

# **GUIDELINE ON GEOLOGICAL RESEARCH WORK IN NEPAL (FOR FOREIGNERS and NEPALESE RESEARCHER)**

## **Introduction**

Nepal has distinctive geotectonic location in the most prominent central part of the Himalaya, which represent nearly one third of the active India-Eurasia collision zone. Nepal Himalaya is best place for those who want to study on firsthand about the collisional mountain building process active on earth. For trekkers and mountaineers, Nepal Himalaya itself is a paradise that offers unique geomorphology with altitudinal variation from below 100m in the south to 8848m in the north. Every year, hundreds of researchers and students visit Nepal, to conduct geological field work, among which many find new discovery in the field of geology. **Department of Mines and Geology (DMG)** is the sole organization responsible for facilitating and monitoring all kinds of geological field work in Nepal. Geological field work in Nepal began as a classical descriptive geological observation after opening of the country to foreigners with the aim of geological mapping and mineral exploration of the Himalaya. However, in the recent years more focus is on the lab work which requires shipping large amount of geological samples out of the country. Recently, every year hundreds of geological research articles are published to describe different aspects of Himalayan Geology reflecting the growing curiosity of geoscientists all over the world. It is therefore desirable to know the general fieldwork environment and procedures to conduct fieldwork and shipment of sample for research purpose. This guideline presents a brief introduction of Nepal government policies and instructions about geological fieldwork in Nepal. Please go step-by-step through the following steps:

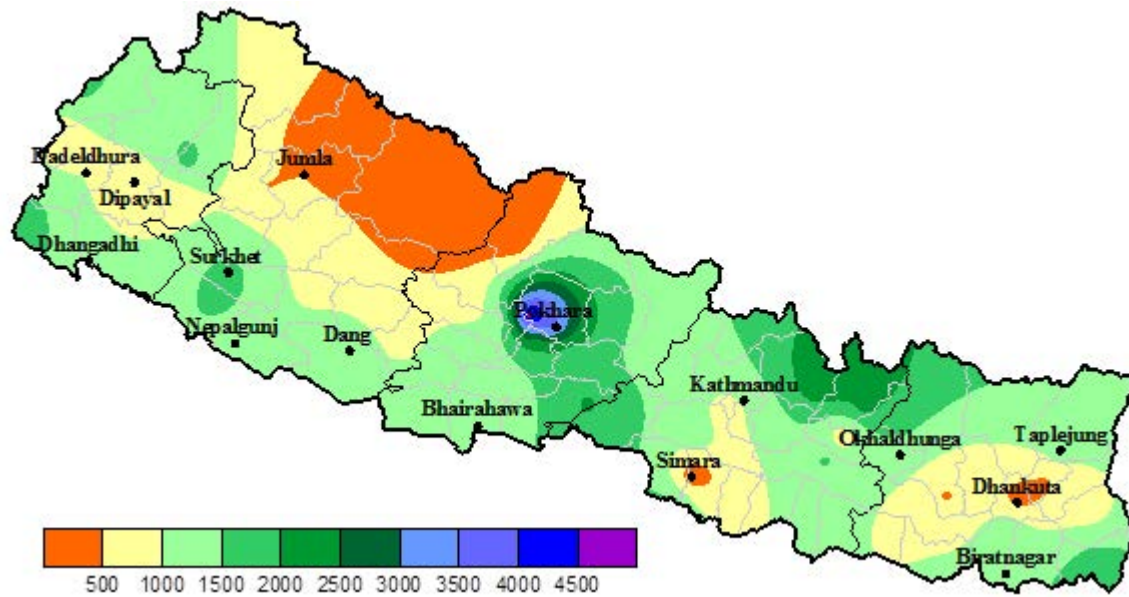
### **Step 1 (Field work planning):**

Nepal is an open country that welcomes all the international researchers working in various aspects of geology and mineral resources. While doing research work in Nepal, following points should be taken into consideration.

