nm <sup>3</sup>	2/20/50/75/100/1 150 <sup>c, d</sup>

a Milligrams per normal cubic meter at specified temperature and pressure

b as the 30-minute mean for stack emissions

c Calculate as Total carbon

d As the 30-minute mean for stack emissions; 2 mg/Nm<sup>3</sup> for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hr; 20 mg/Nm<sup>3</sup> for discharges of halogenated volatile organic compounds with a mass flow equal or greater than 100 g/hr; 50 mg/ Nm<sup>3</sup> for waste gases from drying of large installations (solvent consumption > 15 tons/year); 75 mg/Nm<sup>3</sup> for coating application processes for large installations (solvent consumption > 15 tons/year); 100 mg/Nm<sup>3</sup> for small installations (solvent consumption < 15 tons/year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm<sup>3</sup>

### 4.3. APPLICATION OF INTERNATIONAL GUIDELINES

Based on the Myanmar Environmental Guidelines and International Best Practices, the ultimate Scoping Report for YCP was developed and got approval from ECD. Specifically, the Environmental Impact Assessment for this project will follow not only the national regulations such as the Environmental Conservation Law, Environmental Conservation Rules and relevant regulations of the Government of the Republic of the Union of Myanmar but also International Guidelines such as WHO standards, IFC Environmental Health and Safety Guidelines for environmental and social considerations.

#### 4.3.1. IFC Environmental, Health and Safety (EHS) Guidelines (2007)

The World Bank Group Environmental, Health, and Safety Guidelines (EHS Guidelines) are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC and that are generally considered to be achievable in new facilities at reasonable costs by existing technology. The General EHS Guideline contains information on crosscutting Environmental, Health, and Safety issues potentially applicable to all industry sectors. It should be used together with the relevant industry sector guideline(s). When the host country (Myanmar) regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent.



#### 4.3.2. IFC Guidelines on Water and Sanitation, (2007)

The EHS Guidelines for Water and Sanitation include information relevant to the operation and maintenance of potable water treatment and distribution systems, and collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities.

#### 4.3.3. IFC Guidelines on Waste Management Facilities (2007)

The EHS Guidelines for Waste Management cover facilities or projects dedicated to the management of municipal solid waste and industrial waste, including waste collection and transport; waste receipt, unloading, processing, and storage; landfill disposal; physicochemical and biological treatment; and incineration projects. Industry-specific waste management activities applicable, for example, to medical waste, municipal sewage, cement kilns, and others are covered in the relevant industry-sector EHS Guidelines, as is the minimization and reuse of waste at the source.

#### 4.3.4. WHO Guidelines for Drinking Water Quality (2011)

The WHO guideline on drinking water quality includes:

- Drinking-water safety, including minimum procedures and specific guideline values and how these are intended to be used;
- Approaches used in deriving the guidelines, including guideline values;
- Microbial hazards, which continue to be the primary concern in both developing and developed countries. Experience has shown the value of a systematic approach to securing microbial safety. It also builds on the preventive principles on ensuring the microbial safety of drinking water through a multiple-barrier approach, highlighting the importance of source water protection;
- Climate change, which results in changing the water temperature and rainfall patterns, severe and prolonged drought or increased flooding, and its implications for water quality and water scarcity, recognizing the importance of managing these impacts as part of water management strategies;
- Chemical contaminants in drinking water, including information on chemicals not considered previously, such as pesticides used for vector control in drinking water; revisions of existing chemical fact sheets, taking account of new scientific information; and, in some cases, reduced coverage in the Guidelines where new information suggests a lesser priority;
- Those key chemicals responsible for large-scale health effects through drinking water exposure, including arsenic, fluoride, lead, nitrate, selenium, and uranium, providing guidance on identifying local priorities and management;
- The important roles of many different stakeholders are essential in ensuring drinking-water safety. This edition furthers the discussion introduced in the third edition of the roles and responsibilities of key stakeholders in ensuring drinking-water safety;
- Guidance in situations other than traditional community supplies or managed utilities, such as rainwater harvesting and other non-piped supplies or dual piped systems.

#### 4.3.5. WHO Protecting Groundwater for Health (2006)

Groundwater is the water contained beneath the surface in rocks and soil and is the water that accumulates underground in aquifers. Groundwater constitutes 97 percent of global freshwater and is an important source of drinking water in many regions of the world. In many parts of the world, groundwater sources are the single most important supply for the production of drinking water,

particularly in areas with limited or polluted surface water sources. For many communities, it may be the only economically viable option. This is in part because groundwater is typical of more stable quality and better microbial quality than surface waters. Groundwater often requires little or no treatment to be suitable for drinking whereas surface waters generally need to be treated, often extensively. There are many examples of groundwater being distributed without treatment. It is vital therefore that the quality of groundwater is protected if public health is not to be compromised.

#### **4.4. MYANMAR GOVERNMENT INSTITUTIONAL FRAMEWORK**

##### **4.4.1. Arrangement at National and Sector Level**

At national Level, Environmental Conservation Committee (ENCC) serves as a mechanism for inter-ministerial coordination. Authorities and functions of ENCC are prescribed in Articles 7 to 13 of the EC Rules of the Republic of the Union of Myanmar.

One of ENCC's main functions related to this project is to oversee the management of the EIA process by MOECA through ECD. ECD will serve as a coordinator among various departments in relevant sectors to ensure that the EIA and implementation of EMP will address environment and social issues of concerns by departments in relevant sectors.

The EIA process for this project will be administered by the central ECD in coordination with the regional ECD and various governmental organizations at the regional, township, and district levels.

#### **4.5. CORPORATE ENVIRONMENTAL AND SOCIAL POLICIES**

The National Environment Policy was drafted in 1994. The excerpts are stated below:

To establish sound environment policies, utilization of water, land, forests, mineral, marine resources and other natural resources in order to conserve the environment and prevent its degradation, the Government of the Union of Myanmar adopts the following policy:

"The wealth of the nation is its people, its cultural heritage, its environment and its natural resources."

The objective of Myanmar's environmental policy is to achieve harmony and balance between its people, its cultural heritage, its environment and its natural resources through the integration of environmental considerations into the development process to enhance the quality of the life of all its citizens. Every nation has the sovereign right to utilize its natural resources in accordance with its environmental policies; but great care must be taken not to exceed its jurisdiction or infringe upon the interests of other nations. It is the responsibility of the State and every citizen to preserve its natural resources in the interests of present and future generations.

The development of the environmental policy was followed by the drafting of 'Myanmar Agenda 21' in 1997, which follows a UN framework for a multipronged approach to sustainable development. Agenda 21 is a non-binding, voluntarily implemented action plan of the United Nations with regard to sustainable development. It is a product of the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992. Agenda 21 – a global programme of action for achieving sustainable development to which countries are 'politically committed' rather than legally obligated.

The Myanmar Agenda 21 recognizes the need for Environmental Impact Assessments. Myanmar, in its Agenda 21, calls for integrated management of natural resources and provides a blueprint for achieving sustainable development.

#### **4.6. POLICY AND LEGAL FRAMEWORK INCLUDING INTERNATIONAL CONVENTIONS, TREATIES AND AGREEMENTS, AND INTERNATIONAL STANDARDS, GUIDELINES**

International Conventions, Treaties and Agreements Myanmar has signed a number of international treaties related to the environment which may have implications for the Project. These include:

- a) Plant Protection Agreement for the Asia and Pacific Region; Vienna Convention for the Protection of the Ozone Layer; Montreal Protocol on Substances that Deplete the Ozone Layer;
- b) London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer;
- c) United Nations Framework Convention on Climate Change (UNFCCC); United Nations Convention to Combat Desertification;
- d) International Civil Aviation Organization: ANNEX 16 Annex to the Convention on International Civil Aviation Environmental Protection Vol. I, II, Aircraft Noise;
- e) Vienna Convention for the Protection of Ozone Layer;
- f) Montreal Protocol on Substances that Deplete the Ozone Layer;
- g) Convention Concerning the Protection of the World Cultural and Natural Heritage;
- h) Convention on Biological Diversity (CBD); International Tropical Timber Agreement (ITTA);
- i) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- j) ASEAN Agreement on the Conservation of Nature and Natural Resources; Cartagena Protocol on Bio-safety
- k) Kyoto Protocol to the United Nations Framework Convention on Climate Change; Ramsar Convention on Wetlands; and
- l) Copenhagen Amendment to Montreal Protocol on Substances that deplete the Ozone Layer.
- m) United Nations Declaration on the Rights of Indigenous People

##### **4.6.1. International Standards and Guidelines**

The following international standards, guidelines, policies and procedures are referred to, in preparation of this Report:

- a) UNEP Environmental Impact Assessment Training Resource Manual
- b) European Bank for Reconstruction and Development (Sub-sectoral Environmental and Social Guidelines)

- c) International Finance Corporation, World Bank Group (Environmental, Health, and Safety Guidelines)
- d) NHS, Health, Scotland (Health Impact Assessment in Practice)
- e) BS 14001:2004 Environmental management systems - Requirements with guidance for use
- f) Principles of Environmental Impact Assessment Best Practice International Association for Impact Assessment
- g) OHSAS 18001, Occupational Health and Safety Assessment

### 3.3 Institutional Framework

## **4.7. NATIONAL SUSTAINABLE DEVELOPMENT STRATEGY**

The National Sustainable Development Strategy (NSDS) is part of a broader program of the UN Sustainable Development Commission set up after the World Summit on Sustainable Development in 2002. Every country, including Myanmar, that signed Agenda 21 at the Earth Summit in Rio de Janeiro in 1992, agreed to develop an NSDS by 2010 in line with the Millennium Development Goals (MDGs). UNEP provided funding for Myanmar to develop an NSDS. The main aim of the process was to develop an NSDS in line with international standards by meeting the MDGs and ensure that environmental and social impacts are mitigated when implementing development projects. Myanmar's NSDS was published in August 2009. The three goals described in Myanmar's NSDS are sustainable management of natural resources, integrated economic development and sustainable social development. Specific strategies are outlined under each goal. For example, the goal for Sustainable Management of Natural Resources suggests strategies for forest resource management, sustainable energy production and consumption, biodiversity conservation, sustainable freshwater resources management, sustainable management of land resources, sustainable management for mineral resources utilization, and so on.

## **4.8. MYANMAR AGENDA 21 (1997)**

Myanmar agenda 21 is a blueprint for all-natural resource management and environment and environmental conservation work and the pursuit of the activities contribute to biodiversity conservation throughout the country.

## **4.9. PROJECT'S ENVIRONMENTAL AND SOCIAL STANDARD**

Principle 17 of the Rio Declaration on Environment and Development stated; 'Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of competent national authority.'

## **4.10. THE EVOLVING SCOPE OF EIA PROCESS AND PRACTICE**

In the early stages of EIA, only the biophysical impacts of proposals were considered (such as effects on air and water quality, flora and fauna, noise levels, climate and hydrological systems). Increasingly EIA processes are used to analyses a range of impact types within a single framework, include social, health, and economic aspects, e.g, social impact assessment (SIA), health impact assessment (HIA) and risk assessment. However, this trend toward integrated assessment for decision-making is by no means universal or uniform. Even in EIA systems where this trend is well established,

the degree and extent of integration varies with legal requirements and accepted practice. Despite a lack of internationally consistent practice, integrated impact assessment, linking biophysical and socio-economic effects, is identified as an important priority in Agenda 21.

#### **4.11. UNITED NATIONS DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES**

Myanmar has endorsed the United Nations Declaration on the Rights of Indigenous Peoples in September 2007 as one of 144 states. Article 32 describes indigenous peoples' right to free and prior informed consent (FPIC): "States shall consult and co-operate in good faith with the Indigenous Peoples concerned through their own representative institutions in order to obtain FPIC prior to approval of any project affecting their land or territories". Article 10 and Article 26 elaborate on forcible relocation of indigenous people, the need for FPIC and land rights. It is required to ensure conformance to all relevant international environmental and social conventions in relation to this project.

#### **4.12. WORLD BANK CLASSIFICATION**

World Bank Operational Directive on EIA, which is illustrative and provides a framework for screening.

Category A: for projects likely to have significant adverse environmental impacts that are serious (i.e., irreversible, affect vulnerable ethnic minorities, involve involuntary resettlement, or affect cultural heritage sites), diverse, or unprecedented, or that affect an area broader than the sites of facilities subject to physical works. A full EIA is required.

Category B: for projects likely to have adverse environmental impacts that are less significant than those of Category A projects, meaning that few if any of the impacts are likely to be irreversible, that they are site-specific, and that mitigation measures can be designed more readily than for Category A projects. Normally, a limited EIA will be undertaken to identify suitable mitigation and management measures, and incorporate them into the project.

Category C: for projects that are likely to have minimal or no adverse environmental impacts. No EIA is required.

#### **4.13. DIRECTIVE 2011/92/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 DECEMBER 2011 ON THE ASSESSMENT OF THE EFFECTS OF CERTAIN PUBLIC AND PRIVATE PROJECTS ON THE ENVIRONMENT**

The EIA Directive (85/337/EEC) has been in force since 1985 and applies to a wide range of defined public and private projects, which also respectively list projects subject to mandatory EIA and non-mandatory EIA.

Usually this kind of major projects, will warrant a full EIA, because they are known or considered to have potentially significant adverse impacts on the environment; for example, on human health and safety, rare or endangered species, protected areas, fragile or valued ecosystems, biological diversity, air and water quality, or the lifestyle and livelihood of local communities.

#### **4.14. ENVIRONMENTAL POLICY OF MING DA POLYESTER WADDING (MYANMAR) COMPANY LIMITED**

Ming Da Polyester Wadding (Myanmar) Company Limited shall be responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry

out as per instructions made by Ministry of Natural Resources and Environmental Conservation (MONREC) in which to conduct an IEE process and an EMP which describe the measure to be taken for preventing, mitigation and monitoring significant environment impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EIA and be abided by the environment policy, Environmental Conservation Law and other environmental related rules and procedures. Project proponent shall be responsible for the environmental assessment of factory development as follows:

- ✓ To set up welfare plan such as staff medical checkup, training program and Public talk for getting knowledge, risk prevention, bonus and social security services.
- ✓ To promote Corporate Social Responsibility- (CSR) with 2% of the net profit for development of safe, economic and social environment
- ✓ To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees
- ✓ To carry out disposing wastes according to Yangon City Development Committee regulations, protect, and preserve the project environment from pollution of air, water and land by following laws and guidelines lay down by MONREC.

## CHAPTER 5 SURROUNDING ENVIRONMENT

The purpose of this Chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed Project. This requires a sound understanding of the baseline conditions at the Project Site, which established through desktop study research, site surveys, primary data collection and projections for future developments. Findings provide the current and future characteristics of the Project Site and the value and vulnerability of the key environmental and socio-economic resources and receptors. The following sections provide a description of the environmental and socio-economic aspects of the Project.

### 5.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

The followings are methodologies used for Environmental Management Plan (EMP) for this IEE report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as air quality and noise quality of the existing project site during the operation phase were measured onsite. The analyzed results are mentioned in this chapter.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data.

### 5.2. ENVIRONMENTAL BASELINE STUDY

The field observation for determining the environmental baseline of the proposed project area was undertaken during construction period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section. The environmental setting around the project site and monitoring location point is shown in Table 5-1.

**Table 5-1 Environmental Setting around the Proposed Project Site**

Particulars	Detail
Coordinate Point	16°50'46.45"N and 96°4'43.82"E
Climate Conditions (Department of Meteorology and Hydrology - DMH)	Annual Mean Maximum Temperature: (42°C) Annual Mean Minimum Temperature: (27°C) Annual Rainfall: 55.696 inches
Wind Speed	1.014 m/s
Present land use at the proposed site	Industrial Land Use Type
Nearest Road	Yangon-Pathein Road (1.23km) from project site
Nearest Water bodies	Hlaing River (2.45 km distance from project site) Pan Hlaing River (1.42 km distance from project site)
Forest Area	No Exist
Wetlands	No Exist
Protective Area	No Exist

The purpose of this Chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed Project. This requires a sound understanding of the baseline conditions at the Project Site, which established through desktop study research, site

surveys, primary data collection and projections for future developments. Hlaing River is located about 1.23 km away from the proposed project and Pan Hlaing River is located about 1.42 km away from the project site. Findings provide the current and future characteristics of the Project Site and the value and vulnerability of the key environmental and socio-economic resources and receptors. The following sections provide a description of the environmental and socio-economic aspects of the Project.

### 5.2.1. Site Survey and Environmental Monitoring

The baseline environmental quality at the Project Site and its immediate surroundings was established by water, ambient air quality samples, noise, light level and indoor temperature and humidity measurements at immediate surrounding areas by Myanwei Environmental Solutions Company Limited, environmental consultant organization registered by Ministry of Natural Resources and Environmental Conservation (MONREC). To determine the existing baseline environmental quality within the project site on 9 November 2018.

The overall conditions of air quality, water quality, light level and noise level are quoted from the project. The summary of the field survey for overall conditions is shown in Table 5-2 and the environmental quality monitoring map is shown in **Error! Reference source not found..**

**Table 5-2 Summary of Environmental Survey**

Item	Parameter
Air quality	(1) Sulphur Dioxide (SO <sub>2</sub> ), (2) Nitrogen Dioxide (NO <sub>2</sub> ), (3) Carbon Monoxide (CO), (4) Ozone (O <sub>3</sub> ), (5) Carbon Dioxide (CO <sub>2</sub> ), (6) Volatile Organic Compound (VOC), (7) Total Suspended Particles (TSP), (8) Particulate Matter (PM <sub>10</sub> & PM <sub>2.5</sub> ) and (9) Air Pressure (10) Wind Speed and Wind Direction
Noise level	Indoor sound level (LAeq)
Light level	Lux level

### 5.3. AIR QUALITY

The environmental parameters such as ambient air emission level which were measured by using air quality monitoring system (AQM-09). Measurements were recorded in the operation within duration of working hours between consecutive measurements. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with NEQG, WHO Guideline. The point for measurement is located near the operation area. Based on the results appropriate interventions are suggested.

