

**The Master Plan Study
for
Promotion of the Mining Industry
in the Kingdom of Cambodia
Final Report**

September 2010

**JAPAN INTERNATIONAL COOPERATION AGENCY
Industrial Development Department**

Mitsui Mineral Development Engineering Co., Ltd.

PREFACE

In response to a request from the Royal Government of Cambodia, the Government of Japan agreed to conduct the Master Plan Study for Promotion of the Mining Industry in the Kingdom of Cambodia, and the Study was implemented by the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team, headed by Mr. Masaharu Marutani of Mitsui Mineral Development Engineering Co. Ltd. (MINDECO), and consisting of MINDECO, RTT Mining, International Consulting Services Co. Ltd., the International Development Center of Japan, and Matsunaga Geosurvey Co. Ltd., to Cambodia between August 2008 and July 2010.

The team held discussions with the concerned officials of the Royal Government of Cambodia and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to further sustainable development of the mining sector in Cambodia and investment promotion, and to the enhancement of friendly relations between our two countries.

Finally, I wish to express my sincere appreciation to the concerned officials of the Royal Government of Cambodia for the invaluable assistance with this study.

September 2010

Kyoko Kuwajima

Director of Industrial Development Department
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Ms. Kyoko Kuwajima

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Letter of Transmittal

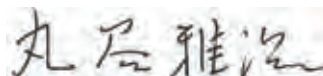
It is with great pleasure that we submit to you this final report on the Master Plan Study for Promotion of the Mining Industry in the Kingdom of Cambodia.

Under contract with your organization, this study was carried out by Mitsui Mineral Development Engineering Co. Ltd. (MINDECO) over 25 months, from August 2008 to September 2010. This report is written to provide a road map for sustainable development of the mining sector in Cambodia that gives due consideration to the country's environment, and to compile the investment policies of the mining sector into a Master Plan.

To increase the mining sector's share of Cambodian GDP, the Master Plan proposes effective action plans for promoting investment in the mining sector, organizational and institutional reform of mining administration, action plans for nurturing human resources, and improving mine safety and mining environmental management. Promoting exploration and development of the mining industry, and attracting investment from both foreign and domestic sources, are very important to the overall social and economic development of the Kingdom of Cambodia. As such, it is our expressed desire that the Royal Government of Cambodia make it a top priority to bring this plan to fruition.

In closing, we would like to express our sincere gratitude to your organization, to the Japanese Ministry of Foreign Affairs, and to the Japanese Ministry of Economy, Trade and Industry for your and their support and guidance with this project. We would also like to thank all the related organizations, such as the Cambodian Government, the Cambodian Ministry of Industry, Mines and Energy, and the Cambodian General Department of Mineral Resources, as well as the Japanese Embassy in Cambodia and the JICA Cambodia Office, for their assistance and support in carrying out this study.

September 2010



Masaharu Marutani

Team Leader

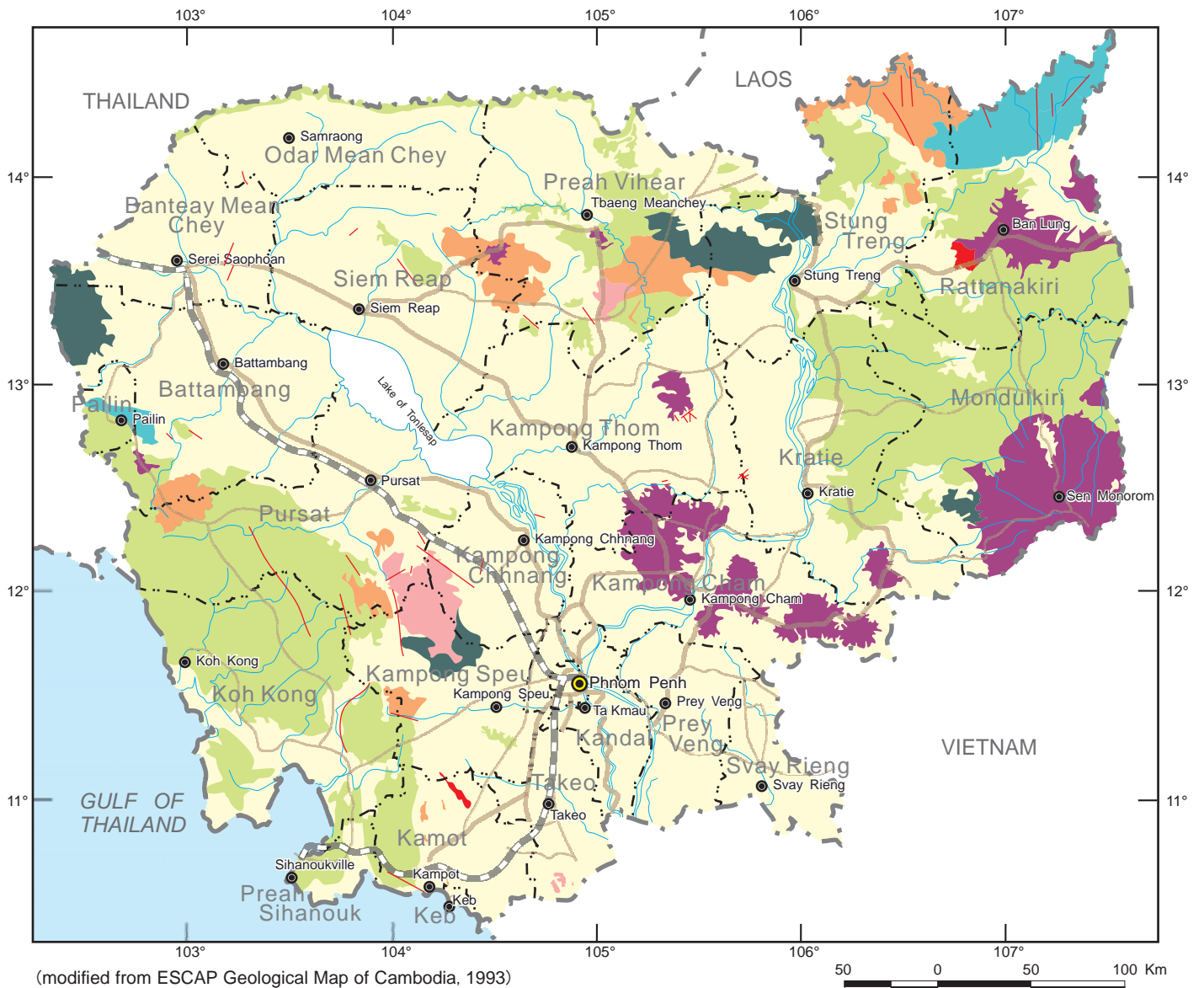
Study Team for the Master Plan Study
for Promotion of the Mining Industry
in the Kingdom of Cambodia



Kingdom of Cambodia



Location of Cambodia



SEDIMENTARY ROCKS

- Cenozoic
- Mesozoic
- Paleozoic/Precambrian

METAMORPHIC ROCKS

-

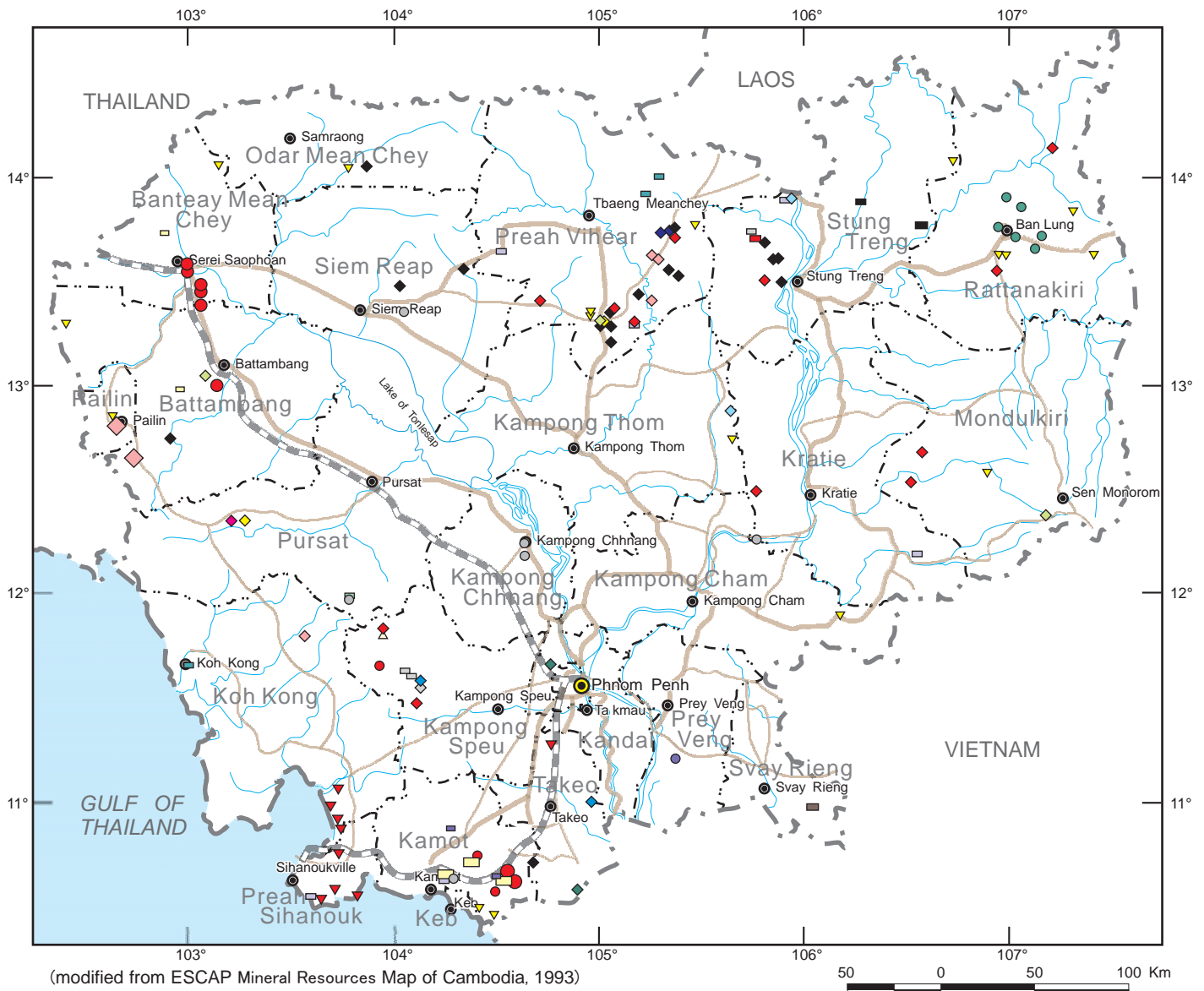
IGNEOUS ROCKS

- Cenozoic (basalt)
- Mesozoic-Paleozoic (rhyolite-andesite)
- Mesozoic(granitoids)
- Paleozoic/unknown era(granitoids)

- Fault

- Capital City
- Provincial center
- Country border
- Provincial boundary
- Rivers
- Principal roads
- Secondary roads
- Railway

Geological Map of Cambodia



METALLIC

- ◆ Antimony
- ◆ Base Metals
- ◆ Aluminium
- ◆ Chromium
- ▼ Gold
- ◆ Iron
- ◆ Manganese
- ◆ Molybdenum
- △ Silver
- ◆ Tin
- ◆ Tungstem

NON METALLIC

- Clay
- Fluorite
- Graphite
- Limestone
- Dolomite
- Phosphate
- ▼ Silica Sand
- Zircon

GEMSTONE AND ORNAMENTAL STONE

- ◆ Sapphire-Ruby-Zircon-Spinel Association
- ◆ Quartz-Amethyst-Opal Association
- Pagodite
- Jet
- Marble

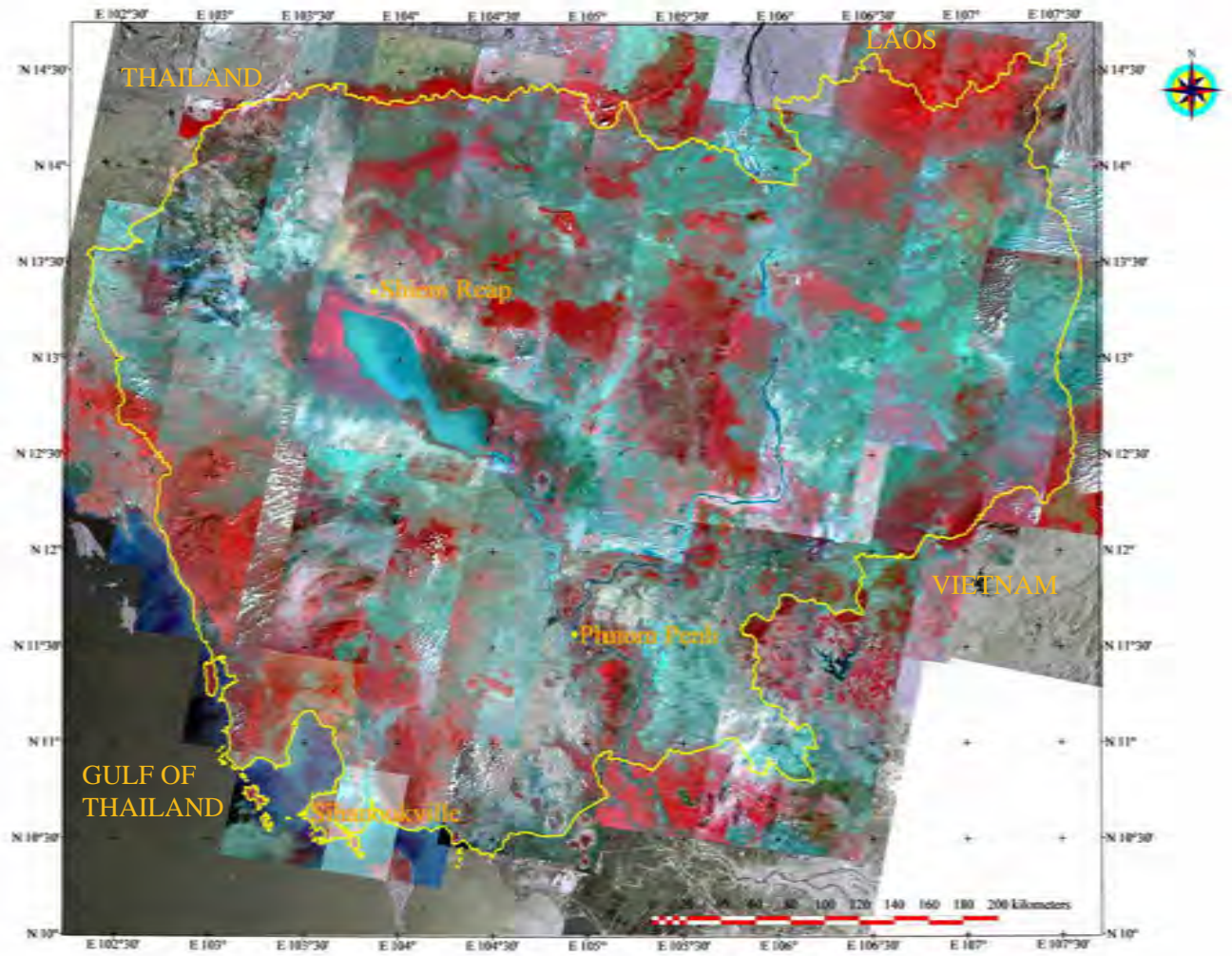
FUEL

- Coal
- Lignite
- Peat

- Capital City

- Provincial center
- Country border
- - - Provincial boundary
- ~ Rivers
- Principal roads
- Secondary roads
- Railway

Map of Mineral Deposits and Occurrences of Cambodia



Satellite Image of Cambodia

The Master Plan Study for Promotion of the Mining Industry
in the Kingdom of Cambodia
Final Report

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List of Abbreviations

ADB	: Asian Development Bank
ALOS	: Advanced Land Observing Satellite
ASEAN	: Association of South-East Asian Nations
ASTER	: Advanced Spaceborne Thermal Emission and Reflection Radiometer
BRGM	: Bureau of Geological and Mining Research
CCOP	: Coordinating Committee for Geoscience Programmes in East and Southeast Asia
CDC	: Council for the Development of Cambodia
CIB	: Cambodia Investment Board
CIP	: Carbon in Pulp
CMAC	: Cambodia Mine Action Center
CMDGs	: Cambodia Millennium Development Goals
CMDP	: Conceptual Mining Development Plan
CoW	: Contact of Work
C/P	: Counterpart
CRDB	: Cambodian Rehabilitation and Development Board
CRIRSCO	: CMMI Mineral Resources/Reserves International Reporting Standards Committee
DCMR	: Department of Construction Materials Resources
DEM	: Digital Elevation Model
DIME	: Provincial/Municipal Department of Industry, Mines and Energy
DMDP	: Detailed Mining Development Plan
DMR	: Development of Mineral Resources
DMRD	: Department of Mineral Resources Development
DoG	: Department of Geology
DoM	: Department of Meteorology
DWT	: Dead Weight Tonnage
EAC	: Electricity Authority of Cambodia
EDC	: Electricite du Cambodge
EE	: Environmental Evaluation
EIA	: Environmental Impact Assessment
EITI	: Extractive Industries Transparency Initiative
ERSDAC	: Earth Remote Sensing Data Analysis Center
ESCAP	: Economic and Social Commission for Asia and the Pacific
ETR	: Effective Tax Rate
GDMR	: General Department of Mineral Resources
GDP	: Gross Domestic Product
GIS	: Geographical Information System
GPS	: Global Positioning System
GRET	: Research and Technology Exchange Group
GTZ	: Deutsche Gesellschaft für Technische Zusammenarbeit
Halo Trust	: Halo Trust (NGO)
IEIA	: Initial Environmental Impact Assessment
IT	: Information Technology
ITC	: Institute of Technology of Cambodia
IUCN	: International Union for Conservation of Nature and Natural Resources
JAXA	: Japan Aerospace eXploration Agency

List of Abbreviations

JORC	: Joint Ore Reserves Committee
KIGAM	: Korea Institute of Geoscience & Mineral Resources
MAFF	: Ministry of Agriculture, Forestry and Fisheries
MAG	: Mines Advisory Group
MEF	: Ministry of Economy and Finance
MIME	: Ministry of Industry, Mines and Energy
MIS	: Management Information System
MoE	: Ministry of Environment
MOU	: Memorandum of Understanding
MOWRAM	: Ministry of Water Resources and Meteorology
MPWT	: Ministry of Public Works & Transport
MRC	: Mekong River Commission
MRD	: Ministry of Rural Development
MWRM	: Ministry of Water Resources and Meteorology
NDVI	: Normalized Difference Vegetation Index
NPRS	: National Poverty Deduction Plan
NSDP	: National Strategic Development Plan
OJT	: On-the-Job Training
Oxfam	: Oxfam (NGO)
PALSAR	: Phased Array type L-band Synthetic Aperture Radar
PDAC	: Prospectors and Developers Association of Canada
PO	: Project Owner
Prakas	: Ministerial Ordinance
QIP	: Qualified Investment Project
RCAF	: Royal Cambodian Armed Force
RGC	: Royal Government of Cambodia
SEACAP	: South-East Asian Community Access Program
SEZ	: Special Economic Zone
SMEM	: Small- and Medium-Scale Mining
SNDMS	: Strategy of National Development for Mineral Sector
SPOT	: Satellite Pour l'Observation de la Terre
Sub-Decree	: Government Ordinance
SWIR	: Short Wave Infrared Radiometer
TIR	: Thermal Infrared Radiometer
TOR	: Terms of Reference
UNIDO	: United Nations Industrial Development Organization
USGS	: United States Geological Survey
UXO	: Unexploded Ordnance
VNIR	: Visible and Near Infrared Radiometer
WGS84	: World Geodetic System 1984 Datum
WUP-FIN	: Water Utilization Program-Finish Environment Institute SYKE

Chapter 1 Overview of the Study

1.1 Background of the Study

The geology of Cambodia strongly indicates that it is rich in mineral resources. The Cambodian government, international organizations, and donor countries are beginning to recognize that the country's mining industry could be a source of hard currency and that its promotion would contribute to national economic growth.