### **Field Season**

The field seasons in Nepal depends on the terrain to be studied. For high Himalaya ( above 3000m) the best season is during summer as temperature will be warm and there will be tea houses to accommodate travellers which is abandoned during winter. For hilly regions (1500-3000m) field is best during dry season because of road conditions and less vegetation. For Plains the best field season is during winter (~1500-100m).





Monsoon rainfall distribution in different parts of Nepal. Source: DHM, WEATHER SUMMARY OF NEPAL

YEAR – 2014; Department of Hydrology and Meteorology, Climatology Division, Climate Section. p

<http://dhm.gov.np/weather/>

### **Landslides, earthquake and field safety**

Nepal is one of the most disaster prone countries in the world due to its topography and climatic condition. Landslide is one of the very common natural hazards in the hilly region of Nepal. The hilly districts of Nepal located in the Siwalik, Mahabharat range, Mid-land, and also fore and higher Himalayas are more susceptible to landslide because of steep topography and fragile ecosystem. Flood is another frequent, highly damaging and wide spread natural hazard occur on more than 6,000 rivers and rivulets in Nepal flowing from north to south. During the monsoon (June-September), these rivers enlarge and cause damage to the villages, cultivation, and people and livestock within the river basins. Historical data has shown that Nepal flooding along major rivers have claimed lives of thousands of people. There are also more than 15 glacial lakes located in the in the foot hill of high altitude mountain which have potential outbreak hazard, called glacial lake outburst flood (GLOF) and can cause great damage towards downstream. Furthermore, seismological data and tectonic setting of the Nepal Himalaya suggest that the entire region of Nepal is prone to earthquake and related hazards. Any researcher in Nepal should be aware of all the mentioned field hazards while planning and working in the field.

### **Social, religious ethics,**

Nepal is known for more than 82 languages, 100 castes and ethnic groups, and 10 religions preserving it's unique multicultural, multilingual, multi religious and multi ethnic harmony.



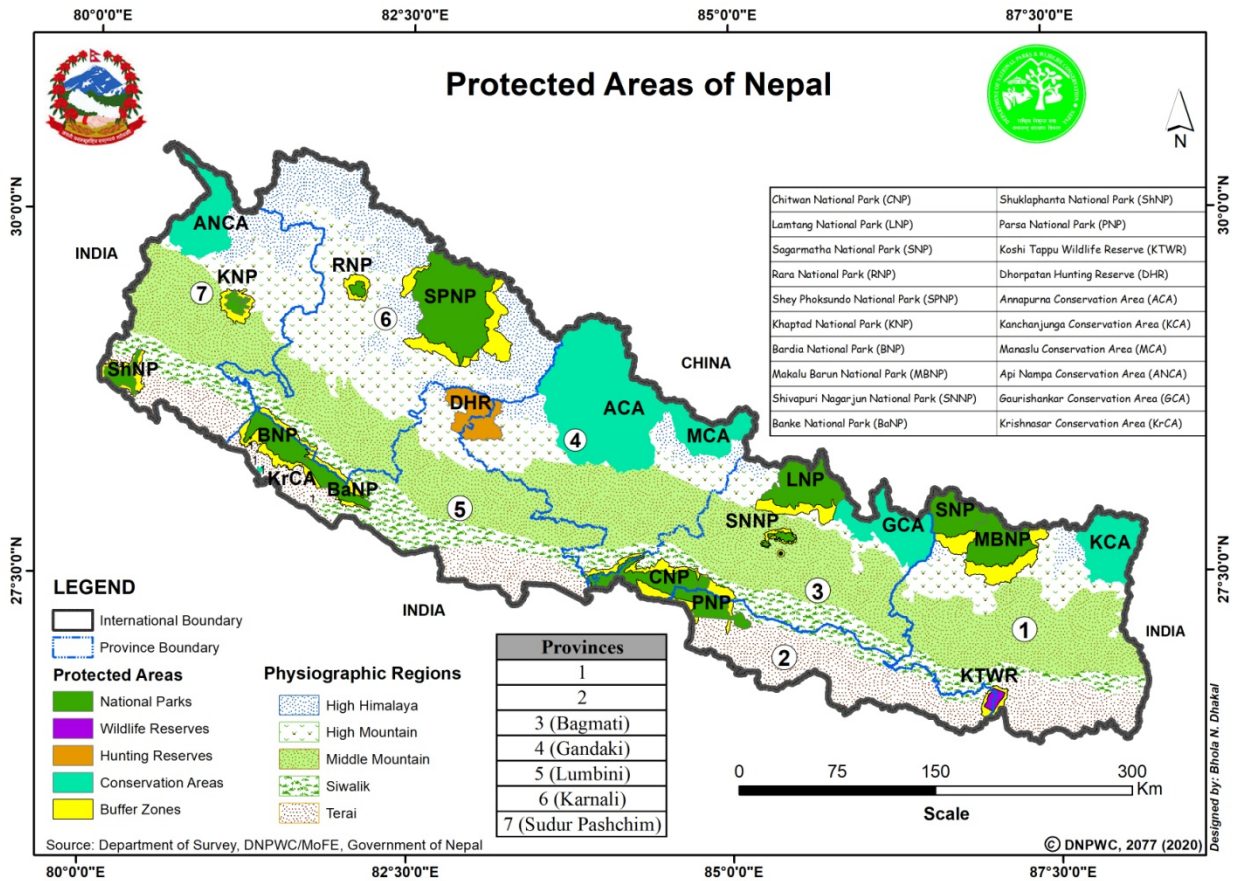
This unity in diversity, is considered as Nepal's most important assets and should always be enjoyed and respected.

