



**The Republic of the Union of Myanmar**  
**Ministry of Natural Resources and**  
**Environmental Conservation**



**Mineral Resources and Investment**  
**Opportunities in Kayin State**



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**EXPLORATION, MONREC**

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# INTRODUCTION

<b>Area</b>	:	<b>678528 sq.km</b>
<b>Coast Line</b>	:	<b>2100 km</b>
<b>NS Extend</b>	:	<b>2200 km</b>
<b>EW Extend</b>	:	<b>950 km</b>
<b>Population</b>	:	<b>60 millions(appx.)</b>
<b>Region</b>	:	<b>7</b>
<b>State:</b>	:	<b>7</b>
<b>Location</b>	:	<b>10° N to 28° 30'N 92°30'E to 101° 30'E</b>

## **INTRODUCTION**

- **Myanmar is endowed with resources of arable land, natural gas, mineral deposits, fisheries, forestry and manpower.**
- **Myanmar has adopted the market oriented economic system in 1988.**
- **New legal instruments encouraging the private sector participation.**
- **Allowing foreign direct investment.**
- **Initiating institutional changes and promoting external trade by streamlining export and import procedures.**

# Ministry of Natural Resources and Environmental Conservation

- **The Ministry of Natural Resources and Environmental Conservation (MONREC) is the government authority responsible for implementation of the policy, legislation and enforcement of law, rules and regulations in the mining sector.**
- **It is the policy of MONREC is not to make new investment on its own, but to encourage foreign and local investors to invest in the mining sector.**
  - ❖ The Mining Sector
  - ❖ The Forest Sector
  - ❖ The Environmental Sector

# **Objectives of Ministry of Natural Resources and Environmental Conservation( Mining Sector)**

- 1. To implement the Mineral Resources Policy of the Government**
- 2. To fulfill the domestic requirements and to increase export by producing more mineral products**
- 3. To promote development of local and foreign investment in respect of mineral resources.**
- 4. To supervise, scrutinize and approve applications submitted by person or organization desirous of conducting mineral prospecting, exploration or production.**
- 5. To carry out for the devotement of conservation, utilization and research works of minerals resources.**
- 6. To protect the environmental conservation works that may have detrimental effects due to mining operation.**

# Current Mineral Policy

- Foreign & Local Investors are invited to invest in mineral sector of Myanmar with their **advanced technology & reliable investment amount.**
- Any kind of **raw ores are not allowed to export.**
- Private entrepreneurs are permitted **to sell** their mineral products freely in the **local market** and may also **export them after mineral processing.**
- **Encouraging to set up mineral processing and refining plants in Myanmar in partnership with local and foreign investors.**
- Inviting **to produce coal** and build coal power plants but only for **domestic use, not allowed to export.**
- **Gemstone Mining are not allowed** to Foreign investors but can invest in Jewellery Making Industry or value added processing.
- Foreign investors can buy Jade and Gems in **Emporium** and also can be **exported.**



# Ministry of Natural Resources and Environmental Conservation

**Union Minister**

**permanent Secretary**

**Permanent Secretary**

**Forestry**

**No.(1)  
Mining  
Enterprise**

**No.(2)  
Mining  
Enterprise**

**Myanmar  
Gems  
Enterprise**

**Myanmar  
Pearl  
Enterprise**

**Department of Geological  
Survey & Mineral  
Exploration**

**Department  
of  
Mines**

*Lead Coal  
Zinc Lime stone  
Silver Industrial  
Copper Minerals  
Iron Manganese  
Nickel Decorative  
Chromite stone  
Antimony*