#### 5.3.1. Survey Items

On 9 November 2018, to determine the existing baseline ambient air quality status within the project site. The baseline environmental quality at the Project Site and its immediate surroundings was established by ambient air quality samples, temperature and humidity measurements at immediate surrounding areas. The overall conditions of air quality are quoted from the project. The summary of the air quality survey for overall conditions is shown in Table 5-3.

**Table 5-3 Summary of Air Quality Survey**

Item	Parameter
Air quality	(1) Sulphur Dioxide (SO <sub>2</sub> ), (2) Nitrogen Dioxide (NO <sub>2</sub> ), (3) Carbon Monoxide (CO), (4) Ozone (O <sub>3</sub> ), (5) Carbon Dioxide (CO <sub>2</sub> ), (6) Volatile Organic Compound (VOC), (7) Total Suspended Particles



Item	Parameter
	(TSP), (8) Particulate Matter (PM <sub>10</sub> & PM <sub>2.5</sub> ) and (9) Air Pressure (10) Wind Speed and Wind Direction

### 5.3.2. Survey Location

This environmental monitoring point was in Hlaing Thar Yar Industrial Zone (1), Hlaing Thar Yar Township. The details of the location of survey point are presented in Table 5-4.

**Table 5-4 Location of Survey Point**

Survey Point	Coordinates	Type of Survey Point	Description of Survey Point
Air Quality Monitoring	16°50'43.18"N 96°4'43.82"E	Project site	Inside the factory



**Figure 5-1 Air Quality Monitoring Photo**

### 5.3.3. Result of Air Quality (GAS AND DUST PARAMETER)

The observations were tabulated and analyzed section wise to understand the environmental status prevailing in the units considered for the study. It was observed that the air quality of SO<sub>2</sub>, O<sub>3</sub> and NO<sub>2</sub> concentration level and particulate matter (PM<sub>10</sub> & PM<sub>2.5</sub>) are within the NEQG, WHO Guideline.

**Table 5-5 Ambient Air Quality at Project Site (AQM)**

Parameter	Average Period	Result (µg/m <sup>3</sup> )	WHO <sup>2</sup> Value (µg/m <sup>3</sup> )	NEQ <sup>1</sup> Value (µg/m <sup>3</sup> )
Particulate Matter (PM <sub>10</sub> )	24-hours	15.5	50	50
Particulate Matter (PM <sub>2.5</sub> )	24-hours	6.98	25	25

1 NEQ = National Environmental Quality (Emission) Guidelines 2015

2 WHO = World Health Organization

### 5.4. NOISE

The Noise level was measured by using Digital Sound Level Meter for working hours on 9, November 2018 shown in



Figure 5-2. The average noise level in the project site area is presented in Table 5-7.

**Table 5-6 Noise Level Standard of NEQG**

Receptor	One Hour LAeq (dBA)	
	Day Time (7:00-22:00) (10:00-22:00 for public holidays)	Night Time (22:00-7:00) (22:00-10:00 for public holidays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

**Table 5-7 Comparison of Noise Level Measurement**

Date	Location	GPS location	Noise Result	NEQ Guideline
9 November 2018	Operation Area	16°50'33.1"N 96° 4'52.8"E	64.8 dBA	70 dBA



**Figure 5-2 Noise Level Measurement Photo**

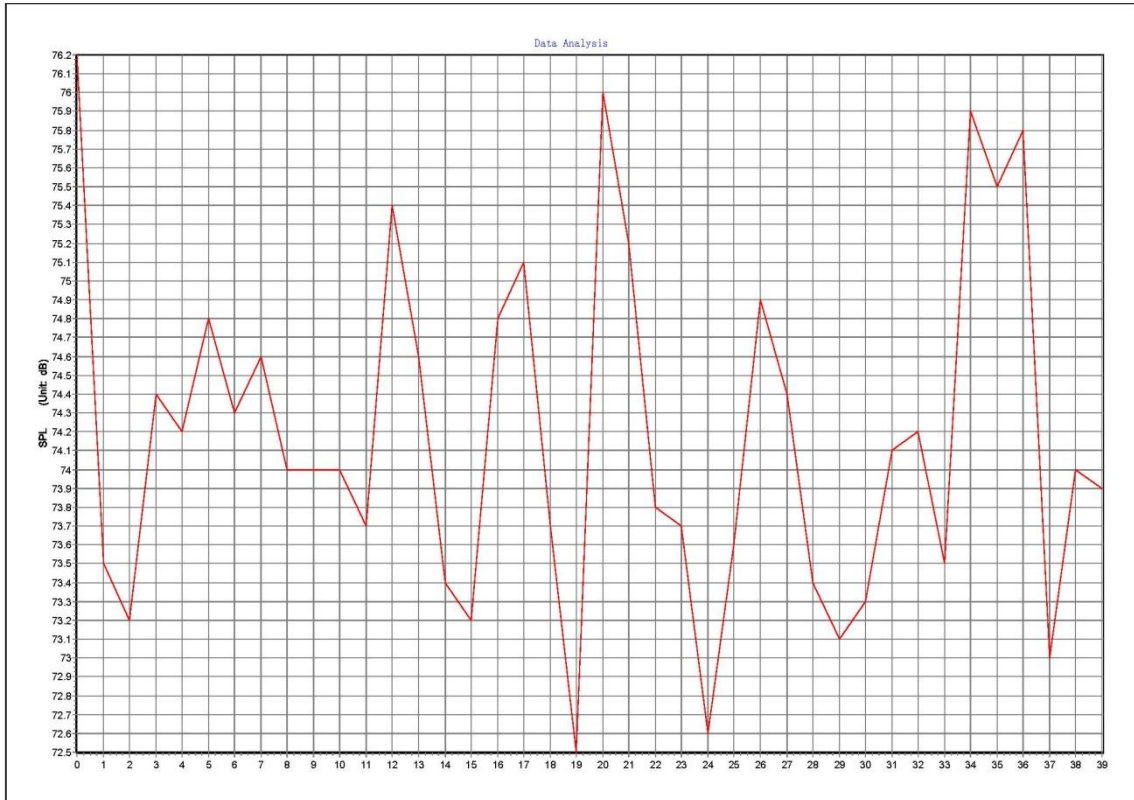


Figure 5-3 Sound Analysis Graph

#### 5.4.1. Summary of Noise Result

However, found to be the Noise source monitoring at the project site overall level of noise in the operation area is acceptable when compared with National Environmental Quality (Emission) Guidelines. Therefore, no obvious influence can be caused occupational health and safety of employees during operation. Moreover, Personal Protective Equipment (PPE) to decrease adverse impact of noise will be provided for employees when necessary.

### 5.5. PHYSICAL COMPONENT

#### 5.5.1. Topography

The proposed project area is situated in Hlaing Thar Yar Industrial Zone (1), Haling Thar Yar Township, and its topographic condition is flat. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

#### 5.5.2. Geology

The Yangon area is underlain by alluvial deposits (Pliocene to Recent), the non-marine fluvial sediments of Irrawaddy formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene). Alluvial deposits are composed of gravel, clay, silts, sands and laterite which lie upon the eroded surface of the Irrawaddy formation at 3-4.6 m above mean sea level (MSL). The rock type in Yangon is mainly soft rocks, which consist of sandstone, shale, limestones and conglomerate. Geological map of Yangon Regional area is shown in Figure 5-4.

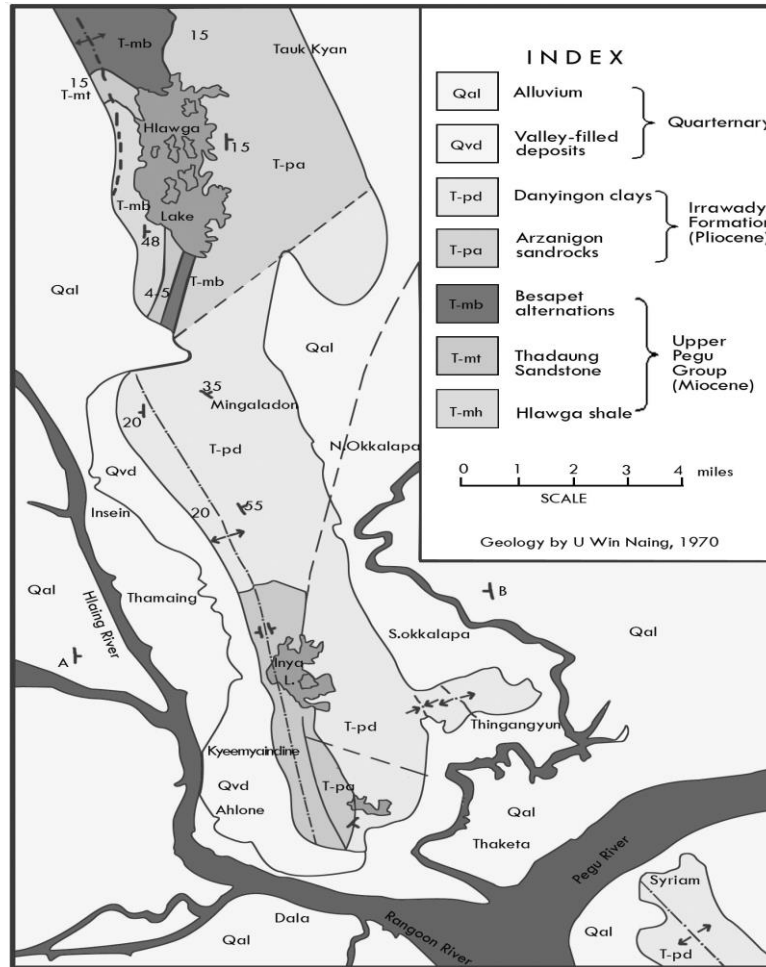


Figure 5-4 Geological Map of the project area

5.5.3. Tectonics

Yangon is situated in the southern part of the Central Lowland which is one of the three major tectonic provinces of Myanmar. The Taungnio Range of the Gyophyu catchments area of Taikkyi District, north of Yangon, through the Thanlyin Ridge, south of Yangon forming a series of isolated hills probably resulted from the progressive deformation of the Upper Miocene rocks as the eastern continuation of the subduction or stretching and compression along the southern part of the Central Basin and regional uplifting of the Pegu Yoma (Aung Lwin 2012).

5.5.4. Soil

The underlying soil type at the Project Site and its surroundings is characterized as the Meadow and Meadow Alluvial Soil. Meadow Soil is soil which occurs near the river plains exposed to occasional tidal floods, is non-carbonate and usually contains a large amount of salt. Both materials mainly comprise silty clay loam and neutral soil rich in plant nutrient. The upper layers (approximately 0 to 7 m) of the soil at the Project Site comprise largely of cohesive layers with traces of sand and gravel, followed by sand layers with low silt content and trace gravel from 7 to 35 m. The lower layers comprise denser silt layer with traces of sand and gravel from approximately 57 to 70 m. Standard Penetration Test (SPT) results obtained from testing at the Project Site indicate that the soil strength generally increases with depth. The STP results showed that the current soil quality can accommodate the construction of the Project.

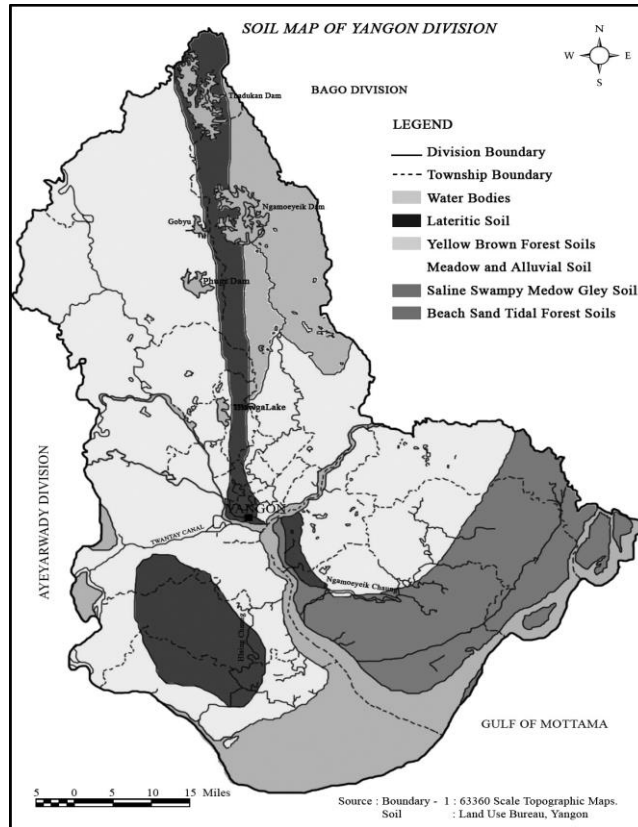


Figure 5-5 Soil Map in Myanmar

### 5.5.5. Hydrogeology

Yangon is rich in groundwater resources conserved by unconsolidated Tertiary-Quaternary deposits. In Yangon, groundwater is mostly extracted from Valley filled deposits and Ayeyawady sandstones.

**Groundwater:** Groundwater availability is generally based on the distribution of permeable and relatively impermeable rocks. The nature of openings in the rocks determines permeability of rocks. Based on local geological considerations, potential groundwater source of Yangon can be roughly divided into two sub regions, namely the low potential area and high potential area. Low potential areas are areas with those rock units of Hlawga Shale, Thadagan Sandstones and Basepet Alternation of upper Pegu Group (Miocene epoch) and Danyingon Clays of Irrawaddy rocks. These rocks and formations are a dense, massive and consolidated nature and have impervious characteristic. High potential areas are underlain by Pliocene Series and recent Formations. High potential area covers approximately 85 percent of the Yangon city including Pabedan. Stand pipe piezometers were installed at a depth of up to 30 m from the existing ground level while a pumping well was installed upon completion of the soil investigation works. Based on the results recorded up to the 8th of December 2012, stabilized groundwater level was observed to range between 0.49 m MSL to -1.81 m MSL4.

### 5.5.6. Climate and Meteorology

Yangon has a tropical monsoon climate under the Koppen climate classification system. The city typically experiences a distinct rainy season from the month of May through to October when a substantial amount of precipitation occurs; and dry season which commences from November and ends in April. During the course of a year, average temperatures show some variance with average highs ranging from 260°C to 360°C and average lows occurring between 180°C and 250°C. 56. Temperature.

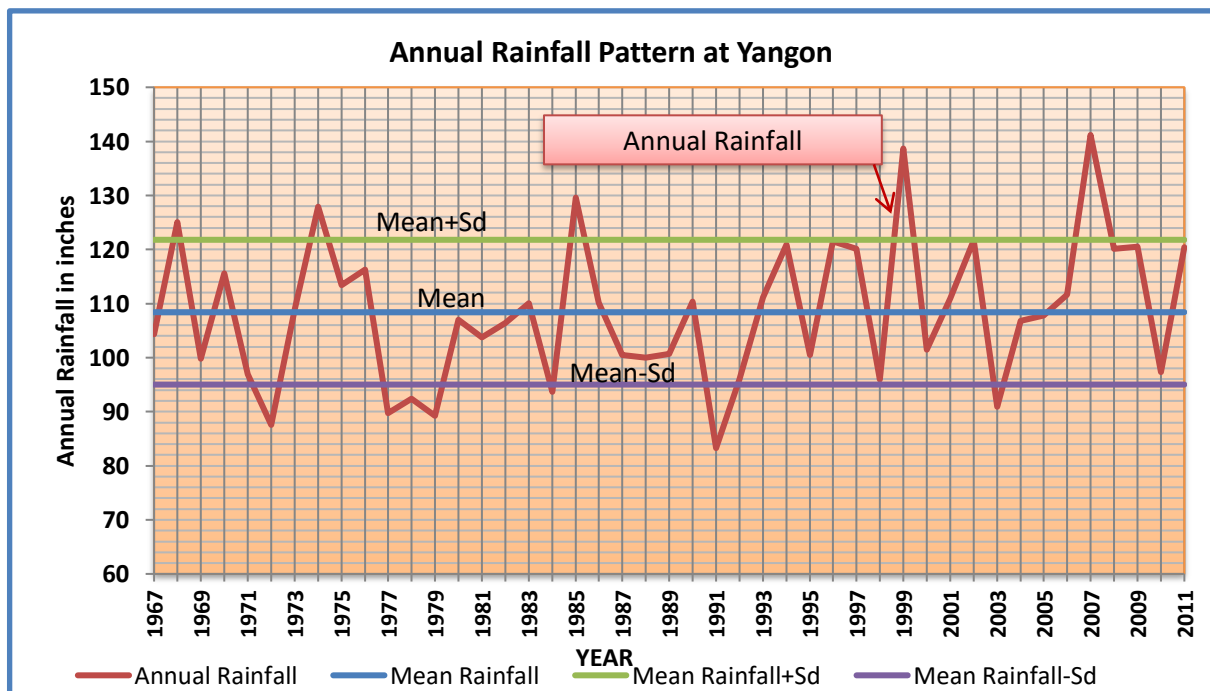
The hottest period is between February and May, with little or no rain. At the end of this season, generally from March to April, the average monthly temperature reaches the upper 300C. The average temperatures in Yangon range from 240°C to 360°C in April during the hot season and it ranges from 180°C to 320°C in January during the cooler season.

The proposed project is located at Hlaing Thar Yar Industrial Zone (1), Hlaing Thar Yar Township and Yangon Region. The climate condition of Hlaing Thar Yar Township is the dry season of area in which the project lies starts in December and ends in March. The raining season starts in June and ends in September and the cold season follow with the cooler, drier months of October to January. The highest temperature range is 41°C and low range 27°C reference from Township Meteorology data, Regional Data of Hlaing Thar Yar Township. 2013 to 2019 Yearly data of rainfall and temperature is presented in Table 5-8.

