

**Thesis Title** Study and Analysis of the Salt Efflorescence  
 Production Process in the Northeastern Thailand:  
 A Case Study of Ban Muang District and  
 Wanon Niwat District, Sakon Nakhon Province

**Name** Pichai Suvanprapaporn

**Degree** Master of Science  
 (Technology of Environmental Management)

**Thesis Supervisory Committee**

Sansanee Choowaew, Ph.D.  
 Pongthep Jaru-ampornparn, M.Sc.  
 Pichai Wichaidit, M.Sc.

**Date of Graduation** 20 August B.E. 2534 (1991)

### ABSTRACT

The purpose of this study was to analyze the salt efflorescence production process : salt field method. Operation cost, environmental impact protection cost the characteristics of salt producers and population receiving impact, and potential impact on natural resources and environment were studied.

Data was collected by field survey and field check. Water samples were collected and analyzed. Rice productivity was measured, and interviewing of two groups of population :

salt efflorescence producers and population receiving impact from the salt efflorescence production was carried out. Census method was used for surveying salters in 2 districts (amphoes) in production year 1990/1991. Systematic Random Sampling was used for surveying 90 households of population receiving impact.

The result of the study indicated that the characteristics of the two groups of population studied, namely age, education level, household size, migration of household heads, major occupation and income of household were significantly different. Meanwhile types of land holding, size of land holding and document of land right were not different.

The salt efflorescence production process starts with area preparation in October to November and salt drying carries on between November to April. The productivity of salt crystal was about 125,000 kilogram per rai per year. Total cost of production was 0.168 baht/kg or 21,120.39 baht per rai per year (fixed cost 0.05 baht/kg and variable cost was 0.118 baht/kg). Net profit was about 10,250 baht per rai per year, while the environmental impact protection cost was only 1,077.24 baht per rai per year on average. Comparison ratio of total cost per environmental impact protection cost 1:0.05

The potential impact on natural resources and environment obviously found was the loss of productivity of rice (about 23.27 percent). Impact on aquatic animals occurred especially in the dry season, as well as impact of change of water quality for household consumption and agricultural cultivation.