*Gold  
Tin  
Tungsten  
Rare Earth  
Titanium  
Platinum*

*Gems,  
Jade  
&  
Jewelry*

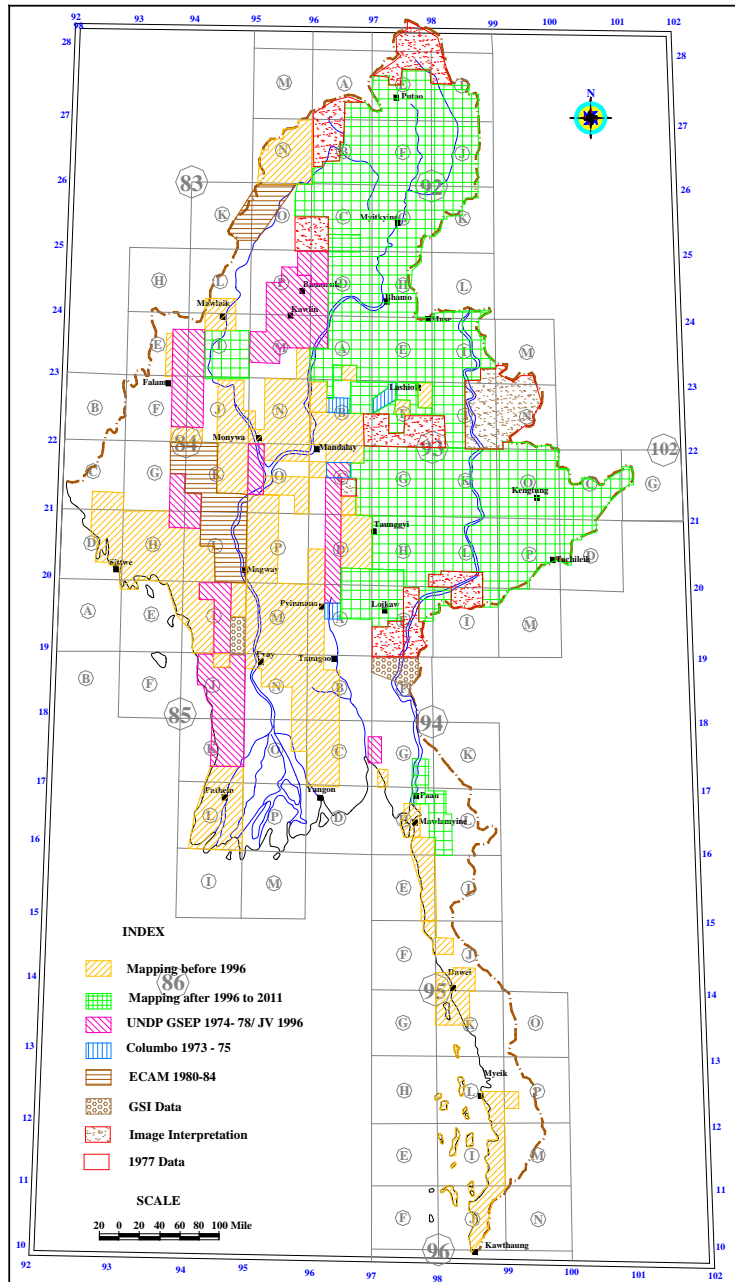
*Pearl  
Breeding  
Cultivating*

*Geological  
Survey  
Mineral  
Exploration  
Laboratory*

*Mineral  
Policy  
formulation,  
Regulation  
measures  
Royalty  
Collection  
Environmental*

# MAPPED COMPLETED

## REALIBILITY INDEX MAP



# MAIN FUNCTIONS OF DGSE

DGSE is responsible for country wide geological mapping , mineral prospecting, exploration and joint venture with foreign companies in mineral exploration and feasibility study.

## STATUS OF GEOLOGICAL MAPPING

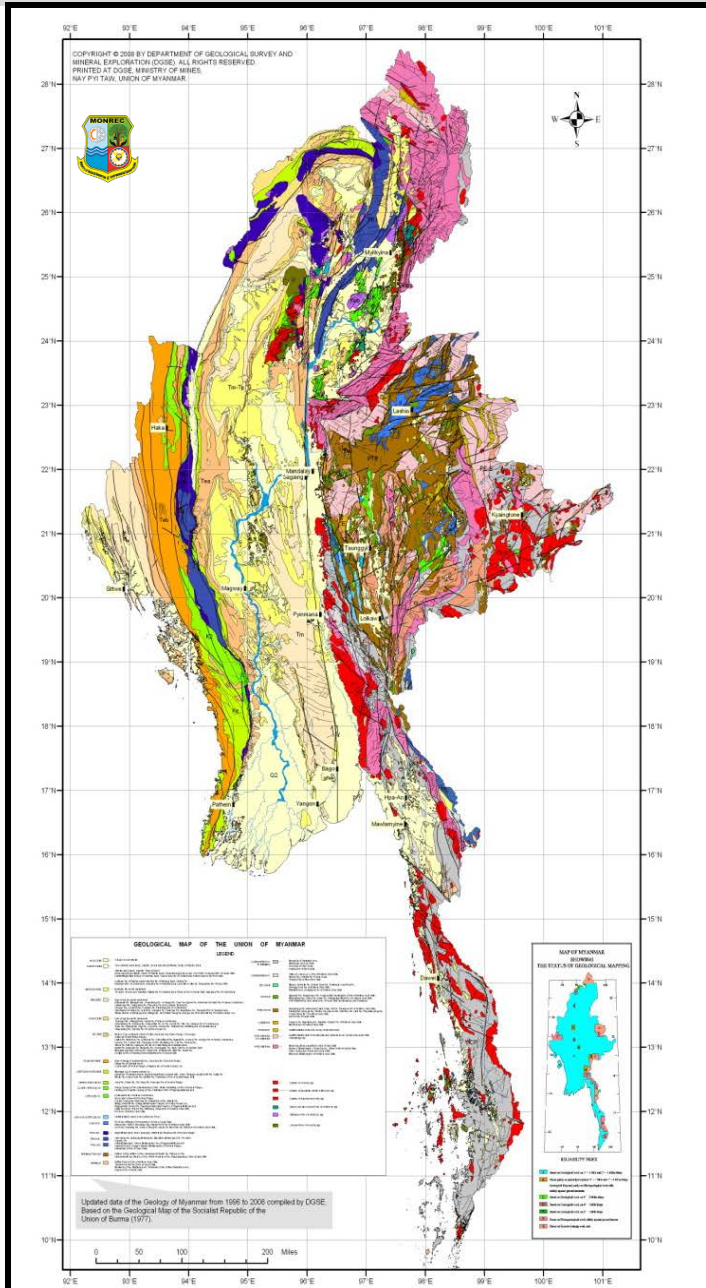
Area extent of Myanmar – 261227 sq miles