**Table 5-8 Annual Rainfall and Temperature**

Year	Rainfall		Temperature	
	Raining day	Rainfall value (Inches)	Summer season Max (°C)	Winter season Min (°C)
2011	60	170.5	31	18
2012	58	180.2	42	16
2013	65	190.01	45	15
2014	59	187.5	42	18
2015	118	102.5	40	12.5
2016	110	105.27	45	15
2017	80	100.2	31	23
2018	102	105.4	41	27
2019	88	84.8	40	26

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)



**Figure 5-6 Annual Rainfall Pattern at Yangon**

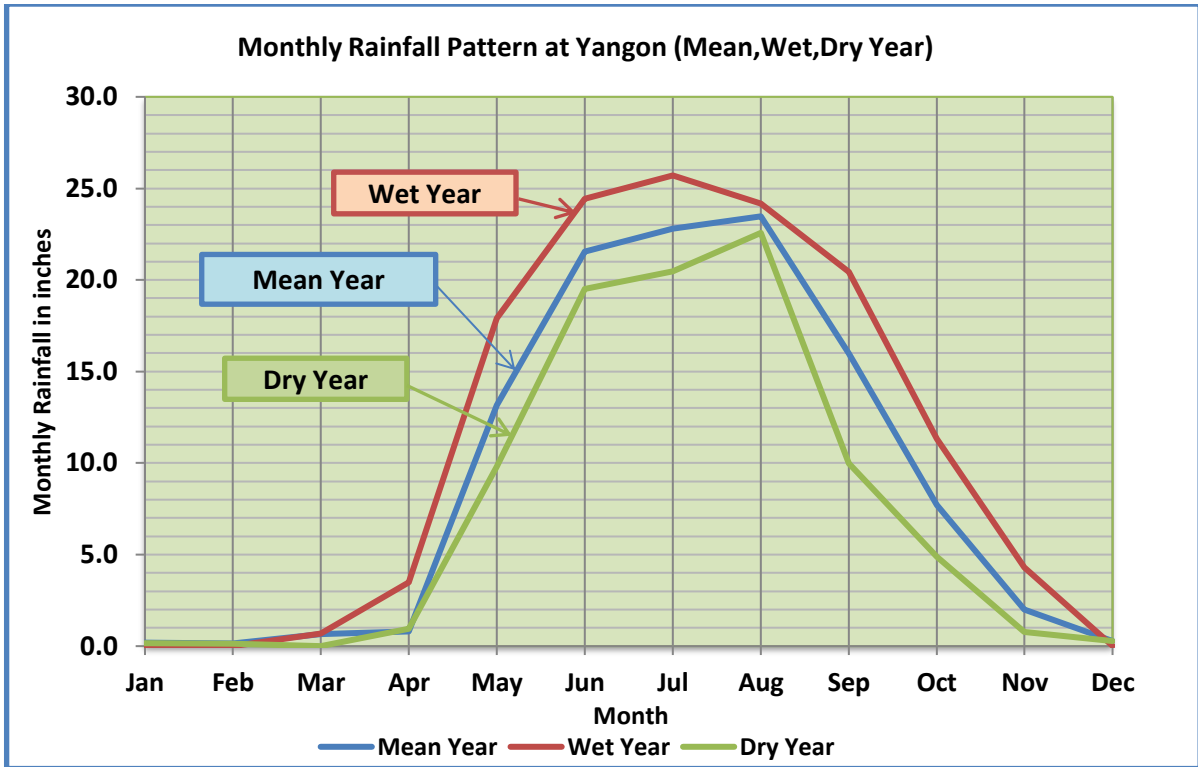


Figure 5-7 Monthly Rainfall Pattern at Yangon

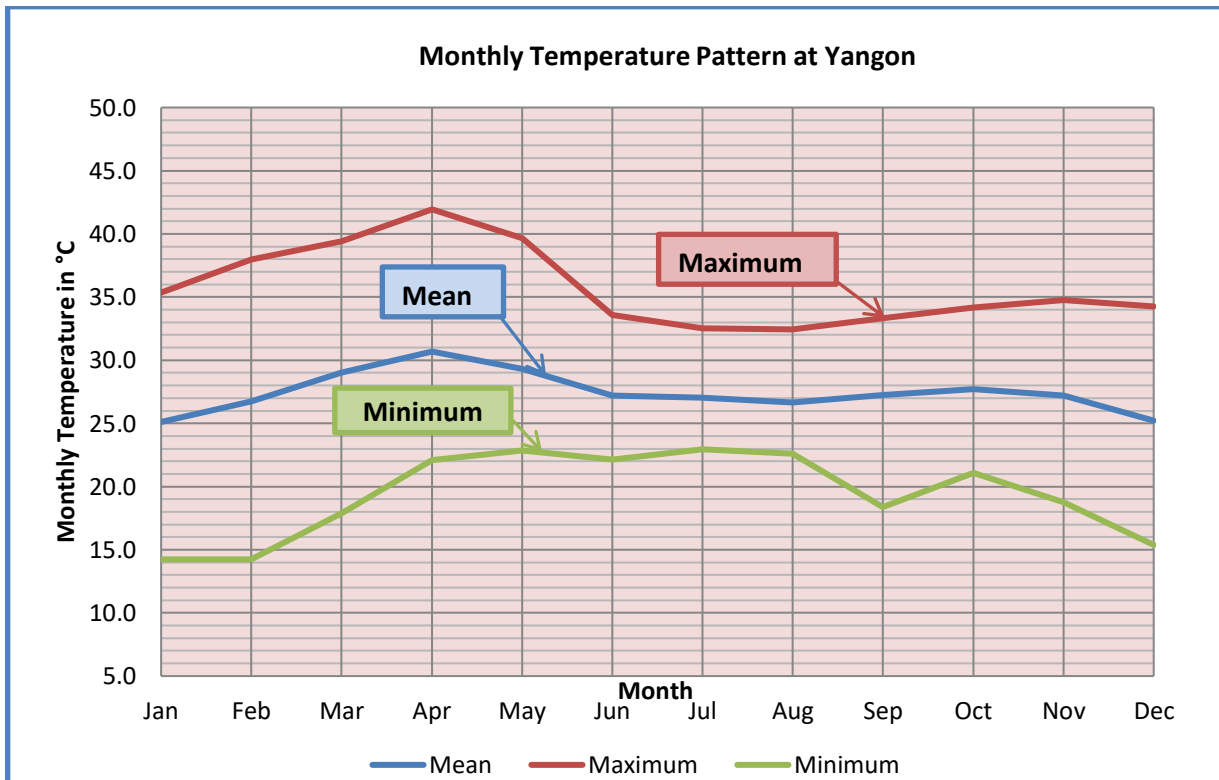


Figure 5-8 Monthly Temperature Pattern in Yangon

Table 5-9 Monthly Wind Speed at Yangon in kmile/hr

Wind Speed	Dry Season			Pre-Monsoon		Monsoon				Post Monsoon		Winter	Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	

Mean	4.3	4.5	4.8	5.4	5.5	5.3	5.2	5.6	4.7	4.8	5.2	5.2	5.0
Max	8.1	7.4	10.3	7.6	10.3	8.7	8.5	13.4	8.7	9.7	9.3	9.2	9.3
Min	2.6	2.3	1.0	3.2	2.7	2.7	2.3	3.5	2.9	1.9	1.8	3.7	2.5
Monthly Wind Speed at Yangon in mph (1mph = 1.61 kmph)													
Wind Speed	Dry Season			Pre-Monsoon		Monsoon				Post Monsoon		Winter	Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Mean	2.7	2.8	3.0	3.4	3.4	3.3	3.2	3.5	2.9	3.0	3.2	3.3	3.1
Max	5.0	4.60	6.40	4.7	6.40	5.4	5.3	8.30	5.40	6.00	5.80	5.70	5.8
Min	1.6	1.40	0.60	2.0	1.70	1.7	1.4	2.20	1.80	1.20	1.10	2.30	1.6

**Table 5-10 Monthly Relative Humidity at Yangon in %**

Relative Humidity	Dry Season			Pre-Monsoon		Monsoon				Post Monsoon		Winter	Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Mean	60	57	61	62	74	88	89	89	85	80	72	65	73
Max	67	61	67	66	82	91	93	93	88	85	82	73	79
Min	55	51	54	58	63	83	85	83	81	77	66	60	68

**5.5.7. Temperature and Relative Humidity**

The following table describes the meteorological measurement of the proposed project site on 9 November 2018. According to the data, the indoor temperature and humidity condition shows the average temperature of 22.42 °C while the average humidity is 50.5%.

**Table 5-11 Meteorological Measurement at Project Site**

Date and Time	Description	Result value	Environmental parameter air station guideline
9 November 2018	Relative Humidity, RH %	50.5%	Present condition
	Temperature	22.42 °C	Present condition

**5.6. BIOLOGICAL COMPONENT**

There is no forest area, wildlife and wetlands within or around the project compound. The proposed project site is not located in or near a sensitive ecosystem as the proposed project area is situated in Hlaing Thar Yar Industrial Zone (1). Moreover, desktop review and site visits confirmed the absence of unique or ecologically significant flora and fauna.

Biodiversity plays an important role in the day-to-day business of commercial and industrial activity. The project site is situated in Hlaing Thar Yar Industrial Zone (1); biodiversity surveys will not be necessary.



## 5.7. SOCIO-ECONOMIC COMPONENT

### 5.7.1. Population

Ming Da Polyester Wadding (Myanmar) Company Limited is located across Hlaing Thar Yar Township in Yangon Region. In 2019, the population of Hlaing Thar Yar Township is about 440,949 people as present in Table 5-12. <sup>[1]</sup>

**Table 5-12 Population of Males and Females at Hlaing Thar Yar Township (2019)**

Item	Over 18 Year			Under 18 Year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	110193	125186	235379	49964	55193	105157	160157	180379	340536
Rural	34642	32707	67349	16488	16576	33065	51130	49283	100413
Total	144835	157893	302728	66452	71769	138221	211287	229662	440949

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

### 5.7.2. Religion

The different kinds of religion present in Hlaing Thar Yar Township are shown in Table 5-13. More than 90% of the people living in the township are Buddhists. <sup>[1]</sup>

**Table 5-13 Religion in Hlaing Thar Yar Township (2019)**

Township	Buddhist	Christian	Hindu	Muslim	Total
Hlaing Thar Yar	422529	6400	8320	3700	440949

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

### 5.7.3. Local Economy

Among regional towns, Hlaing Thar Yar Township has a variety of businesses and services operating in the community with other businesses/services, based in the region. Most of the source of livelihood in the Township is employment of factory. Services and facilities available include:

- post office
- beauticians
- butcher
- hairdressers
- furniture and electrical store
- restaurants
- cafes
- shoe and clothing shops
- industrial services
- pharmacy
- veterinarian
- bus service
- gift stores
- music store
- pubs and bars
- florist

#### 5.7.4. Public Infrastructure and Access

##### 5.7.4.1. Communication and Transportation

Major transportation route in Hlaing Thar Yar Township are railway, port, and car road as presented in Table 5-14. <sup>[1]</sup>

**Table 5-14 Transportation Route**

Categories		Township			Miles
Water Route		From Pan Hlaing River and Hlaing confluence	To Ngwe Pin Lae Industrial	8	
No.	Township	Bus Stop	Transportation path	Type of Bus	No. of Bus
1	Hlaing Thar Yar	16	11	YBS	125

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

##### 5.7.4.2. Electricity

The electricity demand of Hlaing Thar Yar Township is higher and higher due to the normally increased in population and infrastructure. <sup>[1]</sup>

##### 5.7.4.3. Education

Location of major schools were situated i.e. Basic Education Primary School (B.E.P.S.), Basic Education Middle School (B.E.M.S), Basic Education High School (B.E.H.S), West Yangon Technological University, in the Hlaing Thar Yar Township. The name and the located village tract/ ward of schools are described in Table 5-15. <sup>[1]</sup>

**Table 5-15 List of major school in Hlaing Thar Yar Township**

No.	Name of School	Location
1.	West Yangon Technological University	Outside Padan Village Tract
2.	BEHS (1)	NO (2) ward
3.	BEHS (2)	No (12) ward
4.	BEHS (3)	NO (17). Ward
5.	BEHS (4)	NO (5) ward
6.	BEHS (5)	NO (7) ward
7.	BEHS (6)	Yae Okken
8.	BEHS (7)	NO (16) ward
9.	BEHS (8)	NO (20) ward
10.	BEMS (Branch) (1)	NO (6). Ward
11.	BEMS (Branch) (2)	Nyaung Village Tract
12.	BEMS (Branch) (3)	Dine Su, Nyaung Village
13.	BEMS (Branch) (4)	NO (6) ward
14.	BEMS (Branch) (5)	NO (1) ward

No.	Name of School	Location
15.	BEMS (Branch) (6)	NO (10) ward
16.	BEMS (Branch) (7)	Outside Padan Village Tract
17.	BEMS (Branch) (8)	NO (18) ward
18.	BEMS (Branch) (9)	Shwe Lin Pan Village Tract
19.	BEMS (Branch) (10)	NO (9). Ward
20.	BEMS (Branch) (11)	NO (12). Ward
21.	BEMS (Branch) (12)	NO (18). Ward
22.	BEMS (Branch) (13)	NO (15). Ward
23.	BEMS (Branch) (14)	NO (14). Ward
24.	BEMS (Branch) (15)	NO (13). Ward
25.	BEMS (Branch) (16)	NO (11). Ward
26.	BEMS (Branch) (17)	NO (7). Ward
27.	BEMS (Branch) (18)	NO (11). Ward
28.	BEPS (1 to 32)	Hlaing Thar Yar
29.	Pre School (1 to 6)	Hlaing Thar Yar

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

#### 5.7.4.4. Health Status

The diseases of high prevalence reported in 2019 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2019 of Hlaing Thar Yar Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 5-16.

**Table 5-16 Common Diseases in the Hlaing Thar Yar Township**

Disease	Hlaing Thar Yar Township	
	Morbidity	Mortality
Malaria (Per 100000P)	-	-
Dysentery	37	-
Diarrhea (Per 100000P)	21	-
TB (Sputum+) (Per 10000P)	67	-
Hepatitis	5	-

**Table 5-17 Lists of Hospital in Hlaing Thar Yar Township**

Hospital Name	Beds/Services	Responsible
Township Hospital	200	Government
Cottage Hospital (Shwe Lin Pan)	16	Government
Pan Hlaing	95	Private
Tun Foundation	20	Private
Total	331	-

Source: Department of Administrative Hlaing Thar Yar, Regional data (www.gad.gov.mm.com)

## **5.8. CULTURAL AND VISUAL COMPONENTS**

Hlaing Thar Yar Township is growing into a busy and vibrant community. The population fluctuates; however, there has been steady growth over the last decade. It tends to be a stopover on a journey rather than a destination. It has a number of sites that are interesting; however, there is no main attraction. Visitors to the town are generally visiting for work, investment or family reasons.

## CHAPTER 6 IMPACT ASSESSMENT AND MITIGATION MEASURE

### 6.1. METHODOLOGY FOR THE ASSESSMENTS

The assessment of each impact based on consideration of the magnitude, duration, spatial and frequency of activities, which are going to carry out during three phases and characteristics of the project site. The assessment is qualitative and the significance of each impact is been classified into five categories in overall.

The following methodology have been applied to assess the environmental impacts of the factory mainly on air, water, land, biodiversity, including human beings. Each source of impact had assessed by four parameters, magnitude, duration, extent and probability and each assess point have five scales as mentioned in Table 6-1:

**Table 6-1 Impact Assessment Parameters and its scale**

Assessment	Scale				
	1	2	3	4	5
<b>Magnitude (M)</b>	Insignificant	small and will have no effect on working environment	Moderate and will result in minor changes on working environment	High and will result in significant changes on working environment	Very high and will result in permanent changes on working environment
<b>Duration (D)</b>	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
<b>Extent (E)</b>	Limited to the site	Limited to the local area	Limited to the region	National	International
<b>Probability (P)</b>	Very improbable	Improbable	Probable	Highly probable	Definite

Then, the Significant Point (SP) calculated by following formula.

$$\text{Significant Point (SP)} = (\text{Magnitude} + \text{Duration} + \text{Extent}) \times \text{Probability}$$

Impact Significance: Based on calculated significant point, impact significance is able to categorize as follows:

Significant Point (SP)	Impact Significance
<15	Very Low
15-29	Low
30-44	Moderate
45-59	High
60	Very high

## 6.2. IMPACT IDENTIFICATIONS

The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. In this IEE study, the potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure.

### 6.2.1. Positive Impact

During the project implementation, local people can get job opportunities in administrative sectors, office works, transportation sectors, skill and unskilled workers, etc. Due to the implementation of the project, there will be employment opportunities especially for workers from the local community. Employees will also improve more in their professional knowledge and skills. The net effect of job creation is the improvement of the livelihoods and living standards of the beneficiaries and poverty reduction, development of local people's livelihood. Cause of the proposed project is located in Hlaing Thar Yar Industrial Zone (1), Hlaing Thar Yar Township, there may have business opportunities to local people.

### 6.2.2. Negative Impact

The following Figure 6-1 briefly described the potential negative impacts of the proposed project. There are four main types of impacts; impact on environmental resources, impact on ecological resource, impact on human and impact of waste generation.

