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Sustainable Aquaculture for a Secure future

Title: Introduction

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Abstract: Aquaculture is the cultivation of aquatic animals and plants. Its primary purpose is to produce aquatic food organisms for human consumption, but includes other purposes such as the cultivation of ornamental and aquarium fishes. Aquaculture may be done on many scales, ranging from small rainfed ponds to increase food production for rural families to large commercial farms to provide export products for international markets. Regardless of scale, aquaculture is an economic activity, and the value of aquacultural crops must exceed the cost of producing them. Knowledge of factors and interactions that determine success in aquaculture is not as well developed as in traditional agriculture; thus, aquaculture has tended to be risky and has suffered in some instances from unsustainability. But aquaculture technology is improving rapidly, and more reliable production systems are emerging.

Most aquaculture involves cultivating a species of interest under conditions that can be monitored and controlled Sessile creatures such as mollusks can be cultivated by providing substrate for their attachment. However, fish, crustaceans, and other motile organisms are usually confined in order to cultivate them. The most common confinements used in aquaculture are ponds, raceways, cages, and pens. Ponds are by far the most widely used means of confining warm-water fish and crustaceans for cultivation. Therefore, it was quite appropriate for the U.S. Agency for International Development (USAID) to initiate a project on pond aquaculture as a Collaborative Research Support Program (CRSP). The purpose of this book is to summarize advances in pond aquaculture that have accrued from the CRSP effort. The intent of this introductory chapter is to summarize the role of aquaculture in world fisheries and to explain why research and development in the area of pond dynamics are critical to the sustainable development of aquaculture.

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This abstract is excerpted from the original paper, which was in Egna, H.S., C.E. Boyd, and D.A. Burke, 1997. Introduction. In: H.S. Egna and C.E. Boyd (Editors), *Dynamics of Pond Aquaculture*. CRC Press, Boca Raton, pp. 1–18.

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