**Geological mapping area(on ground) ~70%**

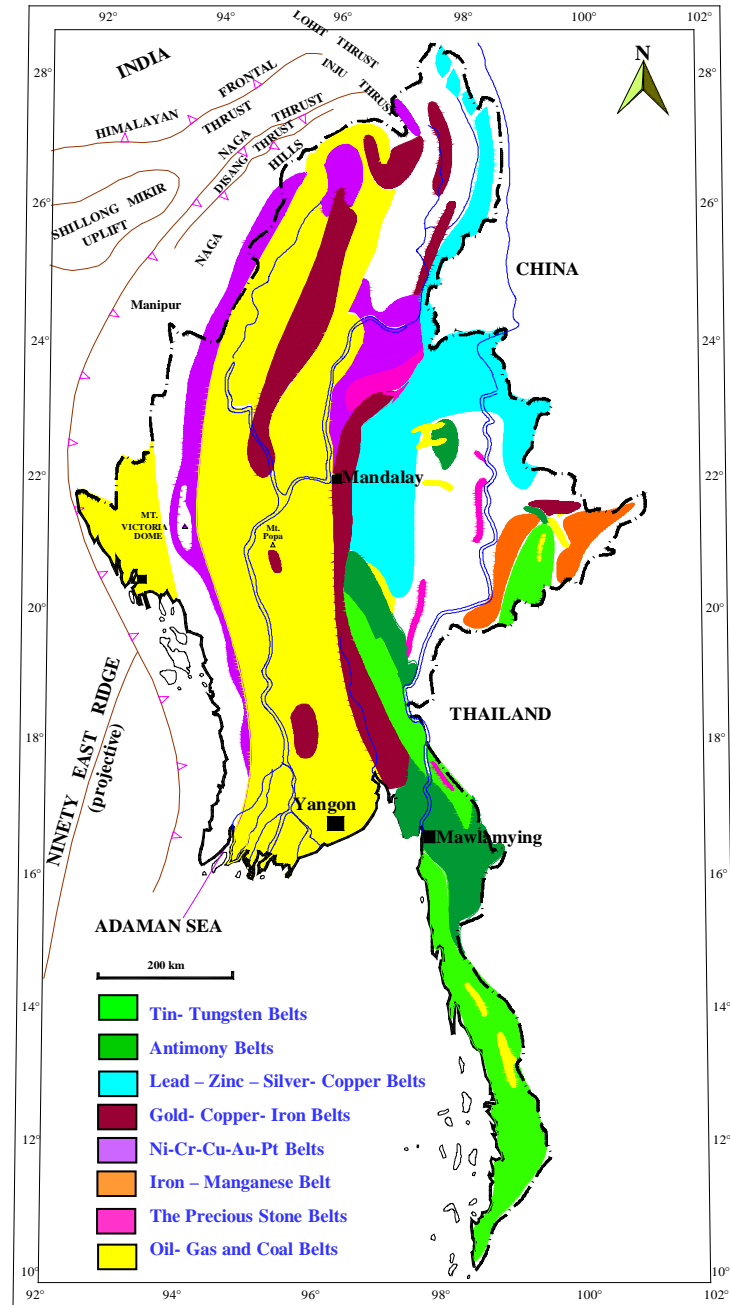
Geological mapping (by the aid of Aerial Photos & RS-GIS techniques) ~30%



# Geological Map of Myanmar (2008)



# Mineral Provinces of Myanmar



# *Myanmar's Mineral Resources*

## *1. Metallic ore minerals*

*Iron & metals for steel alloys- Fe, Mn, Cr, Ni, Mo*

*Base & non-ferrous metals – Pb, Zn, Cu, Sn, W, Sb & Ti*

*Precious & rare metals- PGM, Au, Ag, Nb, Ta*

## *2. Industrial minerals & non-metallic raw minerals*

*Chemical & fertilizer minerals- Barite, fluorite, Gypsum, rock salt*

*Ceramic & refractory minerals- clay, limestone, dolomite, feldspar, quartz, glass sand*

*Construction & building materials- Decorative stones, road materials, limestone for cement*