## Road Safety

About 60% of the Nepalese roads are hard-surface (gravel or blacktopped) roads, and most of them connect with the main cities in the Kathmandu Valley. The motorways in the rural regions, are poorly-maintained and have narrow lane, hairpin switchbacks, steep gradient and no safety barriers. Potholes are normal even in cities. Roads become even more risky and dangerous during monsoon rains because of landslides. Every year Nepal suffers from frequent road accidents with fatalities. Pavements are either nonexistent or pedestrians do not have priority. Therefore, be vigilant while walking on the road as pedestrians account for 40% of road fatalities in Nepal. Always wear masks to protect you from Air pollution and seat belt for road safety and never ride on bus roof. Despite the road condition most of the local Nepali bus and jeep drivers are experts, so it's usually is safe to explore Nepal on bus or hire a jeep. You can easily hire private jeeps form your hotel or at any tourist agency and the prices are negotiable.

**Restrictions:** Government of Nepal has marked protected area for wild life conservation. Taking geological samples from the national parks are prohibited. Working in these areas requires special permission from the national parks in advance. In addition, areas demarketed for stratategic mineral exploration by DMG has been prohibited for any kind of field work and sampling.





### Wild life conservation area of Nepal

Source: Department of National Parks and Wildlife Conservation: <http://www.dnpwc.gov.np/en/>

Road Network of Nepal. Source: DOR; Strategic Road Network of Nepal; HMIS-ICT Unit, Part 2, Department of Roads; 2018, p27. [www.dor.gov.np](http://www.dor.gov.np)

