

# Himalayan Field Exercise Program for Japanese and Nepalese Students and Outline of the 11th Geotour in March 2023

*(Recommended by: Geological Society of Nepal, International Association for Gondwana Research, Japan Society of Engineering Geology, Nepal Landslide Society, The Association for the Geological Collaboration in Japan)*

## Forward

In central Western Nepal to the north of Pokhara, there are two 8000-meter peaks of Annapurna and Dhaulagiri. In walking along the world-deepest Kaligandaki valley flowing between the two peaks, beautiful mountains and valleys, distinct geology, geomorphology, climate and vegetations change dramatically. The Kaligandaki valley is the world-best course of field exercise to learn Himalayan natural environment, geologic structures and natural hazards.

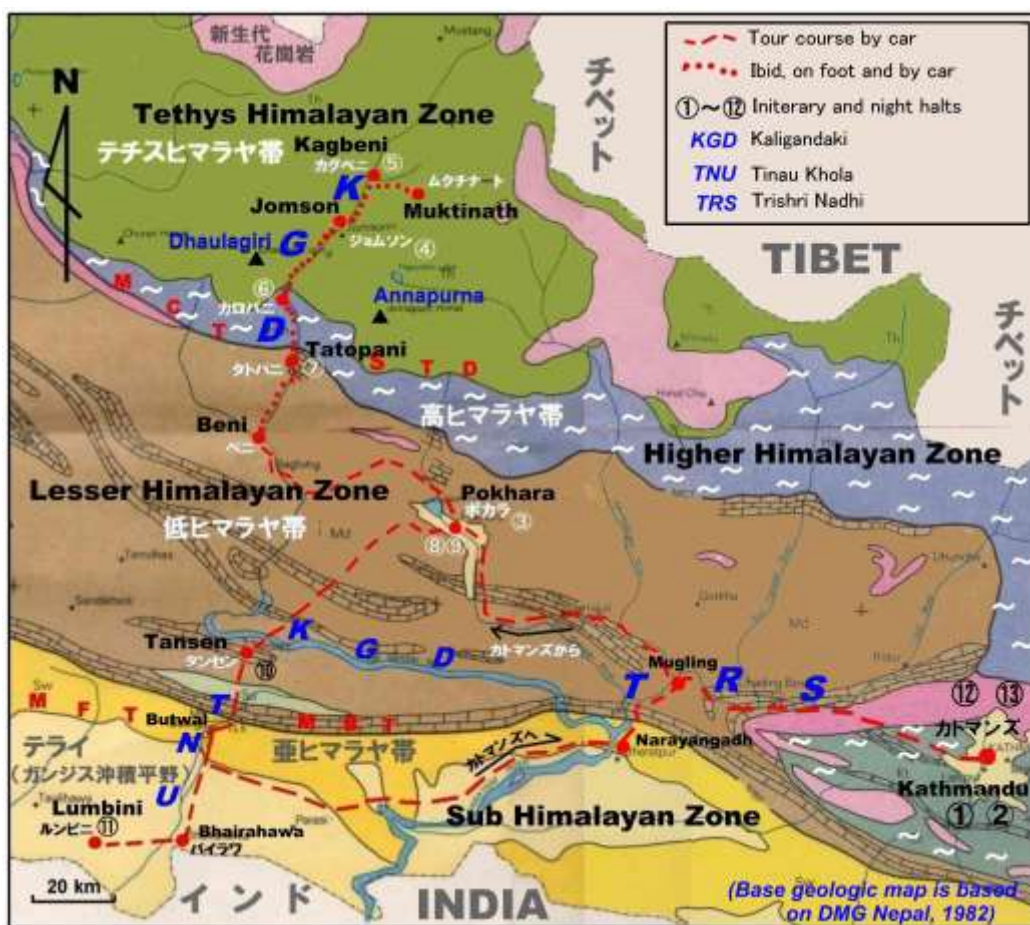
Regarding the geology that forms the foundation of nature, we can observe all geological zones and their boundary mega faults that constitute the Himalayan Orogen: they include from the south to the north, the Gangetic Plain (Terai), Himalayan Frontal Thrust, Sub Himalayan Zone, Great Boundary Thrust, Lesser Himalayan Zone, Main Central Thrust, Higher Himalayan Zone, South Tibetan Detachment, and Tethys Himalayan Zone. The tour covers the course from Muktinath to Lumbini by 7 days including one day tour surrounding Pokhara. One field team will accommodate 10 - 20 participants and is associated by 2 - 4 academic guides (senior and active university teachers) of Japan and Nepal to teach participants. The time of the tour is early to middle March every year. The first tours was conducted in March 2012 and the 11<sup>th</sup> tour (SHET-11) is planned to be in March 2023. The outline of the program is given below.