## *3. Precious & semi-precious Gemstones*

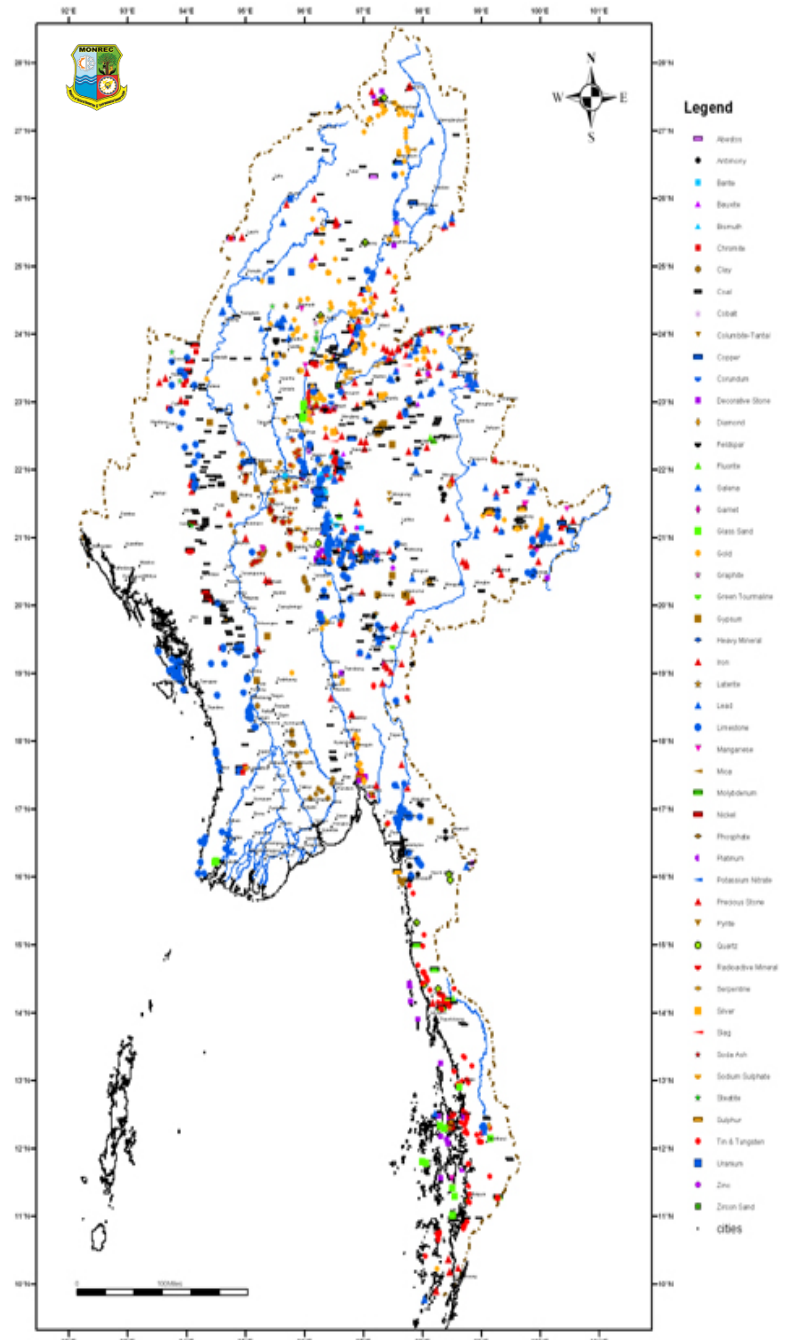
*Ruby, Sapphire, Jade, Diamond, etc*

## *4. Fuel minerals*

*oil, natural gas, oil shale, coal,*

*Total 60 mineral commodities , more than 2000 occurrences.*

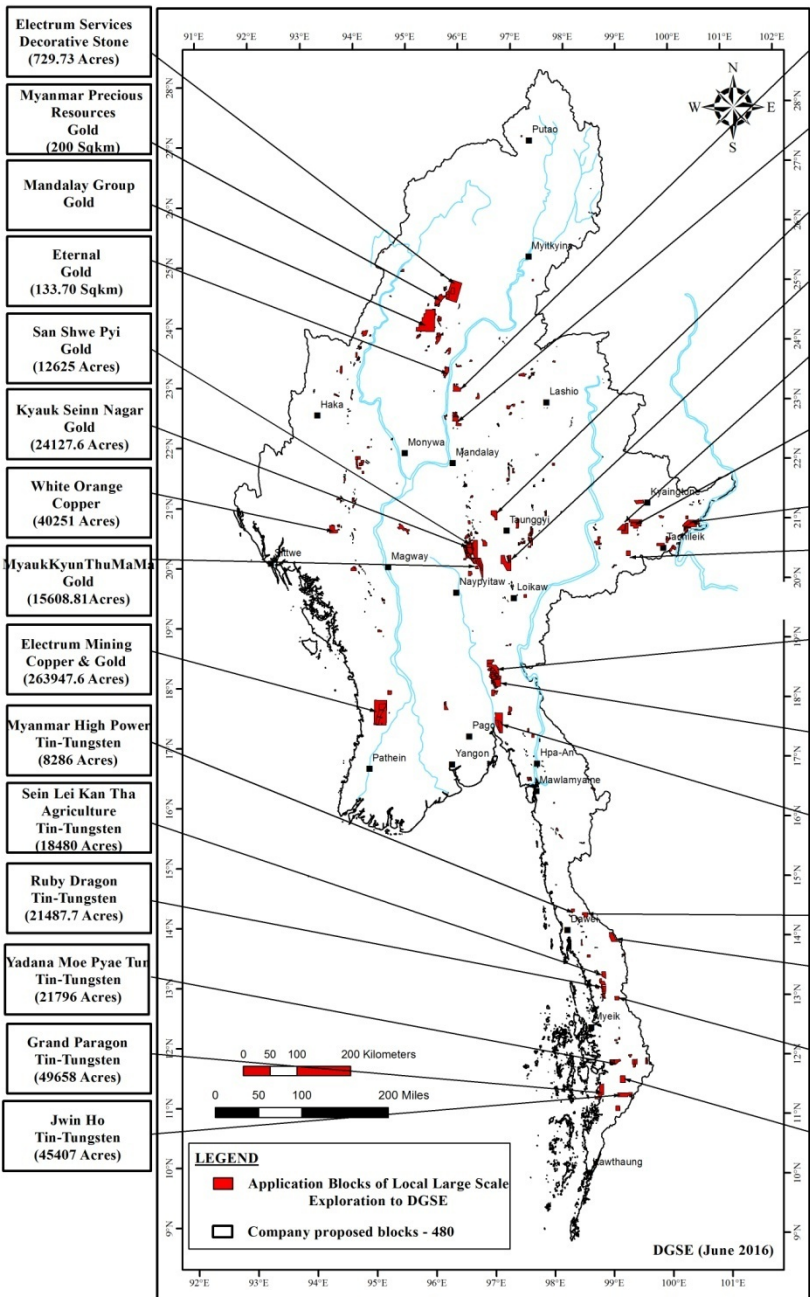
## MINERAL EXPLORATION ACTIVITIES



- Besides the geological mapping DGSE has also conducted the mineral prospecting during the regional mapping looked for the most prospective region for mineralization.
- From the result of the prospecting stage mineral exploration has follow up based on mineral commodity.
- Every year DGSE has carried out mineral exploration at the most promising part of mineral wealth area.
- It is now recorded about 63 mineral commodities for more than 2000 mineral occurrences.

