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Review of Three Leading Program Joint Fieldwork on 2014 at Beppu Geothermal Area

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Abstract

Three Leading Program Joint Fieldwork has been carried out on 2014 at Beppu Geothermal area. Lecturers were invited from top industry, government, JICA and University then visited local and largest geothermal plant. Group work has done together with various major and University, achievement was excellent, 60min each group final presentation. It is very rare trial for all leading program and it seems very high educational impact for all students, this experience should be summarized for future activity.

Keywords: Joint fieldwork, Geothermal, Green Asia, Doshisya University, Hiroshima University

1. Overview of Fieldwork

This joint fieldwork has been organized with three leading program (Doshisya University: Global Resource Management, Kyushu University: Green Asia, Hiroshima University: Tayaoka Program) from 8-11th September 2014. Around 10 students were joined from each University and around half was overseas students. We visited Beppu Geothermal area, took class about energy, environment and international relationships from staff, company and JICA people. Students were divided into three groups and discussed for final day presentation.

2. Schedule

Detailed schedule is shown in Table 1 and visited places are shown in Fig. 1, Beppu map.

Day1: gathered at APU, have kick-off meeting and decide group. Keynote class from Prof. Wada, coordinator of GRM Doshisya Uni. Leading program then visited Kyoto University Geothermal sci. and local geothermal plant, Suginoi Hotel.

Day2: visited Hachobaru geothermal plant then went back to Fukuoka. Geothermal class in Nishijin Plaza.

Day3: Class from UNESCO, JICA, Industry and University (Prof. Keiko Sasaki, GA)

Day4: group work and presentation (60

min x 3)



Figure 1. Visited site map of Beppu Geothermal area.

- ① APU University (Ritsumeikan Asia Pacific University)
- ② Jumonjibaru Lookout
- ③ Kyoto University Geothermal Sci.
- ④ Suginoi Hotel (local geothermal plant)
- ⑤ Yufu Lookout
- ⑥ Hachobaru Large geothermal plant

3. Lectures

Outdoor Class: by Prof. Hayashida, Doshisya University. At 2 lookout on the way of transportation. Explanation was done with solid map, about Oita prefecture geology. Unique and it

contributed attendance's relaxation.

Keynote Class: by Prof. Wada, Doshisya Uni. GRM coordinator. Beginning of fieldwork, it is important to have class about review of energy situation. Easy to understand for all students.

Geothermal Class: 3 geothermal class has done with Prof. Nishijima, Kyushu University, Prof. Takemura, Kyoto University and Mr. Tagomori from Industry (WESTJEC). Class about Geothermal from various viewpoints was well organized.

Social Class: about Nepal from Prof. Joshi in Hiroshima University, about Africa from UNESCO and Prof. Nakata and Prof. Mine from Doshisya University, about JICA from worker of JICA.

4. Activities

Visited various geothermal practical sites.

Suginoi Hotel: local geothermal plant. Half of resort electricity is covering with this plant. Detailed explanation has been done and inside steam generator can be seen with courtesy.

Hachobaru Power Plant: largest geothermal plant in Japan. It covers 207,500 kW without spending any carbon fuel. It impressed students with its scale. Discussion time and display about geothermal power supported understanding.

Kyoto University Geothermal Sci.: Kyoto

Uni. has branch in Beppu and it has long history. Historical explanation and research topic is explained.

5. Group Work and Presentation

Last day students prepared presentation until noon then presentation has done after lunch. First keynote speech was done from Mr. Kondo, Ministry of Education, Culture, Sports, Science and Technology. Then student presentation was carried out, each 60 min for three group. Each group told about utilization of geothermal power at specific area, Indonesia, Philippine and Kenya. They have done very good presentation, well summarized from historical and society situation with detailed static to application, comparison with other methods. After presentation students seems very happy with receiving certificate. Students exchange contact information each other and promised to see again.

5. Outcome and Conclusion

It was first experience for us and it was very rare to have Joint fieldtrip with three universities. Research category of each university was very difference but students became friend easily and seems very good experience to have discussion. All class is very high level, visited point was proper and presentation at last day was great, such

Table 1. Schedule of three leading program joint fieldwork

		September 8th (Mon)	September 9th (Tue)	September 10th (Wed)	September 11th (Thu)
1st	9:00-10:30	Transportation Doshisha Uni. (Kyoto-Beppu) Kyushu Uni. (Fukuoka-Beppu) Hiroshima Uni. (Hiroshima-Beppu)	Mini Outdoor Class "What is occurring in central Kyushu? (2)" (Doshisha Uni. Prof. Hayashida) @ Yufu-Mt. PA (9:15~10:00)	Class ① "The Past, the Present, and the Future of Africa: An Introduction" (Doshisha Uni. Prof. Mine) @ WEST JEC Meeting Room	Preparation for Student Presentation
2nd	10:45-12:15	11:00~12:30 Kick-off Meeting@APU canteen Lunch@APU canteen	11:00~12:00 Kyushu Electric Power Hachobaru Power Plant Visit	Class ② " "geomimetics" to smelt material for environmental technology" (Kyushu Uni. Prof. Sasaki)	Discussion Time (Q&A) 12:00 check out
-	12:15-13:10	12:30~13:00 Mini Outdoor Class "What is occurring in central Kyushu? (1)" (Doshisha Uni. Prof. Hayashida) @ Jomongibaru Lookout	Transportation (Hachobaru - Fukuoka) Lunch during Transport @ Yamada SA	Lunch	Lunch
3rd	13:10-14:40	Class ③ "Renewable vs Nuclear, Distributed vs Concentrated" (Doshisha Uni. Prof. Wada) @ APU (13:30~14:50)		Class ④ "Project Formulation and Implementation under Japanese Official Development Assistance" (JICA, Mr. Kobayakawa)	13:00~13:30 Keynote Speech Ministry of Education, Culture, Sports, Science and Technology 13:30~17:00 Student presentation and comments (60min×3) Commentators : Professors, JICA, WESTJEC, NEXT
4th	14:55-16:25	Class ② ③ "Beppu Geothermal Field" Kyoto Uni. Prof. Takemura @ APU ↓ Suginoi Hotel Geothermal Power Plant Visit (16:30~17:15)	Class ④ "Geothermal energy - Development of sustainability -" (Kyushu Uni. Prof. Nishijima) @ Kyushu Uni. Nishijin Plaza	Class ⑤ "Geothermal Power in practice" (WEST JEC, Dr. Tagomori) @ WEST JEC Meeting room	17:00~18:00 Closing Discussion (Review) @ Kyoso-Ian Conference room B
5th	16:40-18:10	Kyoto Uni. Geothermal Research Laboratory Visit (17:30~18:30)	Class ③ "Factors associated with dynamics of poverty in rural Midhills of Nepal" (Hiroshima Uni. Prof. Niraj Prakash Joshi)	Class ⑥ "Asia-Africa Sustainable Energy Partnership" Doshisha Uni. Prof. Nakata @ WEST JEC Meeting room	
after	18:10	19:30~Round table conference @ Hotel Haribishi	Preparation for Student Presentation	Preparation for Student Presentation	
Place		Oita / Beppu	Oita, Fukuoka	Fukuoka	Fukuoka



a comprehensive of 60 min presentation. Work with team to specific purpose is important for leading program since this program need to develop leadership for solving issue. This field trip matched this purpose.

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Figure 2. Group photo in Kyoto University Beppu branch