Chapter I. Introduction

1.1. Aquaculture of Milkfish (Chanos chanos)

Aquaculture of milkfish (Chanos chanos) is one of oldest forms of aquaculture practiced in Asia. Since the beginning of the early 1970s, aquaculture development in Asia has been rapid because of the increasing attention given to aquaculture from majority of government bodies as an important source for national and local economic growth, income, job opportunities, and food fish for human consumption. The milkfish—world’s milkfish—aquaculture production reached 676.228 tones in 2008, with and countries such as Indonesia, the Philippines, and Taiwan—production dominating productivity by Indonesia, the Philippines and Taiwan. In 2007, the Philippines milkfish production consisted of approximately about 43% (306.789 tones) of the total global aquaculture production. Milkfish is the largest aquaculture species in Indonesia, contributing 19% (263.139 tones) to total global aquaculture production. However, milkfish contributed about approximately 17% (53.246 tones) of total—Taiwan aquaculture production in Taiwan.

The impacts of aquaculture impacts have received a high degree of much attention due to the associated negative effects, such as over exploitation of fish biodiversity, translocation, and introduction of non-native species. Wild caught fry has previously supported for milkfish aquaculture. However, the demand for milkfish gain has increased owing to because strong consumer preference from Asian societies, as well from also expansion of international markets. Recently, hatcheries and grow-out milkfish have served as the primary sources of milkfish supply only produced by hatchery and grow-out, as because wild caught fry become increasingly more
depleted and unpredictable due to overfishing and habitat degradation. Milkfish biodiversity has since been suffered and deserves priority for conservation.

1.2. Importance of Fish Biodiversity for Aquaculture and Conservation

Fish biodiversity is defined as the variability among fish resources from different ecosystems, including freshwater, marine, and other aquatic ecosystems. Fish natural resources are the foundation from which cultured fish stocks are based. Aquaculture today relies heavily on fish natural resources. However, the supply of fish natural resources has become depleted due to over exploitation and the reduction of genetic diversity of stock. There are four levels of complexity of fish biodiversity, namely, genetic diversity, species diversity, ecosystem diversity, and landscape diversity. Fish genetic diversity assessment is the first step in quantifying variability of fish natural resources and basic data to develop sustainable aquaculture and conservation.

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