〈 Summary 〉

Purpose& Contents	○ Collecting regional and seasonal CH_4 and N_2O emissions from swine facilities and centralized animal manure recycling facilities ○ Suggestion of plans to improve the efficiency of greenhouse gas mitigation
Results	○ Collecting regional and seasonal CH_4 and N_2O emissions from swine facilities and centralized animal manure recycling facility from Gyeonggi, Kangwon, Chungcheong, Jeolla, and Gyeongsang ○ CH_4 emissions from swine slurry storage facilities - IPCC 1996 Guideline Tier 1 method showed 2.67 times higher CH_4 emissions compared to 2006 Guideline Tier 1 - The ratio of IPCC 1996 Guideline Tier 2 method to 1996 Guideline Tier 1 were 0.43~1.99 - The ratio of field measurement to 1996 Guideline Tier 1 were 0.43~1.99 - The ratio of field measurement to IPCC 1996 Guideline Tier 2 method using VS were 0.23~0.96 ○ N_2O emissions from swine slurry storage facilities - Generall N_2O eissions were detected but negligible ○ Centralized animal manure recycling facility focused on CH_4 production emitted CH_4 and N_2O from related facilities rather than biogas reactors. Also N_2O emissions was much higher than CH_4 emissions - With the concept of global warming potential, which were 25 and 298 for CH_4 and N_2O, respectively, CO_2-equivalent of CH4 and N2O emissions were 25.3 kg/day and 405.3 kg/day(N_2O emissions were 16 times higher than CH_4 emissions) ○ Examination of methodology of IPCC guidelines for greenhouse gas inventories and its application - Methane emission factor was greater in 2006 IPCC than in 1996 IPCC - The N_{ex}(kg N/head/yr) value was lower in 2006 IPCC than 1996 IPCC - Methane emission factor in 1996 IPCC is 3 - Methane emission factors that were calculated using the country-specific swine VS value(1.25) are 3.5 for solid storage and drylot, and 1.6 for liquid system ○ Characteristics of greenhouse gas emissions based on improvement of the efficiency of greenhouse gas mitigation - The use of renewable energy from a manure digester plant is thought to reduce greenhouse emissions by 30%