

Preface

"Research Cooperation Project on the Exploration of Small-scale Geothermal Resources in the Eastern Part of Indonesia" was brought about by the ambition of Indonesian researchers developing geothermal resources for the Rural Electrification Program and of Japanese researchers developing efficient exploration techniques for less-investigated areas. This is a five-year project from April 1997 to March 2002, jointly conducted by the Volcanological Survey of Indonesia (presently the Directorate of Mineral Resources Inventory, DGGMR), the Geological Survey of Japan, AIST and the New Energy and Industrial Technology Development Organization (NEDO).

Since Indonesia is composed approximately of 13,700 islands, extending over 5,100 km from east to west, a nationwide electrical transmission network is not realistic, especially in remote islands. However, lots of the islands are of volcanic origin, and they have geothermal potential to produce green power. The Indonesian Government is promoting to construct small-scale geothermal power stations in those remote islands through the Rural Electrification Program.

This project has aimed to develop a geothermal exploration system suitable for tropical remote islands, and consequently to contribute to the Rural Electrification Program of the Indonesian Government. Based on the preliminary survey by the VSI, Mataloko, central Flores Island was selected for the project site. Various geo-scientific and technological methods have been applied to the geothermal system in Mataloko and its surrounding area to construct an exploration system effective for the tropical remote islands. At the final stage of the project two shallow holes were drilled to verify a geothermal model constructed by using of the exploration data. The steam production test was successfully carried out to confirm the geothermal reservoir under the project site.

It had taken us four years to prepare the project before it launched. The preparatory work started in March 1993 with the request from the Indonesian Government, which contained a feasibility study plan for a small-scale geothermal energy utilization and demonstration facility for remote areas. In 1993 and 1994, the first feasibility study was carried out for the preparation of technology transfer for geothermal energy utilization. In 1994 and 1995, NEDO conducted the second feasibility study, which focused on a joint demonstration research of geothermal prospecting technology. Based on these preliminary works this five-year joint project has been performed productively in exploration of geothermal resources in remote islands. However, we are still standing on the way to the goal of geothermal energy utilization as requested from the Indonesian Government in 1993.

The Indonesian Government shows a policy to develop geothermal energy to replace the domestic oil in consumption. This effort of replacement is also quite important for the contribution to the environmental protection on a global scale, because the emission of greenhouse gases from geothermal plants is so small. Although the project is not large in scale, the direction of the project is undoubtedly very important with respect to the current global environmental issues. Therefore, all the participating researchers have been enthusiastically working for such a noble purpose. Researchers joining the project are totally thirty-five in the Japanese side and forty in the Indonesian side. A close human communication network has already been established between Indonesian and Japanese researchers, and it convinced us that the project made a distinguished milestone for our future collaboration towards construction of geothermal power plants in remote islands.

This volume is a collection of 31 papers focusing on the geothermal system in Mataloko, Flores Island. All the members of the editorial committee under the official editorial board of Bulletin of the Geological Survey of Japan have devoted themselves to complete this special issue. The committee chaired by Dr. Muraoka consists of the following geo-scientists.

Hirofumi Muraoka, Institute for Geo-Resources and Environment, GSJ
Toshihiro Uchida, Institute for Geo-Resources and Environment, GSJ
Kasumi Yasukawa, Institute for Geo-Resources and Environment, GSJ

Sjafra Dwipa, the Directorate of Mineral Resources Inventory, DGGMR, Indonesia
Janes Simanjuntak, the Directorate of Mineral Resources Inventory, DGGMR, Indonesia
Asnawir Nasution, the Directorate of Volcanology and Geological Hazard Mitigation,
DGGMR, Indonesia
Masao Futagoishi, New Energy and Industrial Technology Development Organization
Koichi Tagomori, West Japan Engineering Consultants, Inc.
Hiroshi Takahashi, Mitsubishi Materials Natural Resources Development Corp.

I hope that you learn the modern geothermal exploration system, which can be applied to tropical remote islands, also learn nature of the Mataloko geothermal system revealed by the joint work of Indonesian and Japanese researchers.

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Masakatsu SASADA
Principal Research Scientist
Institute for Geo-Resources and Environment
Geological Survey of Japan, AIST