



Geoscience education in Lao PDR

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INTRODUCTION

Before 1966 the First Lao Geological Service (Service Central des Mines) was a section of the Department of Planning with only 4 staff members, and from 1966–1970 was established as Direction des Mines with 17 staff of which only two were graduates of mining and geology from France.

From 1970–1975, another 3 geologists who graduated from the Soviet Union, 2 mining engineers from Romania and 2 Technicians joined Direction des Mines. During this period the technician staff have the opportunity to receive some training abroad.

From 1975, the Department of Geology and Mines (DGM) became a component of the Ministry of Industry and Handicrafts.

Since 1975 until the early part of this decade, many of the staff have had undergraduate and/or post-graduate training in East European universities (particularly in the former USSR, and also in the former Czechoslovakia and Bulgaria and Romania) with a minority having studied in Vietnam.

In 1980, the DGM has more than 30 engineers and about 100 technicians of various disciplines (geology, prospecting for hard minerals, oil and natural gas, geophysics, hydrogeology, drilling techniques, geodesy, analytical chemistry, etc.). At present, the DGM employs 22 geologists and 30 technicians.

The Lao PDR Department of Geology and Mines is confronted with a number of obstacles in its multiple role as a national geological survey, a repository of geological and mining data, an advisor to government on mining policy and legislation, a regulatory body for the country's mining industry and an agency to promote foreign and domestic investment in mining.

The number of professional level geology and mining individuals in Lao PDR is not sufficient to staff the Department of Geology and Mines to the extent that it can fulfil its responsibility to oversee all aspects of the country's mineral resources, act as a stand-alone geological and minerals analytical and advisory service, or advise its Ministry at sufficient depth on mineral industry matters.

As the mining sector develops, an increasing number of professionals and technicians will be required. Private mining companies will also require domestic geologists and engineers and these will inevitably be selected at the expense of the Government's pool of technical expertise.

GEOSCIENCE EDUCATION IN LAO PDR

At the present time we do not have the Geoscience Education at the graduate level in Lao PDR. The technician level program which is provided at the National Polytechnic Institute in Vientiane is the only that exists.

The National Polytechnic Institute was opened in 1986 with the Cooperation between the Lao Government and the Government of the Soviet Union. This Institute is the first National Polytechnic Institute in Lao PDR established in accordance with the Government policy focusing on producing technician level skills in electricity and mining disciplines to supply the needs of both the private and state sector in industry and government organization.

The first study program in geoscience discipline provided in national Polytechnic Institute was started in 1986/87 while the first promotion was conducted in 1988/89. Each promotion is made up of around 20 people. To date about 400 technicians have been produced from the Institute.

STUDY PROGRAM

At present, the geology-mining unit provides 2 technician level programs:

1. Technician Certificate (Geological prospecting and exploration + geophysics)
2. Technician Certificate (Mining + Mineral Processing)

CURRICULUM OBJECTIVES

1. To produce technicians in this field in order to help develop the mining industry within the country.
2. To give an opportunity towards the students to gain knowledge so that they are able to do their best in their profession, have responsibility in their duty, work effectively and successfully with confidence.
3. To fully utilize the Department's resources in national development.

SELECTION AND ADMISSION

Graduates of Upper Secondary School can be admitted to the NPL.

SCHOLARSHIP

The students selected and admitted by assignment all have a scholarship from the Government.

FEEES

Students admitted by quota and entrance examination do not have to pay for their studies. Students having a scholarship can live in dormitories free of charge, whilst those admitted by entrance examination have to pay fees.

COURSES

1. Mining-Mineral processing branch

I General Education	hours
1 Social Sciences _____	178
2 Mathematics _____	288
3 Physics _____	124
4 Chemistry _____	104
5 Foreign Language _____	178
6 Education physics _____	178
II General Techniques	
7 Drawing _____	144
8 General electronics _____	100

III Field of Specialization

9 Mechanical Techniques _____	166
10 Basic Geology _____	82
11 Hydrogeology _____	56
12 Basic topographical survey and geomorphology _____	96
13 Chemical and technical analysis _____	129
14 Mining work and mining machine _____	280
15 Transport and storage _____	71
16 Economic and production planning _____	115
17 Boring explosion _____	120
18 Health and fire protection _____	48
19 Mineral processing _____	260

2. Mineral prospecting-exploration branch

I General Education	hours
1 Social Sciences _____	178
2 Mathematics _____	288
3 Physics _____	124
4 Chemistry _____	146
5 Foreign Language _____	178
6 Education physics _____	178
II General Techniques	
7 Drawing _____	144
8 General electronics _____	112
III Field of Specialization	
9 General Electronics _____	144
10 Basic Topographical Survey and Geomorphology _____	96
11 General geology and hydrogeology _____	102
12 Mineralogy, petrography _____	134
13 Prospecting and geological mapping method _____	94
14 Economic and production planning _____	65
15 Health and fire protection _____	48
16 Boring explosion method and equipment _____	138
17 Geophysics method in prospecting-exploration _____	260

PROBLEM AND REQUIREMENT

At the beginning until 1990 the Institute received the assistance from the Soviet Union in the field of consultants, literature, document for teaching, learning, and equipment for practice in the laboratory, including the upgrading of the level of the teachers.

At present time the Institute faces a number of difficulties in the field of the teaching because of the lack of new literature/documents/materials for teaching and the number of teachers is limited besides this the existing teachers do not have the occasion to upgrade their knowledge.

Various studies report that the quality of

education is considerably below standard, teachers are poorly trained and materials are inadequate. Professionals in all teaching fields are in short supply.

In summary, it is believed that the most pressing requirements of the geoscience education in Lao PDR are as follows:

- Funds for upgrading the level of teachers
- Funds for upgrading and strengthening the laboratory of the NPI
- Needs for some equipment for training in the fields such as drilling equipment.
- Instruction in project evaluation, financial analysis and decision-making in the mining industry.
- Instruction in modern mining methods, environmental regulations and monitoring.
- Instruction in economic geology.

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