Currently, however, governmental agencies do not have a good framework for developing policies to manage and promote the mining industry, due to the historical lack of a developed mining sector. The General Department of Mineral Resources (hereafter, the GDMR) in the Ministry of Industry, Mines, and Energy (hereafter, the MIME) is in charge of managing the mining industry and mineral resources. But information on the country's mineral resources is out-of-date, and a legal framework and regulations are also lacking. Furthermore, the GDMR is not sufficiently organized to handle private sector-funded mining development, especially as it relates to concession holder management, information dissemination, and environmental issues. The Cambodian government must address these issues and improve its role in promoting private investment.

To increase private investment in the Cambodian mining industry in the future, the GDMR needs to prepare organizations and institutions to handle private investment smoothly. For that purpose, the GDMR must strengthen the skills of its staff, and also improve available information on mineral resources, which is important for promoting exploration. To proceed appropriately with mining development, it is necessary to prepare specific and reasonable mine management guidelines, including mine supervision, mine inspection and environmental management.

Against this backdrop, the Cambodian Government requested the Government of Japan to implement a development survey to create a master plan for the development of Cambodia's mineral resources. In response to this request, the Japan International Cooperation Agency (hereafter, JICA) signed a scope of work agreement for the "Master Plan Study for Promotion of the Mining Industry in the Kingdom of Cambodia" with the MIME in May, 2008.

1.2 Purpose of the Study

The purpose of this study is to promote the Cambodian mining industry, with emphasis on the following points:

- (1) Compiling information on Cambodian geology and mineral resources, and providing it effectively both nationally and internationally.
- (2) Creating an "action plan for investment promotion".
- (3) Creating an "action plan for reforming organizations and institutions, nurturing human resources, and improving environmental management, supervision, and inspection of mines" as medium/long-term term tasks.
- (4) Strengthening the capacity of the GDMR, which has the central role in the development of mineral resources, through points (1) to (3) mentioned above.

1.3 Target Area for the Study

The target area for the study is the entire country of Cambodia.

1.4 Method and Contents of the Study

The study consisted of two stages: Stage A, which involved “Promoting Investment in the Mining Industry and Improving Information on Mineral Resources”, and Stage B, which involved the “Formulation of Medium- and Long-term Priority Action Plans”.

During Stage A, an action plan to promote investment was formulated and major issues for the medium/long-term were identified, based on analyses of the current state of the mining sector. At the same time, the current state of geology and mineral resource information was assessed, and a preliminary investigation of potential areas for mineral resources was carried out through analyses of satellite images (ASTER and PALSAR) to select field survey points. Ground truth surveys were carried out to prepare drafts of 1:200,000 and 1:1,000,000-scale geological maps and mineral resource maps, and to prepare a draft for a mineral resource potential guidebook which would summarize the mineral resource maps. Once the current state of the GIS database and website were understood, the basic design of the GIS database and website was revised, expanded, and applied. Through this process, technical know-how was transferred to counterparts, improving their technical abilities. During Stage A, workshops for the Inception Report and Progress Report were held in Phnom Penh.

During Stage B, action plans for the high-priority medium/long-term issues determined in Stage A were formulated. These action plans were viable and specified periods, financial sources, etc. They were implemented at the discretion of the Cambodian side. Furthermore, geochemical exploration was being implemented in areas with high mineral resource potential, and detailed geological surveys were carried out at 5 chosen sites to investigate mineralization and alteration. Geological maps and mineral resource maps were prepared based on the results of rock sample analyses, and a handbook for mineral resource potential was also created that incorporated the aforementioned survey results. Construction of a GIS database and website began in Stage A, and various data and survey results were included to complete its construction.

Also during Stage B, workshops for the Interim Report and Draft Final Report were held. Two additional technical seminars were held to ensure technology transfers. One more seminar was held in Tokyo to introduce Cambodian geology and mineral resources to Japanese companies. Also, posters of geological maps and mineral resources in Cambodia were shown, and the handbook of mineral resource potential was distributed along with investment promotion materials at an international trade show (the PDAC in Canada) to promote Cambodian mineral resources and attract foreign investors.

The following is a summary of the main objectives of the study.

Stage A: Promoting Investment in the Mining Industry and Improving Information on Mineral Resources.

This involved the following:

- Assessing the current state of the Cambodian mining sector, and reviewing existing geology and mineral resource information.
- Creating an action plan for investment promotion.
- Identifying high-priority medium/long-term issues.
- Identifying “mineral resource potential areas”, determining ground truth, and drafting 1:200,000 and 1:1,000,000-scale geological and mineral resource maps.
- Identifying anomalies from analyses of rock samples and geochemical exploration samples.
- Drafting a handbook of mineral resource potential.
- Assessing and evaluating the current state of the GIS database and websites.
- Creating a basic design for a new GIS database and website.
- Holding two workshops.

Stage B: Formulation of Medium long-term Priority Action Plans

This involved the following:

- Creating viable action plans for high-priority medium/long-term issues.
- Implementing geochemical exploration in promising areas for mineral resources.
- Completing the 1:200,000 and 1:1,000,000-scale geological and mineral resource maps.
- Completing the handbook of mineral resource potential.
- Developing the new GIS database and website.
- Holding two workshops.
- Holding two technology transfer seminars.
- Disseminating information on mineral resources on the website.
- Holding a seminar in Japan and participating in an international seminar in Canada.

1.5 Site Study

(1) Implementation of the Study

- The site studies were carried out in the following time periods: Number 1, from 24 August to 9 October, 2008 (47 days); Number 2, from 2 October to 20 December, 2008 (80 days); Number 3, from 11 January to 27 February, 2009 (48 days). Number 4 (1st part), from 17 May to 23 June, 2009 (38 days), and 2nd part from 3 August to 28 August, 2009 (26 days); Number 5, from 20 October to 3 December, 2009 (45 days); Number 6 (1st part), from 25 January to 18 February, 2010 (25 days), and the 2nd part from 5 March to 12 March, 2010 (8 days), and Number 7, from 23 May to 16 June, 2010 (25 days). The 8th study was scheduled for 25 July to 31 July, 2010. The JICA study team completed the site studies as scheduled.

(2) Study Team Members

The assignments and study periods for each member are listed in Table 1.5.1.

Table 1.5.1 Team Members List

Name	Assignment	1st Study	2nd Study	3rd Study
Masaharu Marutani	Team leader/ Mining promotion policy	25.8.2008 to 31.8.2008	25.11.2008 to 4.12.2008	–
Richard Terry Thompson	Mining investment A	–	–	11.1.2009 to 27.2.2009
Kenichi Kumagai	Mining investment B/ Mining development plan	3.9.2008 to 5.10.2008	19.10.2008 to 20.12.2008	11.1.2009 to 10.2.2009
Naoya Takebe	Organization Institution/ Nurturing human resources	–	24.11.2008 to 20.12.2008	13.1.2009 to 11.2.2009
Kazuki Shingu	Environmental management/ Mine supervision & inspection	24.8.2008 to 25.9.2008	19.10.2008 to 14.11.2008	22.1.2009 to 21.2.2009
Hidehiro Ishikawa	Geology A (Satellite imagery analysis)	–	2.10.2008 to 30.11.2008	11.1.2009 to 11.2.2009
Haruo Harada	Geology B (Evaluation of mineral resources)	19.9.2008 to 9.10.2008	10.11.2008 to 30.11.2008	22.1.2009 to 11.2.2009
Kazushige Wada	GIS database/ Website designing	24.8.2008 to 22.9.2008	2008.11.8 to 2008.12.20	2009.1.19 to 2009.2.27
Kaori Eiju	Coordinator	24.8.2008 to 6.9.2008	7.12.2008 to 20.12.2008	11.1.2009 to 24.1.2009
Name	Assignment	4th Study (part 1)	4th Study (part 2)	5th Study
Masaharu Marutani	Team leader/ Mining promotion policy	17.5.2009 to 22.5.2009 8.6.2009 to 22.6.2009	–	20.10.2009 to 2.12.2009
Richard Terry Thompson	Mining investment A	3.6.2009 to 19.6.2009	–	–
Kenichi Kumagai	Mining investment B/ Mining development plan	17.5.2009 to 10.6.2009	–	20.10.2009 to 28.11.2009
Naoya Takebe	Organization Institution/ Nurturing human resources	17.5.2009 to 10.6.2009	–	11.11.2009 to 27.11.2009
Kazuki Shingu	Environmental management/ Mine supervision & inspection	17.5.2009 to 7.6.2009	–	24.10.2009 to 14.11.2009
Hidehiro Ishikawa	Geology A (Satellite imagery analysis)	17.5.2009 to 23.6.2009	3.8.2009 to 28.8.2009	2.11.2009 to 3.12.2009
Haruo Harada	Geology B (Evaluation of mineral resources)	17.5.2009 to 23.6.2009	3.8.2009 to 28.8.2009	2.11.2009 to 3.12.2009
Kazushige Wada	GIS database/ Website designing	–	–	19.10.2009 to 12.11.2009
Ryuta Shukuwa	Coordinator	17.5.2009 to 10.6.2009	–	–

Name	Assignment	6th Study	7th Study	8th Study
Masaharu Marutani	Team leader/ Mining promotion policy	25.1.2010 to 13.2.2010 5.3.2010 to 12.3.2010	23.5.2010 to 16.6.2010	25.7.2010 to 31.7.2010
Kenichi Kumagai	Mining investment B/ Mining development plan	25.1.2010 to 13.2.2010	23.5.2010 to 16.6.2010	25.7.2010 to 31.7.2010
Naoya Takebe	Organization Institution/ Nurturing human resources	25.1.2010 to 13.2.2010	23.5.2010 to 11.6.2010	25.7.2010 to 31.7.2010
Kazuki Shingu	Environmental management/ Mine supervision & inspection	25.1.2010 to 13.2.2010	23.5.2010 to 6.6.2010	25.7.2010 to 31.7.2010
Hidehiro Ishikawa	Geology A (Satellite imagery analysis)	30.1.2010 to 18.2.2010	23.5.2010 to 6.6.2010	25.7.2010 to 31.7.2010
Haruo Harada	Geology B (Evaluation of mineral resources)	25.1.2010 to 13.2.2010 5.3.2010 to 12.3.2010	23.5.2010 to 6.6.2010	25.7.2010 to 31.7.2010
Kazushige Wada	GIS database/ Website designing	25.1.2010 to 13.2.2010	23.5.2010 to 6.6.2010	25.7.2010 to 31.7.2010
Ryuta Shukuwa	Coordinator	25.1.2010 to 13.2.2010	23.5.2010 to 6.6.2010	25.7.2010 to 31.7.2010

(3) Meeting with the Cambodian Side

- The JICA study team had meetings with the Council for the Development of Cambodia (CDC), GDMR, Ministry of Environment (MOE), Ministry of Public Works and Transport (MPWT), the Embassy of Japan, and the JICA Cambodia office. During these meetings, the study team explained about the Inception Report and discussed the contents of the 1st site study.
- During the 4th site study, the JICA study team held a steering committee meeting with the MIME/GDMR on 19 May 2009 where they discussed and revised the contents of the progress report and obtained agreement from the Cambodian side (Appendix I-1).
- On 15 June 2009, the JICA study team met with the Minister of the MIME to report on the progress of this project and on revisions made to the progress report. They also agreed to assist with participation in the PDAC (Prospectors & Developers Association of Canada) conference that will be held in Toronto, Canada in March 2010. As a result, they received a letter from the MIME minister dated 17 September which stated that two officials from the GDMR would be attending the PDAC conference (Appendix I-2). A letter dated December 17 was received from the Minister of MIME stating that there would be a substitute for one of the original participants.
- During the fourth site study, the JICA study team met with the Japanese ambassador to Cambodia (18 June, 2009) and the JICA Cambodia office (18 May, 18 June, and 22 June), where they reported on the arrangements and results of the study. In addition, the team leader met with the UNDP official in charge of mining (10 June) to exchange information about activities.
- As part of the 6th site survey, the Study Team held the 2nd steering committee meeting with MIME and GDMR on 28 January 2010. At the meeting, comments were received

from MIME/GDMR, the contents of the interim report were discussed, and it was agreed by both sides that the revised version of the interim report would be submitted by early April (Appendix I-3).

- The Study Team held the 3rd steering committee meeting with MIME and GDMR during the 8th site survey on 27 July 2010. At the meeting, the contents of the Draft Final Report were discussed, and it was agreed by both sides that the Draft Final Report could become the Final Report by including the comments from the Cambodian side (Appendix I-4).

(4) Organization of the Workshop and Lecture

Workshops and seminars to transfer technical know-how to the GDMR were held as follows:

- First Workshop (Appendix I-5)
 - 23 August, 2008 at an MIME conference room
 - The Team Leader and the GIS database expert gave an overview of this study and of the design of the GIS database and website. This workshop was attended by 20 participants, including 14 senior officials from the GDMR, 2 JICA officials, and 4 experts from the Study Team.
- Progress Workshop (Appendix I-6)
 - 20 May, 2009 at an MIME conference room
 - The study team leader gave a presentation about the progress of this study, various team members gave presentations about conditions in their respective fields, and the head of the GDMR gave an introduction to the mining sector of Cambodia. Special greetings were extended to the Secretary of State and Under Secretary of State of MIME, and to the Deputy Resident Representative of the JICA Cambodia Office. There were a total of 43 people in attendance, including 30 from the GDMR, 3 from JICA, and 10 from the study team (including interpreters).
- Interim Workshop (Appendix I-7)
 - 4 June, 2010 at an MIME conference room
 - The study team leader gave a presentation about the review of this study, and various team members gave presentations in their respective fields about satellite image analysis, the results of geological and geochemical surveys, various action plans, and construction of the GDMR web site. The GDMR expressed their desire for JICA to complement the satellite image analysis and geochemical surveys continually. There were many questions and significant comments on the action plans. Special greetings were extended to the Secretary of State. There were a total of 26 people in attendance, including 11 from the GDMR, 3 from JICA, and 11 from the study team (including interpreters).
- Final Seminar (Appendix I-8)
 - 29 July, 2010 at the conference room in the Sunway Hotel

- The final seminar entailed discussion and confirmation about the future course of the Cambodian mining sector. It started with a welcome address by the Senior Representative of JICA Cambodia Office and an opening address by the Minister of MIME, which were followed by presentations by all of the members of the JICA Study Team. In attendance were about 70 people involved with MIME/GDMR, 7 other relevant Cambodian ministries, UNDP, the First Secretary of the Japanese Embassy, the JICA Headquarters and the Japanese Chamber of Commerce in Cambodia. As a result of this seminar, attendees were able to gain a thorough understanding of this Master Plan Study, and confirm the future course of the Cambodian mining sector.
- Information Technology for Minerals and the Mining Sector (Appendix I-9)
 - 16 September, 2008 (Part 1) and 25 November, 2008 (Part 2) in MIME conference rooms
 - The GIS database expert from the team explained about information technology for the mineral resources sector. In the first half, the history of GIS and its applications were presented; in the second half, the relationship between GIS and GPS was explained. In attendance were 10 participants from the GDMR and 15 officials from the GDMR. The question-and-answer session went into much detail.
- Satellite Imagery Analysis Seminars (Appendix I-10)
 - 13-15 October 2008 (1st) and 27 October 2008 (2nd), DoG director's office
 - The satellite imagery analysis expert on the team conducted training sessions using basic satellite image processing and image analysis software, and also gave lectures on satellite imagery analysis and interpretation. In attendance were 3 people from DoG.
- Mining Investment Promotion Seminar (Appendix I-11)
 - 5 November, 2008 and 12 December, 2008 at MIME conference rooms
 - The mining investment experts from the team explained about the mining agreement system in Indonesia, and the mining investment promotion system in Argentina, with 7 (on 5 November) and 9 (on 12 December) participants from GDMR in attendance,. At the seminar on Indonesia, the presenter explained about the establishment of incentives for the mining sector through a special law, the preservation of mining rights during the term of the mining agreement, and the importance of guaranteeing mining rights in mining agreements. At the presentation on Argentina, the presenter explained about various investment tax incentives established through mining investment laws, and the merits of a mining agreement between Chile and Argentina, which provides for the development of mineral deposits occurring near their common border.
- Seminar on Japanese Mining Technology
 - 19 February, (Part 1), 4 June (Part 2), 12 November, 2009 (Part 3), 10 January, 2010 (Part 4) and 1 June, 2010 (Part 5) at MIME conference room

- The environmental management/mine inspection expert explained about several exploration operations in the Hishikari Mine and about the Underhand Cut and Fill method with the artificial roof in the Hanaoka Mine (Part 1), mechanized Cut and Fill method and computerized operation in the processing plant in the Kamioka Mine (Part 2), techniques for sublevel mining under high temperature conditions and lead and zinc flotation with column cells in the Toyoha Mine (Part 3), and the treatment facility for waste water in the Matsuo Mine (Part 4), and the new technology of gold recovery “CIP” (Part 5) were shown, using DVDs. 16-25 people from the GDMR attended each seminar.
- Current Japanese Mining Industry
 - 19 February, 2009 at MIME conference room
 - The environmental management/mine inspection expert explained about the history and current state of the Japanese mining industry. He especially explained about efforts to cut costs in Japanese mines. 25 people from the GDMR attended the seminar.
- Safety and Environment Seminar (Appendix I-12)
 - 4 June 2009, at an MIME conference room
 - The team member in charge of Environmental Management/Mine Supervision & Inspection made a presentation on safety and environmental management in Cambodian mining operations, and talked about several Japanese laws relating to the mining sector. In attendance were 24 people from the GDMR.
- EITI Seminar (Appendix I-13)
 - 11 June 2009, in an MIME conference room
 - The team member in charge of Mining Investment A held a seminar to promote the introduction of international transparency in the Cambodian mining sector. In attendance were 10 people from GDMR, as well as the Secretary of State and Under Secretary of State of the MIME. The team member explained that there were four important aspects to MIME governance, i.e., policy, strategy, law and regulations, and that it was very important to have an alliance with related government agencies/ministries, all stakeholders, etc. There were also explanations about the roles of investors and investment recipients, profitability for investors and investment recipients in the mining industry, and the risks posed to investors. The seminar concluded with an emphasis on the following items as important aspects of transparency:
 - First come, first served
 - Equal treatment of all investors
 - Publication of annual accounts – both investor and government
 - Straightforward and efficient dealing with investors
- Seminar on Mining Methods (Appendix I-14)
 - 6 November, 2009 at an MIME conference room

- The environmental management/mine inspection expert explained about mining methods used in surface mining and underground mining. Surface mining methods included bench-cut open pits, dredging mining and solution mining. Underground mining methods included room-and-pillar, sublevel stoping, cut-and-fill, underhand cut-and-fill, bench stoping, sublevel caving and block caving. 17 people from the GDMR attended the seminar.
- Website Seminar (Appendix I-15)
 - 10 November, 2009 at MIME conference room
 - The current state of the developing GDMR website was discussed by the GIS database expert. The contents of the statistics main site and dynamic web-GIS site were shown through demonstrations. The expert also discussed plans for installing three types of registration services in the main site, which will provide more detailed information and create closer communication routes with future investors. The GDMR decided to hold an internal meeting to consider its applications. 12 staff members of the GDMR participated in the seminar and discussed the items.
- Institutional Reform Action Plan Seminar (Appendix I-16)
 - 11 November, 2009 at MIME conference room
 - The expert in charge of Mining Investment B/Mine Development Planning explained about 10 important aspects of concepts for the action plan for institutional reform of the mining sector. The expert confirmed the details of how aspects of the various concepts should be addressed, including time (when), authority (who) and budget (how much). Nine senior staff members from MIME attended the seminar.
- Mine Accidents and Countermeasures (Appendix I-17)
 - 12 November, 2009 at MIME conference room
 - The environmental management/mine inspection expert explained about mine safety. He especially talked about roof-collapse in underground mines, slope-collapse in open pits, blasting accidents, traffic accidents in mines, insufficient ventilation in underground mines, gas-explosions in coal mines, falling accidents, flooding, fire and other accidents as well as countermeasures, using figures and photos. 16 people from the GDMR attended the seminar.
- Mine Pollution and Associated Countermeasures (Appendix I-18)
 - 10 February, 2010 at an MIME conference room
 - The environmental management/mine inspection expert explained about types of mine pollution. He especially explained about mining-related environmental impacts such as water pollution, air pollution, dust, noise and vibration, geological deterioration in open pits, subsidence caused by underground mining, and impacts on ecosystem as well as countermeasures, with figures and photos. 13 people from the GDMR attended the seminar.
- Mine Management in Private Companies (Appendix I-19)
 - 1 June, 2010 at an MIME conference room

- The environmental management/mine inspection expert explained about mine management in private companies. He used figures and photos to explain in detail about specific features of mining operations, as well as scientific management through budgeting, production management, facilities management, materials management, and quality control. 23 people from the GDMR attended the seminar.