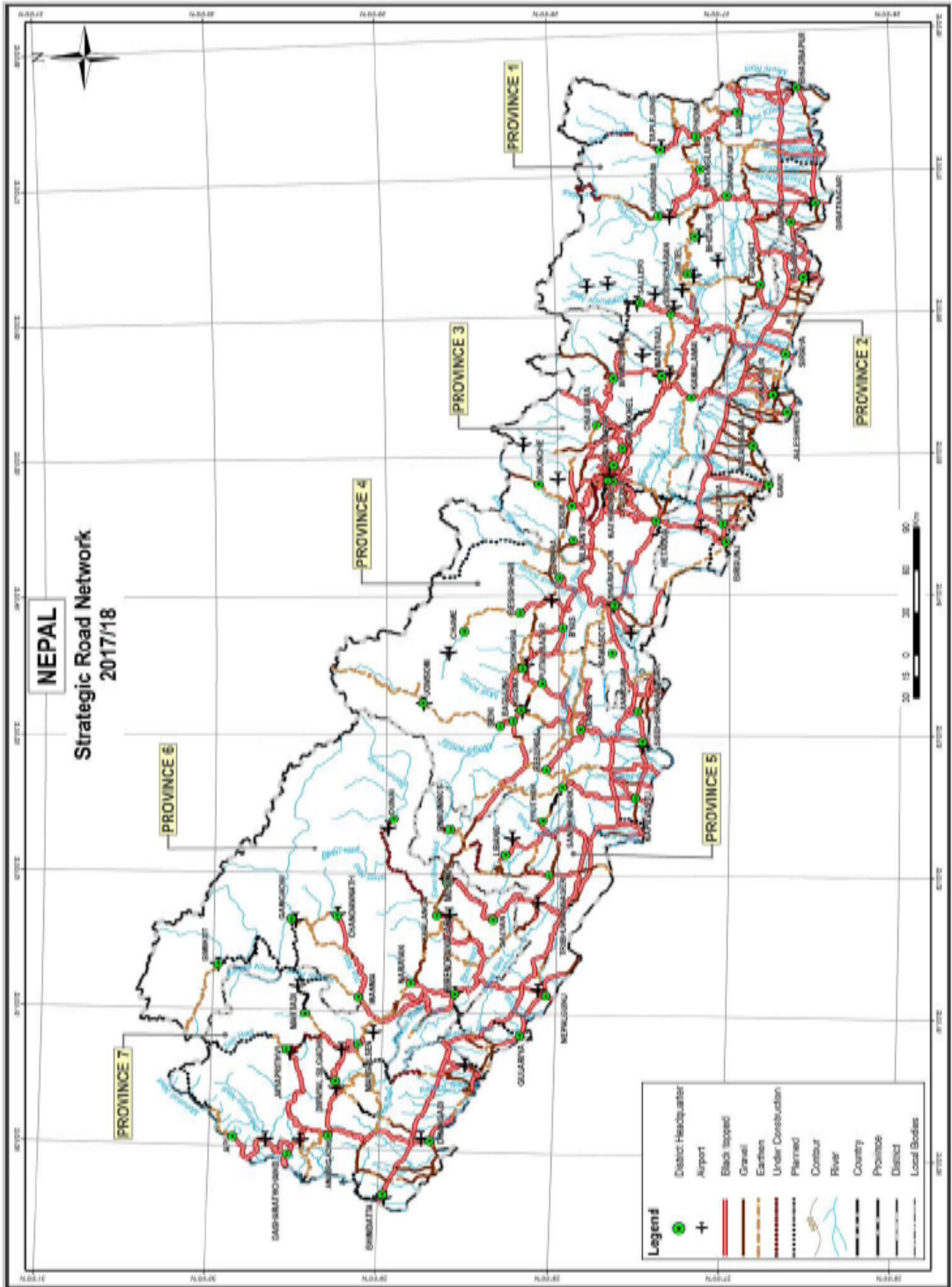
### Field Team

While working in the mountainous terrain you may need porters to carry logistics or assist you. You can hire local porters or take them from the nearby cities. You can also sponsor local geology students to participate in your team who can learn and assist you in the field and lab works. At the moment, you can contact geology students from different units of the Tribhuvan University as 1) Central Department of Geology, Kirtipur Kathmandu, 2) Department of Geology, Trichandra Multiple Campus, Kathmandu, 3) Department of Geology, Birendra Multiple Campus, Bharatpur, Chitwan, 4) Central Campus of Technology, Dharan, Sunsari.