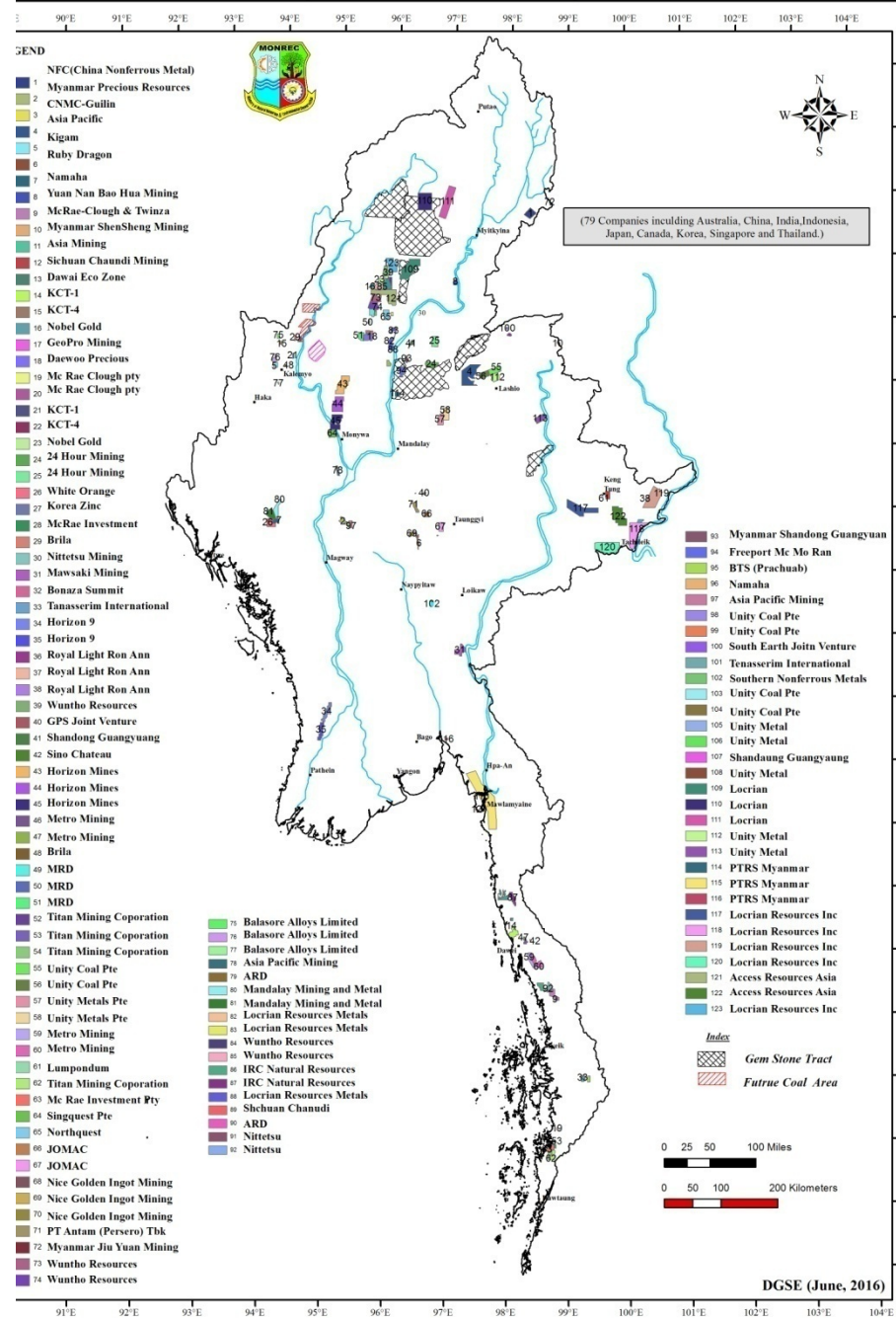


# Application Blocks For Exploration Area (Local Company)



- Myanmar Precious Resources Copper & Gold (31990 Acres)**
- Electrum Services Gold (132.9 Sqkm)**
- Ruby Dragon Mineral (34089 Acres)**
- Ruby Dragon Mineral (84373 Acres)**
- Sai Agriculture Investment Gold & Copper (35873.58 Acres)**
- Shwe Zin Myanmar Tin-Tungsten (37883 Acres)**
- Wana Thein Than Lead (29582 Acres)**
- Shwe Shan Han Tin (16529 Acres)**
- Nan Ye Mon Aung Iron (41230 Acres)**
- Myanmar Shwe Akarit Iron (36018 Acres)**
- Kaung KyoWai Phya Than Paung Myar Swar Gold & Copper (35257 Acres)**
- Jwin Ho Tin-Tungsten (17975 Acres)**
- Mandalay Resources Tin-Tungsten (36658.65 Acres)**
- Electrum Services Tin-Tungsten (13837.87 Acres)**
- Myae Kabar Tin-Tungsten (2415 Acres)**