1.6 Promoting mining investment

In order to promote investment in the Cambodian mining sector, a mineral resources guidebook was prepared and the following international seminar was held and attended:

(1) Guidebook of Mineral Resource Potential

- A draft was written in collaboration with the GDMR, and 4000 copies were printed in February 2010 (Appendix I-20).
- This guidebook was distributed to participants in the Cambodia Mining Seminar held in Tokyo. It was also handed out at the PDAC conference in Toronto, Canada, and will be given to and utilized by investors who visit the GDMR.

(2) Cambodia Mining Seminar held in Japan

Date: 22 January 2010

Location: Conference room, JICA Main Office, Tokyo

- Japanese companies were told about the state of mining and mineral resource potential in Cambodia, and to help promote mining investment, a seminar was held under the auspices of JICA (Appendix I-21).
- Among the participants were two officials from the Cambodian government (GDMR), and over 60 persons from Japanese trading companies, banks, mining companies, government organizations, etc.
- Presentations were made by the Deputy Director-General of GDMR, the Director of DoG, and the JICA Study Team Leader.
- There were many questions about the acquisition of licenses.

(3) PDAC 2010

Date: 7-10 March 2010

Location: Metro Toronto Convention Centre, Toronto, Canada

- A Cambodia exhibit booth was set up at the PDAC (Prospectors and Developers Association of Canada). It featured geological maps and mineral resource maps depicting the results of the present study, and gave mining-related people from many countries an introduction to the state of mining and mineral resource potential of Cambodia, in order to promote investment in the Cambodian mining sector (see Appendix I-22). Visitors were also given the Guidebook of Mineral Resource Potential.
- In attendance were two officials from the GDMR and two members of the JICA Study Team. The two officials from GDMR provided most of the explanations, with the team members providing assistance. During their free time, the two GDMR officials

visited other booths.

- There were roughly 200 active visitors to the Cambodian booth (that is, visitors who asked booth staff questions, etc.) representing mining companies, exploration companies, investment companies, investment consultants, etc. The nations represented by these visitors included Canada, Australia, the United States, China, the Republic of Korea, Vietnam, South Africa, Mongolia, and Japan, among others.
- Visitors asked many questions about such things as whether or not a mining law was in effect, procedures for acquiring concessions, the present state of mining activities, the tax system, the existence of data, and so on.
- The two officials from the GDMR were surprised at the scale and vibrancy of the PDAC. At the same time, through their interactions with visitors, they were able to become more aware of the importance of compiling and providing information on mineral resources, simplifying procedures for acquiring mining concessions, and establishing an equitable tax system, among other things.

1.7 Composition of the Task Force

The MIME has created a task force to carry out the present study in collaboration with the JICA study team.

Table 1.7.1 List of Task Force Members

	Name	Position
Chief of the Task Force	Mr. Peng Navuth	Deputy Director General, General Department of Mineral Resources
Member	Mr. Yos Mony Rath	Director, Department of Mineral Resources
Member	Mr. Sieng Sotham	Director, Department of Geology
Member	Mr. Sim Sisokhaly	Director, Department of Mineral Resources Development
Permanent Member	Mr. Chrea Vichett	Deputy Director, Department of Mineral Resources Development – In charge of Mining Law/ Policy
Member	Mr. Eam Seak Bo	Chief of Laboratory Office, Department of Geology – In charge of Geology
Member	Mr. Sok Sophorn	Official from the Mapping Office, Department of Mineral Resources – In charge of Geology
Member	Mr. Kong Makara/ Mr. Ou Chak	Chief, Mineral Resources Development Office/ Deputy-Chief of the Data Management Office, Department of Mineral Resources Development – In charge of GIS
Member	Mr. Sok Sokha	Official from the Department of Mineral Resources – In charge of GIS

Chapter 2 Mining Investment Foundation

2.1 Overview

Recently, against background of international tight demand of metal mineral resources, the investors of mineral sector in Cambodia has been increased, then all mineral deposits were covered by mineral concessions by the end of January, 2010.

In the Kingdom of Cambodia, the GDMR, the MIME that is described in Chapter 4 manages the mining sector. The Law on Management and Exploitation of Mineral Resources (hereafter, “Mining Law”) was issued in 2001. Today the preparation of Sub-decrees, inter-ministerial Prakas and Prakas related to mining law, which correspond to mining regulations, have been carrying out.

As describe in Section 2.4.2 there are six categories of mineral licenses. The two mineral licenses that are particularly related to this study are mineral exploration licenses (hereafter, “exploration licenses”) and industrial mining licenses (hereafter, “mining licenses”). In this chapter, the two licenses are called “mining rights”. In addition the preliminary survey with the government is required.

The procedures for acquiring of mining licenses are controlled by the GDMR. However, the acquisition of an industrial mining license requires the approval of the Council for Development of Cambodia (hereafter, “CDC”).

As the law provides the investment, there are Law on Investment (1994) and Law on the Amendment to the Law on Investment (2003). These laws provide for the “Qualified Investment Project” that is edible for acquiring incentives. Incentives for mining licenses are also provided for by the investment law and regulations.

The energy and transportation infrastructures that are heavily impacted commercial viability of mining have been arranged in Cambodia, especially the rehabilitation of one digit roads have been almost rehabilitated. However almost all mineral concessions are located in remote areas that are distant from of the main infrastructure.

2.2 Mining Policy

2.2.1 National Strategic Development Plan 2006-2010

(1) National Strategic Development Plan 2006-2010

The current national development plan of Cambodia is called the “National Strategic Development Plan” (hereafter NSDP2006-2010). NSDP is containing the Royal Government of Cambodia’s (hereinafter RGC’s) priority goals and strategies to reduce poverty rapidly that is one out of nine items provided in the Cambodia Millennium Development Goals (hereinafter CMDGs) prepared in 2003, and to achieve other CMDGs (to achieve universal nine-year basic education, to promote gender equality and empower woman, and so on) and Socio-economic development goals for the benefit of all Cambodian. The goals and strategies would be organized and implemented through the “Rectangular Strategic Plan” (Executive summary “Key strategies and actions”). In other words, the implementation of Rectangular Strategic Plan would lead the goals and strategies to achieve.

The Rectangular Strategic Plan was adopted by the RGC in 2004 to address governance and socio-economic development issues and efforts. The concepts of the Plan are shown Fig.2.2.1.



Fig.2.2.1 Rectangular Strategy Plan (after, PRSP2006)

The Rectangular Strategic Plan phases a slogan of “The Government aims to promote economic growth, full employment for Cambodian workers, equity and social justice, and enhanced efficiency of the public sector”. As shown in the figure “Good governance” is set as the core. For that purpose, the following measures are promoted;

- (1) Fighting corruption
- (2) Legal and Judicial reform
- (3) Public administration reform
- (4) Armed forces reform and demobilization

And the environmental for the implementation of Rectangular Strategy consist of four elements shown in the center circle of the figure:

- (1) Peace, political stability and social order
- (2) The integration of Cambodia into the region and the world
- (3) Partnership in development with all stakeholders, including the private sector, donor community and civil society, and
- (4) Favorable macroeconomic and financial environment

Within the outer four circles are ‘growth rectangles’ which represent;

- (1) (Rectangle 1) enhancement of the agricultural sector
- (2) (Rectangle 2) continued rehabilitation and construction of physical infrastructure
- (3) (Rectangle 3) private sector growth and employment, and
- (4) (Rectangle 4) capacity building and human resource development

Each strategic ‘growth rectangle’ has four side

- Rectangle 1 (1) improved productivity and diversification of agriculture
(2) land reform and clearing of mines
(3) fisheries reform, and
(4) forestry reform
- Rectangle 2 (1) continued restoration and construction transport infrastructure(inland, marine and air transport)
(2) management of water resources and irrigation
(3) development of energy and power grids, and
(4) development of Information and Communication Technology
- Rectangle 3 (1) strengthened private sector and attraction of investments
(2) promotion of SMEs
(3) creation of jobs and ensuring improved working conditions, and
(4) establishment of social safety nets for civil servants, employees and workers
- Rectangle 4 (1)enhanced quality of education
(2) improvement of health services
(3) fostering gender equity, and
(4) implementation of population policy.

<Comments>

Four factors within the Rectangular Strategy, that is, 1) Good Governance, 2) continued rehabilitation and construction of physical infrastructure, 3) private sector growth and employment, 4) capacity building and human resource development, are also important for the mining sector. The mining sector shall prepare specific items of each factor and address them.

According to the NSDP, key private sectors are agriculture, fishery, petroleum and natural gas, and tourism; no specific description of mining sector is found in the Plan. The reasons are mentioned as follow:

- The historical fact that the mining has not flourished past and present in Cambodia
- The contribution of mining sector to the socio-economy has not been evaluated, because of undiscovered viable metal mineral deposits that have been anticipated significant economic effect.
- As the trend of the world, due to the negative impacts of mining against the environment and public are stressed, strong protest of public against mining development has been fostered.

Considering above matters, we may safely say it is reasonable that the mining sector is not focused on as key sector in this stage in the stage of settling the NSDP.

(2) Rectangular Strategy Phase II

According to the “2008 Mid-term Review on the National Strategic Development Plan 2006-2010” (hereinafter “Mid-Term Review”) , the negative impacts from sudden changes such as the volatility in commodities prices, food shortages and the financial crisis that spread internationally, have made the Government recognize that these developments are “not only big challenges to be overcome but also invaluable opportunities for reshaping the Cambodian

economic system to be more sustainable and not dependent on only a few sectors that are quite vulnerable to external shocks. The Cambodian Government places more emphasis on agriculture growth, which has highly untapped potential for rural development, in order to broaden the economic base and make it sustainable in the long run, as well as to rapidly reduce poverty which is high in the rural areas”.

It also stated that since the 2008 election, the 4th Legislature “has laid out and determined to successfully implement the “Rectangular Strategy” for Growth, Employment, Equity and Efficiency –Phase II which is the “Socio-economic Policy Agenda” of the “Political Platform of the Royal Government of the 4th Legislature of the National Assembly”.

Rectangular Strategy Phase II (RSII) declares that the Royal Government is strongly committed to achieving its prioritized goals by ensuring:

- Sustainability, peace, political stability, security and social order to promote the rule of law and protect human rights and dignity and multi-party democracy
- Sustainable long-term economic growth at a rate of 7% per annum on a broader basis and more competitive capacity within the context of one-digit inflation.
- Poverty reduction at a rate of over 1 percentage point per annum, and improvement of main social indicators, especially in education, health and gender equality.
- Increased outreach, effectiveness, quality and credibility of public services.

(excerpted from the Mid-term Review 2.5)

However, the mining sector excluding oil and natural gas is not discussed in the NSDP and Rectangular Strategy, the RSII considers it as an important sector. Section 2.15 of Mid-term Review describes that ‘Furthermore, RSII (para 40) states that in order to ensure sustainable economic growth, which is required condition for employment creation and income generation, the Royal Government will continue to foster the diversification and strengthen the competitiveness of the Cambodian economy by assuring a highly conducive climate for both public and private (domestic and foreign) investments for the development of the following important sectors:

- (1) Agriculture
- (2) Water and Irrigation Systems
- (3) Transport Infrastructure
- (4) Electricity
- (5) Human Resource Development
- (6) Labour-intensive Industries and Food Processing for exports
- (7) Tourism
- (8) Exploitation of Oil, National Gas and Other Minerals
- (9) Information and Communication Technology, and
- (10) Trade

The background of the adoption of the other types of mining is given in 2.69 of the Mid-Term Review. That is, “Apart from oil and natural gas, the large potential for mineral

exploitation is beginning to attract overseas investor interest. Careful regulations and procedures need to be in place to ensure environmental sustainability, in-country value-adding processing, and maximizing revenue for the state.”

<Comments>

As mentioned above, other types of mining have begun to be recognized as important in the light of the tight demand and skyrocketing prices of energy and metal minerals which have been occurring since the middle part of this decade. Therefore, investment in mineral potential areas all over the world had been brisk, and Cambodia had been targeted as one of these areas. However, since the financial crisis, FDI has been decreasing, not only in mining but in all sectors. Moreover, mining is the sector that has particular price volatility, meaning that profit and loss are greatly affected by the price. For this reason, investment in mining is very sensitive to market conditions.

Naturally, environmental conservation, value-adding and maximizing revenue to the state are very important issues for the Government. At the same time, maintaining investor interest in Cambodia’s mineral resources, and creating international competitiveness for FDI are important for mineral development in Cambodia; because the mining sector in Cambodia, which has essentially no mining entity today, is merely one of the potential areas for investors. For that reason, the Government has to recognize the following characteristics of the mining sector:

- Mining requires a long period from exploration to exploitation
- Mining requires huge amounts of capital for operations and other expenditures
- Mining requires special equipment that has to be imported.
- Mining is very sensitive to occurrence conditions such as ore grade and geotechnical conditions, as well as volatility in the price.
- The prices of metals are determined on the international market; however they do not always reflect production costs.
- Mining requires infrastructure that gives high international competitiveness (to lower unit costs to the miners) in order to increase value-adding.
- After mine closure, a large amount of expenditures are required for site reclamation.

The Master Plan will have to be prepared from the above perspectives and incorporated into the NSDP.

2.2.2 Mining Policy

Since the establishment of Kingdom of Cambodia in 1993, a mining policy has not yet been prepared. While construction minerals and, however illegally gold and gemstones has been mined. Moreover, approximately 100 metal mineral concessions have been set under the exploration and exploitation agreement. The minerals of Cambodia are managed and controlled under the Mining Law; as well as with supplementary Sub-decrees, Prakas and exploration and exploitation agreements.

<Comments>

These laws, regulations and so on indicate that the Government intends to introduce the foreign investors into the mining development, to expand the employment of Cambodian and to develop the higher value added domestic mining sector. However those intentions are just expressed as regulations for and obligations to concessionaires, therefore more discussions on the basic policy, detail measures are required from now on.

It is no need to mention that the mining policy is required as the guideline to formulate various measures for mining. Beside the MIME is promoting to attract foreign investors toward mining investment; therefore, the Ministry should inform the foreign investors worldwide on the security and expectative international competitiveness of mining investment through the publicity of mining policy.

Also the mining policy has serious duty to explain to the nation especially the inhabitants of the potential mining area about the possibility of mining development for great contribution to the national and local socio-economics, and minimization of negative impact against the environment and communities, and to design the smooth mining development.

In the GDMR, the preparation of mining policy has been discussed. It is obvious that the outcome of the Master Plan Study will be implemented as a part of the mining activities, in addition, it is considered that the Master Plan Study Team have to cooperate on the preparation for creating better function of both the Plan and the policy.

2.2.3 Third Five-Year Strategy of National Development for Mineral Sector 2006-2010

Third Five-Year Strategy of National Development for Mineral Sector 2006-2010 (SNDMS) was prepared by the Department of Mineral Resources Development (hereafter DMRD) and then it was submitted to a meeting organized by the GDMR for discussion. According to the rule, the GDMR submitted this Strategy to the MIME for review and approval. So far, this Strategy has not approved yet. This Strategy is considered as action plans to be taken by the GDMR.

(1) Strategies (Summary)

Geology and mining sectors are playing important role in developing national socio-economic with sustainable and effective way. According to geological investigation Cambodia is abundant in minerals, such as iron, gold, gemstone, bauxite, coal and other minerals but those minerals have not been evaluated and started to mine yet. To improve geological and mineral information and to promote the development of mining industry in Cambodia, the MIME set this strategy to be carried out in the successive years as follows.

