

Introduction to Professor Usami's Review in 1974

Professor Tatsuo Usami, now professor emeritus at the University of Tokyo, published a paper entitled "Earthquake Studies and the Earthquake Prediction System in Japan" in the March 1974 issue of *Technocrat*. I was impressed by Professor Usami's comprehensive review and healthy criticism of earthquake prediction in Japan, which appears fresh even today. He gave an overview of the 1923 Kanto earthquake and Program 1 to 2 of the earthquake prediction project in Japan. The motivation and research for the project in its early stage are well summarized in the paper.

The Tokai earthquake hypothesis [1] was proposed during Program 3, so the budget for the project at national universities was approximately tripled in Program 4 and increased to about 12 billion yen in Program 7 (**Table 1**). The 1995 Kobe (Hyogo-ken Nanbu) earthquake occurred during Program 7 killing 6,434 people and completely destroying 104,906 houses [2]. Since this unexpected earthquake was as destructive as the 1923 Kanto earthquake, the earthquake prediction project was reformed in New Program 1 (**Table 1**). The Headquarters for Earthquake Research Promotion was established, moving emphasis from empirical short-term prediction to long-term earthquake forecasting and prediction of strong ground motion [3]. Dr. Hiroe Miyake and I reviewed this situation in a preceding article [4], taking over the mission of writing a recent history of Japanese seismology from Professor Usami's paper.

Table 1. Budget in million yen allocated for the earthquake prediction project at national universities in Japan (from http://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu6/toushin/07011910/001.pdf).

Program	1	2	3	4	5	6	7	New Program 1
Term	1965-	1969-	1974-	1979-	1984-	1989-	1994-	1999-
Budget	444	867	3,023	8,574	8,540	9,502	11,983	9,517

References:

- [1] K. Ishibashi, "Did the rupture zone of the 1707 Hiei earthquake not extend to deep Suruga Bay?," Rep. Subcomm. Tokai Distr., Coord. Comm. Earthq. Predict., Geogr. Surv. Inst., pp. 69-78, 1977 (in Japanese).
- [2] K. Koketsu, "Chronological table of damaging earthquakes in Japan," in *Chronological Scientific Tables 2007*, Maruzen, pp. 698-729, 2006 (in Japanese).
- [3] N. Hirata, "Past, current and future of Japanese national program for earthquake prediction research," *Earth Planets and Space*, 56, pp. xliii-1, 2004.
- [4] K. Koketsu and H. Miyake, "Earthquake Observation and Strong Motion Seismology in Japan from 1975 to 2005," *Journal of Disaster Research*, Vol.1, No.3, pp. 407-414, 2006.

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