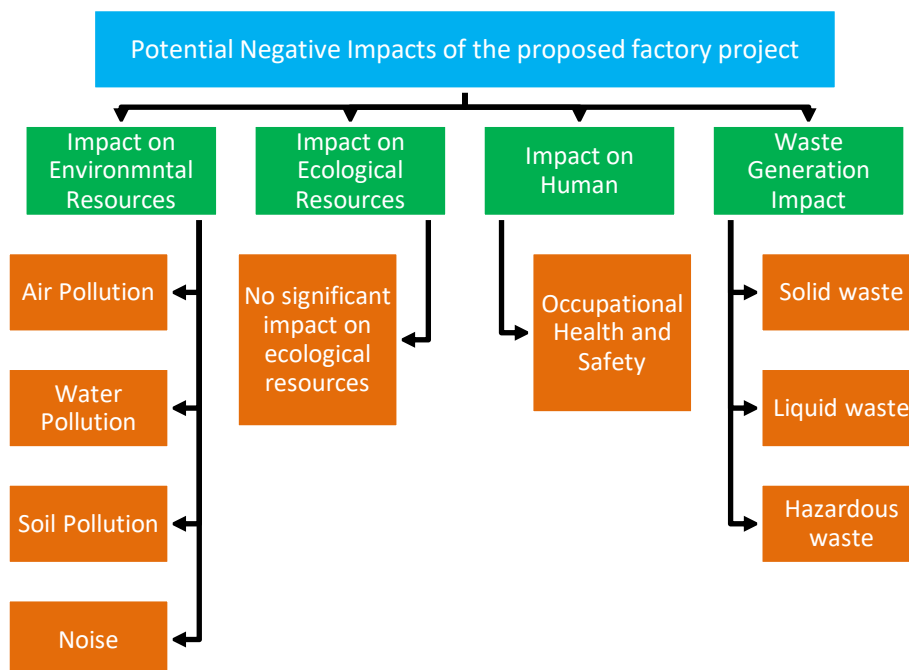


Figure 6-1 Potential Negative Impact Affect from Proposed Factory Project

### **6.3. POTENTIAL ENVIRONMENTAL IMPACT DURING CONSTRUCTION & DECOMMISSIONING PHASE**

Construction phase: The project factory is already constructed during environmental assessment study and site visit. Therefore, the proposed project is located in industrial zone and already finished the construction, the potential impact on environment is not assessed and affected must be caused the construction period.

Decommissioning phase: The proposed duration of the investment shall be 40 years. The term of the Lease shall be initial 20 years commencing from the date of signing of the Lease Agreement between Land Owner and Ming Da Polyester Wadding (Myanmar) Company Limited for proposed project site for 1.767 acres of land and extendable for 10 years in 2 times 2016 to 2056 total 40 years as recommended by the Yangon Region Government. The project of land and building will be restitution to land owner after close the operation. Therefore, the assessment study cannot be need for environmental impact assessment during decommission phase.

Landowner shall represent these two phases of operation. If the owner will be demolished their factory, they will need mitigation and monitoring plan for environmental impact. Therefore, Myanwei's environmental assessment team presented for monitoring plan during decommissioning phase.

#### 6.4. PROJECT ACTIVITIES AND ITS SIGNIFICANT IMPACTS

The project activities, their impacts and significance of impact are provided in following Table.

**Table 6-2 Evaluation and Perdition of Significant Impacts and Mitigation Measure for Operation Phase**

Categories	Source of Impact	Significant Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
<b>Impact on Environmental Resource</b>									
Air Quality	<ul style="list-style-type: none"> <li>Smoke emission from emergency diesel generator and vehicle movement</li> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> </ul>	3	4	2	4	36	Moderate	<ul style="list-style-type: none"> <li>Air pollution in atmosphere.</li> <li>Inhaling them can increase the chance you'll have health problems.</li> <li>People with heart or lung disease, older adults and children are at greater risk from air pollution.</li> </ul>	<ul style="list-style-type: none"> <li>To control air pollution, the vehicles, generators and machineries have to check and maintain regularly.</li> <li>The factory uses chimney for generator through which the flue gases are emitted for reducing the impact of stack emission on environment.</li> <li>Ensuring vehicles, compressors, generator are well maintained.</li> </ul>
Water Quality	<ul style="list-style-type: none"> <li>Production process</li> </ul>	2	4	2	3	24	Low	<ul style="list-style-type: none"> <li>The factory has not generated wastewater from production process</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>
Soil	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> </ul>	1	4	1	1	6	Insignificant	<ul style="list-style-type: none"> <li>The factory compound area was paved with concrete and hence, contamination due to the oil spillage at this area is insignificant.</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>



Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Noise	<ul style="list-style-type: none"> <li>Generating noise from the vehicle movement &amp; especially from generator, compressor</li> </ul>	2	4	2	3	24	Low	<ul style="list-style-type: none"> <li>The factory not operate heavy machinery</li> <li>There is insignificant impact on surrounding environment.</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> <li>Use personal protective equipment (PPE) like ear plug/ear muffs in the noisy workplace like generator room, compressor room</li> </ul>
<b>Impact on Ecological Resources</b>									
Flora and fauna on terrestrial and aquatic life	<ul style="list-style-type: none"> <li>Operation of the factory</li> </ul>	1	4	1	1	6	Insignificant	<ul style="list-style-type: none"> <li>Not Significant Impact on Ecological Resources</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>
<b>Impact on Human</b>									
Fire	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>Waste disposed area, raw materials and fuel storage area</li> </ul>	3	5	2	4	40	Moderate	<ul style="list-style-type: none"> <li>Serious damage to property and even injury and death</li> </ul>	<ul style="list-style-type: none"> <li>To provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases.</li> <li>Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening.</li> <li>The emergency fire alarms are installed at the factory for alerting the workers in case of fire.</li> <li>The main entrances and route for emergency cases of the factory must not be blocked with materials</li> </ul>

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
								or machines for fire emergency cases.	
Occupational Safety	<ul style="list-style-type: none"> <li>Accidental cases cause by operating machines.</li> <li>Unloading, cutting, and packaging activities.</li> </ul>	3	4	1	4	32	Moderate	<ul style="list-style-type: none"> <li>Accident in workplace (physical injuries or even death) can occur during operation.</li> <li>First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers.</li> <li>According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers.</li> <li>Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department.</li> <li>To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.</li> </ul>	
Health	<ul style="list-style-type: none"> <li>Influx of people</li> <li>Noise from the generating of the emergency generators</li> </ul>	2	4	1	2	14	Very Low	<ul style="list-style-type: none"> <li>Change in demographic structure, new form immigrant workers</li> <li>To cause a range of health problems ranging from stress,</li> <li>Manage the drainage systems of the factory to prevent health risk of the workers.</li> <li>The maximum allowable noise level for workers is 90 dB(A) for 8hours exposure a day. Thus, adequate protective noise impact measures in the form of ear</li> </ul>	

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
								poor concentration, productivity losses in the workplace, and communication difficulties and fatigue from lack of sleep, to more serious issues	muffs/ear plugs to the workers working in high noise areas.
<b>Waste Generation Impact</b>									
Solid Waste	<ul style="list-style-type: none"> <li>Residual pieces of fabric scraps from the production lines</li> <li>Waste from packaging materials</li> <li>Domestic Waste from office.</li> </ul>	3	4	1	4	32	Moderate	<ul style="list-style-type: none"> <li>Surrounding environmental pollution and soil contamination</li> </ul>	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste storage area</li> <li>Final wastes should be disposed by connecting with YCDC's service</li> </ul>
Liquid Waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office.</li> </ul>	2	4	2	2	16	Low	<ul style="list-style-type: none"> <li>Contamination of soil, surface water, ground water</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and cleaning the wastewater treatment tank, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.</li> </ul>
Hazardous Waste	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> </ul>	3	4	1	2	16	Low	<ul style="list-style-type: none"> <li>Reduce the risk of contamination from glues, fuels, oils and hazardous wastes</li> </ul>	<ul style="list-style-type: none"> <li>Proper inspection and maintenance in storage of hazardous waste.</li> <li>Dispose of hazardous chemicals and containers in accordance with</li> </ul>

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
	<ul style="list-style-type: none"> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>							<ul style="list-style-type: none"> <li>Response effectively to incident and accident</li> </ul>	occupational health, safety and environmental requirements. <ul style="list-style-type: none"> <li>The empty fuel containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are disposed by connecting with DOWA or YCDC's service.</li> </ul>
<b>Natural Disaster</b>									
Earthquakes, Floods, Landslides and Cyclone	-	-	-	-	-	-	-	-	<ul style="list-style-type: none"> <li>Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.</li> </ul>

**Table 6-3 Evaluation and Perdition of Significant Impacts and Mitigation Measure for Decommissioning Phase**

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
<b>Impact on Environmental Resource</b>									
Air Quality	<ul style="list-style-type: none"> <li>Dust and particulate matters from decommissioning of construction materials</li> </ul>	3	1	4	2	20	Low	<ul style="list-style-type: none"> <li>Dust and particulate matters can only release within decommissioning time</li> </ul>	<ul style="list-style-type: none"> <li>Spray water twice a day</li> <li>Cover mesh trap around the decommission area</li> <li>Install shading net about 2 meters above temporary fence of decommission area</li> </ul>

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
								<ul style="list-style-type: none"> <li>Carry broken material with cover by canvas.</li> </ul>	
Water Quality	<ul style="list-style-type: none"> <li>No impact on surface water and ground water</li> </ul>	2	1	2	1	5	Very Low	<ul style="list-style-type: none"> <li>The factory not generated wastewater within decommissioning time</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation measures</li> </ul>
Soil	<ul style="list-style-type: none"> <li>No impact on soil at the decommissioning phase</li> </ul>	1	1	1	1	3	Very Low	<ul style="list-style-type: none"> <li>No soil impact</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>
Noise	<ul style="list-style-type: none"> <li>Decommission activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low	<ul style="list-style-type: none"> <li>There is insignificant impact on surrounding environment.</li> </ul>	<ul style="list-style-type: none"> <li>Carry out the activities during day time. (working hour)</li> <li>Maintain the machines and vehicles to reduce noise pollution.</li> <li>Provide the ear plugs to the workers.</li> </ul>
<b>Impact on Ecological Resources</b>									
Flora and fauna on terrestrial and aquatic life	<ul style="list-style-type: none"> <li>Operation of the factory demolishing activity</li> </ul>	1	4	1	1	6	Insignificant	<ul style="list-style-type: none"> <li>Not Significant Impact on Ecological Resources</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>
<b>Impact on Human</b>									
Occupational Safety	<ul style="list-style-type: none"> <li>Accidental cases can cause by decommissioning activities</li> </ul>	1	1	1	3	9	Very Low	<ul style="list-style-type: none"> <li>Accident in workplace (physical injuries or even death) can occur</li> </ul>	<ul style="list-style-type: none"> <li>Provide Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles</li> </ul>

Categories	Source of Impact	Significant Potential Impacts of					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
<b>Waste Generation Impact</b>									
Solid Waste	<ul style="list-style-type: none"> <li>Demolished debris such as bricks, concrete materials</li> </ul>	3	4	1	4	32	Moderate	<ul style="list-style-type: none"> <li>Surrounding environmental pollution and soil contamination</li> </ul>	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types disposed by connecting with YCDC's service.</li> </ul>
Liquid Waste	<ul style="list-style-type: none"> <li>Residual septic and sewage.</li> </ul>	2	4	2	2	16	Low	<ul style="list-style-type: none"> <li>Old septic tank will leave</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation measures</li> </ul>
Hazardous Waste	<ul style="list-style-type: none"> <li>Residual empty fuel container and oil from operation</li> </ul>	2	4	1	2	14	Very Low	<ul style="list-style-type: none"> <li>Reduce the risk of contamination from fuels, oils</li> </ul>	<ul style="list-style-type: none"> <li>The empty fuel containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are transported by specially licensed carriers and disposed by connecting with DOWA or YCDC's service.</li> </ul>

Noted: If there are responsible for mitigation on environmental by Land Owner and Demolish Contractor.

## 6.5. IMPACTS AND MITIGATION MEASURE

Impact assessment on environmental, social and economic aspect is based on analysis of the magnitudes of potential impacts and significant potential impacts of the project. The assessment on both of positive and negative impacts was carried out in all three phases. Evaluation of significant of impact considered from significant point of evaluation as described in above Table 6-2 and Table 6-3.

## 6.6. IMPACT ON ENVIRONMENTAL RESOURCE

### 6.6.1. Air Quality

During the operation phase, there will be emission of Dust particles, NO<sub>2</sub> and SO<sub>2</sub> would be emitted from the activities of loading, unloading and transportation of the raw materials and final product. Various activities as using air conditioners in office building, storage of raw materials, vehicles movement and operating diesel generators would also be a factor slightly affecting to air quality. However, these anticipated impacts are in manageable limits to control the air pollution with relevant mitigation measures and the proposed factory will be managed by using their HSE guidelines.

During the decommissioning phase, dust and particulate matters can emit from destroyed construction materials and this is assumed to be no significant impact at this phase.

#### 6.6.1.1. Energy Consumption and Related CO<sub>2</sub> (GNG) emission

Though main electricity source for the factory is the national grid line, sound-proof diesel generators will be set-up in case of electricity shortages. So, the standby generators will be used for both operation and administration appliances. The proposed project will use annually 23,940 gallons of diesel for vehicles such as transportation vehicle and emergency use of a generator in the construction phase. The following table shows the amount of CO<sub>2</sub> emission coming from the combustion of fuels.

Burning diesel or other fuels creates exhaust gasses. Diesel generators produce carbon dioxide (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>), and particulate matter. These generators release this into the atmosphere and substantially reduce air quality in the nearby regions. Every liter of fuel has 0.73 kg of pure carbon, 2.6 kg of carbon dioxide released per liter of diesel fuel.

**Table 6-4 Category of GHGs Assessment**

Category	Range
Negligible	no GHG assessment necessary
Low	< 20 kt/y CO <sub>2</sub> -equivalent per year
Medium-Low	20 – 100 kt CO <sub>2</sub> - equivalent per year
Medium-High	100 kt – 1 Mt CO <sub>2</sub> - equivalent per year
High	>1 Mt CO <sub>2</sub> -e equivalent per year

Source: EBRD GHG Assessment Methodology, 2010

**Table 6-5 CO<sub>2</sub> Emission by the Uses of Fuel**

No.	Type	Amount (Liter/year)	Equivalent CO <sub>2</sub> emission (Kilotons)	Status
1	Diesel for generator	23,940	0.23	<b>Negligible</b>

According to above conversion, the emission of CO<sub>2</sub> relative to the fuel consumed by the proposed project will not harmfully affect to the environment. However, the proposed factory will use a

lot of electrical energy mainly for lighting, running of equipment, running of pumping systems for pumping water into the storage tank. Since electricity generation involves utilization of natural resources, excessive electricity consumption will strain the resource and negatively impact on their sustainability.

### 6.6.2. Mitigation Measures for Air Quality Impact

The significant sources of gas emission from emergency generator and transportation vehicles will be mitigated by using maintaining system in the operation process.

- Switch off vehicles when not in operation to reduce emissions by drivers
- Adequate stack must be provided as per Industrial guidelines for the proper dispersion of potential pollutants

Moreover, Ming Da Polyester Wadding (Myanmar) factory has also implemented canteen facilities, kitchen ventilation system has already installed and operated in order to remove smoke, heat, odors, and steam from cooking.

### 6.6.3. Impact of Noise

During the operation phase, noise impact may be a significant impact for production sectors. The significant sources of noise impact activities are the operation of various machinery and equipment listed in for production line and the emergency used of generator, vehicles and automobile movements (short-term noise) will be noise impacts sources.

During the decommissioning phase, the heavy vehicles, machineries and equipment used for decommissioning activities can affect the noise level and vibration of the area. But it can be assumed to be neglect able since it is short time activities.

#### 6.6.3.1. Exposure of Noise

The Occupational Safety and Health Administration (OSHA) have recommended permissible noise exposure limit for construction workers, which is based on 90 dB (A) for 8 hours exposure a day with 5dB trading rates. The limits are mentioned in Table 6-6. According to OSHA, the maximum allowable noise level for workers is 90 dB (A) for 8 hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas, need to provide if actual noise level monitoring results are more than 90 dB (A) at the work site for working time hours for 8 hours.

**Table 6-6 Permissible Exposure of Noise Limits**

Total Time of Exposure Per Day in Hours	Noise Level dB(A)
8	90
6	92
4	95
3	97
5	100
1	105
1/2	110
1/4	115



#### 6.6.4. Mitigation Measures for Noise Impact

The following mitigation measures shall be considered to reduce noise levels in the operation phase of the Handbags factory.

- I. Low noise equipment should be used where possible
- II. All preventive measures such as regular operation and maintenance of pump motors, and compressor should be carried out and enclosures will be provided to abate noise levels at source
- III. Noisy equipment should not be permitted during night hours as much as possible

##### 6.6.4.1. For Diesel Generator

Used of Generator should be housed in a suitable acoustic enclosure. The acoustic insulation should be designed to meet mandatory standards based on a 25 dB insertion loss.

#### 6.6.5. Impact on Water Quality

##### 6.6.5.1. Water Consumption

In the operation phase of handbags manufacturing factory, there is no water use for processing purpose. Tube well is the main source of raw water will be treated by passing through into (i) the oxidation tower to remove oxidized materials, (ii) chlorine dosing system, (iii) de-iron filter, (iv) carbon filter and (v) cartridge filter. Then the obtained treated water will be provided for the whole factory use of general office facilities such as canteen, toilets and other general use. Estimated water consumption for the whole factory is 1,375 gal per day and 1,899.8 cubic meters per year.

##### 6.6.5.2. Water Pollution

The effluent wastewater will generate from the cleaning of utensil for operational use and domestic wastewater. Water pollution may be caused by domestic wastewater discharge from the canteen, which have high biological oxygen demand/ chemical oxygen demand (BOD/COD), that can seriously also affected on water quality. In addition, improper discharge of industry effluents, general office discharge of domestic wastewater and sewage effluents will impact on ground water and the nearest surface water body.

#### 6.6.6. Mitigation Measures for Water Consumption and Contamination

##### 6.6.7. Water Consumption

In operation phase, according to the estimated water consumption for the whole factory is 1,375 gal per day and 1899.8 cubic meters per annually for the purpose of general office uses. So, the appropriate water conservation plan should be implemented with commensurate with the magnitude and cost of water use. These programs should promote the continuous reduction in water consumption and achieve savings in the water pumping, treatment and disposal costs.

##### Building Facility Operations

- ❖ Regularly maintain plumbing, and identify and repair leaks
- ❖ Shut off water to unused areas

- ❖ Install self-closing taps, automatic shut-off valves, spray nozzles, pressures reducing valves and water conserving fixtures (e.g low flow shower heads, faucets, toilets, urinals and spring loader)
- ❖ Operate dishwashers and laundries on full loads, and only when needed
- ❖ Install water-saving equipment in lavatories, such as low flow toilets

#### 6.6.8. Wastewater Effluents

An effective wastewater treatment system for production sector that reduced for BOD, COD, total nitrogen and other organic compound shall be used to reduce the impact on aquatic lives and odor.