- a) Strengthening the enforcement of Law and Agreement on Metallic Mineral Exploration and Exploitation (hereafter called “Mineral Agreement”)
 - Drafting legal framework, promotion of enforcement of the Mining Law under the framework
 - Dissemination of the Mining Law including legal framework to private companies and people

- Training of Provincial officials of MIME for improving knowledge of the Law etc.
- b) Eliminating illegal mining especially illegal gemstone and gold mining
- Measures to eliminate exploration camouflaging licenser and illegal mining activities
 - Cooperation with local authority to wipe out illegal mining and regularization
 - Strengthening of management of the small scale mining and evaluation of environment impact caused by small scale mining to increase national revenue
- c) Evaluating technical reports on mineral exploration in concession areas
- Strengthening the control and implementation of the Mining Agreement
 - Control and evaluation of technical report on exploration and mining activities done by companies under the conditions of mineral licenses
 - Evaluation of environmental impact caused by exploration and mining activities done by companies
 - Control and determination mineral products to calculate amounts of royalty
 - Accelerate the collection of rental fee and royalties
- d) Attracting private investment in the mineral sector
- Dissemination of laws and legal framework, and improvement of information on geology and mineral potential
 - Dissemination of laws and legal framework through Website (Khmer and English)
 - Seeking the financial support from the RGC and international organization for conducting exploration and reserves evaluation of metal and non-metal minerals, and for compiling of a book on mineral potential in Cambodia
 - Development of a concession map
 - Compiling geological map with a scale of 1:100,000, continuously
 - Compiling a construction materials map, continuously
- e) Developing sustainable socio-economies
- Improve the study on geology served for the following development:
- Study on the environment impact caused by illegal gold mining
 - Study on the pollution of groundwater concentrated with minerals in the catchments
 - Development of land slide map in the Western part of Cambodia
 - Managing sustainable mineral management
 - Collecting and maintaining geological samples
- f) Developing human resources and strengthening national capacity
- Establishment of the GIS and RS (Remote Sensing) office in the DoG
 - Training of national staff with the following skills
 - Advanced GIS and RS
 - Mineral Analysis
 - Data Management
 - Geological survey to development

<Comments>

Fig.2.2.2 shows concept of the periods required for preparing and ore revising policies, laws and regulations, and the other measurements. In the figure, left parts are the stage of mining, central parts are required items (or more interesting items for investors) for mining implementation, right parts are final timing (shown by ☆) for preparing measurements that are combined by arrows.

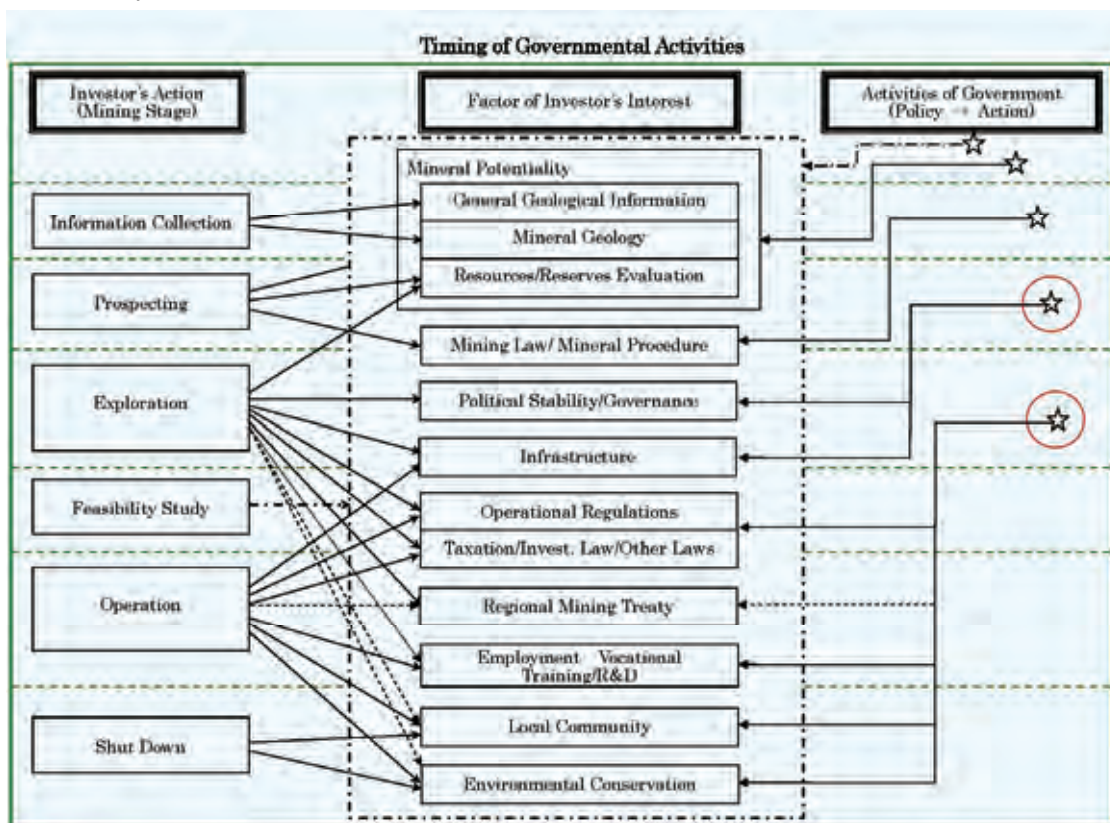


Fig.2.2.2 Governmental Activities based on Investor's Interest and Actions

That is, at the stage of information collection main matters of concerns are the geological information and mineral geology, that will be utilize for the investor's decision making as main factors whether they proceed next – prospecting stage (in Cambodian case, the MOU) or not.

At the prospecting stage, identifying the general geology and mineral deposits, and forecasting the resources, investors review the mining law (especially mining right and the process). At the exploration stage, conducting activities for mineral resources evaluation, investors might study political stability, infrastructure, laws and regulations, taxation and environmental conservation, from the point of implementation of the exploration and preparation for exploitation view. In the case of feasibility study, from the standpoint of operation, technology, economics, and sustainable development factors such as environment and local community

Present mining stage of Cambodia (other than construction minerals) is regarded as the stage of between the prospecting and exploration (shown by red circle). As shown in the

figure, at least the legal framework for and the organization of items up to the infrastructure have to be arranged. The development strategy and the action plan shall discuss these required items, then select key issues and prioritize in line with current situation of Cambodia.

To review the Strategy from the view point of above mentioned:

- As described the first paragraph, the first and foremost issues are improvement of geological and mineral information, and mineral resource evaluation. These issues are also important for the preparation of national mineral development plan and the measures of mining investment promotion.
- To manage and control the national property, furthermore as in many cases the occupational health and safety of mining and environmental prevention are ignored in the activities, the illegal mining shall be controlled. While controlling the illegal mining, the Government is required a measure to foster small-scale mining that put together these workforces.
- Shown in 2.4.1 and 2.4.2, from the viewpoint of mining investment promotion, occupational health and safety, sustainable development, laws and regulations related to Mineral Agreement that conform to them have factors to be revised and added; prompt to improve is necessary. Moreover the committee for review the mining laws and regulations that comprises intellectual persons (for example foreign experts from advanced mining countries), representative of concessionaires, and local communities, in addition to Government staff, is required.
- However the evaluation of the exploration technical report is important item for the GDMR, prior to that, as the cultivation of technical capabilities is more important, in addition to the training at the mining companies' site, training carried out by the Government itself (including dispatching staff to the abroad for education) shall be discussed, from the transparency point of view.

The Strategy is evaluated that it grasps key items, however it leaves some point to be desired. However considering the span of five years and the fact approximately 100 mineral agreements have been signed, the preparation of measure in many items (up to the infrastructure) is required.

2.3 Mining Administration

In Cambodia, the GDMR is mainly in charge of the mining administration other than the petroleum and natural gas.

The review process of mining law and regulation, the acquisition process of mineral right are discussed in this section and other concrete matters of mining administration is discussed in on and after section of the GDMR in this chapter.

2.3.1 The Process for Reviewing Mining Law and Regulations

Fig.2.3.1 shows the process for reviewing laws and regulations in Cambodia,

especially Ministerial orders (Prakas), Sub-decrees, and laws. Prakas are approved after a review by a ministerial committee headed by the minister; Sub-decrees are approved by a council of ministers headed by the Prime Minister. In addition, proposed laws must be passed by the National Assembly and the Senate and signed by the King before they become official.

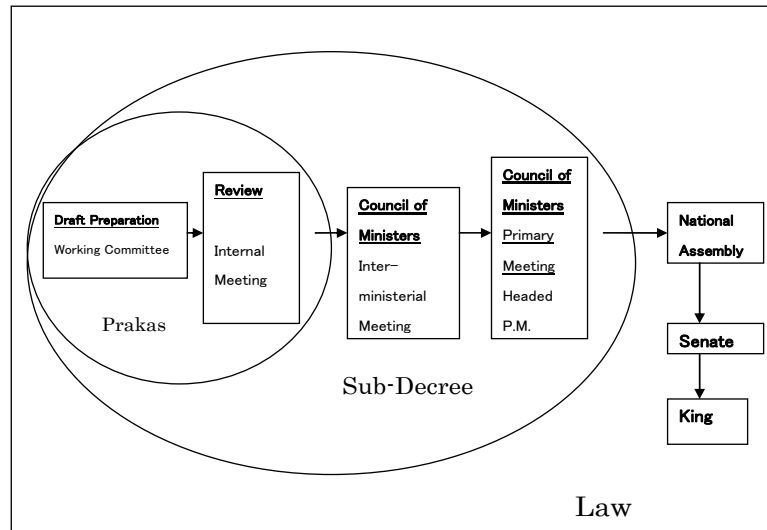


Fig.2.3.1 The Process for Reviewing Mining Law and Regulations

With regard to the review system of mining law and regulations, a permanent working committee organized by the Director of the General Department, which makes the drafts of the mining law and regulations. The drafts are reviewed in the ministry by a ministerial committee constituted of the Minister, the Secretary of State, the Under Secretary of State and members of the working committee. Besides the working committee evaluates technical reports, requests and proposals submitted by mining-related companies, and the results are sent to the Minister for review and approval.

As an actual example of the review process that of the Law on Management and Exploitation of Mineral Resources issued in 2001 is traced bellow:

- mid-1996 - A consultant of the Asian Development Bank (ADB) made the draft of 'Mineral and Mines Law'
 - Review by the working committee of the GDMR
- Dec. 23, 1996 The draft was submitted to the Council of Ministers
- Oct.28, 1997 The Inter-ministerial Meeting required the MIME to review the draft.
- Jan.19,1998 The GDMR invited representatives of inter-ministerial meeting to make comment
- Oct.29, 1998 Second draft was submitted to the Council of Ministers.
- April 5, 1999 Third draft was submitted to the Council of Ministers.
- April 22, 1999 The Council of Jurist at the Council of Ministers held meeting on the draft. (Representatives of the MIME attended the meeting)
 - The Council promised they would be revised the draft law in line with governmental

policy.

- Sep.19, 1999 The inter-ministerial meeting to review and revise the draft law.
- Oct.12, 1999 The inter-ministerial meeting approved the draft law.
 - The title was changed to ‘the Law on Management and Exploitation of Mineral Resources’.
- July13, 2001 The Mining Law was promulgated (after the adoption of the National Assembly and the Senate)

<Comments>

Problems of this mining law review were as follows;

- The draft law was made by only one consultant of the ADB. It was preferable to have discussions between GDMR and ADB consultant on the process of the drafting.
- The discussion of the draft provided by ADB at the GDMR was commenced after the translation in Khmer. It was preferable to have discussion not only within the GDMR but also among the GDMR, ADB consultant and parties relates to mining.
- It took so long time; almost three and a half years were required to get the approval of the Government.
- Not limited to this review, a problem of special importance is no existence of advisory committee constituted of stakeholders (the Central and Provincial Government staff , concessionaires, and inhabitants of local community) and third parties (persons of learned and experienced, and so on); all the activity of the preparations and review are carried out the Government exclusively.

In the case of mining promotion and mining investment, it should be understood that the cooperation of stakeholders on the mining development is required. In other words, if the mining measures for security right and so on, and for international competitiveness are not provided to investors (mining concessionaires), they shall withdraw from Cambodia; also if the environmental prevention, assurance of health and safety, protection and/or improvement of life, and manners and customs are jeopardized in the local community, the campaign against mine development will be raised, and hold up the development. To avoid these situations, the evolution of mining measures that reflect the opinion of stakeholders or that persuade them to be accepted is required. For this purpose, it is recommended to examine in establishing a mining council or mining association for consulting the key mining issues in a suitable time.

2.3.2 Mineral License Acquisition Process

According to the Mining Law, mineral licenses are classified into six categories. In this section, the acquisition process of the exploration license and mining license is discussed. Fig.2.3.2 shows the current mineral licenses acquisition process.

First, the mining investor shall be registered as a Limited Liability Company by the Minister of Commerce. Next, the investor (the director or shareholder) shall personally deliver a copy of Business Registration Certificate and other required documents to the MIME in order to apply for registration as a mining company. DMR is in charge of the registration of a mining

company.

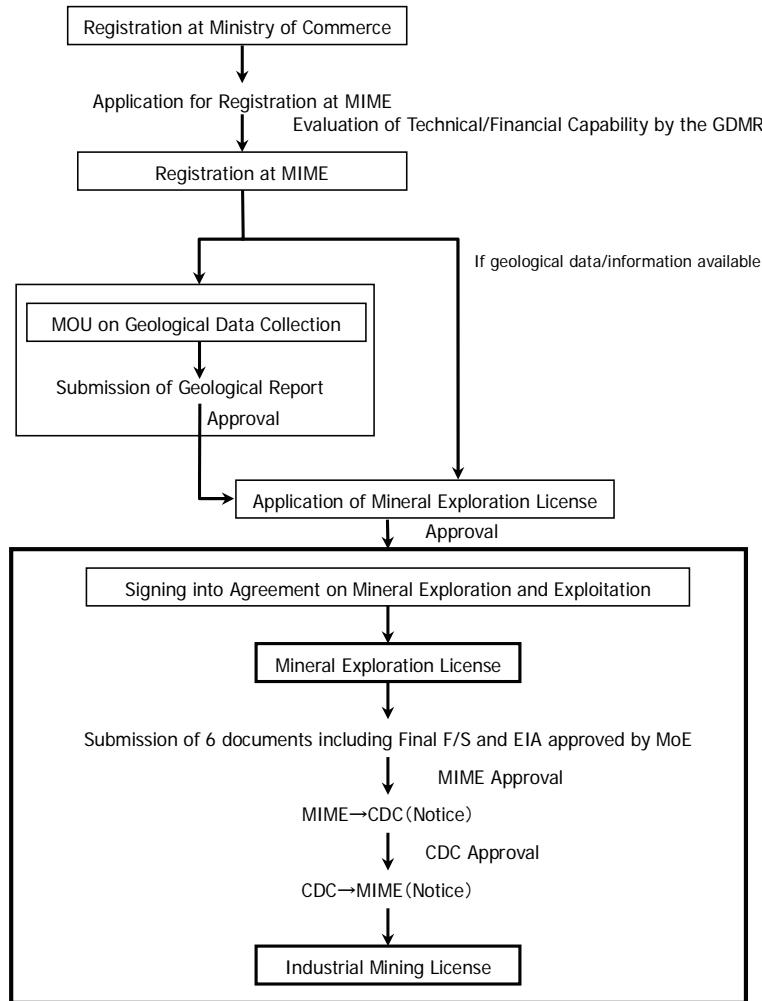


Fig.2.3.2 Mineral License Acquisition Process

(1) Memorandum for Understanding on Geological Survey

After the completion of registration at the two ministries, the company is eligible to apply for a mineral license. According to the Mining Law, the company is technically able to acquire an Exploration License directly; in real condition, they apply for a Memorandum for Understanding on Geological Survey (hereafter, “MOU”) to the GDMR. As the background, all areas that available data and information of mineral deposit was left by past investigations were under the exploration license by 2003, therefore remaining areas have been required the preliminary study on the existence of mineral deposits. The GDMR explained that consequently they introduced the MOU system, for minimizing the risk and cost of the exploration.

The main contents of the MOU are summarized as follows:

- The objectives of the MOU is the cooperation of preliminary geological survey for applied mineral deposit, where is considered in applying for the Exploration and Mining Licenses in the future by the company, between the company and GDMR
- Any large scale digging and drilling/sampling that will disturb the natural resources or

environment are not allowed.

- The company cooperates to the GDMR to set up the following items:
 - Work schedule
 - Data collection and geological reports to be made
 - Training programs and technical transfer; and
 - Other programs related
- The MOU is invalid if the company does not starts cooperate work with in sixty (60) days after the date of the MOU signed.
- The expenses for the cooperation are responsible by the company.
- The company provides OJT for two personnel of the GDMR, and offers the appropriate remuneration and accommodation to them.
- The Period of the MOU is six (6) months, extension is only once (1) for a term of three (3) months.
- The company provides monthly progress reports to the GDMR.
- Within thirty (30) days prior to the expiration, the company shall submit to the MIME a report concerning to the geological data collection for review and consideration. Once the geological data are verified, the company may apply to the MIME for an Exploration License.

<Comments>

It is agreeable that the MOU is the system minimizing the risk and cost of the exploration. The period of six months is sufficient considering that is a preliminary survey.

While the survey is named 'cooperation with the GDMR, it is preferable that the function of GDMR is clarified. All of the expenses of survey, and remuneration and accommodation of the GDMR staff joining as OJT trainees are provided by the company. Then, the monitoring system of GDMR prevent the collusive relationship between the GDMR staff and the company. Besides, considering the financial situation of the GDMR, it is inevitable to request the OJT expenditure on GDMR staff from the company. However by the benefit principle, it is to be desired that the GDMR prepare the OJT expenditure as their budget for the prospecting activity in the future.

With respect to the geological report, it is described that subject to the result of the report the company may apply for the Exploration License, but the standard of the judgment of the result for the GDMR is not clear. Basically, it is recommended that the company is eligible for applying the Exploration License, if they completed the work schedule.

In terms of the geological report, it is not defined that the report is disclosed or not.

If the company does not apply for the Exploration License, is it a good idea that the GDMR published the data as their information?

From the viewpoint of the improvement of the quality in the geological information, the standard of the report shall be attached to the MOU.

(2) Agreement on Metallic Minerals Exploration and Exploitation

After the approval of the geological report provided for in the MOU, if the company intends to apply for the exploration, they have to enter into an Agreement on Metallic Minerals Exploration and Exploitation (hereafter, “Mineral Agreement”) with the MIME. The exploration and mining licenses shall be issued under the terms and conditions of the Mineral Agreement.

According to the ‘model’ Mineral Agreement, the main contents are shown as follows:

- Under the Mineral Agreement the ‘company’, ‘exploration and exploitation’ and ‘the area of the exploration and exploitation are referred to as ‘Contractor’, ‘Mineral operations’ and ‘Contract Area’ respectively.
- The term of agreement is valid until the termination of the Exploration license and/or Exploitation License.
- The Exploration License
 - After the Effective Date of the Agreement, the Contractor shall apply for the Exploration License, with exploration work program and budget.
 - The period---- 2years The renewal ----2 years/time, maximum 2 time
Total ---- maximum 6years
- The Mining License
 - The period of the mining license is decided by the Agreement. As for the expansion, the maximum its times and the period (years) per time are also decided by the Agreement subject to the condition that the mining operation has still been indicated commercially. However the mining license, issued each time, shall be valid for five (5) years.
 - In principle, after obtaining the written approval, Contractor may apply for a mineral license at any time during a valid period of mineral exploration license. For application of mining license, plans of operations, marketing and sales; report on environmental impact assessment, plans of restoration and management; financial and cost analysis; program for employment, education and training of Cambodian citizens; plan for procurement of goods and services obtainable within Cambodia; are required.
- Work Obligations
 - Contractor shall commence the operations within ninety (90) days after the effective date of the exploration and/or mining license.
- Relinquishments
 - Mandatory area relinquishment: Thirty (30) percent of the area acquired with the initial exploration license will be relinquished prior to each exploration license expired.
 - Voluntary relinquishment
 - Restriction on area relinquishment: Ten (10) percent or greater of the area acquired with the initial exploration license
- Restoration Fund
 - An initial deposit for an amount equivalent to 20% of the estimated cost of restoration for each term of a mining license issued to Contractor. And the remainder of the estimated cost of restoration split in annual equal and consecutive amount based on number of years of validity of the mining license.