# FDI Proposal Block For Exploration

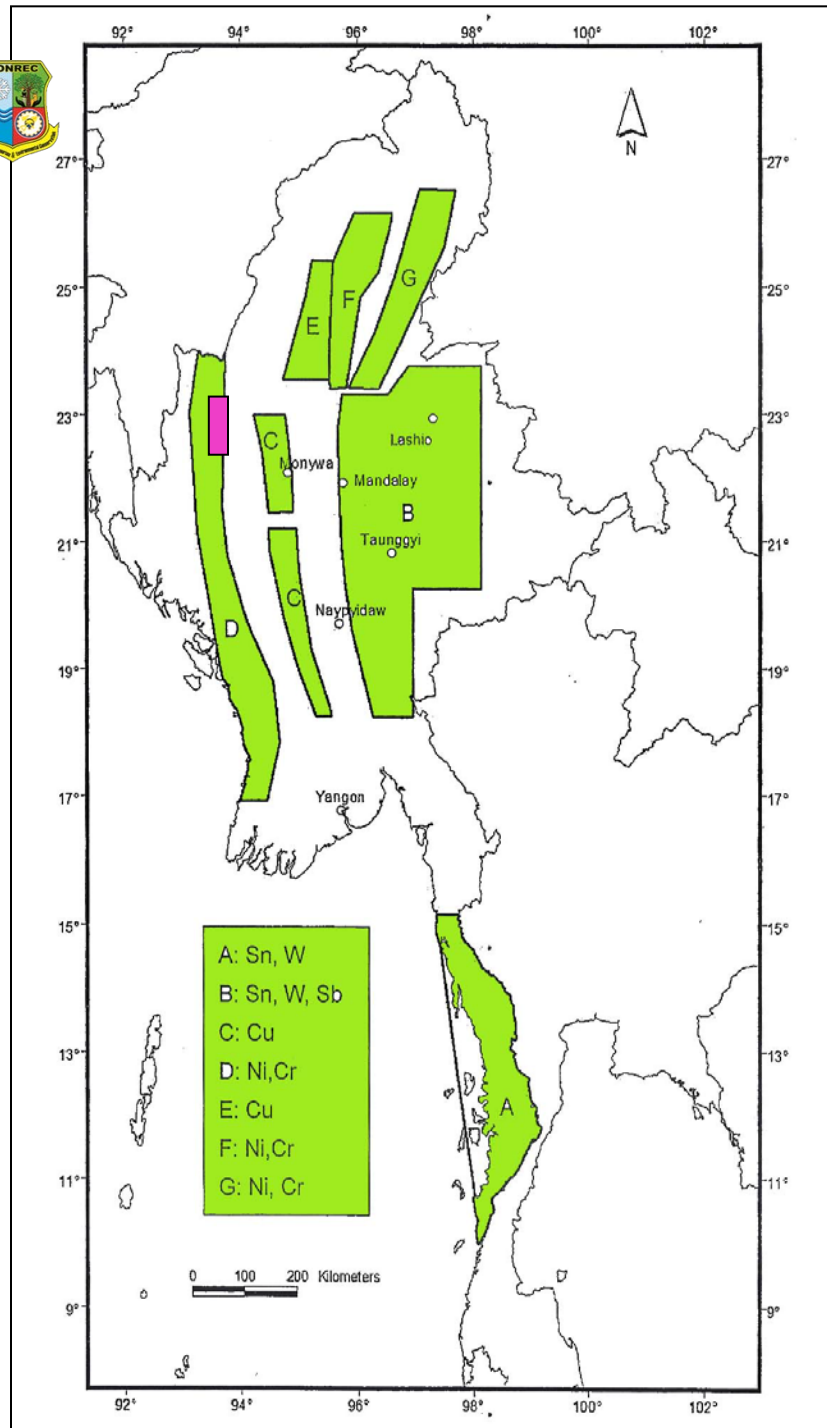


- GEND**
- 1 NFC(China Nonferrous Metal)
  - 2 Myanmar Precious Resources
  - 3 CNMC-Gullin
  - 4 Asia Pacific
  - 5 Kigam
  - 6 Ruby Dragon
  - 7 Namaha
  - 8 Yuan Nan Bao Hua Mining
  - 9 McRae-Clough & Twiza
  - 10 Myanmar ShenSheng Mining
  - 11 Asia Mining
  - 12 Sichuan Chundi Mining
  - 13 Dawai Eco Zone
  - 14 KCT-1
  - 15 KCT-4
  - 16 Nobel Gold
  - 17 GeoPro Mining
  - 18 Daewoo Precious
  - 19 Mc Rae Clough pty
  - 20 Mc Rae Clough pty
  - 21 KCT-1
  - 22 KCT-4
  - 23 Nobel Gold
  - 24 Hour Mining
  - 25 24 Hour Mining
  - 26 White Orange
  - 27 Korea Zinc
  - 28 McRae Investment
  - 29 Brila
  - 30 Nitetsu Mining
  - 31 Mawasaki Mining
  - 32 Bonaza Summit
  - 33 Tanasserim International
  - 34 Horizon 9
  - 35 Horizon 9
  - 36 Royal Light Ron Ann
  - 37 Royal Light Ron Ann
  - 38 Royal Light Ron Ann
  - 39 Wuntho Resources
  - 40 GPS Joint Venture
  - 41 Shandaung Guangyuang
  - 42 Sino Chateau
  - 43 Horizon Mines
  - 44 Horizon Mines
  - 45 Horizon Mines
  - 46 Metro Mining
  - 47 Metro Mining
  - 48 Brila
  - 49 MRD
  - 50 MRD
  - 51 MRD
  - 52 Titan Mining Coporation
  - 53 Titan Mining Coporation
  - 54 Titan Mining Coporation
  - 55 Unity Coal Pte
  - 56 Unity Coal Pte
  - 57 Unity Metals Pte
  - 58 Unity Metals Pte
  - 59 Metro Mining
  - 60 Metro Mining
  - 61 Lumpundum
  - 62 Titan Mining Coporation
  - 63 Mc Rae Investment Pty
  - 64 Singquest Pte
  - 65 Northquest
  - 66 JOMAC
  - 67 JOMAC
  - 68 Nice Golden Ingot Mining
  - 69 Nice Golden Ingot Mining
  - 70 Nice Golden Ingot Mining
  - 71 PT Antam (Persero) Tbk
  - 72 Myanmar Jiu Yuan Mining
  - 73 Wuntho Resources
  - 74 Wuntho Resources
  - 75 Balasore Alloys Limited
  - 76 Balasore Alloys Limited
  - 77 Balasore Alloys Limited
  - 78 Asia Pacific Mining
  - 79 ARD
  - 80 Mandalay Mining and Metal
  - 81 Mandalay Mining and Metal
  - 82 Mandalay Mining and Metal
  - 83 Locrian Resources Metals
  - 84 Wuntho Resources
  - 85 Wuntho Resources
  - 86 IRC Natural Resources
  - 87 IRC Natural Resources
  - 88 Locrian Resources Metals
  - 89 Shchuan Chundi
  - 90 ARD
  - 91 Nitetsu
  - 92 Nitetsu
  - 93 Myanmar Shandaung Guangyuang
  - 94 Freeport Mc Mo Ran
  - 95 BTS (Prachuab)
  - 96 Namaha
  - 97 Asia Pacific Mining
  - 98 Unity Coal Pte
  - 99 Unity Coal Pte
  - 100 South Earth Joint Venture
  - 101 Tanasserim International
  - 102 Southern Nonferrous Metals
  - 103 Unity Coal Pte
  - 104 Unity Coal Pte
  - 105 Unity Metal
  - 106 Unity Metal
  - 107 Shandaung Guangyuang
  - 108 Unity Metal
  - 109 Locrian
  - 110 Locrian
  - 111 Locrian
  - 112 Unity Metal
  - 113 Unity Metal
  - 114 PTRS Myanmar
  - 115 PTRS Myanmar
  - 116 PTRS Myanmar
  - 117 Locrian Resources Inc
  - 118 Locrian Resources Inc
  - 119 Locrian Resources Inc
  - 120 Locrian Resources Inc
  - 121 Access Resources Asia
  - 122 Access Resources Asia
  - 123 Locrian Resources Inc

(79 Companies including Australia, China, India,Indonesia, Japan, Canada, Korea, Singapore and Thailand.)