<https://cdgltu.edu.np>: Central Department of Geology (CDG), Kirtipur, Kathmandu.

<http://trichandracampus.edu.np/department-of-geology/> Department of Geology, Tri-Chandra College





**NEPAL**  
**Strategic Road Network**  
**2017/18**

**Legend**

	District Headquarter
	Airport
	Black topped
	Gravel
	Earthen
	Under Construction
	Planned
	River
	Country
	Province
	District
	Local Bodies



## **Step 2 (Pre-Fieldwork Permission):**

Before conducting the field work within [Nepal](#), any individual researcher or team should submit formatted field work proposal that introduce brief details about the intended research work through the [online platform](#). Investigators should submit a research proposal (electronic PDF format is also acceptable) to the DMG. Each proposal should include a short outline of the intended studies, methods, objectives and names and addresses of collaborating investigators. Name of the person to be visiting and Traverse Route (Probable), duration are to be provided along with the proposal. Pre-permission is requisite for conservation area from concerned authority. An example of the Pre-field work proposal can be downloaded from [this link](#). Based on the field work type (sampling procedures), past research history, DMG will issue a permission letter to conduct geological fieldwork in the specified area. All the records will be kept confidential and online permission for the field work will be issued within 7 working days, if the application is approved.

## **Step 3 (Field work):**

Based on the permission granted, you can conduct your field work in the prescribed area. Always work in a team for your safety from wild animals and to prevent being lost. Don't hesitate to ask for help if in need, as most Nepalese locals are friendly and welcoming. Be respectful and friendly with local people and enjoy the culture. You may have to stay in tea houses, hotels or accommodate with local people. Respect the value of the Mother Nature. Conserve the Outcrops for future researches. Ask yourself if your work will impact the environment and conserve the environment by reducing and managing waste. If you are going to make camp-tent, investigate the safety condition before setting the camp. Always drink bottled mineral water or boiled water. Bring medicines for common cold, diarrhea, altitude sickness, and other medications. Wear safety goggles, globes while working. Many streams may not have bridges so be prepared to take off shoes and carefully cross streams. Remember, Safety First.

## **Step 4 (Sample inspection and shipping):**

After finishing the field work, the rock/soil samples should be properly labelled and a packed in a properly labelled box. You can submit application ([see sample application](#)) letter along with the preliminary fieldwork completion report ([see sample](#)) and a self declaration ([see sample Self declaration](#)) letter for exporting the rock/soil samples and ship them using cargo companies. Again, the rate of shipment varies and can be negotiated with cargos. In order to obtain a recommendation for exporting rock and/or sediment samples for study and research work, the service recipient should affix a ticket of Rs. 10 in the application and submitted along with following documents.

- A research proposal (Hard copy) stating the need, purpose and reason for sampling.\*



- A copy of his/her valid Identity Card and Passport (applicable for foreigners) for involvement in the recognized university of Nepal and or institutes abroad (Research Institute and Lab). \*
  - \*Name of the persons involved with identification.
  - \*Name of the person visited during field study with identification and contact no.
  - \*Traverse route travelled and reasons for alternation of the route is different/ modified with reasons.
- The MOU with the Department of Mines and Geology or any recognized Nepalese University.
- Field work report including field observation and photographs and the list of samples (sample numbers), along with the location (GPS co-ordinates) of samples, their total sample weight.\*
- A self declaration letter.\*
- Research sample shipping royalty voucher of Rs.5000/- ( Payee: Department of Mines and Geology; Rastriya Banijya Bank, Thamel Account No: 1000200010000, office code: 307023501, Title: 14229 Sample shipping)\*. *Payment is to be made after approval of the concerned request.*

\* Means mandatory (Non Refundable)

If the application is received along with all the necessary documents, the samples will be inspected by a geologist in DMG and the sample box will be sealed, and official declaration letter will be issued to the international airport through cargo or individual within two working days. Samples are to be packed in wooden box or in the metallic container, provided they are sent through cargo.