- Matters to be reported by the Contractor to the MIME
 - Mineral Operation to be reported at the end of each month (the MIME has right to observe the Mineral Operations upon mutual agreement.)
 - Annual production, sales and mineral cost statement
 - All report, data and information, analysis and interpretation that pertain to the Contract Area and Mineral Operations
- Royalty
 - Royalties shall be paid in US dollars on a market FOB basis. The rate (%) will be decided by mutual agreement.
- Land Rent
 - The land rent shall pay every year by the owner of the Exploration License and Exploitation License. The rate (US\$/ha) is decided by mutual agreement.
- Profit Tax and Other Taxes Concerned
 - Tax on profit, and other tax and duties concerned in accordance with the tax law and Mining Law.
 - Fees for irregular services that are provided by the government on an irregular basis.
- When ministerial or inter-ministerial regulations or parkas on the royalties, land rent, and other fees concerned come into effect, all rates provided in the Agreement shall be revised accordingly.
- Validation and Sale
 - The validation of Minerals or Final Products from Mineral shall be determined mutually agreed by the both parties, based on international market prices and or sales records such as commercial invoices and letter of credit (L/C).
 - Contractor shall be apply for the other licenses to the concerned competent institutions to export and sell final products from minerals mined from the Contract Area and processed as final products by a mineral processing factory build in Cambodia.
- Employment and training obligations
 - Contractor shall employ to the maximum extent possible, appropriately qualified Cambodian, and shall undertake education and training programs for Cambodian employees of Contractor not experienced in Mineral Operations to ensure the maximum participation of Cambodian personnel in Mineral Operations at all level.
 - Contractor shall spend the amount for the education and training of minister's employees in fields related to mineral resource development. These funds are to be utilized for purposes such as training, scholarships, conferences and purchases of equipment.
 - Contractor provides on-the-job training for the personnel of the Ministry in the field of the mining industry. The appropriate remuneration shall be made by the Contractor to the personnel of the Ministry.
 - Contractor may employ qualified foreign nationals to the extent that the Cambodian nationals cannot be found to fill the positions required.

- Environmental Protection
 - Contractor shall be responsible for restoring the area where responsible and prevent soil erosion and ensure the safety of the area in accordance with accepted mining practices and agreed restoration plan.
 - Contractor and his/her employees and so on respect the custom of the local populations and shall not unduly disturb and interfere with the living condition of such local populations.
 - Contractor shall use reasonable efforts to minimize the negative impact of its Operations on the natural environment conditions.
 - Contractor shall be prohibited from conducting Mineral Operations in the perimeter of archeological, patrimonial and historical properties, burial places, railway, public roads, ponds and land reserved for other special public purpose.
 - Prevent of forest fire
 - Contractor shall not interfere with timber operation in the Contract Area. Contractor shall notify immediately to competent authorities.
 - Prevention of water pollution
- Suspension and/or revocation of mineral licenses

<Comments>

As shown in the overview of the Mineral Agreement, its articles are equivalent to those prescribed in the Mining Law and mining regulations in other countries. One of the mineral agreements that were established between a government and a mining company as a contractor and attracted great attention from mining investors was Indonesia's Contract of Work (COW) in its early days. The COW is regarded as Lex Special, a special law, in Indonesian laws, and its terms and conditions were deemed to have priority over those of general laws. Such priority resulted in prescribing preferential tax treatment to contractors and robustness of its terms and conditions so that they cannot be affected by changes in other laws. The COW also prescribed security of right that would prevent overlapping of concession areas and security of tenure that ensures all mining operations ranging from exploration to sales, providing investors with sense of security and attractiveness.

Meanwhile, the Cambodian mineral agreements do not prescribe tax incentives to contractors. However, it is provided to contractors for qualified investment projects that meet requirements of CIB/CDC, if contractors are given a Mineral License by the mineral agreements. Such tax incentive is limited to exemption of import tax and is not extended to tax holiday or accelerated depreciation that can be seen in other industries. Furthermore, terms and conditions of the Cambodian mineral agreements are not stable, because tax and royalties may vary, as stated above, according to changes in the law that prescribes them. Moreover, they do not include security of title. As indicated by the existence of application for export of final products, they do not guarantee the tenure of exploitation that includes sales.

The most serious concern of investors about security of tenure that Cambodian mineral agreements do not specify procedures for obtaining the mining license; obtaining the

mining license is subject to approval from the MIME and CDC, and without approval, the contractor might not be licensed, because the exploration licensee's priority on acquisition of mining license is not clarified.

Most of its terms and conditions of the Mineral Agreement can be specified in the Mining Law. Therefore, after the arrangement of the mining law and regulations will be completed, procedures can be streamlined not by licensing through a mineral agreement but by direct licensing.

With respect to royalties and land rents, values specified in provisional Prakas or drafts of Prakas are likely to be used. Since an actual mineral agreement cannot be seen by a third party, when they are presented a model of mineral agreement they feel that is unclear. Therefore, a mineral agreement should contain actual values or specify that values depend on Prakas.

With respect to on-the-job training of MIME's staff members in the contract area, it is stated in the section of the MOU.

Many terms and conditions can be used as those for the Mining Law, as stated above. For example, few important issues like environmental protection are prescribed in the Mining Law. Such issues can be chosen from requirements of investors, sustainable mining development, transparency, and other good governance issues. However, it is preferable to incorporate them into the Mining Law so that they can be generalized.

(3) Comments from Concessionaires about Mining Administration

Face-to-face interviews were carried out at five foreign affiliates for investigation of the mining administration. The following comments were obtained in those interviews.

- (1) The Mineral Agreement is unclear, and it is concerned whether the Mining License can be obtained or not. (1 company)
- (2) The company needs to visit the MIME and GDMR for procedures for starting the business and operation, because they do not cooperate with other ministries well. (1 company)
- (3) It is time-consuming, taking approximately five months, from the arrival of import equipment at the port to the delivery to the company. (2 companies)
- (4) It is difficult to rent a land. (3 companies)
 - It is difficult to obtain a list of land owners.
 - There is an illegal occupant in the land.
 - The rent is expensive.
- (5) Exploration costs high. (1 company): Salaries related to training of governmental staff (at the company's site) have been paid by the company. Such salaries cannot be deducted as a cost.
- (6) Billings of taxes related to concessions describe no particulars, and receipts are not issued. (1 company)
- (7) Export of raw ore and concentrate is prohibited in principle. Such prohibition is disturbing exploitation of mines. (1 company)

- (8) Removal of landmines and mending of roads should be paid by the government. (1 company)
- (9) When we visited the Kratie North concession of Sothern Gold for another purpose, we found that the concession partly overlapped with an agricultural concession of a Chinese company that the Chinese company puts considerable limitations on exploration operations, and that employees of Sothern Gold have been captured by the Chinese company several times. These findings are important in terms of security of concession right, and should be discussed for other industrial concessions.

<Comments>

Among these comments, comments (2) to (6) relate to governance of the government. Comments (1), (7), (8), and (9) are likely to be significant barriers that discourage investors from investing in mine exploitation.

The mining administration of Cambodia has just begun and is in the trial-and-error phase. Therefore, institutional flaws are unavoidable. To mend such flaws, it is essential that the MIME and GDMR investigate mining sites and collect opinions of a large number of concessionaires through questionnaires and interviews.

2.3.3 Financial Administration of the MIME and GDMR

Table 2.3.1 shows trends in annual expenditure of the Cambodian government, assessed by the National Institute of Statistics of Cambodia. Annual expenditure in 2005 totaled US\$ 500 million, among which the spending by the MIME remains 0.3%, approximately US\$ 1.7 million. This indicates that the MIME is not favored compared to other ministries. Table 2.3.2 shows trends in the budget and actual expenditure. These values are calculated by the Ministry of Economy and Finance (hereafter, MEF). These statistics show that in 2006 the MIME budgeted approximately US\$ 8.8 million, approximately 61% of which were expended as the subsidy to the public companies to fill the loss in their finance and as contributions for social aid to the international organizations such as the UNIDO and CCOP. The next largest portion of the budget is the fund called immovable currency, accounting for approximately 24%, and has been used removal of landmines in sites of dam construction. Accommodations and travel expenses, which can be filed as expenses for geological surveys, have been spent from expenses for Other Services. The budget for other services amounted to about US\$ 0.7 million, approximately 8% of the total budget.

The budget of the MIME is distributed to its headquarters and branch offices in 24 provinces. The expenditure of the GDMR is naturally included in the budget of the MIME's headquarters but is not separated as the budget for the GDMR.

In terms of budgeting, the GDMR is responsible for reporting of the actual annual revenue of the current and previous years and revenue planning based on such actual values. However, expenditure budget has not been prepared based on activity plans.

<Comments>

This fact suggests that the economic foundation is unlikely to meet the requirements for the GDMR's promotion of measures for encouraging mining investment. In the MIME, general departments and provincial offices prepare their respective budget plans based on their project plans. These budget plans are put together as the budget of the MIME, which is then filed to the government. After the budget is allocated to the MIME, the significance of each project is assessed based on the budget. Then, the budget for each general department and provincial office is determined. Each general department and provincial office establishes a framework to execute of the budget.

Table 2.3.3 shows total amounts of mining-related taxes and fees and their annual averages in the past five years. Among these taxes and fees, 80% of royalties are allocated to the central government. A Prakas specifies that 10% of the royalties allocated to the central government, or 8% of the total royalties, is spent for geological and mineral surveys. The remaining 20% is allocated to provinces. In short, approximately US\$37,000 can be spent a year for surveys. However, an actual amount for geological and mineral surveys allocated to the DoG is about US\$2,000. The most important issue for the GDMR to encourage mining investment in the present phase is geological and mineral surveys. Therefore, at least the amount specified in the Prakas must be spent for geological and mineral surveys. In addition, the rates of distribution need to be discussed. As is the case with royalties, mining-related taxes revenues preferably need to be project-specific tentatively (for 15 years or so) for mining development and related development in local communities.

Table 2.3.1 Expenditure of Cambodian Government

	(Unit: Billion riels)					
	1996	1998	2000	2002	2004	2005
Total	1342.7	1053.8	1545.1	1922.4	2078.6	2132.6
Economy & Finance	374.2	109.1	95.5	39.9	36.0	40.4
National Defence	298.0	312.2	308.6	264.6	271.7	286.4
Education, Youth and Sports	171.8	102.4	165.8	289.7	325.9	236.5
Interior	130.0	173.3	142.2	173.7	168.2	161.8
Health	122.1	44.3	101.8	164.4	192.1	224.5
Agriculture, Forestry & Fishery	63.4	18.4	23.4	39.6	38.6	47.1
Labor and Vocational Training	45.4	47.6	26.5	33.3	32.6	8.9
Concil of Ministers	34.9	56.9	85.0	82.4	92.4	94.0
Post and Telecommunication	28.6	53.6	28.8	36.1	24.9	30.9
Foreign Affsir	24.7	25.8	36.2	52.2	49.7	57.1
National Assembly	10.4	12.0	20.7	33.2	42.1	40.0
Industry, Mining and Energy	9.2	3.0	5.5	7.0	6.2	7.3
Public Works and Transportation	9.0	13.1	20.3	16.1	12.5	12.9
Commerce	4.3	2.0	6.2	12.7	12.2	14.6
Tourism	3.0	1.5	6.4	9.7	12.9	14.3
Rural Development	2.8	6.0	7.6	18.4	16.6	8.2
Women's Affair	1.0	0.9	53.0	64.6	85.6	10.3
seneta			10.1	16.6	17.9	18.6
Water Resources and Mreeteorology			6.2	11.9	14.3	13.7
Other Ministries	9.9	71.7	60.3	87.6	96.2	132.1
Others			335.0	468.7	530.0	673.0

Cambodian Statistics 2006

Table 2.3.2 MIME Budget and Actual Result

		(unit:1000riel)			
		2003	2004	2005	2006
Budget (A)	Purchased Services outside				
	Other Services	2,603,000	2,498,000	2,327,000	2,865,000
	Tax and Duties	7,000	7,000	15,000	15,000
	Salary	1,817,246	1,730,000	1,910,000	2,491,528
	Subsidy and Social aid	45,000	45,000	73,000	21,496,942
	Immovable Currency				8,271,064
	Total	4,472,246	4,280,000	4,325,000	35,139,534
		2003	2004	2005	2006
Actual (B)	Purchased Services outside				
	Other Services	2,102,093	1,825,864	2,050,270	2,652,317
	Tax and Duties	6,946	6,706	13,658	13,897
	Salary	1,429,972	1,437,812	1,793,758	2,465,833
	Subsidy and Social aid	30,624	35,888	72,654	21,302,102
	Immovable Currency			13,061,870	8,271,064
	Total	3,569,635	3,306,270	16,992,210	34,705,213
		2003	2004	2005	2006
Difference (A) – (B)	Purchased Services outside				
	Other Services	500,907	672,136	276,730	212,683
	Tax and Duties	54	294	1,342	1,103
	Salary	387,274	292,188	116,242	25,695
	Subsidy and Social aid	14,376	9,112	346	194,840
	Immovable currency			-13,061,870	
	Total	902,611	973,730	-12,667,210	434,321

MIME Statistics

Table 2.3.3 Royalties, Land Rents and Fees related to Mining (2003-2007)

Type of Expense	Riels	US\$	US\$/Yr
Registration Fees	43,200,000	10,800	2,160
License, Renewal, Right Transfer Fees	932,020,000	233,005	46,601
Land Rentals	4,559,600,440	1,139,900	227,980
Royalties for Construction Materials	9,291,210,617	2,322,803	464,561
Total	14,826,031,057	3,706,508	741,302

(source: MIME Statistics)

2.3.4 Data for Mining

<Comments>

Supportive materials play an important role for mining investors to make decisions in early stages of investment. Geological and mineral data are necessary to assess the potentiality of mineral resources, but the GDMR has only 14 sheets of 1:200,000 geological map that cover Cambodia, a one-millionth map, a mineral resource map, and its descriptions. These data are criticized by current concessionaires as being poor in geological information and having wrong information, which are critical in mining and must be accumulated.

Furthermore, such statistics as reserves, quantities of exploration, production, and sales, expenses for exploration and production, breakdowns of such expenses, and sales amounts by region, mineral variety, and corporate size are needed for not only for investors but also for expansion of GDMR's projects. An annual report is also necessary. (Currently, results of drilling or changes in investments in mining have not been organized.)

2.4 Legal Framework for the Mining Sector

2.4.1 Cambodian Legal Framework for the Mining Sector

The current law and sub-decrees for the mining sector are listed in Table 2.4.1. There are a total of 25, consisting of 1 law with 42 articles, 6 sub-decrees, 11 prakas (proclamations) and 7 miscellaneous notifications. As of January 2010, twenty-four of these items are in effect (Category 1 in Table 2.4.1) and 3 items are still drafts. Each one of this legal frame is attached except the Mining Law to the Appendix II-1.

Table 2.4.1 Cambodian Legal Framework for the Mining Sector

No.	Name	Category
1	Law on Management and Exploitation of Mineral Resources (Mining Law)	1
2	Sub-decree on the Principles of Investment in Mineral Resources	1
3	Sub-decree on the Amendment of Article 1 of the Sub-decree mentioned above	1
4	Decision on the Establishment of a Sand Management Committee	1
5	Decision on the Establishment of an Inter-ministerial Commission to Control and Solve the Soil Excavating Issues around the Areas of Phnom Penh City	1
6	Decision on the Establishment of an Inter-ministerial Inspection to Inspect Results of Mineral Explorations Done by Companies Approved by Concerned Ministries-Competent Institutions	1
7	Government Order on the Prevention and Elimination of Forestry Cutting and Illegal Occupation of Forest Land	1
8	Sub-decree on the Suspension and Revocation of Mineral Licenses	2
9	Sub-decree on the Power and Roles of Officials Appointed to Inspect and Report Activities of Mineral Exploration and Mining	2
10	Sub-decree on the Determination of Mineral Resources Areas	2
11	Sub-decree on Conditions for Issuing and Extending Mining Licenses and Transferring Mining License Rights	2
12	Inter-Ministerial Prakas on Fees for Registration, Issuance, Renewal, and Right Transfer of Mineral Licenses, Annual Land Rental for Concession for Mineral Exploration and/or Mining and Royalty Rates of Mineral Resources	1
13	Prakas on Royalties for Construction Materials	1
14	Prakas on Registration and Conditions for Issuing and Extending Mineral Licenses and Transferring Mineral License Rights	1
15	Prakas on Uniforms for Officials of GDMR and DIME	1
16	Prakas on Gemstone Management Mechanism	1
17	Prakas on the Establishment of Competent Officials to Enforce the Mining Law	1
18	Circular on the Prevention of Illegal Mining Activities in Provinces in the Kingdom	1
19	Circular on the Suspension and Revocation of Mineral Licenses	1
20	Organization Chart of the GDMR	1
21	Prakas on the Functions of the DMR	1
22	Prakas on the Functions of the DoG	1
23	Prakas on the Functions of the DMRD	1
24	Prakas on the Establishment of an Inspection Office under the DMR	1
25	Prakas on the Establishment of a Revenue Office under the DMRD	1

<Comments>

Since the law is incomplete, it has been supplemented by sub-decrees, Prakas and

notifications when necessary, and the current legal framework consists of additional sub-decrees and Prakas as seams which are complicated and ambiguous. Furthermore, it is still not complete because it does not deal with promotion of investment in mining, security of capital, incentives, stability of investment parameter, etc. In addition, there is not any detailed regulation for safety and pollution from mining operations. As a result, there is no department in the GDMR to control and regulate these areas. Cambodia has an excellent potential to materialize mining activities, but there is no legal system currently in place that can lead the mining sector in the appropriate direction. Therefore, various issues might occur after mining production starts. In particular, detailed regulations for mine safety and the environment must be prepared urgently for certain types of mining operations, such as exploitation of heavy metals, use of various toxic reagents during ore processing and dangerous mining operations.

2.4.2 Law on Management and Exploitation of Mineral Resources

(1) Law on Management and Exploitation of Mineral Resources

Law on Management and Exploitation of Mineral Resources (hereafter called “Mining Law”) consists of the following nine chapters.

- Chapter 1 General Provisions (Articles 1 - 3)
- Chapter 2 Mineral License (Articles 4 - 10)
- Chapter 3 Categories of Mineral License (Articles 11 - 13)
- Chapter 4 Procedures to Issue Mineral Licenses (Articles 14 - 20)
- Chapter 5 Mineral Exploration and Exploitation (Articles 21 - 24)
- Chapter 6 Concessionaire and Land Owner (Articles 25 - 26)
- Chapter 7 Financial Provisions (Articles 27 - 32)
- Chapter 8 Penalties (Articles 33 - 40)
- Chapter 9 Transitory Provisions (Articles 41 - 42)

The Law can be summarized as below.