0 25 50 100 Miles  
0 50 100 200 Kilometers

DGSE (June, 2016)



## Joint Research Cooperation with Foreign Companies

**JOGMEC**  
(Japan Oil, Gas and Metal National Cooperation)

**KIGAM**  
(Korea Institute of Geoscience and Mineral Resources)

## *Mineral Occurrences in Kayin State*



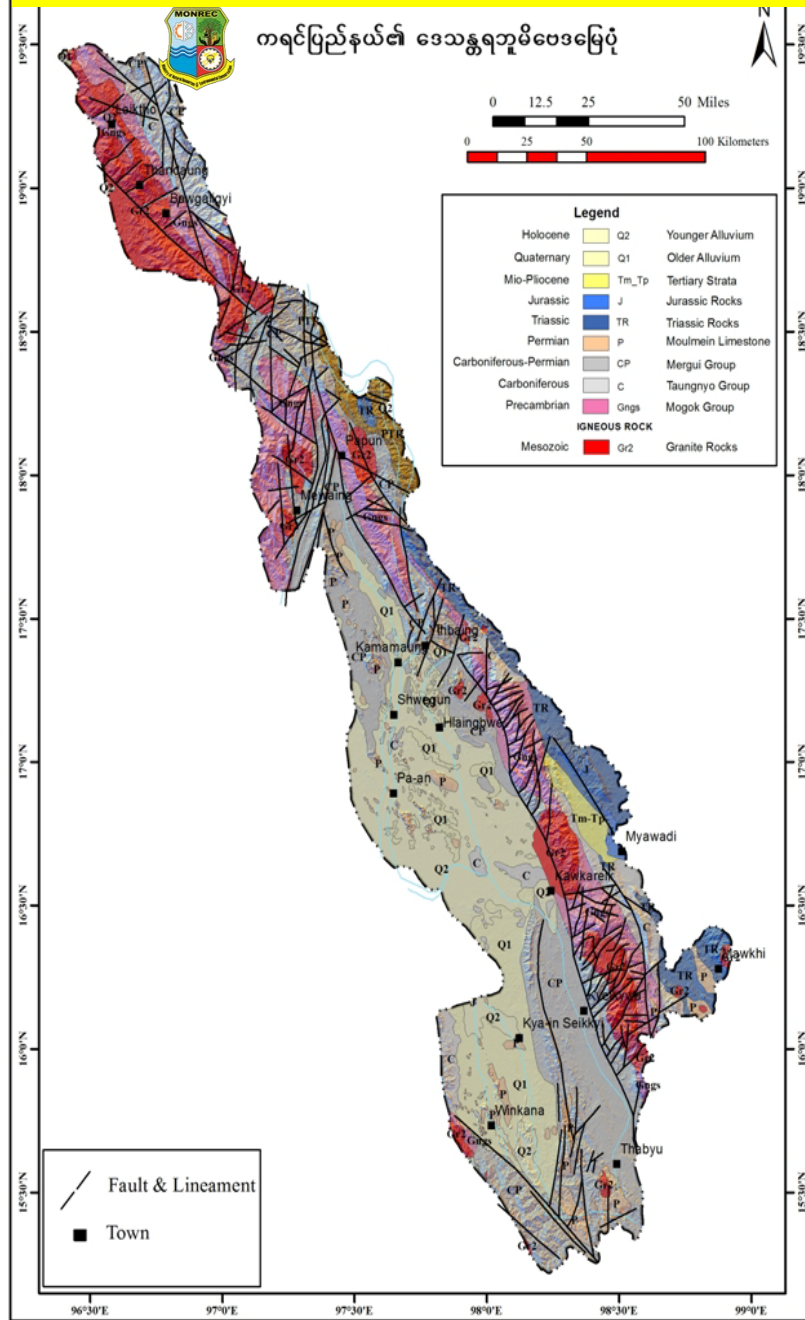


Map ID: MIMU182v04 Creation Date: 2 July 2015 A3 Projection/Datum: Geographic/WGS84	<b>Legend</b> State Capital: Yellow circle with black border Main Town: Yellow circle Other Town: Small yellow circle Airports: Yellow airplane icon Railway: Dashed line with cross-ticks Road: Red line Sea Shore: Blue line Township Boundary: Dashed line District Boundary: Dotted line State Boundary: Solid line International Boundary: Dashed line with triangles Stream and Shore Line: Blue line River/Water Body: Blue area Non-Perennial: Blue outline Perennial: Solid blue area	<b>Elevation (Meter)</b> 0 - 200: Lightest brown 201 - 500: Light brown 501 - 750: Medium brown 751 - 1,000: Darker brown 1,001 - 1,500: Dark brown 1,501 - 2,000: Very dark brown 2,001 - 2,500: Blackish brown 2,501 - 3,000: Black 3,001 - 4,000: Dark grey 4,001 - 5,000: Grey 5,001 - 7,000: Dark grey-blue 7,001 - 2,000: Black	Data Sources: MIMU Base Map: MIMU Boundaries: WFP/MIMU Elevation: SRTM Place names: Ministry of Home Affairs (GAD) translated by MIMU
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Disclaimer: The names shown and the boundaries used on this map do not imply official endorsement or acceptance by the United Nations.