### **Step 5 (Acknowledging DMG)**

DMG reserves the right to the information of the geological samples that are taken away from Nepal for scientific purpose. Therefore, we request the researchers to provide the progress made in the previously taken samples or provide publication. This will strengthen the international cooperation, enrich the wealth of DMG database and help monitor all the geoscientific researches taking in our soil. DMG will track records of the researcher and facilitate geoscientists for future field work and also provide platform to present your findings with the local geoscientists through different conferences. The samples which are not in our data-base will be considered illegal. It is also our duty to take strict measures on such illegal smuggling of rock/soil samples. DMG will retract such research articles if it proves that samples are illegally shipped and will blacklist the researcher.



Date: \_\_\_\_\_

### Permission for the field work

Dear name of the team leader,

Based on the research proposal that you submitted on date, we provide your research team involving members name of team members a conditional permission for conducting research work and collect geological samples in the designated area in Nepal. We hope that the findings of your research will be valuable to our nation and for the entire geo-scientific community.

Geologist  
Mineralogy and Gemology Section  
Department of Mines and Geology  
Lainchaur, Kathmandu

### Terms and Conditions

The samples taken will be used for educational and research purpose only.

The field work team s responsible for field management and safety.

The results of the research will be provided to the DMG.

The field work will be carried without harming the natural environment.

Field work in restricted area and conservation zone need approval by the respective ministries and departments prior to departure.





## Field work Title

### 1. Field Personnel

Introduce the geoscientists that will participate in the fieldwork.

### 2. Back ground

Please provide brief introduction explaining why your work is important and what kind of samples will you take. Also explain the results of the previous field work, if you and your research team have conducted in Nepal.

### 3. Field work area

Provide geological map showing location of the study area/ Traverse Route.

### 4. Method

Explain in detail the field work and sampling method or any instruments used for data collection.

## 5. Expected outcome

## 6. Time schedule

### **Agreed terms and conditions**

The rock/soil samples taken will be used for the research purpose only.

The field work team s responsible for field management and safety.

The results of the research will be provided to the DMG.

The field work will be carried without harming the natural environment.

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\_\_\_\_\_

Name of the team leader



Date: \_\_\_\_\_

## Declaration

I Full name of the applicant, hereby declare that my fieldwork team members name of team members have conducted the geological fieldwork in area, Nepal from date to date without harming the natural environment. The geological samples taken will be used for educational and research purpose only and a copy of results of the research will be provided to the DMG.

Sincerely,

Signature

Full Name

Institution of the Applicant

Address



## Preliminary field completion Report

### 1. Preliminary findings

### 2. Location Map

Sample location map/ Traverse Route

### 3. Sample List

S.N	Name of sample	Location	GPS coordinates		Rock/Soil type	No. of samples
1	KN56	Tadi River	27°52'30''	85°07'30''	Quartzite	2

Note: This list can be customised in case of water samples.

### 4. Suggestions

### 5. Photographs

Please sign the name of the team leader at the end of each page



Date\_\_\_\_

To  
The Director General,  
Department of Mines and Geology,  
Lainchaur, Kathmandu

Subject: Request for shipping geological rock/ soil/ water sample for research purpose.

Dear Sir,

After getting the field work permission (Permission number and date) to conduct the geological field work, our team has conducted the field work in location from date to date and collected number and type of samples kept in sample bag/bottle with total weight of kg, which is kept in number of box/bottle. We intend to take samples with self / name of cargo carrier to the name and address of the laboratory. I also declare that the samples will be analyzed for research and educational purpose only and a copy of the findings will be sent to the DMG for record.

\_\_\_\_\_  
Applicant name

**Attached documents**

- Research proposal
- Copy of passport of the researcher
- Copy of valid identity card of the researcher
- Sample shipping royalty voucher
- Preliminary field completion report with list of sample
- Proof of MOU with institutions of Nepal (if applicable)