- This Law governs all mineral operations except for oil and natural gas operations. (Article 1)
 - All mineral resources in the sovereignty of Cambodia are state property. (Article 2)
- "Mineral resources" is defined as solid, liquid and gaseous substances that are precious stones, coal, non-metallic and metallic minerals, mineral water, rocks, gravel, sand, clay, oil, or natural gas, which are mined and drilled from underground and seabed and obtained from ocean.
- "Mineral operations" is defined as mineral prospecting, exploration, and exploitation.
- "Mineral prospecting" is defined as preliminary mineral exploration on superficial land layers, which uses simple equipment and makes less impact on the ground. It is of commercial interest and carried out for the purpose of obtaining a mineral license.
- "Mineral exploration" is defined as research into mineral occurrences to determine the potential, extent, quality, quantity, and commercial feasibility through mineral

prospecting, geological, geophysical, and geochemical surveys, excavation, drilling, transport, and analysis of samples.

"Mineral exploitation" is defined as mining, processing, transporting, trading and exporting of minerals for a commercial purpose, except for the trade, export, and import of processed or unprocessed precious metals and precious stones that are under the prevailing laws of Cambodia.

(All definitions above are from Article 3.)

- No natural person or legal entity can conduct mineral operations without a mineral license issued by the competent institution, except for mineral operations for a private purpose. Cambodians can prospect for minerals at a state-owned land, provided that such land has not been granted to any person under a mineral license. (Article 5)
 - Natural persons and legal entities can be granted a mineral license under consideration of their technical and financial capabilities. (Article 6)
 - Mineral exploration and exploitation are prohibited at state-owned lands that have been designated as cultural, historical, and patrimonial sites. (Article 8)
 - The mineral license shall not be issued for a land that overlaps another concession without a written permit from the existing concessionaire of the overlapped concession or without written consent from the Minister of Industry, Mining, and Energy certifying that the existing concessionaire's exclusive rights are not substantially prejudiced. (Article 9)
 - Six categories of mineral licenses (Article 11)
 - i. Artisanal mining license, issued only to Cambodians
 - ii. Pits and quarries mining license
 - iii. Gem mining license
 - iv. Mineral (gemstone) cutting license
 - v. Mineral exploration license (hereinafter, "exploration license"), issued to qualified natural persons and legal entities to explore for mineral resources.
 - vi. Industrial mining license (hereinafter, "mining license"), issued only to concessionaires holding a mineral exploration license for exploration and exploitation only in the concession.
- Contractors holding a mineral exploration license shall submit reports on the socioeconomic feasibility of mineral operations to the Minister of Industry, Mining, and Energy.
- Procedures, contents of reports, final feasibility studies (hereinafter, F/S), references, and conditions to issue a mining license shall be stipulated in a sub-decree.
- When the Minister of Industry, Mining, and Energy determines that the applied mineral exploration license or mining license will provide special benefits to the Cambodian people through a large-scale project, the Minister shall negotiate with the applicant to enter into a mineral investment agreement to be supplemented to the mineral exploration license or mining license. (Article 12)
 - Even for any land where mineral potential is known and for which a mineral exploration

or exploitation license has not been granted, the Minister of Industry, Mining, and Energy shall announce a bid by organizing an evaluation committee and requiring an official negotiation to issue an appropriate mineral license or to enter into a mineral investment agreement (as provided in Article 12). (Article 13)

- Cambodians can apply for an artisanal mining license at the department of the MIME in the province or municipality where the land for the application is located. (Article 14)
- Natural persons or legal entities shall apply for any other mineral license at the mining
- Concessionaires may apply for renewal, amendment, abandonment, mortgage, assignment, or inheritance of a mineral license other than the artisanal mining license after gaining approval from the Minister of Industry, Mining, and Energy. (Article 17)
- A mineral license shall be suspended or revoked if the concessionaire violates this Law. (Article 18)
- All concessionaires that hold a mineral license shall submit proposals, reports, plans, notifications to the Minister of Industry, Mining, and Energy and shall keep all concerned documents and records. (Article 19)
- Documents specified in Article 19 shall be maintained in confidential until the mineral license is expired or until the concessionaire allows their disclosure, except when such documents are used for environmental or social matters or statistics data for analysis of the nation's mining industry. (Article 20)
- Requirements related to mineral exploration and exploitation of concessionaires and subcontractors (Article 21)
 - i. Appropriate and efficient operations in accordance with technical and financial plans
 - ii. Environmental protection detailed in the Law on Environmental Protection and Natural Resources Management, such as environmental impact assessment, environmental management, restoration of mining sites, and financial guarantees
 - iii. Ensuring occupational health and safety of workers based on the mining plans
 - iv. Protecting the public safety in and around mining sites based on the mining plans
 - v. Education, training, and employment of Cambodians
 - vi. Commitment of the procurement of goods and services obtainable in Cambodia
- The Minister of Industry, Mining, and Energy may appoint competent officials, if necessary, for the following duties to implement this Law.
 - i. Management of mineral resources
 - ii. Six duties including protection of public and labor health and safety and environmental protection (Article 23)
- The mineral license applicant or concessionaire shall pay state fees for registration, the mineral license, renewal of the mineral license and transfer of rights, and the annual land rent. (Article 27)

- All concessionaires holding a mineral license, other than those holding a mineral exploration or mineral cutting license, shall pay the state royalties of the value of mineral exploited. (Article 28)
- The Minister of Industry, Mining, and Energy may notify concessionaires holding a mineral license of requesting submission of further information on sales contracts and accounting audits and may consult with them for the pricing of mineral products. (Article 29)
- A special fiscal regime may be applied to mineral products and revenue from the mineral licenses in the six categories. (Article 31)
- Rates and procedures of payment to the state of royalties and incentives to qualified officials shall be stipulated in an inter-ministerial Prakas.
Prevailing laws shall be applied to tax, custom duties, shareholder tax, dividend tax, provision (for taxes, liabilities, and charges), expenditure procedures, tax filling, payment methods, principles of accounting and financial practices, brought-forwarded loss, tax exemption and investment incentives for the mineral sector. (Article 32)

<Comments>

The segments underlined are portions which seem to require modification in the Mining Law in terms of encouragement of investment, in other words, transparency (or security), governance of the government, incentive treatments, stability of royalties and taxes.

Although technical and financial capabilities are focused among conditions to grant a mining license (Article 6), such conditions are unclear without standards. When two or more applications with the same content are filed, the judgment to select a company or separate concessions rests with the Minister, although this procedure has not been specified in the Law. To avoid such opacity, licensing on a first-come-first-served basis should be considered. With respect to the introduction of a first-come-first-served process, a concern is that concessionaires who intend to resell the concession will increase. Possible measures to prevent such situation include the introduction of graduated taxation in taxes and fees and the reduction in effective periods and areas of concessions in accordance with the confirmation and reasons of suspension of operations. The introduction of a first-come-first-served process and information technology will streamline application processes, resulting in increased convenience for investors.

With respect to security title, the proviso regarding overlapping of mining licenses of Article 9 that stipulates the permits by written consent from the Minister should be eliminated from a viewpoint of transparency. Rather conditions for overlapping of mining licenses should be clear, because such cases are found in reality. In addition to specifications of disputes with agricultural concessions over overlapping, criteria and conditions to grant a mining license for a concession that overlaps with another should be specified.

The words "a large scale project" and "special benefits," mineral investment agreements (Article 12) are unclear. Meanwhile, security of tenure, in other words, whether or not operations from exploration to mining are ensured, is a critical concern for investors. The

system of the mineral investment agreement supposed to be settled for supplement the law and regulation during the period when the law and regulation have been arranged. If the mineral investment agreement is utilized for a tool of the investment promotion, the measures is shown as follows. An agreement like Indonesia's COW that packages operations from exploration to mining is well-received by investors. A mineral agreement that is in the form of Lex Special and stipulates incentives for mining investment would be highly appreciated as an attractive agreement. However, it is indispensable to maintain fairness by entering into agreements with all concessionaires.

To change the subject, it is contradictory to this Law that the law limited the project signing the mineral investment agreement to the large size project, however, the all mineral exploration license and industrial mining license are targeted the mineral agreement today.

With respect to the bid system in Article 13, bidding areas where governmental surveys were conducted may contribute to collecting funds and producing expenses for future surveys. Bidding of abandoned concessions may also be possible. However, provisions to secure fairness and transparency are necessary.

With respect to abandonment, mortgage, assignment, or inheritance of a mineral license (Article 17), it should not be subject to approval but should rest with concessionaires. It should be coped with a notification from them.

With respect to suspension of a mineral license (Article 18), it is necessary to allow concessionaires to make a statement in a public hearing.

Pricing of minerals should depend on the market according to the principles of market economy, and consultation with the government is unnecessary. (Article 29)

Taking into consideration uniqueness of the mining industry such as high risk, high development cost, and a long development period, measures to attract mineral investors should not involve prevailing laws but should use incentive treatments. (Article 32) Changes in prevailing laws and royalties may have significant impact on economics of projects. Therefore, it is recommended to set provisions to maintain royalties during the mining period.

Throughout the Mining Law, each article has a framework but lacks content. It is preferable to revise it referring to, for example, mining laws of Canada, Australia, South American countries, and the guidance of international institutes so that it can include measures to strengthen investment that are unique to Cambodia.

(2) Laws and Regulations related to the Mining Law

According to the Mining Law, the following provisions must be detailed in a Sub-Decree or a Prakas. The former, which can be issued by the prime minister within his/her legal authority, is subject to adoption at a Cabinet meeting, followed by signing by the prime minister and related ministers. The latter is issued by a minister within his/her legal authority.

(1) Provisions to be stipulated in a sub-decree

- Criteria to issue a mining license, reports required to issue a mining license, content and procedure of the final F/S (Article 11)

- Suspension and revoke of a mineral license (Article 18) → Under preparation
 - Authority and obligations of qualified officials (Article 23) → Under preparation
- (2) Provision to be stipulated in a Prakas
- Formats, revising plans, content of reports, procedures, and guidelines for financial guarantees that relate to appropriate mining operations (Article 22): Prakas by the Minister of Industry, Mining, and Energy
 - Rates and payment procedures of royalties and investments for qualified officials (Article 32): Inter-ministerial Prakas
 - This is under discussion at the MEF and will be issued as a Prakas after approval.
- (3) Others (Major sub-decrees and Prakas already issued or under development, although they are not specified in the Mining Law)
- Principles of mineral investment (Prakas No. 8 and No. 133 that is a revision of No. 8)
 - Conditions related to extension and assignment of a mining license (sub-decree) → Under preparation
 - Taxes related to registration of mining and extension and assignment of a mining license (Inter-ministerial Prakas)
 - Land rent related to exploration and mining (Inter-ministerial Prakas) → Under discussion at the MEF
 - Conditions related to registration of mining and extension and assignment of a mining license (Prakas No. 340)
 - Ensuring location of mineral resource area (sub-decree) → Under preparation
 - Fees for registration of mining and extension and assignment of a mining license (Inter-ministerial Prakas)

<Comments>

Sub-decree No. 113 stipulates that for applications for mineral exploitation shall be filed at the one-stop-shop CDC after the completion of preliminary survey and mineral exploration with the recommendation from the MIME. This provision is likely to spoil the one-stop-service function.

Article 2 of sub-decree No. 8 specifies that all kinds of mineral types are not permitted for export and shall be retained to supply local industries to manufacture fine products, and that only the final product are allowed for export. This sub-decree is based on the hopes for development of industries with high added value in the nation and increased employment, and its ideals are understandable. Meanwhile, many investors in metallic minerals are investing in mining development for the purpose of exporting mineral products, because costs for power are high and processing techniques are low in Cambodia. Taking this situation into account, this sub-decree should be considered to be revised in an appropriate time. In a draft for royalties, the rate for the final product process is set lower than those for other processes. These rates represent the intention of this sub-decree.

In regards to mining taxation, a competitive analysis of 23 countries is presented in ‘Global Mining Taxation Comparative Study’ by Dr. James M. Otto and his team at the Colorado School of Mines in 2000, and also in ‘Mining royalty’ by Dr. J. M. Otto (World Bank Publications, 2006). These key rates of mining taxation in 23 countries are shown in Table 2.4.2. Dr. Otto established that the mine models for copper and gold are common to all the countries; then he ranked their competitiveness according to the Effective Tax Rate (ETR), which is defined as the undiscounted value of all amounts paid to the government, divided by the undiscounted value of the project’s before-tax cash flow.

Table 2.4.2 Key Taxes in the Targeting Countries

Country	Corporate Tax (%)	Royalty (copper)		VAT on Imported Equipment	Typical Import Duty (%)	Typical Export Duty (%)	Dividend Withhold Tax (%)	Interest Withhold Tax (%)	Govt. Equity (%) Requirement
		Basis	Rate						
Argentina	35	Sales Cost	33(%)	21(%)	1	None	0	15.05	None
Bolivia	35+	Gross Sale	1	13	5		12.5	12.5	None
Burkina Faso	35	FOB Value	4	18	11		12.5	12.5	10
Canada(Ontario)	31.97		None	7	0.5		25	25	None
Chile	35/42		None	18	10		35	4	None
China	33	Sales Revs.	2	None	None		None	None	None
Ghana	35		n a	10	Exempt		10	10	10
Greenland	35		None	None	None		35	None	None
Indonesia	30	Unit Base	Varied	10	None		20	20	None
Ivory Coast	35	Raw Cost	2.5	10	0.75		12	18	10
Kazakhstan	30	Contract	Varied	20	None		15	15	None
Mexico	35		None	15	10		7.6925	15	None
Papua New Guinea	35/25	NSR	2	10	None		17	None	80
Peru	30		None	18	12		None	1	None
Philippines	32	Market Val.	2	10	3		15	15	None
Poland	32-3-28	LME (one)	3	22	9		20	20	None
South Africa	30		None	14	None		12.5	None	None
Sweden	28		None	25	0.6		None	None	None
Tanzania	30	Value Based	3	None	None		10	None	None
USA	Progress.		Varied	None	Varies		30	30	None
Uzbekistan	33	Sales Price	7.9	20	Exempt		15	15	Sometimes
West Australia	34 -30	Realised V.	7.5/2.5	10	5		0 (upto 30)	10	None
Zimbabwe	35		None	None	5	None	20	10	None

Source: Global Mining Taxation Comparative

The ETR of Cambodia is calculated using key mining tax rates as follows;

- Profit tax: 30%
- Withholding tax for dividends: 14%
- Depreciation: Declining balance method, 10-year period and 20% rate
- Royalty for copper: 2.5% and 3.5% (2 cases)

The above-calculated ETR, based on Dr. Otto’s study, is listed in Table 2.4.3. In this table, the competitiveness of Cambodia’s mining taxation is ranked 14th and 16th from the top, respectively, which puts Cambodia in the middle among these countries. The same is true in the case of gold (2.5% and 3.5% royalty). The results are 14th and 16th from the top.

Recently, many countries have revised their royalties and other taxes related to mining. So, it is desirable that the GDMR regularly collect information about the mining taxation of mining countries, and evaluate the own competitiveness to improve their international standing.

This study shows the importance of profit tax, depreciation, and so on, as well as the royalties and fees that are managed by GDMR, in discussing the international competitiveness

of mining taxation.

Table 2.4.3 Comparison of ETR

Evaluation on Copper Project			
Rank	Country	ETR (%)	IRR (%)
1	Sweeden	28.6	15.7
2	Wester Australia	36.4	12.7
3	Chile	36.6	15.0
4	Poland	37.1	12.2
5	Zimbabwe	39.8	13.5
6	Argentina	40.0	13.9
7	China	41.7	12.7
8	Peru	42.8	12.3
9	Bolibia	43.1	11.4
10	South Africa	45.0	13.5
11	Philippines	45.3	13.5
12	Kazakhstan	46.1	12.9
13	Tanzania	47.8	12.4
14	Cambodia 2.5%	47.9	12.5
15	Indonesia	48.6	12.2
16	Cambodia 3.5%	49.8	12.1
17	Mexico	49.9	11.3
18	USA (Arizona)	49.9	12.6
19	Greenland	50.2	13.0
20	Ghana	54.4	11.9
21	Papua New Guinea	57.8	1.1
22	Ivory Coast	62.4	8.9
23	Uzbekistan	62.9	9.3
24	Canada (Ontario)	63.8	10.1
25	Burkina Faso	83.9	3.3

Source: Global Mining Taxation Comparative

2.4.3 Investment Law

(1) Council for the Development of Cambodia

a) Council for the Development of Cambodia

The government of Cambodia, which realizes the economic growth for nation-wide development should be based on the sound growth of the private sector, launched reform programs to promote private investment. One of the programs is establishment of the Council for the Development of Cambodia (hereinafter CDC) under the Investment Law of 1994 (excerpted from the website of the CDC).

1) Members

Prime Minister serves as Chairman of the CDC; Economy and Finance Minister as First Vice Chairman; and Commerce Minister and Economy and Finance First Deputy Minister as Vice Chairman. All other Ministers; leaders of the relevant governmental organizations including Governor of the National Bank, the CDC Secretary Generals; Provincial/municipal Governors, and their representatives are assigned as Members of the CDC.

2) Roles of the CDC

The CDC is an independent administrative corporation under the government and has the following duties to fulfill:

- i. Rehabilitation, development and promotion of public and private investment and establishment and operation of Special Economic Zones (SEZ) as an "etat-major" and a

- one-stop service organization for the government.
 - ii. To guide the preparation of development conception and strategies for Cambodia in cooperation with the relevant institutions.
 - iii. To effectively coordinate the reception and the allocation of external aid according to the needs and priorities of the nations.
 - iv. To facilitate and coordinate work among ministers, donor countries, investors and so on.
 - v. To provide guidance in the utilization of public and private resources.
 - vi. To facilitate and streamline administrative procedure for donor and investors.
 - vii. To review and decide on all the matters pertaining to the rehabilitation and development, public and private investments, and establishment and management of SEZ.
- 3) Organizations of the CDC

The CDC is organized by three committees, or the Cambodian Rehabilitation and Development Board engaged in the country's rehabilitation and development, the Cambodian Investment Board (CIB) engaged in private investment, and the Cambodian Special Economic Zone Committee related to special economic zones of the country under the direct control of Chairman.

The CIB, an executive body for private investment, is composed of the following eight bureaus.

