C－4 Studies on Practical Control Techniques of Acid Rain Precursors in East Asia (Final Report)

Contract Person Tsuguo Mizoguchi
Proffesor
Faculty of Sociology Bukkyo University
96 Kitahananobo-cho Murasakino
Kita-ku Kyoto 603 Japan
Phone:+81-75-491-2141 Fax:+81-75-493-9040

Total Budget for FY1994～1996: 162,585,000yen (FY1996: 72,761,000yen)

Key Words East Asia, China, Acid Deposition, Evalution Model, Bio-briquette, Cultural Assets

The final goal of the studies is to predict precisely future emissions of acid rain precursors such as SO_2, NO_x and so on in East Asia and to propose practical effective control techniques for SO_2 and NO_x emissions from coal combustions in China and other countries and to evaluate effects of acid depositions to cultural assets and materials in China, Korea and Japan. In order to attain the purposes the following research results have been achieved for these three years.

1. A long-range transport model for acid rain was built in East Asia.
2. Effects of acid depositions were simulated from major industrial regions in China to all over Japan.
3. In order to control SO_2 emissions by coal combustions co-operactive studies have been carried out between Chinese researchers and Japanese ones.
4. SO_2 removal efficiency of more than 70% were demonstrated by a model boiler in Shen yang, China.
5. A coal-bio-briquette pilot plant (10,000 T/Y) was set up in down town area in Chongqing, China.
6. Various bio-masses were collected and analyzed for using to bio-briquettes around Chongqing.
7. Several kinds of test pieces for cultural assets and materials have been exposed for the examination of deterioration at 22 fields in China, Hongkong, Korea and Japan.
8. Corrosion rates of various materials have been evaluated.
9. Corrosion rates of metals such as Cu, Fe, etc. were 5 times in Chongqing than those in Japan.
10. Damages of cultural assets were investigated in China and Japan.
11. An international workshop on effects of acid depositions to cultural assets and materials was held on March 13 in 1993 in Beijing, China.