## Outline of the SHET-11

**Time, period, itinerary and course:** The program will be conducted in March every year and all the tours since 2012 were successfully conducted by now. For the geotour in 2023, the total duration in Nepal is 15 days including 10 days of field excursion along the traverse Kathmandu-Pokhara-Muktinath-Pokhara-Tansen-

Lumbini-Kathmandu, four days in Kathmandu having pre-excursion seminar, group discussion, final reporting, and Kathmandu city excursion mostly to observe environmental problems and earthquake measures of the city (Fig. 1, Table 1). Throughout the meetings and city excursions interaction among Japanese and Nepalese students will be going on well.

**Participants:** Students from any country including Japan learning geosciences including geology, natural hazards and natural environment. Young engineers newly employed by companies with related fields are also welcome. Teachers of student, and supervisors of the young engineers will also be accommodated. Citizens who are interested to see the Himalayan geology are also welcome.



*Fig. 1., Geologic outline of the tour area including tour route and dates of stay as a model itinerary*

**Table 1. Provisional Itinerary of the 11th SHET**

Itinerary of the SHET-11, March 2023					M. Yoshida 2022.11.28
Days	March	Route	Details	Remarks	
Day 1	3rd	Depart Japan in the night	Osaka (KIX) 9:55-KUL15:35(MH53) /Tokyo (NRT)10:05-KUL17:00(MH089) KUL 20:00-KTM 22:30 (MH114)		
Day 2	4th	KTM Stay	Pre-tour seminar at TU in the morning, and town excursion in the afternoon, escorted by TU students. Introductory Dinner with TU teachers.	No car necessary	
Day 3	5th	KTM-PKR by a chartered bus (Stay)	Viewing landslides, colluvium, talus, terrace, Lesser Himalayan geology, Krishnavir landslide.	Chartered Bus, with a good quality speaker	
Day 4	6th	PKR-Kalopani by a chartered bus or jeeps (Stay)	Some stops viewing Annapurna Range, briefly observing Fagfog quartzite, Kuncha phyllite, GLOF sediments and terraces.	Bus, with a good quality speaker	
Day 5	7th	KLP-bus-Muktinath-walk - KGB (Stay)	Several stops to learn geomorphology and geology of Quaternary and of Tethys Sediments.	Bus with tough driving ability and attached with a good quality speaker.	
Day 6	8th	KGB-car, walk-KLP (Stay)	Tethys Sediments, STDS, Higher Himalayan Gneisse, Morain hills. Observation and sketches.	KGB-KLP: Walking and driving, same bus as above	
Day 7	9th	KLP-bus, walk-TTP (Stay)	Higher Himalayan Gneisses, MCT, Lesser Himalayan Metasediments, Landslides.	KLP-TTP, mostly trekking, accompanied by the bus.	
Day 8	10th	TTP - bus - PKR (Stay)	Lesser Himalayan Metasediments, GLOF sediments, Terraces	TTP-PKR, mostly driving the bus, making several stops.	
Day 9	11th	PKR (Stay)	GLOF sediment, Landslides, Sand subsidence, Mountain Museum, World Peace Pagoda-Annapurna Range view.	One day city tour by the bus.	
Day 10	12th	PKR-bus-TAN (Stay)	Mahabharat Range topography, Lesser Himalayan Metasediments, Palpa Klippe.	Drive by the bus, with several stops.	
Day 11	13th	TAN -bus-Lumbini (Stay)	Lesser Himalayan Metasediments, Gondwana Sediments, MBT, Siwaliks, MFT, Gangetic Plain, Mava	Drive by the bus, with several stops.	
Day 12	14th	LMB- bus - KTM (Stay)	MFT, MBT, Lesser Himalayan Metasediments.	By the bus, with several stops.	
Day 13	15th	KTM (Stay)	Freetime in the morning. Summary seminar at TU with TU teachers and students in the Afternoon. Farewel dinner in the evening with TU teachers and participant students.	No car necessary	
Day 14	16th	KTM (Stay)	Morning: Arranging for the departure for Japan (e.g., PCR Exam). Afternoon: Visiting world heritage etc in Kathmandu escorted by TU students.	Nocar necessary	
Day 15	17th	Depart KTM	KTM 12:30 (MH1 71)-KUL19:30/23:35(MH88)	Stay in the aircraft	
Day 16	18th	Arrive JPN	NRT 7:15/18:20(MH1 77)-ITM 19:50	Arrive Japan	

**Japanese Participants form a group tour from Japan, TU: Tribhuvan University, KTM: Kathmandu, PKR: Pokhara, KLP: Kalopani, KAG: Kagbeni, TTP: Tatopani, TAN: Tansen, LMB: Lumbini**

**Education system in the geotour:** Academic guides including 2 - 4 active and/or retired university teachers from Japan and Nepal whose specialty lies in the Himalayan field geology will associate with the geotour and give guidance, lectures and exercise to participants. Participants are requested to submit reports on not

only field excursion but also all matters in the tour. An excursion guidebook that carries introduction to the Himalayan geology and natural hazards, topographic maps with observation locations, explanations on observation points with necessary photos and/or figures will be prepared and distributed to participants. In case the tour is recognized as to form a part of the formal curriculum of the university/company to which participants belong, teachers will send the evaluation of reports of the participants to the university/company.