Currently, practice of the wastewater effluents discharge facilities of sewage for sanitation and septic system.

#### 6.6.9. Recommended Wastewater Effluents Impact Mitigation Measures

- ❖ Ensure that liquid waste from the proposed site is directed to the appropriate drains
- ❖ Maintain the equipment, pipelines in good working conditions and drainage system to avoid clogging

#### 6.6.10. Impact on Soil Quality

During the operational phase, there will be **no significant impact** on soil quality due to Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment because concrete road facilities have been implemented at the whole project site area. However, there may be effect on soil if wastes from the operation period are disposed improperly.

During the decommissioning phase, transportation of decommissioning materials and transferred of heavy machinery may happen oil leakage and lubricants, and thus it can lead to impact on soil. Moreover, it is a short time activity thus **no impact source will leave**.

### 6.7. IMPACT ON ECOLOGICAL RESOURCE

The proposed project is located in Hlaing Thar Yar Township, Yangon Region. The nearest water body is Hlaing River (2.45 kilometer) and Pan Hlaing River (1.2 kilometer) away from the project. **No Significant Impact on Ecological Resources.**

### 6.8. IMPACT ON HUMAN

#### 6.8.1. Socio-economic Benefit

The proposed project is the long-term investment in the industrial sector. Most of the impacts of the proposed project on socio-economic environment may be positive. Implementation of proposed project may create temporary employment during construction and decommissioning phases and permanent jobs in the operation phase. Subsequently, socio-economic standards of local people will be increased and eventually it may lead to the economic growth at local and regional level.

### 6.8.2. Occupational Health and Safety

The most significant impact of occupational health and safety hazards will be caused by working at the operation phase of this factory and the main issues are as follows:

- ❖ Exposure of noise to employees and workers
- ❖ Electrical Hazards

During the operation phase, employees and workers of Ming Da Polyester Wadding (Myanmar) factory will be endangered or oppressed particularly by noise from factory operation. The noise level results measured in production area during operation phase are not exceeding the NEQ (emission) guideline. For electrical hazards, technicians and workers may expose to electrical hazards due to the presence of electrical equipment throughout the whole handbags production facilities.

Thus, the appropriate personal protective equipment (PPE) for employee and workers will be provided and environmental, health and safety guideline have been prepared in proposed factory. In addition, for health insurance, health care facilities and first aid training have been provided for all employee and workers.

During the decommissioning phase, destroying activities can cause accidental case.

### 6.8.3. Mitigation Measures for Occupational Health and Safety

#### 6.8.4. Exposure of Noise

The Occupational Safety and Health Administration (OSHA) have recommended permissible noise exposure limit for industrial workers, which is based on 90 dB (A) for 8 hours exposure a day with 5dB trading rates. The limits are mentioned in Table 6-7. According to OSHA, the maximum allowable noise level for workers is 90 dB (A) for 8 hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas, need to provide if actual noise level monitoring results are more than 90 dB (A) at the work site for working time hours for 8 hours.

**Table 6-7 Permissible exposure of noise limits**

Total Time of Exposure Per Day in Hours	Noise Level dB(A)
8	90
6	92
4	95
3	97
5	100
1	105
½	110
¼	115

### 6.8.5. Recommended Mitigation Measures for Occupational Health and Safety

- Consider the provision of personal protective equipment only after all measures for removing or controlling safety hazards have been provided reasonably impractical

- Ensure that sufficient personal protective equipment is provided and that they are readily available for every person who may need to use them.
- The management should ensure that all persons make full and proper use of the personal protective equipment provided
- Provide instruction and training in the proper use and care of any specific protective equipment where necessary
- Ensure that the personal protective equipment is in good condition. Report immediately any damage to the management for replacement. Always keep the personal protective equipment as clean as possible.

Monitoring should be designed and implemented by accredited professionals, as part of an occupational health and safety-monitoring program. Facilities should also maintain a record of occupational accidents and diseases. Projects should try to reduce the number of accidents among project workers (whether directly employed) to a rate of zero, especially accidents that could result in lost work time, different levels of disability, or even fatalities.

#### **6.8.6. Material Storage guidelines**

Storage practices to reflect the safety of workers are also developed in Ming Da Polyester Wadding (Myanmar) Company Limited. All the shelves in the storage areas are secured, firmly placed and organized to prevent from any collisions that can affect the workers during working. Different materials will be stored separately by type and according to the designed layout. Ming Da has developed the hazardous materials list according to the information available on Material Safety Data Sheet (MSDS) and control measures to those hazards and related MSDS can be seen in **Appendix**.

#### **6.8.7. First Aid Guidelines and Facilities**

A well organized and proper first aid system is implanted to provide immediate first aid to anyone who is injured in the workplace and had also conducted the first aid training by Myanmar Red Cross Society. Adequate number of first-aid kits are listed and made available at all workplaces and contacts of medical providers, hospitals will be notified. The followings are some of the contents in a sample first aid kit.

- Bandage
- Adhesive Tape
- Antiseptic wipe
- Burn dressing and treatment items
- Cold pack
- CPR barrier
- Sterile wound dressings
- Sterile eye coverings
- Scissors, tweezers, compress

##### **6.8.7.1. Mitigation Measures for Fire Hazard**

In operation period, the emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. The project proponent has plants to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses. Fire extinguishers will be placed

at various standby positions. Fire Drill Instructions and Evacuation Plan will be posted at every section of the factory.

No mitigation measure is needed in decommissioning phase.

## **6.9. IMPACT OF WASTE DISPOSAL**

In the operation phase, most activities of Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment will generate the relatively low level of waste. Solid waste from production sector will consists of process waste such as Industrial waste would be generated from operation such as fabrics scrap, plastic bags, cardboard, paper board, plastic string, etc. and food waste, plastic, paper, glass, metal can, sanitary napkins, tissue paper, garden waste, etc. However, proposed factory has been implemented the solid waste disposal system by the segregation of waste type such as paper waste, food waste, production waste and hazardous waste according to their environmental health and safety guideline. The required rubbish bins have been provided and regularly checked and monitored by assigned person of proposed factory. Before send to dumping site of YCDC, the proper disposal waste facilities and temporary waste disposal site have been provided in the factory site and they should be followed and monitored the solid waste disposal system with the help of Municipal guidelines. Moreover, for the purpose of hygienic canteen, kitchen facilities and standard septic type of toilets, well-cleaned and well-maintained already provided for the proposed factory site.

In decommissioning phase, demolished construction materials such as bricks, construction materials will leave in the project area and visual amenity impact can cause.

### **6.9.1. Mitigation Measures for Waste Disposal**

All of production waste such as fabrics scrap, plastic bags, cardboard, wood, plastic string and other non-hazardous waste will be collected by designated garbage bins and then sent to the temporary storage areas of solid waste in the project site area, which include 4 compartments for different kinds of waste categories. In addition, pest control program has also implemented at the entrance of rodents and insects. Ming Da Polyester Wadding (Myanmar) Company Limited also has an agreement service with Yangon City Development Committee for waste disposal facilities to collect the all-production waste, office waste and domestic waste. According to the waste management practice, the proposed factory has provided the dedicated dustbins for paper waste, plastic waste, production waste and food waste for the proper disposal of waste. Appropriate recycling methods are in practice to dispose of the wastes in the environmentally friendly manner.

## CHAPTER 7 PUBLIC DISCLOSURE

### 7.1. PUBLIC CONSULTATION PROCESS

This chapter presents results of public consultation and information disclosure conducted for the Ming Da Polyester Wadding (Myanmar) factory. Public participation can be considered as the required element of the IEE process. In this study various stakeholder's participation were made.

Public consultation during preparation of IEE report was conducted on 31, January 2019, following the EIA procedure.

The project's stakeholders in this category are key officials or representatives of the national, state/regional and local authorities who have direct responsibilities for the administration of the IEE process for environmental and social clearance and issuing operation permits for proposed development projects.

For this project, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department.

Relevant key office at the regional level is Yangon City Development Committee (YCDC), Hlaing Tharyar Township Administrative Office, Fire Department, Factories and General Labour Law Inspection Department and other interest factory of Hlaing Tharyar Industrial Zone (1).

Public consultation carried out after the presentation on the project, followed by questions, answers and discussion. Ko Sai Thiha Maung presented IEE study and findings from Myanmar, following question and answer section. Summary of public consultation meeting is presented Table 7-1. **(PCM attendant list is described in Appendix)**

**Table 7-1 Summary of Public Consultation Meeting**

Time and Date	Tuesday, 30 July 2019 10:30-12:30
Venue	Meeting Hall, Sky Hotel, Hlaing Tharyar Township, Yangon.
Agenda	Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation and Monitoring Plan Received and Answer from feedback of participants



Figure 7-1 Presentation and discussing photo of Public Consultation Meeting

## 7.2. RECOMMEND SUGGESTION AND COMMENT

After the presentation, the floor opened for questions and answers. There is no suggestion and comment for presentation and IEE draft report, because the project is sample manufacturing of handbags (CMP basic). In addition,

Suggestion; U Kyaw Kyaw, Yangon City Development Committee (Cleaning Department and Industrial Zone management office;

- To construct the small pond in front of factory to filter the factory's wastewater before discharging to the surrounding drainage
- To install the boiler chimney at least 80 feet in height
- To store the fuel safely
- To plant the tree
- To get the septic tank capacity sufficiently with the number of the employee

## CHAPTER 8 ENVIRONMENTAL MANAGEMENT PLAN

### 8.1. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan (EMS) is a framework that helps an organization achieves its environmental goals through consistent review, evaluation, and improvement of its environmental performance. The assumption is that this consistent review and evaluation will identify opportunities for improving and implementing the environmental performance of the organization. The EMS itself does not dictate a level of environmental performance that must be achieved; each organizations EMS is tailored to its own individual objectives and targets.

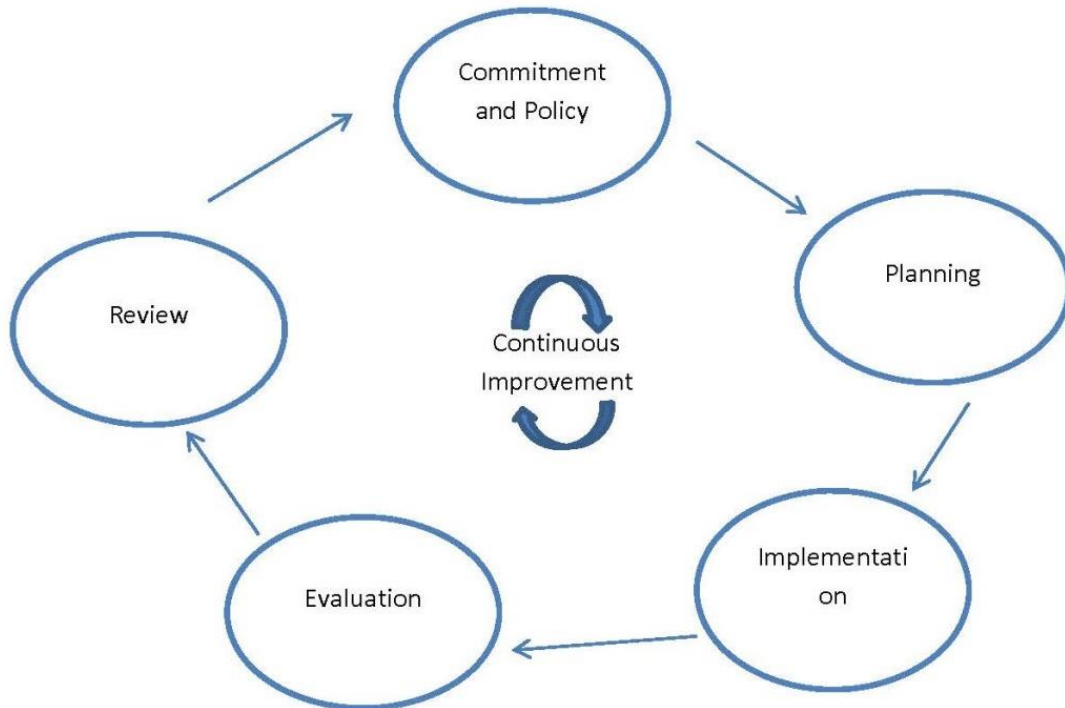
The primary purpose of the EMP is to provide an easily interpreted reference document, which ensures that the project environmental commitments, safeguards and mitigation measures from the environmental planning documents, project approvals and project implementation. It aims to minimize impacts associated with the operation of the project. The aims of operational EMP are to:

- Define details of who, what, where and when environmental management and mitigation measures are to be implemented
- Provide government and their stakeholders batter on-site environmental management control over the life of operation
- Ensure that the commitments made as a part of the project's EMP are implemented throughout the project life
- Ensure the environmental management detail is performed and documented at all stages of the project
- Provide environmental management plans that minimize the environmental impact of the works and identify those responsible for its implementation.
- Define the monitoring program which assesses the implementation.

#### 8.1.1. System of Environmental Management System

An EMS encourages an organization to continuously improve its environmental performance. The system follows a repeating cycle Figure 8-1. The organization first commits to an environmental policy, then uses its policy as a basis for establishing a plan, which sets objectives and targets for improving environmental performance. The next step is implementation. After that, the organization evaluates its environmental performance to see whether the objectives and targets are being met. If targets are not being met, corrective action is taken. The results of this evaluation are then reviewed by top management to see if the EMS is working. Management revisits the environmental policy and sets new targets in a revised plan. The company then implements the revised plan. The cycle repeats, and continuous improvement occurs.





**Figure 8-1 Environmental Management System**

- **Commitment and Policy** – Top management commits to environmental improvement and establishes the organization’s environmental policy. The policy is the foundation of the EMS.
- **Planning** – An organization first identifies environmental aspects of its operations. Environmental aspects are those items, such as air pollutants or hazardous waste that can have negative impacts on people and the environment. An organization then determines which aspects are significant by choosing criteria considered most important by the organization. For example, an organization may choose worker health and safety, environmental compliance, and cost as its criteria. Once significant environmental aspects are determined, an organization sets objectives and targets. An objective is an overall environmental goal (e.g., minimize use of chemical X). A target is a detailed, quantified requirement that arises from the objectives (e.g., reduce use of chemical X by 25% by September 1998). The final part of the planning stage is devising an action plan for meeting the targets. This includes designating responsibilities, establishing a schedule, and outlining clearly defined steps to meet the targets.
- **Implementation** – An organization follows through with the action plan using the necessary resources (human, financial, etc.). An important component is employee training and awareness for all employees. Other steps in the implementation stage include documentation, following operating procedures, and setting up internal and external communication lines.
- **Evaluation** – A company monitors its operations to evaluate whether targets are being met. If not, the company takes corrective action.
- **Review** – Top management reviews the results of the evaluation to see if the EMS is working. Management determines whether the original environmental policy is consistent with the organization’s values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.

### 8.1.2. Institutional Requirement

Ming Da Polyester Wadding (Myanmar) Company Limited will be managed the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of Environmental Management Plan (EMP) and Monitoring Plan as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications.

## 8.2. RESPONSIBILITIES OF THE ENVIRONMENTAL MANAGEMENT PLAN

In order to ensure the sound development and effective implementation of the EMP, it will be necessary to identify and define the responsibilities. The environmental management practices, procedures, and responsibilities are defined herein to get full compliance with the existing environmental policy, laws, rules and regulations of the Republic of the Union of Myanmar. The following entities should be involved in the implementation of this IEE:

**Ming Da Polyester Wadding (Myanmar) Company Limited:** The proponent will be charged with the responsibility for ensuring that the proposed development has been accomplished in an environmentally sound manner. This can be achieved by inclusion of environmental specifications in the tender specifications, selection of environmentally conscious contractors, and supervision to ensure that the objectives of this EMP are met. The implementation of Environmental Management Plan (EMP) process will prepare and follow up by appointed persons for health, safety, and environmental management under the instruction of management team of Ming Da Polyester Wadding (Myanmar) Company Limited for EMP implementation facilities.

**Environmental Conservation Department (Yangon Region):** The responsibility of ECD is to exercise general supervision and coordinating over all matters relating to the environment and to be instrumental in providing guidance for recognized regulatory frameworks.

**Third-Party Environmental Consultant:** The environmental consultant will have to ensure that the proposed EMP is up to date and is being followed properly by the proponent. Periodic audits of the EMP will have to be done to ensure that its performance is as expected, by comparing with operating standards so that any corrective actions can be taken.