Location Map of Kayin State

# GEOLOGICAL MAP OF KAYIN STATE





## MINERAL DISTRIBUTION OF KAYIN STATE

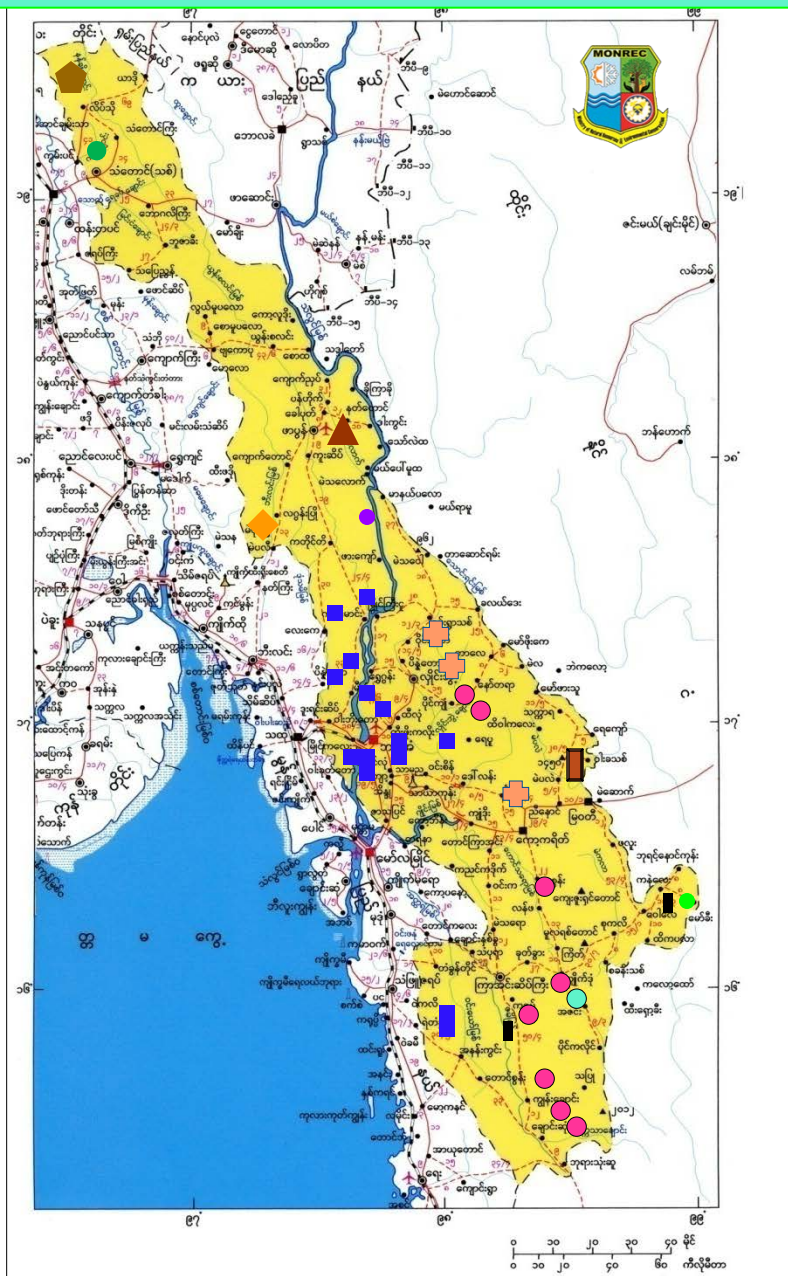
- **22 mineral commodities are recorded in Kayin State as follow:**

**Alum shale, Antimony, Barite, Coal, Copper, Clay, Decorative stone, Dolomite, Garnet, Gold, Gypsum, Iron, Lead, Limestone, Mica, Oil shale, Quartz, Phosphate, Precious stone, Tin- Tungsten, Road stone, and Zinc.**

- **Major important minerals in Kayin State are**

**Limestone, Antimony, Coal, Gold, Gypsum, Iron,, Tin- Tungsten and Zinc.**

# MINERAL OCCURRENCES IN KAYIN STATE



- Antimony
- Coal
- Decorative stone
- ◆ Gold
- + Gypsum
- ▲ Iron
- Limestone
- ▭ Oil shale
- Precious stone
- Quartz
- Zinc





## **INVESTMENT OPPORTUNITY (JOINT VENTURE) LEGISLATION**

**✚ 2016 The Myanmar Investment Law**

**✚ 1994 Myanmar Mines Law**

**✚ 1996 Myanmar Mines Rules**

**✚ (New Myanmar Mining Rules is under preparation)**

**✚ 2015 Amendment Myanmar Mines Law**

- **At present MONREC has licensed the existing mines and large deposits to the local investors to invest in the mining sector.**
- **Myanmar practice the production sharing contract (P.S.C) system.**
- **In the production sharing types of agreement the investor shall have to contribute 100% of investment in which case the government would expect a share of the production and a production sharing will be signed with sharing ratio to be agreed upon between the parties.**



## Types of Permit

- **Prospecting Permit** (1 yr + extension = 12 months)
- **Exploration Permit** (3 yrs + extension = 1 yr (2) times )
  - **Feasibility Study** (1 yr + extension = 12 month)
- **Small Scale Mining Permit** (5 yr + extension (1) yr (4) times)
- **Large Scale Mining Permit** (15 yrs + extension (5) yrs (4) times)
- **Subsistence Mining Permit** (only 1 yr)

} **Integrate Permit**  
5 yr + -----

# Restrictions of Permit

## Large Scale Mining Permit



- Minerals - Precious Metallic, Industrial and Decoration Stones
- Max :15 yrs + Extension (5) yr for (4)times
- **Needing to get an approval from MIC and Union Government.**

## Small Scale Mining Permit



- Ministry can issue the permit.
- Gold (20) Acres, Minerals (50) Acres, Industrial Minerals (247.1) Acres, Gems Stones (1) Acres
- Max: 5 yrs + Extension (1) yr for (4)times
- **Restricted to use of heavy machineries.**

## Subsistence Mining Permit



- Minerals
- Industrials Minerals
- Stone
- **Only (1) yr**

## **Recommendation on Future mineral exploration and mining in Kayin State**

- **Geological mapping and preliminary mineral exploration could not be carried out thoroughly in Kayin State because of the previous conditions and difficulties.**
- **Only few mineral data base have been recorded and the systematic mineral exploration are still needed.**
- **In the Kayin State there are still remaining the large area of virgin land and therefore the systematic mineral exploration and mining in Kayin State can be very effective for the economy of the country and development of the Kayin State in future.**
- **The most promising mineral potential of Kayin State are Limestone, Coal Gypsum, Antimony, Gold and Iron.**
- **The experiences of environmental impacts caused by the past mining activities in Myanmar, it to be taken care for the environmental conservation in the future mining industries.**



# Conclusion

- No environmental issues while conducting prospecting, exploration and feasibility study for any kinds of Mineral.
- Cooperate Mine Hazard Management with concerning department in Mining Sector.
- Foreign companies or Investors shall have to start from the grass root exploration at the interest potential areas if they desire.
- Mineral resources in Myanmar are very much under utilized and there exists a large mineral potential.
- Detail procedures for the application or proposal for mineral exploration can be inquired to the Ministry or DGSE

We hope there'll be more cooperation between **Myanmar** and **Other countries** for building Green Mines & Sustainable development in mineral Resources in the future.



Thank You for Your Attention!