# Chapter 1

## INTRODUCTION

The Mekong Delta covers an area of 4 million ha of which 2.3 million ha are under rice cultivation. It is the largest rice producing area, often mentioned as the " rice bowl " and " fish basket " of the country, and currently accounts for 50 percent of total rice production (General Statistical Office, 1993).

In recent years, aquaculture is becoming increasingly important as a source of foreign exchange earnings, accounted for more than one third of Vietnam's exports.

In the Mekong Delta, the integration of rice-aquaculture has been, practised for decades because of its favorable environment. After the 1988 policy reforms which gave more incentives for farmers to invest on their fields, the combined cultures of rice and prawns have become more and more popular among farmers in the Mekong Delta. However, the practice of farmers in this system is very extensive, mainly exploiting natural resources, and farm households could not achieve the expected income level

because both rice and prawn yields are not high enough (Sanh, 1991).

The previous researches have shown that prawn can be raised in the rice field with two rice crops per year, in which high yielding rice (HYR) is directly seeded in early wet season followed by transplanted traditional rice in the wet season or HYR directly seeded in dry season. (Tuyen, et al., 1991)

Many farmers have generally practised the batch-harvesting technique only once at the harvest of the second rice crop from December to January. By this way, prawns grown nearly one year in ponds, trenches and rice field, can be affected by many factors. Different sizes and growth rates of individual prawns result in low and unstable prawn yield.

Some farmers have culled undesirable prawns such as too big heads and claws but small tails for sale. But no studies have been conducted to measure the effects of cull harvesting methods in rice-prawn system. By selling prawns, therefore, farmers can obtain cash for home consumption and re-investment. They can resupply young prawns with different ages and sizes that they can find either by buying or fishing in the wet season. This practice seems to be

reasonable and practical since the removal of faster growing individuals permits the slower growing prawns to develop faster (New,1990). The cull-harvesting technique may not only offer a better way of management but also provide a complementary source of cash income in the mid season.

A yield and a size of prawns are affected by many factors such as: quality of young prawn, stocking density, quantity and quality of feed, environment condition, particularly temperature, management, etc. One of the reasons for low and unstable prawn yield in farmers' rice-prawn system is due to farmers' management. Therefore, this study will be focused on the management aspect, particularly prawn harvesting management.

The objectives of this study are to (1) evaluate effects of cull harvesting methods on the productivity and quality of prawn, (2) determine effects of harvesting methods on environment of rice-prawn system, and (3) measure effects of prawn harvesting management on rice yield and economic return of rice-prawn system.



The result of this "best bet" alternative prawn harvesting management would provide information for farmers to improve their farming practice in order to obtain more benefit by integrating rice-prawn system in Mekong Delta.