### 8.2.1. Structure and Responsibilities for the EMP Development and Implementation

The HSE officer is responsible to the HSE components of the project and on matters relating to the implementation of the EMP throughout operation life. The S&E officer will have responsibilities that include:

- Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;
- Carry out a thorough initial site inspection of environmental controls prior to work commencement;
- Record and provide a written report to the General manager and production team of non-conformances with the EMP and require the HR supervisor to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP;

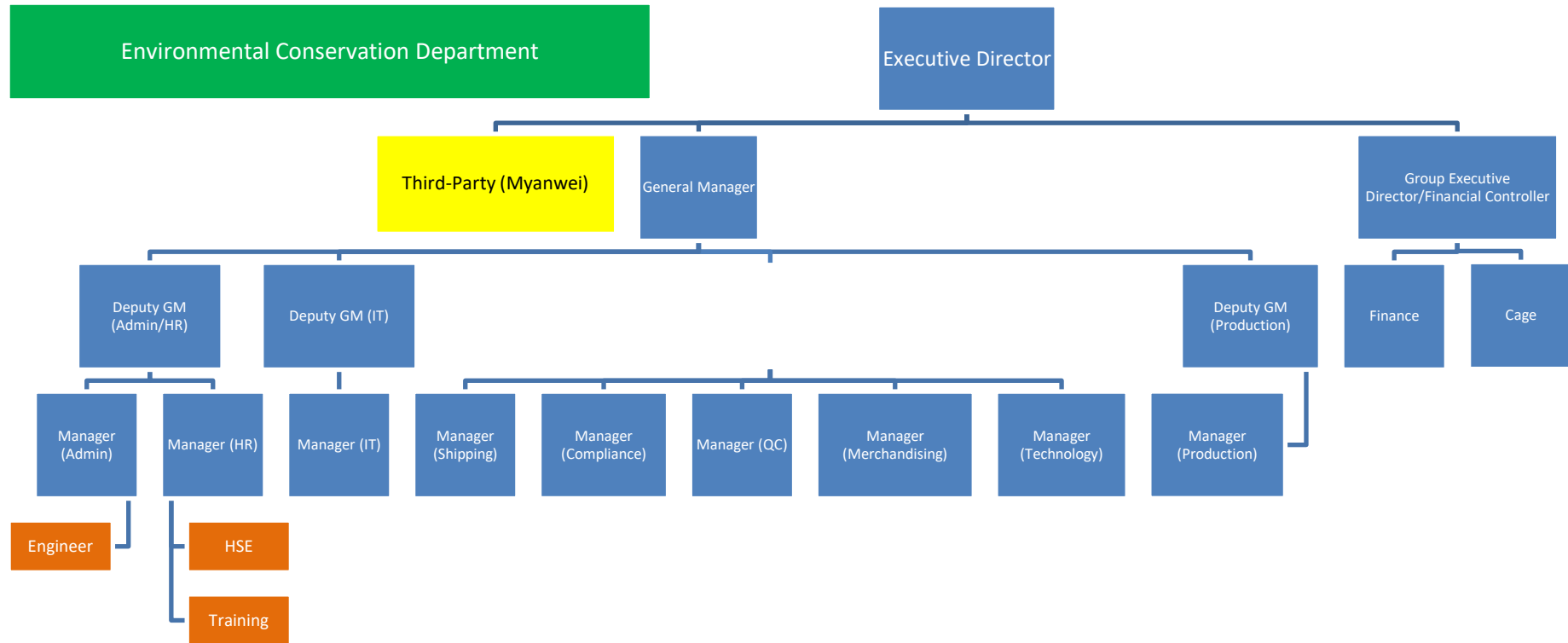


Figure 8-2 Organization Structure of Environmental Management Plan

**8.3. ENVIRONMENTAL MANAGEMENT PROCESS**

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
<b>Operation Phase</b>						
Air	<ul style="list-style-type: none"> <li>Smoke emission from emergency diesel generator and vehicle movement</li> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> </ul>	<ul style="list-style-type: none"> <li>To control air pollution, the vehicles, generators, and machineries have to check and maintain regularly.</li> <li>The factory uses chimney for generator through which the flue gas is emitted for reducing the impact of stack emission on environment.</li> <li>Ensuring vehicles, compressor and generator are well maintained.</li> <li>Plant and grass plantation programs must be provided at project site</li> </ul>	HSE manager	Regular check	Monthly	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited
Noise Generation	<ul style="list-style-type: none"> <li>Operation of machineries and equipment</li> <li>Emergency Use of Generator</li> </ul>	<ul style="list-style-type: none"> <li>Ensure all the machineries are well maintained to reduce noise</li> <li>Monitor the ambient and work zone noise level to conform the stipulated norms</li> <li>Emergency use of diesel generator must be ensured by soundproof</li> <li>Noise level monitoring programs must be designed and conducted</li> </ul>	HSE manager	Regular check	Monthly	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
		by trained specialists at production area				
Fire	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>Waste disposed area raw materials and fuel storage area</li> </ul>	<ul style="list-style-type: none"> <li>To provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases.</li> <li>Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire fighting.</li> <li>The emergency fire alarms are installed at the factory for alerting the workers in case of fire.</li> <li>The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.</li> </ul>	HSE manager Operation Manager	Regular Check	Monthly	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited
Occupational Safety	<ul style="list-style-type: none"> <li>Accidental cases cause by operating machines.</li> </ul>	<ul style="list-style-type: none"> <li>First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers.</li> <li>According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and</li> </ul>	HSE manager	Regular Check	Monthly	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
		reducing optical problems of the workers. <ul style="list-style-type: none"> <li>Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department.</li> <li>To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.</li> </ul>				
Health	<ul style="list-style-type: none"> <li>Influx of people</li> <li>Noise from the generating of the emergency generators</li> </ul>	<ul style="list-style-type: none"> <li>Manage the drainage systems of the factory to prevent health risk of the workers.</li> <li>The maximum allowable noise level for workers is 90dB(A) for 8-hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas</li> </ul>	HSE manager	Arrangement for requirements, restriction and regular check awareness program	Biannually	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited
Solid Waste	<ul style="list-style-type: none"> <li>Fabric scraps from Cutting section</li> <li>Waste from packaging materials</li> <li>Domestic Waste from office.</li> </ul>	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types and stored</li> </ul>	Operation Manager	Regular Check	Weekly	Environmental Management Team of Ming Da Polyester Wadding (Myanmar)

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
		in relevant separated waste storage area • Final wastes should be disposed by using YCDC's service.				Company Limited
Liquid Waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office.</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and cleaning the wastewater treatment tank, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.</li> </ul>	HSE Manager Operation Manager	Regular check	Biannually	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited
Hazardous Waste	<ul style="list-style-type: none"> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	<ul style="list-style-type: none"> <li>Proper inspection and maintenance in storage of hazardous waste.</li> <li>Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements.</li> <li>The empty chemical containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are disposed by connecting with DOWA or YCDC's service.</li> </ul>	HSE Manager Operation Manager	Restrictions and regular check	Daily	Environmental Management Team of Ming Da Polyester Wadding (Myanmar) Company Limited
Water consumption	<ul style="list-style-type: none"> <li>Domestic use in toilet</li> </ul>	<ul style="list-style-type: none"> <li>Install water meter for internal control of water consumption</li> <li>All staff must be trained and made aware conservation</li> </ul>	Operation Manager	Regular Check	Daily	Environmental Management Team of Ming

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
		practices and proper methods of water use must be placed in the toilets and other areas of water consumption				Da Polyester Wadding (Myanmar) Company Limited
<b>Decommissioning Phase</b>						
Air	<ul style="list-style-type: none"> <li>Dust and particulate matters from decommissioning of construction materials</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation measures</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited
Water	<ul style="list-style-type: none"> <li>No impact on surface water and ground water</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited
Soil	<ul style="list-style-type: none"> <li>No impact on soil at the decommissioning phase</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited



Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
Noise and Vibration	<ul style="list-style-type: none"> <li>No noise and vibration at the decommissioning phase</li> </ul>	<ul style="list-style-type: none"> <li>No Mitigation Measure</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited
Occupational Safety	<ul style="list-style-type: none"> <li>Accidental cases can cause by decommissioning activities</li> </ul>	<ul style="list-style-type: none"> <li>Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited
Solid Waste	<ul style="list-style-type: none"> <li>Demolished debris such as bricks, concrete materials</li> </ul>	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types disposed by connecting with YCDC's service.</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited
Liquid Waste	<ul style="list-style-type: none"> <li>Residual septic system and sewage.</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation measures</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited

Categories	Potential Impact	Mitigation and Enhancement		Inspection		
		Measures	Responsible person	Type	Frequency	Supervision team
Hazardous Waste	<ul style="list-style-type: none"> <li>Residual empty fuel container and oil from operation</li> </ul>	<ul style="list-style-type: none"> <li>The empty chemical containers will hand over to suppliers for recycle or appropriate disposal</li> <li>The hazardous wastes are transported by specially licensed carriers and disposed by connecting with DOWA or YCDC's service.</li> </ul>	Demolish company	Checking after project decommissioning	One time per month after project decommissioning	Ming Da Polyester Wadding (Myanmar) Company Limited

## 8.4. ENVIRONMENTAL MANAGEMENT PLAN

The EMP for Ming Da Polyester Wadding (Myanmar) Company Limited., has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by for polyester production are as follows;

### 8.4.1. Air Pollution/Dust Management Plan

Objectives:	<ul style="list-style-type: none"> <li>To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement.</li> <li>To comply with relevant government rules</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Nil complaints relating to air quality management</li> <li>Extraction equipment maintained as per maintenance schedule</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>National Environmental Quality (Emission) Guidelines (2015)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>The factory has planted trees in its premises which reduce the carbon emission by the factory and minimize the air pollution</li> <li>Periodic maintenance of generator is conducted</li> <li>There is no open burning of waste materials at the site</li> <li>Workers are provided mask during working in any dusty area</li> </ul>
Monitoring & Reporting	<ul style="list-style-type: none"> <li>Monitor the stack air emission quality biannually</li> <li>Biannually monitor the ambient air quality including PM<sub>2.5</sub>, PM<sub>10</sub></li> </ul>
Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 1,600,000 kyats (annually)
Responsibility	<p>Management of the factory;</p> <ul style="list-style-type: none"> <li>Head of maintenance-Total implementation of above of air pollution management plan</li> <li>Production manager-Air quality in the production area is good enough</li> <li>Manager -To hire organization/independent third-party testing air quality</li> <li>EHS officer-Monitor the hygiene of ambient air quality in surrounding of the factory</li> </ul>

### 8.4.2. Noise Management Plan

Objectives:	<ul style="list-style-type: none"> <li>To avoid nuisance noise to nearby residents generated from generator and other machineries.</li> <li>To comply with noise standard of National Environmental Quality (Emission) Guideline</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance

Relevant government law and rule	<ul style="list-style-type: none"> <li>National Environmental Quality (Emission) Guidelines (2015)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment</li> <li>Impose speed limit to track and vehicles at the transportation route.</li> <li>Provide sufficient personal protective equipment (PPE) at the work place</li> <li>All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.</li> </ul>
Monitoring & Reporting	Monitor the work place noise level (dB) biannually
Time Frame	Throughout the project life
Estimated cost	Approximately 2,400,000 kyats (annually)
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>To hire organization/independent third-party testing noise level</li> <li>Ensure that all workers use PPE during operation</li> </ul>

#### 8.4.3. Solid waste management Plan

Objectives:	<ul style="list-style-type: none"> <li>To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment</li> <li>To comply government waste management policy</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance
Relevant government law and rule	<ul style="list-style-type: none"> <li>National Waste Management Strategy and Master Plan (2018-2030)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>The factory does not dispose any kind of solid waste on the factory premises or not dump in the surface water like local pond, canal or river, etc.</li> <li>The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs, empty chemical container are stored another in separate place of storage area.</li> <li>Recycle wastes like fabric scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste-tracking record shall be kept every day.</li> <li>The metal or glass waste of electric bulb is taken by the suppliers to recycle them.</li> <li>The daily domestic waste of workers hand over to YCDC waste collector to collect every day</li> <li>Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.</li> </ul>
Monitoring & Reporting	<ul style="list-style-type: none"> <li>Daily waste have to be collected and hand over to YCDC waste collector</li> <li>The inventory record of waste disposal will be maintained as proof for proper management as designed</li> </ul>

Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 3,840,000 kyats (annually)
Responsibility	<p>Manager (HR)</p> <ul style="list-style-type: none"> <li>Responsible for overall site cleanliness and waste management</li> <li>Regular waste collection to minimize excessive waste storage</li> </ul>

#### 8.4.4. Wastewater Management Plan

Objectives:	<ul style="list-style-type: none"> <li>Prevent pollution underlying groundwater sources</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Implement an environment friendly sewerage system</li> </ul>
Relevant government law and rule	National Environmental Quality (Emission) Guidelines (2015)
Management Plan	<ul style="list-style-type: none"> <li>Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity</li> <li>Regular check and maintain sewerage facility.</li> <li>Clean the factory's drainage to avoid odor emission and to avoid the block of water flow</li> <li>Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory's final drainage</li> </ul>
Monitoring & Reporting	Proper maintenance of drainage and sewerage system will be conducted periodically
Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 3,840,000 kyats (annually)
Responsibility	<ul style="list-style-type: none"> <li>Manager -To hire organization/independent third-party testing wastewater quality</li> <li>EHS officer-Monitor the condition of factory's drainage and sewerage system</li> </ul>

#### 8.4.5. Energy Management Plan

Objectives:	<ul style="list-style-type: none"> <li>The energy management is aimed at minimizing electricity use results from site equipment and working lighting</li> <li>Comply with the standard of energy use</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Annual energy savings for all department facilities</li> <li>Annual fuel saving for generator and vehicle</li> </ul>
Relevant government law and rule	National Energy Management Committee (Myanmar Energy Master Plan 2015)
Management Plan	<ul style="list-style-type: none"> <li>Installation of timers and thermostats to control heating and cooling</li> <li>Energy saving light installed in different area of the factory for saving energy</li> <li>Used of energy saving devices must be installed</li> <li>Ensure that good housekeeping measures such as turning off equipment and lights when not in use</li> </ul>

Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Time Frame	<ul style="list-style-type: none"> <li>Once in a year throughout the factory life</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 5 million kyats (annually)</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>To arrange energy audit technical personnel</li> <li>To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises</li> </ul>

#### 8.4.6. Water Consumption Management Plan

Objectives:	<ul style="list-style-type: none"> <li>The water consumption management is aimed at minimizing ground water use</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Prohibitions on accessing and using underground water without a license</li> <li>Water consumption saving of general water use from groundwater</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>The Underground Water Act (1930)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Install water meter for internal control of water consumption</li> <li>All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption</li> <li>The contamination of water is avoided by suitable management of oil and fuel used in machineries and vehicles</li> <li>Trees plantation surrounding the factory</li> </ul>
Monitoring & Reporting	<ul style="list-style-type: none"> <li>Daily visual inspections</li> </ul>
Time Frame	<ul style="list-style-type: none"> <li>Once in a year throughout the factory life</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 5 million kyats (annually)</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>Arrange audit on water usage controls environmental officer</li> </ul>

#### 8.4.7. Emergency Response and Disaster management Plan

Objectives:	<ul style="list-style-type: none"> <li>Reduce the risk of accidents at the factory area</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Establish a safe working environment</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labour Law (2017)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm</li> <li>Provision and inspection of firefighting equipment and fire hydrant system in all the sections</li> <li>A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers</li> </ul>

	<ul style="list-style-type: none"> <li>• Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.</li> <li>• Regular fire drill operation is conducted</li> <li>• Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training</li> <li>• Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals.</li> <li>• A medical team has been prepared for primary treatment (First Aid)</li> <li>• Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy.</li> <li>• Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management</li> <li>• Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety</li> </ul>
Monitoring & Reporting	<ul style="list-style-type: none"> <li>• Weekly check fire extinguishers and water hydrant in position</li> <li>• Daily inspect that all fire exist are open</li> <li>• Servicing fire extinguisher and records accidents,</li> </ul>
Time Frame	<ul style="list-style-type: none"> <li>• Entire life spans of the factory operation</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>• Approximately 25 million kyats (annually)</li> </ul>
Responsibility	<p>Manager and EHS officer</p> <ul style="list-style-type: none"> <li>• Arrange firefighting training after every 3 months</li> <li>• Responsible for fire control and response</li> <li>• Monitoring daily danger warning and bans</li> </ul>

## 8.5. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The EMoP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMoP. Table 8-1 and Table 8-2 is provided the environmental monitoring schedule for Ming Da Polyester Wadding (Myanmar) Company Limited. The factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP,

**Table 8-1 Environmental Monitoring Schedule During Operation Phase**

Issues	Parameter	Frequency	Estimated Cost (Kyats)	Area to be monitored	Responsible Person/Organization
Air quality	PM2.5, PM10	Once per 6 months	1,600,000/year	Point in the factory	(HSE Officer) Ming Da Polyester Wadding (Myanmar) Company Limited
Noise Quality	Noise level in decibel (dBA)	Once per 6 months	2,400,000/year	Point in the factory	(HSE Officer)

Issues	Parameter	Frequency	Estimated Cost (Kyats)	Area to be monitored	Responsible Person/Organization
					Ming Da Polyester Wadding (Myanmar) Company Limited
Light intensity	Illuminance	Monthly	600,000/year	Operation areas and QC areas	(HSE Officer) Ming Da Polyester Wadding (Myanmar) Company Limited
Waste Generation	Solid waste, Liquid waste and Hazardous waste	Weekly	3,840,000/year (15,000/track load)	Disposal area in the factory compound	(Operation Manager) Environmental Management Team Ming Da Polyester Wadding (Myanmar) Company Limited
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	600,000/year	At the factory	(Operation Manager, HR Manager and HSE Officer) Ming Da Polyester Wadding (Myanmar) Company Limited

**Table 8-2 Environmental Monitoring Schedule During Decommissioning Phase**

Issues	Parameter	Frequency	Estimated Cost (Kyats)	Area to be monitored	Responsible Person/Organization
Air quality	PM2.5, PM10	One time during this phase	800,000	A suitable point of project site	Ming Da Polyester Wadding (Myanmar) Company Limited
Noise	Noise level in decibel (dBA)	One time during this phase	200,000	A suitable point of project site	Ming Da Polyester Wadding (Myanmar) Company Limited
Rehabilitation	Recovering and Revegetation	One time during this phase	200,000	All decommissioning area	Ming Da Polyester Wadding (Myanmar) Company Limited

## 8.6. BUDGET PLAN FOR ENVIRONMENTAL MANAGEMENT AND MONITORING

This section describes the budget plans for the environmental management and environmental monitoring by the project proponent. On the other hand, Ming Da Polyester Wadding (Myanmar) Company Limited will take necessary environmental mitigation measures and its expenses for the environmental management not only at the construction and operation phases but also at the closing phase in accordance with their responsibility for the studies of recommendation.

The following table shows the expenditures for the implementation of Environmental Management Plan for operation phase annually. Estimation cost for EMP implementation is presented in Table 8-3.