**Number of participants for the geotour to be conducted:** The geotour is conducted in case the number of participants attains 5 people. In case the application of participation comes over 20, the earlier-to-be-accepted principle will be adopted, i.e., those who registered earlier will be preferred. There is a possibility that more than one geotour will be conducted according to number of applicants for participation.

**Necessary fee for the participation to the geotour:** Participating fee for Japanese students will be less than about 200,000 JPY (ca 1500USD), other individuals: less than about 250,000 JPY, and those who are officially dispatched are less than about 300,000 JPY. For students of other countries who join the tour in Kathmandu, the participating fee will be less than about 130,000 Nepalese rupees. Organizer is strictly prohibited to gain any economical interests from the tour, i.e., it should be zero, and any amount of exceeding income (such as financial support from organizations) related to the geotour should be refunded to participating students. Actually the participation fee for a Japanese students was 168,8774PY in average of 10 tours since 2012 including overseas air flight.

**The participating fee includes:** international flight, oil charge and tax for the flight, VISA application (above items are not included for those who join in Kathmandu), all necessary expenditures related to overseas travel, lodgings, meals and all necessary fees for the field excursion (local transportation, lodgings, meals, necessary snacks and drinks in the field, employment of porters and guides, preparation for the geotour including formation of excursion guidebook, and participating fee for the academic guides (Japanese and Nepalese teachers). Fees for overseas travel are not included for participants joining in Kathmandu.

**Expenses that are not included in the participation fee:** Snacks and drinks of personal favorite throughout the tour, gifts, medicines specific for individuals for daily use. Passports are to be obtained by participants.

**Organizers of the geotour:** Gondwana Institute for Geology and Environment (Hashimoto, Japan)\* and the Department of Geology, Tri-Chandra Campus, Tribhuvan University, Kathmandu, Nepal\*.

**Accounting of the geotour:** Accounting of the geotour is in the responsibility of accompanying Japanese teacher(s). He/she has to report the accounting of the geotour within a month after the geotour to the organizer. The account report is distributed to all participants and is disclosed to the public through internet.

**Report of the geotour:** All participants are requested to submit a tour report of some pages to the tour leader. A report of the geotour is made by academic guides who joined the geotour and submitted to organizers. The main organizer (GIGE) has to prepare a formal report of the program including the account report of the program, and has to distribute it to all participants and related organizations.

**Collaborators of the program:** A Japanese travel agency, Tokyo to provide international air tickets and a Nepalese trekking agency (Kathmandu or Pokhara) to help organization of the geotour in Nepal will be identified in time.

**Supporters of the program:** Academic societies, related organizations, groups, companies, and eminent individuals of academic, governmental and business worlds. Donations by organizations and companies of related fields of activity as well as by individuals who hope to encourage participating students will be searched for to reduce participating fee of students. Presently 2 Academic societies of Japan, 2 societies in Nepal and 1 international society have provided nominal support to the program. (The Geological Society of Japan does not support the 2021-2022 tour due to the unstable condition of Japan and overseas due to the Covid-19 problem).

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### **ORGANIZING BODIES:**

**\* Gondwana Institute for Geology and Environment (Hashimoto):** The main office of the Gondwana Institute for Geology and Environment (GIGE), which is an international NGO/NPO and is situated in Hashimoto, south of Osaka, SW Japan. The GIGE is a group of loosely connected world's geoscientists belonging to countries located in Gondwanaland crustal fragments. About 50 scientists are registered as the Fellow of GIGE. There are 10 GIGE chapters in the world covering 8 countries including Japan, Nepal, India, Sri Lanka, China, Kuwait, Tanzania, and D. R. Congo. Work of the main office is generally conducted by some to ten volunteer scientists of GIGE fellows. Gross budget of GIGE main office in 2015 was about eight million JPY, and major work of the main office in 2015 has included the Fourth Student Himalayan Exercise Tour in Nepal jointly with the Department of Geology, Tri-Chandra campus, geological research of the Nepal Himalaya jointly with scientists of Nepal chapter and editing of geotour guidebooks of the Himalaya with the Nepal chapter, etc. (Website: <http://www.gondwanainst.org/>)

**\*Department of Geology, Trichandra Campus, Tribhuvan University:** This is the largest and most advanced geological education and research body in Nepal and includes 16 teachers and about 100 undergraduate students. Since the inauguration of the department in 1960s, staffs of the department have made effort in research and educating students in the Himalaya. The Department staffs have been conducting advanced research in the Himalaya on geology and natural hazards in collaboration with scientists worldwide including Japan. The Department has an intimate relationship with Japan since long, such as that over half of the staff with D.Sc degree received education and degree in Japan, and over a half of the staff has an experience of or even now conducting collaborative research with Japanese researchers.

(Website: <http://www.geology.edu.np/>)