

## **Bhutanese-Thai Dzongkha software**

*A joint effort on an open source language system 11*

**September, 2009**A Dzongkha language software program, developed by Bhutanese and Thai IT (information technology) professionals, could assist those finding Dzongkha language difficult to write or translate.

The language software is being designed to include speech synthesis and recognition features. This means the software will be able to perform both text-to-speech and speech-to-text actions. Currently, the language software is only able to read out Dzongkha text.

The software, which was in development for the past three years, is part of an IT capacity building link established in 2007 between the governments of Bhutan and Thailand. The Thai minister of science and technology, Dr Khunying Kalaya Sophonpanich, is in the country leading a delegation attending a third meeting between the two governments. The meeting will review, assess and explore further avenues of research and collaboration between the two countries. The collaboration has mostly been focused on the biotechnology sector till date.

"One of the results of this collaboration is the development of an open source Dzongkha language system," said department of information technology (DIT) director, Tenzin Chhoeda. "It needs further development as the corpus still requires more input," he said referring to the database made up of audio and transcribed text from which the software will read. "We're basically using their experience and knowledge to develop the software," said the director. The next phase will be to get more words, refine the technology and make it more human like.

The national electronics and computer technology centre (NECTEC) of Thailand has developed similar software for not only Thai language but those of member countries of ASEAN. NECTEC will aid DIT in developing the software to include Dzongkha-English and English-Dzongkha translations as well.

"The impact is going to be wide ranging," said director Tenzin Chhoeda, "It'll promote the use of Dzongkha among ordinary citizens and for those, who want to learn the language." The director added that, since Bhutanese students have issues with Dzongkha, it could be particularly useful in the education sector.

There is no estimated date for the software to be available for the public, but Tenzin Chhoeda said that, as some features of the software were not ready, it would not be shared with targeted users for some time. He pointed out that with only four Dzongkha specialised graduates involved in the project, progress was not fast.

Meanwhile, science and technology minister (Dr) Sophonpanich, who is also a nuclear physicist, said that many other areas of collaboration were being established with Bhutan. Plans are underway to increase the number of exchange visits for science and IT officials of both countries. The minister also said that an agreement was made yesterday, where the science and technology department will aid Bhutan in developing a mechanism to deal with its emerging problem of e-waste.

The minister congratulated Bhutan on its environmental preservation policies and said the country was one of very few to be so fortunate.

**By Gyalsten K Dorji**