**Table 8-3 Cost Estimation for EMP Implementation**

No	Item	Frequency/Times	Cost (MMK)
<b>Mitigation Plan</b>			
1	Maintenance of air ventilation system	Once per year	1,200,000 per year
2	Grass plantation within the area of factory compound	Once per three months	200,000 per three months
3	Solid waste disposal	Weekly	320,000 per month
4	Purchase of Personal Protective Equipment (PPE)	Once per half a year	200,000 per month
5	Medical Check-up and Health Insurances	Once per year	1,000,000 per year
<b>Emergency Preparedness</b>			
1	Fire extinguisher	Once per month	400,000 per month
2	Fire alarm system	Once per month	
3	First Aid Kits	Once per month	
<b>Monitoring Plan</b>			
1	Air Quality	2	1,600,000 per year
2	Noise Level	12	2,400,000/year
3	Environmental Compliance Auditing	1	600,000 lumpsum

## 8.7. CAPACITY BUILDING AND TRAINING PLAN

The emergency preparedness is vital, as quick and correct response is necessary in case of emergency to reduce injuries, harm and other damage. Care should be given for during processing activities in order to prevent synthetic errors and accidental cases (e.g., electricity shock and fire hazards).

The emergency response plans should be established for handling all foreseeable emergencies in the workplace and must provide the following;

### 8.7.1. Assignment of Responsibilities

All senior staff such as a line/production manager or safety officer should be assigned to lead the emergency response team and charged with the duties of (1) assessing the emergency and taking necessary actions (2) overseeing the implementation of the emergency response plan (3) organizing regular drill (4) ensuring all emergency equipment is well maintained.

### 8.7.2. Emergency Procedures

Emergency procedures are operating instructions for employees to follow in emergency case

About work safety in the concerned processing, the management team should

- a) Identify and list out all possible emergency situations in the workplace
- b) Assess the effects and impacts of the emergency situations
- c) Establish emergency response plans
- d) Provide and maintain emergency equipment and other necessary resources
- e) Ensure that staff are familiarized with the arrangements in case of emergencies by providing procedural instructions and employee training and organizing drills

### Training for Emergencies

The type, amount and frequency of training varies, depending upon the task's employees are expected to perform. Although training must be provided to employees at least annually, safety meetings and drills should be conducted at more frequent intervals.

Regardless of the specific type of facility, training should include, though not be limited to the following;

- ✚ Hazard recognition and prevention (fire, explosion, etc.)
- ✚ Proper use of fire extinguishers
- ✚ Emergency reporting procedures
- ✚ Preventive maintenance
- ✚ Hazardous materials spill response
- ✚ First Aid

#### 8.7.3. Fire Prevention and Protection

The fire prevention and protection program must address the following topics:

**Prevention;** policies, practices and procedures designed to keep the conditions necessary for a fire from coming together

- Hot work permits
- Lockout/tag out policies
- Design specifications for storage of flammable materials

**Severity reduction;** policies, practices and procedures designed to reduce the spread of fire and end the fire.

- Emergency plans
- Alarm systems
- Portable fire extinguishers
- Fire Protection Equipment

**Cleanup;** policies, practices and procedures designed to return the affected area to an operational level and reduce other losses created by improper cleanup

- First aid
- Removal of debris to an appropriate waste site
- Equipment and facility repair

#### 8.7.4. Fire Protection Equipment

1. Explosion Suppression Systems: Explosion suppression systems should be used in unusually hazardous areas such as elevator legs, boots and head, or in areas such as bins, distributors and tanks.
2. Portable Fire Extinguishers: All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are expected to use portable extinguishers or other firefighting equipment against incipient fires, they must be trained to use the equipment. Training must include the following:
  - Correct type of extinguisher to use on different classes of fire
  - Proper techniques for use of the equipment to extinguish a fire

3. Standpipes and Hoses: All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.
4. Automatic Sprinkler Systems: Automatic sprinkler systems are recommended in areas containing combustible materials.
5. Fire Hydrants: All grain and feed mill facilities should have adequate public or private fire hydrants on site. Each fire hydrant should have an adequate water supply.

#### 8.7.5. Fire Safety and Evacuation Plan

Fire Evacuation plans should include the following information

- Emergency escape routes must be clearly shown on floor plans and workplace maps
  - Employers must know that their employees know the emergency escape routes
  - Procedures for employees who must remain to operate critical equipment before evacuating
  - Identification and assignment of personnel responsible for rescue or emergency medical aid
- Fire Safety Plans should include the following information:

1. Procedure for reporting a fire or other emergency
2. Site plans indicating the following
  - The Occupancy assembly point
  - The locations of fire hydrants
  - The normal routes of fire department vehicles access
3. Floor Plans identifying the locations of the following
  - Exits
  - Primary evacuation routes
  - Secondary evacuation routes
  - Accessible egress routes
  - Areas of refuge
  - Exterior area for assisted rescue
  - Manual fire alarm boxes
  - Portable fire extinguishers
  - Occupant-use hose stations
  - Fire alarm annunciators and controls

The following American National Fire Fighting Association (NFFA) Standards must be following.

**Table 8-4 American National Fire Fighting Association (NFFA) Standards**

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14 bars	
2	Deluging rate	12.0 liters/m <sup>2</sup> /min	
3	Foam rate	10.0 liters/m <sup>2</sup> /min	
4	Maximum water pressure	190 liters/min	For storage area

**Emergency evacuation Drill:** An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency excavation procedures

**Employee Training and Response Procedures:** Employee shall be trained in the fire emergency procedure described in their fire evacuation and fire safety plans and training should be based on these plans;

**Frequency:** Employee shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.

**Employee Training Program:** Employee shall be trained in fire prevention, evacuation and fire safety in accordance with the following sections.

*Fire Prevention Training* - Employee shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties

*Evacuation Training* – Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas and procedures for evacuation

*Fire Safety Training* – Employee assigned fire-fighting duties shall be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

#### 8.7.6. Site Fire Control

1. Alert other people through fire alarm
2. If small, control using an extinguisher
3. Contact fire brigade if not under immediate control
4. Attend to human life in immediate danger
5. For electrical fires turn off power before fighting
6. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While evacuating the building, close doors (but do not lock) to slow down the spread of fire
7. Obey all instructions
8. Proceed to an emergency evacuation area (Muster Point)

#### 8.7.7. Employee Information and Training

Employees must be informed about any operations in their work area where hazardous chemicals or materials are present. They must also be informed about the locations and availability of the hazard communication program, list of chemicals and SDSs. Employees must receive training on the following:

- Methods for detecting the presence or release of a hazardous chemical, such as monitoring devices and the visual
- appearance or odor of the chemical
- Physical and health hazards of chemicals in their work area
- How to protect themselves using work practices, emergency procedures and personal protective equipment
- How to interpret the information on the labels and MSDS.

### 8.7.8. Health and Safety Training Plan for Worker

Health and Safety Training plan currently used and provided in Ming Da Polyester Wadding (Myanmar) Company Limited to all employees and workers by trainings internally and externally. Specific trainings are recommended and conducted according to the health and safety guidelines to enhance worker's health and to prevent all potential risks and hazards might occur in the factory. All required trainings related to health and the respective departments propose safety or operational parts, top management makes decision and HR organizes and conducts the trainings.

**Table 8-5 Training Plan Used in Ming Da Polyester Wadding (Myanmar) Company Limited**

No.	Health and Safety Guidelines	Training needs
1.	Management	General fire and emergency response plan, evacuation. All training materials and procedures covering health and safety for workers and employees
2.	Machine safety and noise management	Training for machine operations to all operators Use of PPE and proper use of any necessary protection Maintenance and Emergency procedures
3.	Environment safety	Understanding and training on recognition and maintenance not to affect environment
4.	Material storage and safety	Safety use of related devices and machines Use of necessary protections in working areas Sanitation work
5.	Fire Safety	Firefighting and evacuating training and practices Firefighting materials/ devices use
6.	First Aid	first aid / CPR/ AED training from providers (Outsource) training on hazard of pathogens

### 8.8. GRIEVANCE REDRESS MECHANISM (GRM)

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain through Grievance Committee, which includes the responsible persons of Ming Da Polyester Wadding (Myanmar) Company Limited representative from Hlaing Thar Yar Township and General Administration Department of Hlaing Thar Yar Township. Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram (Figure 8-3) show steps of Grievance Redress Mechanism of Proposed Factory Project.

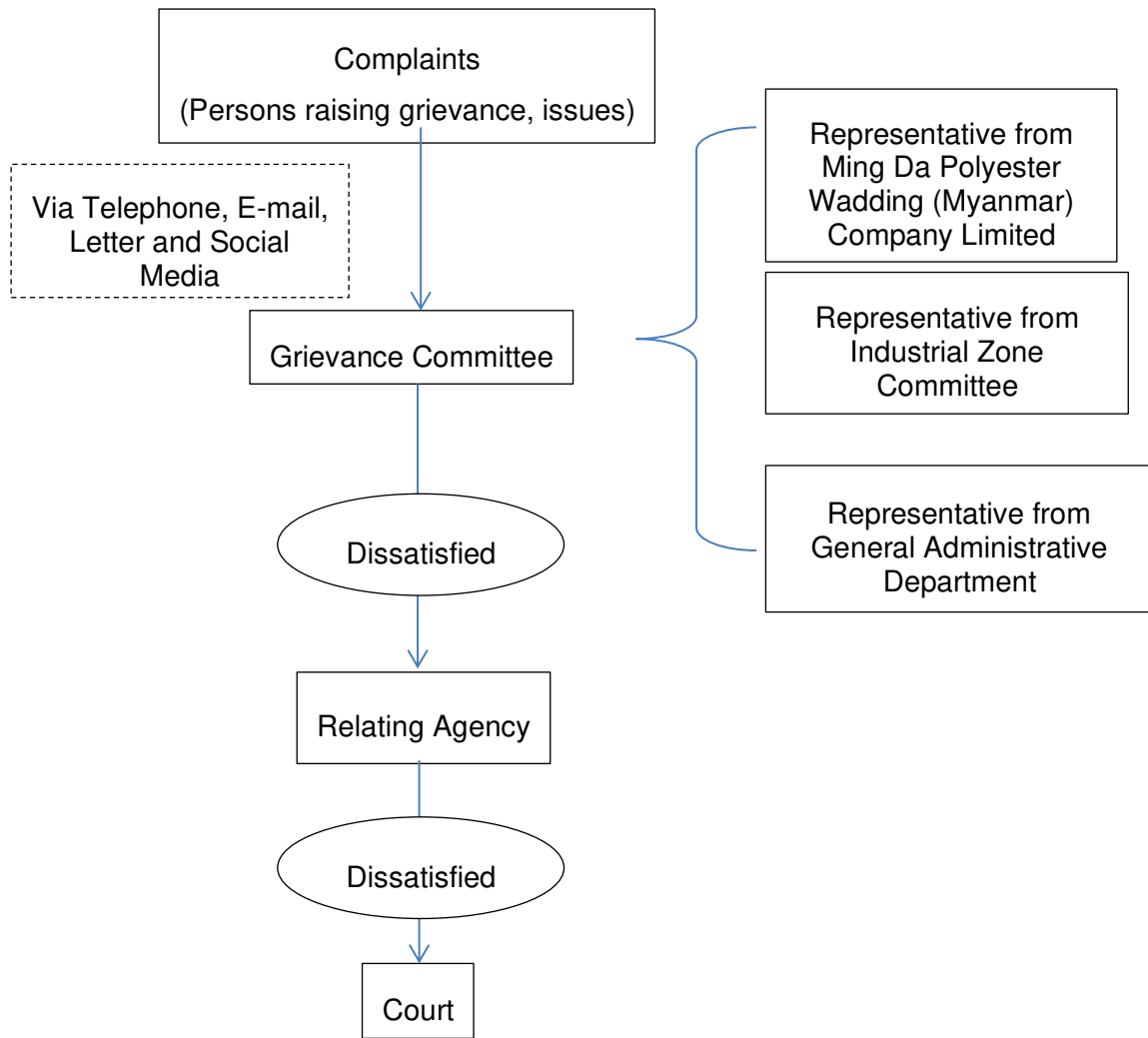


Figure 8-3 Grievance Redress Mechanism Flow Diagram

### 8.9. CORPORATE SOCIAL RESPONSIBILITY (CSR) PLAN

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program for Ming Da Polyester Wadding (Myanmar) Company Limited consists of three main sectors; Health, Education and Community Development Sector. CSR activities are conducted in compliance with MIC’s guideline for implementation of CSR program.

Ming Da Polyester Wadding (Myanmar) Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified, language training on weekends with experienced teachers and providing necessary healthcare such as medical checkups and giving proper medical knowledge about deceases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory show in below.

Table 8-6 CSR Plan at Ming Da Polyester Wadding (Myanmar) Company Limited

Area	Priority item	Contribution (%)	Estimated Cost	Detail Targets

Health	Healthcare for employees and their family	0.5 %	3,000,000 Kyats	0.5% for basic health care of the employees by opening medical clinics within the factory compound, perfection of medical equipment in clinic, preparing the medicines land first aid treatment for emergency healthcare program and providing allowances when any of the employee families suffer from illness.
Education	Raising awareness education level and human right	0.5%	2,500,000 Kyats	0.5% for supporting scholarship to education of employees from workshop, institution for school age children of the employees, to grant stipend for continuing the study of higher education e.g., collage, university, etc.
Community development	Providing training course and creating recreations	1 %	5,000,000 Kyats	0.5% for increasing knowledge with respect to manufacturing and marketing to improve working skills of the employees for factory, undertaking systematic training course per rank, hierarchy to become skillful workers of higher productivity along with in particular field of works.

## CHAPTER 9 CONCLUSION AND RECOMMENDATION

### 9.1. CONCLUSION

Initial Environmental Examination (IEE) has been prepared for Ming Da Polyester Wadding (Myanmar) Company Limited is located at Plot No. 48, Daw Phwar Shin Street, Hlaing Tharyar Industrial Zone (1), Hlaing Tharyar Township, Yangon Region. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An IEE has been carried out for the factory according to the requirement of the proponent as it has been made for Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment.

Thus, the factory management can take proper mitigation steps against adverse environmental impacts by following this IEE. The necessary measure to mitigate impact regarding different environmental parameter such as air, water, waste, noise, light level has been proposed in this IEE.

However, all necessary implementation measures to mitigate adverse environmental, health and safety impacts have already been taken to meet National Environmental Quality (Emission) Guidelines (2015). On the other, the factory has positive impacts in terms of environmental in the operation phase. Further, this will indirectly help in boosting up the national economic condition through local investment. An outline of IEE has been given in the present report to mitigate/enhance the impacts, which occurs during operation phase of the factory.

The effective implementation of the mitigation measures proposed will ensure towards good environmental management within the proposed project area. Furthermore, the environmental monitoring plan prepared as part of the EMP will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

### 9.2. RECOMMENDATION

#### 9.2.1. Recommended Mitigation Measures for Occupational Health and Safety

- Consider the provision of personal protective equipment only after all measures for removing or controlling safety hazards have been provided reasonably impractical
- Ensure that sufficient personal protective equipment is provided and that they are readily available for every person who may need to use them.
- The management should ensure that all persons make full and proper use of the personal protective equipment provided
- Provide instruction and training in the proper use and care of any specific protective equipment where necessary



- Ensure that the personal protective equipment is in good condition. Report immediately any damage to the management for replacement. Always keep the personal protective equipment as clean as possible.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this IEE report. Once concerned authorities approve IEE, effective implementation of IEE by the project proponent is essential. The Project Proponent shall submit monitoring report to the Ministry every six (6) months, as provided in a schedule in the IEE. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

In case of chemical risks, engineered controls such as PPE (i.e. gloves, goggles, aprons and masks, etc.) have to be provided. Tanks and containers containing hazardous chemicals (e.g. acids and caustic soda) have to be properly marked with warning symbols, e.g. Wear Goggles, Gloves, etc. Furthermore, tanks and containers containing chemicals should remain covered at all times. The use of sealed containers and automatic transportation of chemicals (liquids and salts) is of advantage.

Chemicals should be separated depending on their hazard level to prevent chemical reactions whenever possible. All responsible persons have to be trained in the handling of chemicals.

In case of any risks related to heat stress in hot environments, measures should be defined and implemented in form of adequate clothing, regulated working hours with defined breaks, ventilation of rooms and if possible, air conditioning of rooms.

