Educational seismology in Nepali schools: tailored solutions to start a program

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Graphical abstract

A part of this work is under review in Geoscience Communication
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Text abstract: We have established an initiative in Nepal to introduce seismology in schools, which relies on two pillars: a low-cost seismic network with stations installed in schools, and educational activities in schools on earthquakes and the related hazards. For classical teaching, we have prepared educational materials adapted to the Nepali school system, levels and language. By using these materials, not only students in the schools but also local people in the community can learn earthquake education and follow guidelines for better preparedness. For efficient implementation, we have organized a 2-day workshop for the school teachers to prepare them for the new teaching, which was presented by experts in the field and included lots of discussion to find the adapted level. Moreover, during our field visits, we give special lectures and also perform earthquake drills at schools.

Well-prepared educational materials such as flyers and stickers are distributed to students, and demonstration tools for physics to schools. All the material from our project is freely available on our program’s website. We have started the program by choosing 22 schools in the region, and establishing direct contact with the teachers, principals and the local communities. We found this was an efficient way to implement the project, especially in rural areas. The preliminary and personal feedbacks reflect that this program is well received. A survey-based evaluation on the program’s impact on the local community has been carried out and the results are presented. We hope that the project is able to help this region to prepare for future earthquakes, and we seek that the initiative is spread to other regions to make earthquake-safer communities across Nepal.
A low-cost seismic network has been installed at schools in western Nepal
Educational materials

- Educational materials adapted to the Nepali school system and distributed to students

Flyer on what to do before, during and after an earthquake

Earthquake awareness sticker
A 2-day workshop has organized for the school teachers to prepare them for the new teaching, which was presented by international experts in seismology and education.
Educational implementation

Seismometer installation in a school

Explaining the emergency assembly sign
Educational implementation

- Special lectures using educational materials were delivered.
Two questionnaire surveys have been carried out (before and after the initiation of our educational program)

Results show that the earthquake related knowledge has significantly increased among students
Impact on earthquake preparation

- Students are much better prepared after the initiation of our educational program
Perceptions of risk has not (yet?) changed
Conclusions

- The Seismology at School in Nepal program has been successfully implemented and achieved the aim of raising earthquake awareness and preparedness.

- The program itself and the methods we used for teaching about earthquakes and demonstration with low-cost seismometers are well accepted.

- The new knowledge learned by the students at school reaches their parents and is transferred into the local communities.

- The results we observed through two surveys, before and after initiation of the education program, are measurable, statistically significant and with positive changes for earthquake related knowledge and preparedness level, but not (yet) for the perception of the related risk.

- A high and positive impact of the program on the students and their communities is encouraging for the continuation and expansion of the program in the region.

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