4) Roles of the CDC/CIB related to private investment

An excerpt of Sub-Decree 147 Organization and Functions of the Council for the Development of Cambodia concerning the CDC's roles related to private investment is given:

- i. Although the CDC has duties as a one-stop service organization related to private investment (Article 10), it shall have approval of the Council of Ministers for matters related to the following investment projects (Article 11) which;
 - have investment capital of USD50million or more
 - involve politically sensitive issues
 - involve the exploration and exploitation of mineral and nature resources
 - may have negative impact on the environment
 - have long-term strategy, or
 - involve infrastructure concession.
- ii. The roll and responsibility of the CDC to the private investment (Article 17)
 - To serve as the 'One-Stop-Service' mechanism and the 'Etat-Major' of the Government in the examination and approval of matters pertaining to investment.
 - To study 'the competitive advantages' in the international market to set the vision of private investment for Cambodia. To cooperate with relevant ministries and institutions in preparing the strategy for private investments and to set up projects for private investment
 - To promote projects for private investment formulated by the Government and inform the investors of such projects in accordance to the procedures as set in the internal regulations of the CDC

- To coordinate the management of infrastructure concession projects
 - To initiate and recommend to the Government on the preparation and the amendment of laws and regulations related to private investment.
- iii. Relationship between the CDC and the relevant ministries and other governmental institutions in the management of private investment (Article 18)
- The CDC shall be the 'One-Stop-Service' of the Government in examining and approving private investment projects including the exploration and the exploitation of petroleum, gas and other natural resources although those projects are not eligible for incentive.
 - The relevant ministries and institutions shall provide their opinion in the examination and approval of private investment projects through the 'One-Stop-Service' mechanism.
- iv. The CDC and relevant ministries or institutions shall undertake and implement their tasks with regard to private investment projects through the 'One-Stop-Service' mechanism (Article 19)
- v. The CDC in the cooperation with The Office of the Council of Ministers, the Ministry of Planning, the Ministry of Economy and Finance, the Ministry of Commerce, and other relevant ministries or institutions, shall monitor the implementation of private investment projects approved by the CDC by coordinating through the 'One-Stop-Service' mechanism.

b) Mining sector and the CDC/CIB

<Comment>

As explained in the section of mining administration, the investor will have a new company registered at the Ministry of Commerce and then have it registered as a mining company with the MIME/GDMR. This mining company will apply to the CDC for a mining license after completing preliminary survey and exploration. This means the CDC does not yet serve as a one-stop shop for mining. An entity granted with a mining license is exempted from taxation on imported equipment and materials as an incentive.

(2) Investment Laws

The Law on Investment was established in 1994. With its enactment, the investment license system was established. Major revision was made to the Law in 2003 to simplify the licensing system, increase the system's transparency, and make the system predictable, automatic and non-arbitrary.

The revised Investment Law consists of 10 Chapters and 26 Articles of which outline is as follows:

(1) Chapter 1 General Provisions

- This law governs all Qualified Investment Projects (QIP) and defines procedures. Only the QIP are entitled to the benefits subject to the e of the Law.

(2) Chapter 2 The Council for the Development of Cambodia

- The CDC is the sole One-Stop Service organization responsible for the rehabilitation, development and the oversight of investment activities. (Article3)

- The CDC comprises of Cambodia Rehabilitation and Development Board and the Cambodian Investment Board (Article 5)
- (3) Chapter 3 Investment Procedure
- A person (either a natural person or a legal entity) who wishes to establish a QIP shall submit an Investment Proposal to the CDC (Article 6).
 - Approval (Article 7)
 - The CDC shall issue a Conditional Investment registration Certificate or a Letter of Non-Compliance within three working days following the reception of the application.
 - If the CDC fails to issue either a Conditional Investment Registration Certificate or Letter of Non-Compliance within three working days, it shall be considered that the Conditional Investment Registration Certificate has been automatically issued.
 - the CDC shall obtain all of the licenses from relevant ministries-entities on behalf of the applicant.
 - The above ministries-entities shall issue the authorizations, license, permit or so within 28 working days from the date of issuance of the Conditional Investment Registration Certificate.
 - The CDC shall issue a Final Investment Registration Certificate within 28 working days from the date of issuance of the Conditional Investment Registration Certificate.
- (4) Chapter 4 Investment Guarantee
- Foreign investors shall not be discriminated for the reason of being foreigner (except in respect of ownership of land) (Article 8).
 - The Cambodian government shall not undertake nationalization policies (Article 9).
 - The Cambodian government shall not fix the price or fee of products or services of a QIP (Article 10).
 - Investors shall be allowed to purchase foreign currencies for the purpose of investment through the banking system and remit foreign currencies for repayment of financial obligations related to investment (such as payment of imports, repayment of the principal and interest on international loans, payment of royalties and management fees, remittance of profits, and repatriation of the investment fund to the home country) (Article 11).
- (5) Chapter 5 Investment Incentives
- Incentives and privilege to the QIP → Exemption, in whole or in part, from customs duties and applicable taxes (Article 13)
 - Incentives (Article 14)
 - Exemption from corporate income tax [Tax Holiday]
 Exemption period: Trigger period + 3 years + priority period
 (The maximum trigger period is to be first year of profit or three years after the QIP earns its first revenue, whichever is sooner. The priority period shall be as defined by the Financial Management Law.)
 - The prerequisite of tax exemption is the QIP having an annual approval statement from the

CDC.

- The QIP that selects the Tax Holiday is not eligible for special depreciation.
[Note: Special depreciation is a special depreciation system that permits 40% depreciation of the fixed asset price for a new item or used item used in production or working processes.]
- Exemption from customs duties: Each QIP is exempt from customs duties for the following items:
 - Domestically oriented QIP: Production equipment, construction materials,
 - Export the QIP: Production machinery, construction materials, raw materials, intermediate goods, and production input accessories
 - Exporting company support the QIP: Production equipment, construction materials, raw materials, intermediate goods, and production input AccessoriesThis exemption system does not apply to export QIPs that select the production bonded warehouse system.
- A person who purchased or merged the investor (company) will inherit guarantee, rights, privileges and obligations of the QIP.
 - (* Rights or privileges of the QIP cannot be transferred or assigned to a third party except in the case of acquisition or merger (Article 15).)
- Incentives and privileges specified by the Law apply to the QIPs located in any designated SPZ or EPZ listed in the development priority list issued by the CDC.
- The QIPs are totally exempt from export taxes (except for projects governed by other laws)

(6) Chapter 6 Land ownership and use

- The ownership of the land used for a QIP shall be vested only in natural persons or in legal entities holding Cambodian citizenship. (Legal entity holding Cambodian citizenship is the legal entity in which more than 51% of the shares are owned by natural persons or legal entities holding Cambodian citizenship.)
- Use of land shall be permitted to investors, including concessions, unlimited long-term leases, or limited short-term lease.
- Investors shall have the right to own, mortgage or transfer (assign) the real estate and private assets attached to the land used by their QIPs during the concession or land lease contract period (All items above are from Article 16).

(7) Employment Practices

- Investors shall be free to hire Cambodian nationals and foreign nationals of their choosing (Article 17).
- Conditions that permit investors to employ foreigners (Article 18)
 - Type of trade where no qualified persons or specialists are found in the entire Cambodian populace.
- Obligations investors shall follow with respect to employment
 - Adequate and consistent training to Cambodian staff

- Promotion of Cambodian staff to senior positions over time

<Comment>

One of the major problems facing the Investment Law and the relevant laws seen from the viewpoint of the mining sector is that although special depreciation or Tax Holiday and tax exemption for imported machinery or materials is granted to the QIP, tax exemption for imported equipment or materials is the only tax credit granted to mining projects and that its reason is not clearly explained. Such unfair treatment shall be corrected.

2.4.4 Tax System

Table 2.4.4 shows a list of Cambodian taxes.

Table 2.4.4 Tax Scheme of Cambodia

Tax	Rate
Profit Tax (Article 1-23, Chapter 1)	
<ul style="list-style-type: none"> For legal persons 	20% (unless investment incentive rate of 9% or 0% are applied)
<ul style="list-style-type: none"> Oil and gas production sharing contract and the exploitation of natural resources including timber, ore, gold, and precious stones. 	30%
Minimum Tax (Article 24, Chapter 1)	
<ul style="list-style-type: none"> To be applied only for the real regime If the profit tax amount exceeds 1% of annual turnover, the taxpayer pays only the tax on profit. 	1% of annual turnover
Withholding Tax (Article 25 - 28, Chapter 1)	
<ul style="list-style-type: none"> Income received by individuals for services such as management, consulting, etc. Payment of royalties for intangibles and interests in mineral resources. Payment of interest by a resident taxpayer carrying on business, other than domestic banks or financial institutions. 	15%
<ul style="list-style-type: none"> Income from the rental of movable or immovable property. 	10%
<ul style="list-style-type: none"> Interest payment by domestic banks to residents with fixed term deposit accounts 	6%
<ul style="list-style-type: none"> Interest payment by domestic banks to residents with non-fixed term deposit accounts. 	4%
<ul style="list-style-type: none"> Payment to non-residents : Interest, royalties, rent and other income connected with the use of property, dividends, payment for management or technical services. 	14%
Tax on Salary (Article 40 - 54, Chapter 2)	
To be withheld monthly by employers	
<ul style="list-style-type: none"> 0 Riels - 500,000 Riels (Approx. USD 125 or less) 500,001 Riels - 1,250,000 Riels (Over 125 - 312.5) 1,250,000 - 8,500,000 Riels (Over 312.5 - 2,215) 8,500,000 - 12,500,000 Riels (2,215 - 3,125) Over 12,500,000 Riels (Over 3,125) For fringe benefits Non-residents 	0% 5% 10% 15% 20% 20% on market value Flat rate of 20%
Value Added Tax (Article 55-84, Chapter 3)	
<ul style="list-style-type: none"> Taxable person : Any person subject to the real regime system Registration: All companies must complete registration for VAT before commencing business. Others must register within 30 days after their taxable turnover for the preceding consecutive three months exceeds: <ul style="list-style-type: none"> - 125 million Riel for goods - 60 million Riel for services Taxable supply <ul style="list-style-type: none"> - Supply of goods or services by a taxable person in Cambodia - Appropriation of goods for his/her own use by a taxable person - Making of a gift or supply at below cost of goods or services - Import of goods into Cambodia Standard tax rate Tax rate for the goods exported from Cambodia and services executed outside of Cambodia Input tax credit is deductible against the output tax amount Monthly filing: The VAT declaration must be submitted on or before the 20th day of the following month. 	10% 0%
Other Taxes (Article 85, Chapter 4)	
Specific Tax on Certain Merchandise and Services	
<ul style="list-style-type: none"> Tickets for local and international air transportation Local and international telecommunications Beverages Tobacco, entertainment, large automobiles, motorcycles from 125 cc upwards Petroleum products, automobiles more than 2,000 cc 	10% 3% 20% 10% 30%
Property Transfer Tax	
<ul style="list-style-type: none"> For the transference of ownership of real property and certain types of vehicles as a result of direct transfer or a contribution of share capital to an enterprise Prohibited to issue certificates of ownership of property until the Property Transfer Tax has been paid. 	4% on transfer value
Tax on Unused Land	
<ul style="list-style-type: none"> Committee for Evaluation of Undeveloped Land, in cooperation with municipal and provincial authorities, decides whether a plot is "unused" or not and the amount of tax liability. Taxable for the portion over 1,200 square meters. 	2% on the assessed value of unused land
Patent Tax	
<ul style="list-style-type: none"> For annual business registration 	Approx. USD300-
Tax on House and Land Rent	
	10% of the relevant rental fees
Import Duty	
	Varies (4 bsands - 0,7,15, and 35%)
Export Duty	
	Varies (Mostly 10%)

Source: Cambodia Investment Guidebook

<Comment>

As shown by the table, the rate of the corporate profit tax is 20% for general legal persons, but a much higher rate, or 30%, is imposed on the mining industry. A review on taxation should be discussed and reviewed together with royalty and land rent in the future under a theme of the influence of taxation to the Cambodian mining industry on international competitiveness (refer to 2.4.2 (2)).

2.5 Cambodian Natural and Social Environments

2.5.1 Overview of the Cambodian Natural Environment

Cambodia is located in the southwest of Indochina, and shares its 2,615km long border with Vietnam (1,270km), Thailand (805km) and Laos (540km). Total area of the country is 181,035km², which is approximately half the size of Japan. Cambodia has a tropical monsoon climate, with a rainy season from June to October, and a dry season from November to May, and average annual rainfall of 2,300mm. Average annual temperature is 27.7 degrees Celsius, and the hottest months, April and May, both have an average temperature of over 30 degrees Celsius. 62% of the country is covered by forest, and most of the plains are savanna lands interspersed with tall conifers. The Mekong River flows through the central part of the country from north to south, and Lake Tonlesap is located in the northwest of the country. Low hills extend to the Thai border and the Gulf of Siam in the southwest of the country, and also to the Vietnamese border in the northeast. Total length of the coast is about 440km, and there are rich mangrove forests.

Approximately 30% of the country is covered with wetlands, especially in the catchment basins of the Mekong River and the area around Lake Tonlesap. The Mekong River flows from Laos in the north, through Cambodia to Vietnam in the south. Many tributary rivers flow into the Mekong River from all over the country.

The 62% forest cover is comparatively high among the Mekong River countries, but it has decreased from the 73% level of 1973.

2.5.2 Valuable Species

Cambodia is abundant in fauna and flora, including some indigenes. Cambodia may be the last sanctuary for many large mammals such as rhinoceroses, elephants, tigers, etc., birds such as frigate birds, vultures, floricans, etc., reptiles such as crocodiles, turtles, etc., and some fishes. The number of endangered species has increased due to recent industrial growth and tourism in recent years as well as advances in environmental investigation methods. Consideration of flora and fauna will be indispensable for Cambodia to achieve balanced development in the future.

(1) Fauna

The Ministry of Environment (MoE) and Ministry of Agriculture, Forestry and Fisheries (MAFF) have been investigating habitats and wildlife around protected areas, with assistance of international organizations such as the International Union for the Conservation of

Nature (IUCN), World Wildlife Fund (WWF), Wildlife Conservation Society (WCS), and International Crane Foundation (ICF). Table 2.5.1 shows endangered fauna listed by IUCN.

Table 2.5.1 Endangered Fauna (IUCN, 2007)

Red List Category	Mammal	Aves	Reptile	Fish
Extinct (EX)	-	-	-	-
Extinct in the Wild (EW)	-	-	-	-
Critically Endangered (CR)	3	7	4	4
Endangered (EN)	8	5	3	7
Vulnerable (VU)	16	12	5	6
Least Concern (LC)	71	467	1	5
Data Deficient (DD)	12	-	-	3
Total	110	491	13	25

N.B. The IUCN Red List Categories

- Extinct (EX): A taxon is Extinct when there is no reasonable doubt that the last individual has died.
- Extinct in the Wild (EW): A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range.
- Critically Endangered (CR): A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.
- Endangered (EN): A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered, and it is therefore considered to be facing a very high risk of extinction in the wild.
- Vulnerable (VU): A taxon is Vulnerable when the best available evidence indicates that it meets any the criteria A to E for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the world.
- Least Concern (LC): A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Vulnerable or Near Threatened.
- Data Deficient (DD): A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.

Tables 2.5.2 and 2.5.3 show endangered species, CR and EN in the IUCN Red List.

Table 2.5.2 CR Fauna of the IUCN Red List (2007)

English Name	Nomenclature
Kouprey	<i>Bos sauveili</i>
Sumatran rhinoceros	<i>Dicerorhinus Sumatrensis</i>
Javan rhinoceros	<i>Rhinoceros sondaicus</i>
Christmas island frigate bird	<i>Fregata andrewsi</i>
White-rumped vulture	<i>Gyps bengalensis</i>
Slender-billed vulture	<i>Gyps tenuirostris</i>
Bengal florican	<i>Houbaropsis bengalensis</i>
Batagur	<i>Batagur baska</i>
Siamese crocodile	<i>Crocodylus siamensis</i>
Asian leaf turtle	<i>Cyclemys dentata</i>
Hawksbill turtle	<i>Eretmochelys imbricate</i>
(fish-family Cyprinidae)	<i>Chela caeruleostigmata</i>
(fish-family Freshwater sawfish)	<i>Pristis microdon</i>
(fish Narrow snout sawfish)	<i>Pristis zijsron</i>

Table 2.5.3 EN Fauna of the IUCN Red List (2007)

English Name	Nomenclature
Dhole	<i>Cuon alpinus</i>
Asian elephant	<i>Elephas maximus</i>
Parti-coloured flying squirrel	<i>Hylopetes alboniger</i>
Tiger	<i>Panthera tigris</i>
Khing vor	<i>Pseudonovibos spiralis</i>
Douc langur	<i>Pygathrix nemaus</i>

Black-shanked Duoc	<i>Pygathrix nigripes</i>
Black gibbon	<i>Hylobates concolor</i>
Prange-necked partridge	<i>Arborophila davidi</i>
White-winged duck	<i>Cairina scutulata</i>
Greater adjutant	<i>Leptoptilus dubius</i>
Black-faced spoonbill	<i>Plata soror</i>
Spotted greenshank	<i>Tringa guttifer</i>
Yellow-headed temple turtle	<i>Heosemys grandis</i>
Cantor's giant soft-shell	<i>Pelochelys cantorii</i>
Giant wrasse	<i>Cheilinus undulates</i>
Mekong freshwater stingray	<i>Dasyatis laosensis</i>
Marbled freshwater stingray	<i>Himantura oxyrhyncha</i>
White-shoulder ibis	<i>Pseudibis davisoni</i>
Jullian's golden carp	<i>Probarbus jullieni</i>
Asian arowana	<i>Scleropages formosus</i>
Hammerhead shark	<i>Sphyma mokarran</i>
Laotian shad	<i>Tenualosa thibaudeaui</i>

Besides endangered species designated by the IUCN, there are other many endangered species designated by other international organizations and NGO groups. Table 2.5.4 shows some of them.