## APPENDIX A

### MIC Permit of Ming Da Polyester Wadding (Myanmar) Company Limited



THE REPUBLIC OF THE UNION OF MYANMAR  
The Myanmar Investment Commission  
PERMIT



Permit No. 1270/2017

Date 9<sup>th</sup> May 2017

This Permit is issued by the Myanmar Investment Commission according to the section 13, sub-section (b) of the Republic of the Union of Myanmar Foreign Investment Law-

- (a) Name of Investor/Promoter MR. ZHANG, YOUJIAN
- (b) Citizenship CHINESE
- (c) Address LIAO NING SHENG, DA LIAN SHI ZHONG SHAN QU HAI LE JIE  
(17) HAO, PEOPLE'S REPUBLIC OF CHINA
- (d) Name and Address of Principal Organization -
- (e) Place of incorporation -
- (f) Type of investment business MANUFACTURING AND SALES OF  
SPRAYING COLLODION POLYESTER, IMITATION SILK POLYESTER,  
EIDERDOWN POLYESTER, NEEDLE-PUNCHED POLYESTER, VERTICAL  
POLYESTER, NON-WOVEN FABRIC, LINING CLOTH AND QUILTING FOR  
VARIOUS KINDS OF GARMENT
- (g) Place(s) at which investment is permitted PLOT NO. 48, HLAING THAR  
YAR INDUSTRIAL ZONE(1), HLAING THAR YAR TOWNSHIP, YANGON  
REGION
- (h) Amount of Foreign Capital US\$ 1.04 MILLION
- (i) Period for foreign capital brought in WITHIN ONE YEAR FROM THE  
DATE OF ISSUANCE OF MIC PERMIT
- (j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF  
US\$ 1.04 MILLION
- (k) Construction period 18 MONTHS
- (l) Validity of investment permit 20 YEARS
- (m) Form of investment WHOLLY FOREIGN OWNED
- (n) Name of Company incorporated in Myanmar MING DA POLYESTER WADDING (MYANMAR) COMPANY LIMITED

Chairman

The Myanmar Investment Commission

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်  
ခွင့်ပြုမိန့်



ခွင့်ပြုမိန့်အမှတ် ၁၂၇၀/၂၀၁၇

၂၀၁၇ ခုနှစ် မေလ ၉ ရက်

ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေပုဒ်မ ၁၃၊ ပုဒ်မခွဲ(ခ)  
အရ ဤခွင့်ပြုမိန့်ကို မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်က ထုတ်ပေးလိုက်သည် -

- (က) ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူအမည် ----- MR. ZHANG, YOUJIAN
- (ခ) နိုင်ငံသား ----- CHINESE
- (ဂ) နေရပ်လိပ်စာ ----- LIAO NING SHENG, DA LIAN SHI ZHONG SHAN QU HAI LE  
JIE (17) HAO, PEOPLE'S REPUBLIC OF CHINA
- (ဃ) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ -----
- (င) ဖွဲ့စည်းရာအရပ် -----
- (စ) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား ----- အထည်ချုပ်လုပ်ငန်း အမျိုးမျိုးတွင်  
အသုံးပြုရန်အတွက် SPRAYING COLLODION POLYESTER, IMITATION  
SILK POLYESTER, EIDERDOWN POLYESTER, NEEDLE-PUNCHED  
POLYESTER, VERTICAL POLYESTER, NON-WOVEN FABRIC, LINING  
CLOTH AND QUILTING များ ထုတ်လုပ်ခြင်းနှင့် ရောင်းချခြင်းလုပ်ငန်း
- (ဆ) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) ----- မြေကွက်အမှတ်-၄၈ ၊ လှိုင်သာယာ  
စက်မှုဇုန် အပိုင်း(၁)၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး
- (ဇ) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ ----- အမေရိကန်ဒေါ်လာ ၁.၀၄ သန်း
- (ဈ) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ ----- ခွင့်ပြုမိန့်ရရှိသည့်နေ့မှ  
၁ နှစ် အတွင်း
- (ည) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) ----- အမေရိကန်ဒေါ်လာ ၁.၀၄ သန်း နှင့်  
ညီမျှသော မြန်မာကျပ်ငွေ
- (ဋ) တည်ဆောက်မှုကာလ ----- ၁၈ လ
- (ဌ) ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့် သက်တမ်း ----- ၂၀ နှစ်
- (ဍ) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ----- ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
- (ဎ) မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့် -----

MING DA POLYESTER WADDING (MYANMAR) COMPANY LIMITED

*(Handwritten signature)*  
၇/၅/၁၇

ဥက္ကဋ္ဌ  
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်  
*(Handwritten initials)*



免稅證明

Confidential

THE REPUBLIC OF THE UNION OF MYANMAR  
MYANMAR INVESTMENT COMMISSION  
No.(1), Thitsar Road, Yankin Township, Yangon

Tel: 95-1-658128

Our ref: MIC-3/FI-1424/2017(488-I)

Fax: 95-1-658141

Date : 9<sup>th</sup> May 2017

**Subject: Decision of the Myanmar Investment Commission on the Proposal for "Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment" under the name of "Ming Da Polyester Wadding (Myanmar) Company Limited"**

**Reference: Ming Da Polyester Wadding (Myanmar) Company Limited's letter dated 12-12-2016**

1. The Myanmar Investment Commission, at its meeting (6/2017) held on (5-4-2017), had approved that the proposal for investment in "Manufacturing and Sales of Spraying Collodion Polyester, Imitation Silk Polyester, Eiderdown Polyester, Needle-Punched Polyester, Vertical Polyester, Non-Woven Fabric, Lining Cloth and Quilting for Various Kinds of Garment" under the name of "Ming Da Polyester Wadding (Myanmar) Company Limited" submitted by Mr. Zhang, Youjian(70%) and Ms. Zhao Lingzhi (30%) from the People's Republic of China as a wholly foreign owned investment.
2. Hence, the "Permit" is herewith issued in accordance with Chapter VII, section 13(b) of the Foreign Investment Law and Chapter VIII, Rule 49 of the Foreign Investment Rules relating to Foreign Investment Law. Terms and conditions to the "Permit" are stated in the following paragraphs.
3. The permitted duration of the project shall be initial 20 (twenty) years and extendable 10 (ten) years in 2 (two) times commencing from the date of the issuance of Myanmar Investment Commission's permit. The lease term of land and buildings shall be initial 20 (twenty) years commencing from the date of signing of the Lease Agreement between U Ohn Lwin @ U Htay Nyein, U Aung Tint and U Thet Lwin (Lessors) and Ming Da Polyester Wadding (Myanmar) Company Limited (Lessee) and extendable for 10 (ten) years in

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2(two) times with the consent of the Lessor subject to the approval of Myanmar Investment Commission. On the expiry of the lease period, the Lessee shall transfer the leased land and buildings to the lessor within 3(three) months in good condition, ground damages having been refilled and repaired.

4. The annual rent for the land shall be US\$ 21,448.36 (United States Dollar twenty-one thousand and four hundred and forty-eight and thirty-six cent only) calculated at the rate of US\$ 5.3 per square metre per year of the land measuring 4046.86 square metres (1 acres) out of 1.767 acres. The rate of rent shall be revised in view of prevailing land and buildings lease rates after every 5 (five) years period and increase of the rent shall not be more than 10% of the preceding annual rent.

5. In issuing this "Permit", being applied within the time frame of the Notification No.123/2016 (16-11-2016) issued by the Myanmar Investment Commission, the Commission has granted the following exemptions and reliefs as per Chapter XII, section 27(a), (h), and (i) of Foreign Investment Law. Other exemptions and reliefs under section 27 shall have to be applied upon the actual performance of the project:-

(a) As per section 27(a), income tax exemption for a period of five consecutive years including the year of commencement on commercial production;

(b) As per section 27(h), exemption or relief from customs duty or other internal taxes or both on machinery, equipment, instruments, machinery components, spare parts and materials used in the business, which are imported as they are actually required for use during the period of construction of business;

(c) As per section 27(i), exemption or relief from customs duty or other internal taxes or both on raw materials imported for production for the first three-year after the completion of construction of business;

6. Ming Da Polyester Wadding (Myanmar) Company Limited shall have to sign the Lease Agreement for Land and buildings with U Ohn Lwin @ U Htay Nyein,

U Aung Tint and U Thet Lwin. After signing the Agreement, (5) copies shall have to be forwarded to the Commission.

7. Ming Da Polyester Wadding (Myanmar) Company Limited shall use its best efforts for timely realization of work stated in the proposal. If none of such work has been commenced within one year from the date of issue of this "Permit", it shall become null and void.

8. Ming Da Polyester Wadding (Myanmar) Company Limited has to abide by Chapter X, Rules 58 and 59 of the Foreign Investment Rules for construction period.

9. As per Chapter X, Rule 61 of the Foreign Investment Rules, extension of construction period shall not be allowed more than twice except it is due to unavoidable events such as natural disasters, instabilities, riots, strikes, emergency of State condition, insurgency and outbreak of wars.

10. As per Chapter X, Rule 63 of the Foreign Investment Rules, Ming Da Polyester Wadding (Myanmar) Company Limited cannot construct completely in time the construction period or extension period, the Commission will have to withdraw the permit issued to the investor and there is no refund for the expenses of the project.

11. The investor or promoter shall apply the commencement date of commercial operation with Form (11) for their manufacturing business and report to the Commission in accordance with Foreign Investment Rule 97.

12. Ming Da Polyester Wadding (Myanmar) Company Limited shall endeavour to meet the targets for production stated on the proposal as the minimum target.

13. The Commission approves periodical appointments of foreign experts and technicians from abroad as per proposal and also in accordance with Chapter XI, section 24 and section 25 of Foreign Investment Law and Ming Da Polyester Wadding (Myanmar) Company Limited has to follow the existing Labour Laws for the recruitment of staffs and labours and for training accordingly on Chapter XIII, Rule 84 of the Foreign Investment Rules.

14. In order to evaluate foreign capital and for the purpose of its registration in accordance with the provisions under Chapter XV, section 37 of Foreign Investment Law, it is compulsory to report as early as possible in the following manner:-

- (a) the amount of foreign currency brought into Myanmar, attached with the necessary documents issued by the respective bank where the account is opened and defined under Chapter XVI, Rules 134 and 135 of the Foreign Investment Rules;
- (b) the detailed lists of the type and value of foreign capital defined under Chapter I, section 2(i) of the Foreign Investment Law, other than foreign currency.

15. Whenever Ming Da Polyester Wadding (Myanmar) Company Limited brings in foreign capital defined under Chapter I, section 2(i) of the Foreign Investment Law, other than foreign currency in the manner of paragraph 14(b) mentioned above, the Inspection Certificate endorsed and issued by an internationally recognized Inspection Firm with regard to quantity, quality and price of imported materials shall have to be attached.

16. Ming Da Polyester Wadding (Myanmar) Company Limited has the right to make account transfer and expend the foreign currency from his bank account in accordance with Chapter XVI, Rule 136 of the Foreign Investment Rules and for account transfer of local currency generated from the business to the local currency account opened at the bank by a citizen or a citizen-owned business in the Union and right to transfer back the equivalent amount of foreign currency from the foreign currency bank account of a citizen or citizen-owned business by submitting the sufficient document in accordance with Chapter XVII, Rule 145 of the Foreign Investment Rules.

17. Ming Da Polyester Wadding (Myanmar) Company Limited shall report to the Commission for any alteration in the physical and financial plan of the project. Cost overrun, over and above the investment amount pledged in both local and foreign currency shall have to be reported as early as possible.

18. Ming Da Polyester Wadding (Myanmar) Company Limited shall be responsible for the preservation of the environment at and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of Natural Resources and Environmental Conservation in which to conduct Initial Environmental Examination (IEE) and Environmental

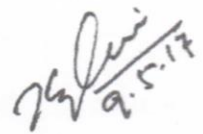
Management Plan (EMP) which describe the measure to be taken for preventing, mitigation and monitoring significant environmental impacts resulting from the implementation and operation of proposed project or business or activity. It shall have to prepare, submit and perform activities in accordance with IEE and EMP and also to abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures.

19. After getting permit from Myanmar Investment Commission, Ming Da Polyester Wadding (Myanmar) Company Limited shall have to be registered at the Directorate of Industrial Supervision and Inspection.

20. Ming Da Polyester Wadding (Myanmar) Company Limited shall have to abide by the Fire Services Department's rules, regulations, directives and instructions. Moreover, fire prevention measures shall have to be undertaken such as water storage tank, fire hooks, sand bags, fire extinguishers and provide training to use the fire fighting equipment and also to be appointed the fire safety officer.

21. Payment of principal and interest of the loan (if any) as well as payment for import of raw materials and spare parts etc., shall only be made out of local sales of Ming Da Polyester Wadding (Myanmar) Company Limited.

22. Ming Da Polyester Wadding (Myanmar) Company Limited in consultation with Myanma Insurance shall effect such types of insurance defined under Chapter XII, Rules 79 and 80 of Foreign Investment Rules.



( Kyaw Win )  
Chairman

၂၀၁၅ ခု ဇူလိုင်လ ၁၅ ရက်

**Ming Da Polyester Wadding (Myanmar) Company Limited**

- cc: 1. Office of the Government of the Republic of the Union of Myanmar  
2. Ministry of Home Affairs  
3. Ministry of Natural Resources and Environmental Conservation  
4. Ministry of Labour, Immigration and Population  
5. Ministry of Industry  
6. Ministry of Commerce



7. Ministry of Planning and Finance
8. Office of the Yangon Region Government
9. Director General, Department of Environmental Conservation
10. Director General, Directorate of Labour
11. Director General, Department of Immigration
12. Director General, Directorate of Industrial Supervision and Inspection
13. Director General, Department of Trade
14. Director General, Directorate of Investment and Company Administration
15. Director General, National Archives Department
16. Director General, Customs Department
17. Director General, Internal Revenue Department

## APPENDIX B Monitoring Result

### Air Quality Monitoring Result



Plot No. (36, 38), Room No. 9A, 9<sup>th</sup> floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	Ming Da Polyester Wadding (Myanmar) Company Limited
Project Location:	Plot No. 48, Hlaing Thar Yar Industrial Zone(1), Hlaing Thar Yar Township, Yangon Region
Sampling Date:	9, November 2018
Sampling Time:	11:30 am to 5:00 pm
Sampling Condition:	Good
Sampling By:	Environmental Team Represented By Myanwei Consulting Group Company Limited

Instrument	Type	Sampling Rate	Location
HCHO HP-5800D	PM Detector	0-999.9 (µg/M <sup>3</sup> )	16°50'43.18"N 96° 4'43.82"E

#### National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10 <sup>a</sup>	1-year	20	(µg/M <sup>3</sup> )
	24-hour	50	
PM 2.5 <sup>b</sup>	1-year	10	(µg/M <sup>3</sup> )
	24-hour	25	

a. Particulate matter 10 micrometer or less in diameter  
b. Particulate matter 2.5 micrometer or less in diameter

#### Monitoring Result

Parameters	Observed value	Guideline value	Unit	Organization	Period
PM <sub>10</sub>	15.5	50	µg/m <sup>3</sup>	NEQG	8 hrs
PM <sub>2.5</sub>	6.98	25	µg/m <sup>3</sup>	NEQG	8 hrs

  
**Lin Htet Sein**  
 Environmental Consultant  
 Myanwei Consulting Co., Ltd.

# Noise Result



Plot No. (36, 38), Room No. 9A, 9<sup>th</sup> floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	Ming Da Polyester Wadding(Myanmar) Company Limited
Project Location:	Plot No.48, Hlaing Tharyar Industrial Zone(1), Hlaing Thar yar Township, Yangon region.
Sampling Date:	9 November, 2018
Sampling Time:	8:00 Am To 4:00 pm
Sampling Condition:	Good
Sampling By:	Environmental Team Represented By Myanwei Consulting Group Company Limited

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	16°50'33.1"N 96° 4'52.8"E

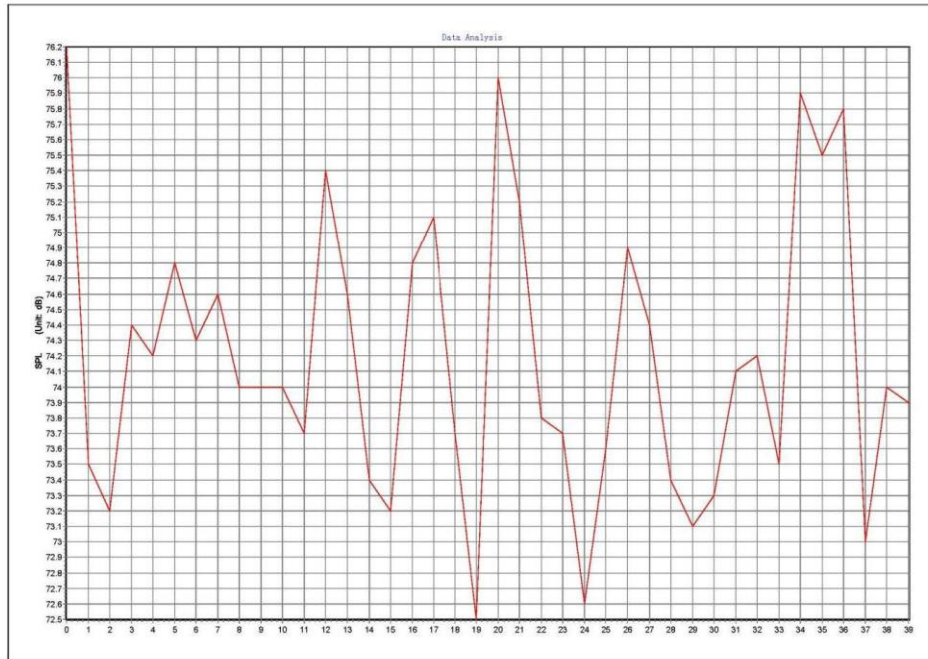
No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	74.8	70 dBA	Slightly Above

### National Environmental Quality (Emission) Guideline

Receptor	One Hour Laeq (dBA)	Guideline value
	Daytime	Nighttime
	7:00 – 22:00 (10:00 – 22:00 for Public holidays)	22:00 – 07:00 (22:00 – 10:00 for Public holidays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

  
Lin Htet Sein  
Environmental Consultant  
Myanwei Consulting Co., Ltd.

## Monitoring Graph



## APPENDIX C Public Consultation Meeting

### Attendance List

#### တွေ့ဆုံဆွေးနွေးပွဲ အခမ်းအနားသို့ တက်ရောက်သူများစာရင်း

နေ့စွဲ - ၃၀ ရက်၊ ဇူလိုင်လ၊ ၂၀၁၉ ခုနှစ်

စဉ်	အမည်	ရာထူး	ဌာန / အဖွဲ့အစည်း	ဆက်သွယ်ရန်	လက်မှတ်
၁	ဒေါ်စိုစို	ဦးကြီး၊ တက်ဇာ၊ ဗဟို	စက်မှုကြီးကြပ်ရေး	၀၇-၇၈၆၅၇၆၆၃၄	
၂	ဒေါ်အေးအေး	ဒေါ်အေးအေး	ECO, Ygon	၀၇-၇၆၄၅၅၅၅၅၅၅	
၃	ဒေါ်အေးအေး	ဒေါ်အေးအေး	ECO, Ygon	၀၇-၇၇၇၇၇၇၇၇၇	
၄	ဒေါ်အေးအေး	ဒေါ်အေးအေး	Y.C.C. P.C.C	၀၇-၅၀၉၈၃၇၄	
၅	ဒေါ်အေးအေး	ဒေါ်အေးအေး	Y.C.C. P.C.C	၀၇-၅၀၉၈၃၇၄	
၆	ဒေါ်အေးအေး	HR	Charms Company	၀၇-၅၀၉၈၃၇၄	
၇	ဒေါ်အေးအေး	Trn	"	၀၇-၇၆၄၅၅၅၅၅၅	
၈	ဒေါ်အေးအေး	HR & Adm Manager	Kameaine Mfgy Manuv	၀၇-၂၅၀၀၄၄၆၆၇	