

SOCIOECONOMIC AND TECHNICAL SURVEY OF FRESHWATER PRAWN
Macrobrachium rosenbergii CULTURE IN THAILAND

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A socioeconomic and technical survey of 100 prawn farmers was conducted during 1 May-31 July 2005 in Thailand. The majority of respondents were male (70%) and ranged in age from 19-72 years, average age 46. Most farmers (77%) had only completed an elementary level of schooling (4 years). Experience on the farm as owner, manager, or both ranged from 8 to 25 years, averaging approximately 10 years. Formal training was received by 19% of respondents and most (92.9%) obtained information about prawn culture from their neighbors.

The majority of farms were less than 5 hectares. Monoculture was the dominant system (96%) while remaining farmers utilized polyculture with prawns and white shrimp (*Metapenaeus vannamei*). The most common management strategy (66%) included nursing postlarvae and harvesting with the combined method.

Semi-intensive culture was predominant. Most farmers stocked at densities below 20 pcs m⁻² (Table 1). Average production and net profits were 2,338 kg ha⁻¹ yr⁻¹ and 3,918 US\$ ha⁻¹ yr⁻¹ respectively (Table 2). Most farmers used commercial feed and after the culture period water was commonly discharged directly into canals without treatment. Important variables that affected production included feed inputs and frequency of water exchange. Net profits were most influenced by production, feed inputs, and years of experience of the respondent. A simulated

recycling system on 50 of the surveyed farms results in lower average net profits than the survey results in all variations. Many farmers seem to be aware of the environmental affects of current production and attributed multiple problems to pollution. Major problems identified were diseased or poor quality seed supply (67%), disease outbreak within the crop (64%), and external pollution (37%). External pollution was severe for 16% of respondents, moderate for 46%, and not an issue for 38%.

Table 1. Stocking densities (pcs m⁻² cycle⁻¹) of freshwater prawn ponds in Thailand (n=84)

Rank of Stocking Density	% of Farmers	Density Stocked	
		Mean ± SE	Range
Low (< 20)	69	11 ± 1	1-20
Med (20-40)	21	28 ± 1	20-38
High (> 40)	10	56 ± 4	43-74
Overall	100	19 ± 2	1-74

Table 2. Feed conversion ratio, production, ratios of profit to cost, and net profits on freshwater prawn farms in Thailand

	N	Mean ± SE	Range
Feed Conversion Ratio	79	2.1 ± 0.2	0.2-8.1
Prawn Production (kg ha ⁻¹ yr ⁻¹)	78	2,338 ± 144	438-6,381
Profit:Cost	48	1.3 ± 0.2	-0.2-4.3
Net Profit (US\$ ha ⁻¹ year ⁻¹)	48	3,918 ± 522	-935-14,984
Net Yearly Income (US\$ year ⁻¹)	48	24,160 ± 6,491	-5981-272,908