Table 2.5.4 Other Endangered Fauna

English Name	Nomenclature
Malaysian sun bear	<i>Helarctos malayanus</i>
Moon bear	<i>Ursus thibethanus</i>
Asian golden cat	<i>Catopuma temminckii</i>
Clouded leopard	<i>Neofelis nubulosa</i>
Kouprey	<i>Bos sauveli</i>
Banteng	<i>Bos javanicus</i>
Gaur	<i>Hylopetes alboniger</i>
Water buffalo	<i>Bubalus arnee</i>
Sambar	<i>Cervus unicolor</i>
Eld'deer	<i>Cervus eldii</i>
Hog deer	<i>Axis porcinus</i>
Barking deer	<i>Muntjac</i>
Leopard	<i>Panthera pardus</i>
Giant ibis	<i>Pseudibis gigantean</i>
Masked finfoot	<i>Heliopais personata</i>
Sarus crane	<i>Grus antigone</i>
Slow loris	<i>Nycticebus</i>
Pygmy loris	<i>Nycticebus pygmaeus</i>
Pigtailed macaque	<i>Macaca nemestrina</i>
Long tailed macaque	<i>Macaca fascicularis</i>
Yellow-cheeked crested gibbon	<i>Nomascus gabriellae</i>
Eurasian otter	<i>Lutra lutra</i>
Smooth otter	<i>Lutrogale perspicillata</i>
Asian small-clawed otter	<i>Aonyx cinerea</i>
Hiary noised otter	<i>Lutra sumatrana</i>
Siamese fire back	<i>Lophura diardi</i>
Red-collared woodpecker	<i>Picus rabiera</i>
Great hornbill	<i>Buceros bicornis</i>
White-browed piculet	<i>Sasia ochracea</i>
Euroasian woodcock	<i>Scolopax rusticola</i>
Black paradise flycatcher	<i>Terpsiphone atrocaudata</i>
Black-browed reed warbler	<i>Acrocephalus bistrigiceps</i>

Chinese sparrow hawk	<i>Accipiter soloensis</i>
Common moorhen	<i>Gallinula chloropus</i>
White-crowned hornbill	<i>Aceros nipalensis</i>
Changeable hawk eagle	<i>Spizaetus cirrhatus</i>
Lesser fish eagle	<i>Ichthyophaga humilis</i>
Elongated tortoise	<i>Indotestudo elongate</i>
Asiatic giant soft-shell turtle	<i>Amyda cartilaginea</i>
Giant Asian pond turtle	<i>Heosemys grandis</i>
Black marsh turtle	<i>Siebenrockiella crassicollis</i>
Impressed tortoise	<i>Mamouria impressa</i>
Asian box turtle	<i>Cuora amboinensis</i>
Black bridged leaf turtle	<i>Cyclemys atripons</i>
Spiny-breasted giant frog	<i>Paa fasciculispina</i>
Mortensen's frog	<i>Rana mortenseni</i>
Elephant ear gourami	<i>Osphronemus exodon</i>
Burmese trout	<i>Raiamas guttatus</i>
Needlefish	<i>Xenentodon cancila</i>
Tinfoil barb	<i>Barbodes schwanefeldi</i>
Golden belly barb	<i>Hypsibarbus vernayi</i>
Iridescent glassy perchlet	<i>Parambassis apogonoides</i>
Vietnamese giraffe loach	<i>Annamia normani</i>
	<i>Mystus albolineatus</i>

This information is based on the results of surveys implemented by the World Wildlife Fund (WWF), Wildlife Conservation Society (WCS), International Crane Foundation (ICF), Conservation International (CI) and others.

(2) Flora

Endangered species of flora designated by the IUCN are listed in Table 2.5.5.

Table 2.5.5 Endangered Flora (the IUCN, 2007)

Red List Category	No. of Species
Extinct (EX)	-
Extinct in the Wild (EW)	-
Critically Endangered (CR)	9
Endangered (EN)	13
Vulnerable (VU)	9
Least Concern (LC)	33
Data Deficient (DD)	4
Total	68

Table 2.5.6 and 2.5.7 show endangered species, CR and EN in the IUCN Red List.

Table 2.5.6 CR Flora of the IUCN Red List (2007)

English Name	Nomenclature
Gaharu agarwood	<i>Aquilaria crassna</i>
Keruing bulu	<i>Dipterocarpus baudii</i>
	<i>Dipterocarpus dyeri</i>
	<i>Dipterocarpus turbinatus</i>
	<i>Hopea helferi</i>
	<i>Hopea latifolia</i>
	<i>Hopea siamensis</i>
White meranti	<i>Shorea hypochra</i>
	<i>Shorea thorelii</i>

Table 2.5.7 EN Flora of the IUCN Red List (2007)

English Name	Nomenclature
	<i>Afzlia xylocarpa</i>

	<i>Anisoptera costata</i>
Burmese rosewood	<i>Dalbergia bariensis</i>
	<i>Dalbergia cambodiana</i>
	<i>Dipterocarpus alatus</i>
	<i>Dipterocarpus costatus</i>
	<i>Hopea ferrea</i>
	<i>Hopea pedicellata</i>
	<i>Hopea pierrei</i>
	<i>Hopea recopei</i>
White meranti	<i>Shorea henryana</i>
	<i>Shorea roxburghii</i>
	<i>Vatica cinerea</i>

2.5.3 Protected Areas

A traditional means for pursuing wildlife conservation is the establishment of protected areas in which human activities are prohibited or controlled with a view to safeguarding particular species or their habitats. More recently, the creation of protected areas has been conceived as part of a “national system”, or preferably within the framework of an international network. This enables the overall objectives of biodiversity protection to be more effectively pursued, an express requirement of the Convention on Biological Diversity, which lists the creation of a system of protected areas as one of the obligations for in situ conservation. A protected area is important not only for the survival of its flora and fauna, but also for economic and social reasons. Recent advances in economic research reveal the significant public benefits of protected areas including both private and public economic benefits, significant health values and their importance as key educational resources.

The protected areas system in Cambodia is based on the IUCN categories and objectives. This system is considered an essential tool for in-situ conservation providing benefits to biodiversity and the environment. Twenty-three of these protected areas are managed by MoE and 10 are managed by the MAFF. These protected areas are listed in Table 2.5.8.

Table 2.5.8 Protected Areas in Cambodia (source: MoE)

name	kinds	province	area (ha)	name	kinds	province	area (ha)
Kirirom	1	Kg. Speu/Koh Kong	35,000	Angkor	3	Siem Reap	10,800
Phnom Bokor	1	Kampot	140,000	Banteay Chmar	3	Banteay Mean Chey	81,200
Kep	1	Kampot	5,000	Preah Vihear	3	Preah Vihear	5,000
Ream	1	Preah Sihanouk	21,000	Dong Peng	4	Koh Kong	27,700
Botum Sakor	1	Koh Kong	171,250	Samlaut	4	Battambang	60,000
Phnom Kulen	1	Siem Reap	37,500	Tonle Sap	4	Siem Reap & 4 provinces	316,250
Virachey	1	Stung Treng/Rotanakiri	332,500	Trapeang Thmor	5	Banteay Mean Chey	12,650
Phnom Aural	2	Pursat & 2 provinces	253,750	Kbay Chhay	5	Preah Sihanouk	6,027
Peam Krasop	2	Koh Kong	23,750	Mondulkiri	5	Mondulkiri	429,438
Phnom Samkos	2	Koh Kong	333,750	Preah Vihear	5	Preah Vihear	190,027
Roniem Daun Sam	2	Battambang	40,021	Central Cardamon	5	Koh Kong & 2 provinces	401,313
Kulem Promtep	2	Siem Reap/Preah Vihear	402,500	Phnom Tamao	5	Takeo	1,200
Boeng Per	2	Kg. Thom	242,500	Seed Source	5	Preah Vihear	13
Lamphat	2	Rottanakiri/Mondulkiri	250,000	Seed Source	5	Kg. Thom	117
Phnom Prich	2	Mondulkiri/Kratie	222,500	Seima	5	Mondulkiri/ Kratie	305,440
Phnom Namlear	2	Mondulkiri	47,500	Southern Cardamon	5	Koh Kong	144,275
Snoul	2	Kratie	75,000			Total	4,624,971

N.B. 1 National Park, 2: Wildlife Sanctuaries, 3: Protected Landscapes, 4: Multiple Use Areas, 5: Protected Forests

The protected areas consist of (1) National Parks, (2) Wildlife Sanctuaries, (3) Protected Landscapes, (4) Multiple Use Areas and (5) Protected Forests. Total area of protected areas is 3,134,471 ha, and total area of protected forests is 1,490,500 ha. Total of both areas is

4,624,971 ha which is equal to about 25.5% of the total area of the country. The locations of these protected areas are shown in Fig. 2.5.1.

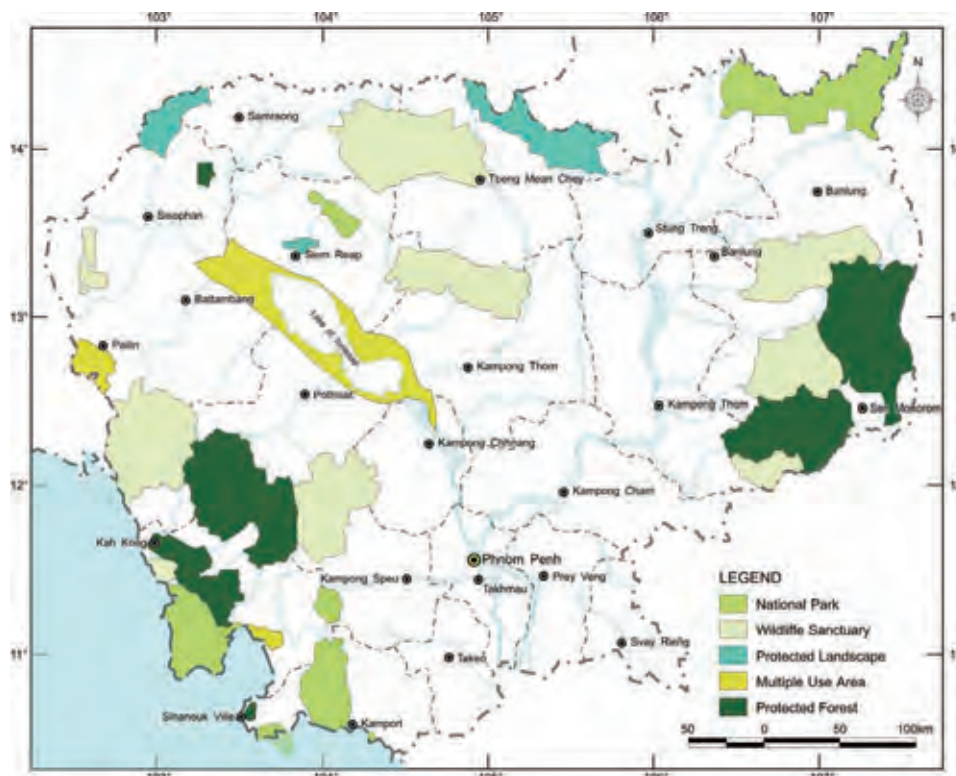


Fig.2.5.1 Protected Areas in Cambodia

2.5.4 Ethnic Composition

According to the Cambodian Social Economic Survey (CSES), Cambodia is a multiethnic country with an ethnic composition of 90% Khmer and other 10% minorities (Vietnamese, Chinese, etc). Provinces where many minorities live include Rottanakiri Province (79,657 inhabitants), Kratie Province (48,238) and Mondulkiri Province (16,744). It should be noted that Rottanakiri Province has about 80% minority population, Mondulkiri has about 45% and Kratie has about 15%. Minority populations in Cambodia are shown in Table 2.5.9. Fig. 2.5.2 shows the distribution of ethnic minorities in Cambodia.

Table 2.5.9 Population of Ethnic Minorities in Cambodia (source: CSES2004)

No	province	population	minorrrity	ratio(%)	No	province	population	mimorrrity	ratio(%)	
1	Banteay Mean Chey	678,882	114	0.0	13	Preah Vihear	150,220	177	0.1	
2	Battambang	971,894	264	0.0	14	Prey Veng	1,013,086	583	0.1	
3	Kampong Cham	1,655,349	547	0.0	15	Pursat	455,793	267	0.1	
4	Kampong Chhnang	531,516	0	0.0	16	Rattanakiri	100,248	79,657	79.5	
5	Kampong Speu	676,821	96	0.0	17	Siem Reap	755,404	103	0.0	
6	Kampong Thom	606,918	209	0.0	18	Preah Sihanouk	186,762	66	0.0	
7	Kampot	596,199	148	0.0	19	Stung Treng	89,923	115	0.1	
8	Kandal	1,203,134	250	0.0	20	Svay Rieng	513,616	0	0.0	
9	Koh Kong	118,495	0	0.0	21	Takeo	880,405	148	0.0	
10	Kratie	328,885	48,238	14.7	22	Odar Mean Chey	130,491	206	0.2	
11	Mondulkiri	37,048	16,744	45.2	23	Keb	58,166	0	0.0	
12	Phnom Penh	1,043,669	646	0.1	24	Pailin	41,247	0	0.0	
							Total	12,824,171	148,578	1.2

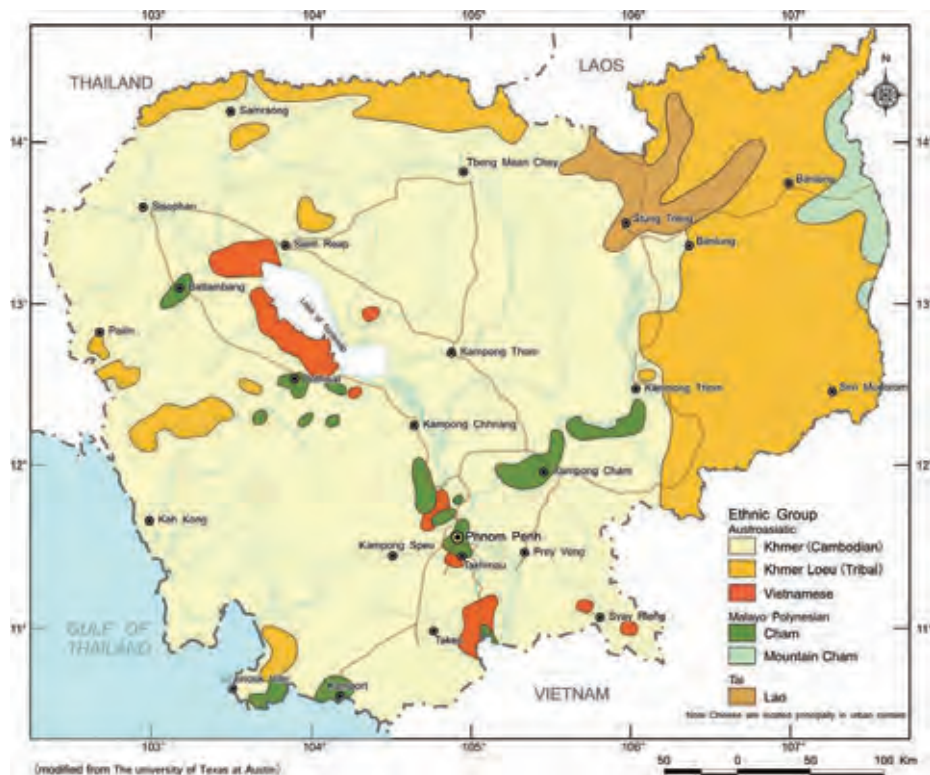


Fig.2.5.2 Distribution of Ethnic Minorities in Cambodia (source: University of Texas)

Cambodia can be separated into three linguistic groups: Austro-Asiatic, Malayo-Polynesian. The Austro-Asiatic group includes Khmer, Khmer Loeu and Vietnamese. The Malayo-Polynesian group includes Cham and Mountain Cham, and the Thai group includes Lao. The following is an overview of ethnic make-up of these groups (after the University of Texas).

- a) Kumer: Khmer people
- b) Kumer Loeu: not Khmer people, their ethnic background is not clear. The Cambodian government called highlanders Khmer Loeu (Highland Khmer) in the 1960s, and tried to assimilate them with Cambodians.
- c) Vietnamese: Vietnamese people who dwell along the Mekong River.
- d) Cham: descendants of the Champa Kingdom which had flourished in Vietnam. Most of them are Moslems, living along the rivers.
- e) Mountain Cham: descendants of the Champa Kingdom. Most of them are Moslems, living in the highlands.
- f) Lao: Lao people

2.5.5 Unexploded Bombs (UXBs) and Landmines

It is said that there used to be 4 million to 6 million landmines and more than 2.4 million UXBs, owing to the former Vietnam War and subsequent 20-years of internal fighting. Cambodia is one of the world's serious disaster countries affected by UXBs and landmines. Between 1976 and 2006, around 60,000 people were injured by these hazardous materials.

landmines have forced mining companies to waste a lot of money trying to locate hazardous materials. Artisanal illegal gold miners along the western border with Thailand carry their own metal-detectors to protect themselves and their gold mining operations.

Table 2.5.10 Results of Mine Clearance Projects

(source: CIMAC)

Year	Clearance Results	CMAC	RCAF	MAG	HALO TRUST	SUB-TOTAL
1992-2000	Area(Sqm)	81,104,062	36,373,778	6,167,459	9,622,225	133,267,524
	AP Mines	121,426	126,287	8,061	11,188	266,962
	AT Mines	2,324	7,358	19	286	9,987
	UXO	577,106	18,019	10,936	13,652	619,713
	Fragment	232,511,193	0	3,257,775		235,768,968
2001	Area(Sqm)	9,637,455	6,482,357	1,182,080	4,444,731	21,746,623
	AP Mines	16,916	2,581	2,073	5,891	27,461
	AT Mines	465	15	0	143	623
	UXO	77,034	4,060	1,076	6,032	88,202
	Fragment	14,069,870	0	652,129		14,721,999
2002	Area(Sqm)	11,582,239	17,118,994	1,712,771	4,387,667	34,801,671
	AP Mines	32,688	1,935	1,259	3,881	39,763
	AT Mines	493	266	35	114	908
	UXO	61,840	3,680	1,660	8,653	75,833
	Fragment	19,767,069	0	1,841,568		21,608,637
2003	Area(Sqm)	9,708,686	24,348,664	2,423,330	4,967,974	41,448,654
	AP Mines	22,160	25,841	3,505	6,222	57,728
	AT Mines	504	307	24	217	1,052
	UXO	76,671	21,094	1,689	18,427	117,881
	Fragment	21,032,570	42,127	2,846,451		23,921,148
2004	Area(Sqm)	11,157,336	13,129,136	1,602,795	5,889,822	31,779,089
	AP Mines	43,635	1,133	10,150	22,316	77,234
	AT Mines	936	161	67	602	1,766
	UXO	106,360	12,729	15,709	19,649	154,447
	Fragment	20,804,831	20,485	3,961,536		24,786,852
2005	Area(Sqm)	22,086,486	9,744,500	3,400,575	5,628,014	40,859,575
	AP Mines	74,165	234	4,542	36,838	115,779
	AT Mines	851	52	62	609	1,574
	UXO	128,865	9,182	18,088	27,295	183,430
	Fragment	23,866,907	23,089	4,980,557		28,870,553
2006	Area(Sqm)	26,772,625	16,538,990	2,853,409	4,684,516	50,849,540
	AP Mines	35,745	1,528	1,889	31,016	70,178
	AT Mines	1,000	139	34	215	1,388
	UXO	113,296	9,870	18,643	16,816	158,625
	Fragment	26,109,554	13,676	2,591,834		28,715,064
2007	Area(Sqm)	25,004,707	18,972,472	3,499,954	4,549,701	52,026,834
	AP Mines	32,245	219	5,592	33,536	71,592
	AT Mines	587	2	77	41	707
	UXO	114,755	11,712	19,816	10,756	157,039
	Fragment	24,732,667	21,254	3,426,921		28,180,842
Jan-Apr 2008	Area(Sqm)	9,400,921	8,642,791	1,804,137	2,223,929	22,071,778
	AP Mines	10,071	1,096	3,279	12,886	27,332
	AT Mines	194	16	81	15	306
	UXO	38,795	4,320	7,448	1,519	52,082
	Fragment	6,486,293	82,002	1,452,743		8,021,038
Total	Area(Sqm)	206,454,517	151,351,682	24,646,510	46,398,579	428,851,288
	AP Mines	389,051	160,854	40,350	163,774	754,029
	AT Mines	7,354	8,316	399	2,242	18,311
	UXO	1,294,722	94,666	95,065	122,799	1,607,252
	Fragment	389,380,954	202,633	25,011,514	0	414,595,101

2.5.6 Military Areas

The study team asked the GDMR about the locations of military areas, but the information was not given because it is top secret. However, as these military areas should not be targeted for mining development, it is basic information.