CONTENTS

		page
1.	Abstract	-
2.	Acknowledgements	
3.	Introduction	01
4.	Commercially Important Penaeid Prawns	12
5.	Study Areas	17
6.	Prawn Fishing Methods in Sri Lanka	22
7.	Materials and Methods RESULTS	28
8.	Fishery and Population Dynamics	
	1. Total Catch	43
	2. Total Effort	43
	3. Species Composition of the Catches	44
	4. Sex Ratio	44
	5. Length Frequency Distribution	45
	6. Size Distribution	45
	7. Recruitment Pattern	46
	8. Total Mortality	46
	9. Natural Mortality	47
	10.Fishing Mortality	47
	11. Exploitation Ratio	47
	12.Survival Rates	48
9•	Biology and Morphometrics	
	1. The Ovary	50
	2. Maturity Stages	51
	3. Size at First Maturity	53
	4. Spawning Season	54
	5. Moulting	55

	6. Fecundity	55
	7. L_{∞} value	55
	8. Fecundity and Length	57
	9. Length and Weight Relationship	57
10.	<u>Prawn By-Catch</u>	
	1. The By-Catch	59
	2. Main By-Catch Categories	59
	3. Catch Rates	60
	4. Shrimp: By-Catch Ratio	61
	5. Relative Frequency	61
	6. Size Range of By-Catch	61
	7. Mean Length of the By-Catch	62
11.	Discussion	63
12.	References	91
13.	• Appendix	

List of Figures

		Figure
1.	Prawn trawling areas along the West Coast	01
	from Colombo to Chilaw	
2.	Negombo fishing area indicating prawn landing	02
	centres	
3•	Chilaw fishing area indicating prawn landing	03
	centres	
4.	Outline of prawn trawling net as used in	04
	Negombo area	
5•	Negombo - prawn trawling operation	05
6.	Outline of prawn trawling net as used in	06
	Chilaw area	
7.	Chilaw - prawn trawling operation	07
8.	Growth curve for P.indicus	08
9•	Probable number of moults in P.indicus in	09
	the length range of 50 mm. to 180 mm.	
10.	Mean monthly catch at Negombo and Chilaw	1 O
	1977 - 1983	
11.	Mean monthly catch at Negombo and Chilaw	1 1
	1979 - 1980	
12.	Sex ratio of commercial catch expressed as	12
	percentage of <u>P.indicus</u>	
13.	Size distribution of male and female P.indicus	13
	sampled during the study period	
14.	Recruitment pattern for P.indicus	14
15.	Mature ovary of P.indicus showing the different	15
	regions	

16.	The relationship between percentage maturity	16
	and length group for P.indicus	
17.	The relationship between percentage maturity	17
	and length group for M.dobsoni	
18.	The relationship between percentage maturity	18
•	and length group for P.merguiensis	
19.	The relationship between percentage maturity	19
	and length group for P.semisulcatus	
20.	Maturity stages of <u>P.indicus</u> from the	20ε
	commercial catch off Negombo	
21.	Maturity stages of P.indicus from the	201
	commercial catches off Chilaw	•
22.	Scatter diagram of fecundity against total	21
	length of <u>P.indicus</u>	
23.	Length distribution of the by-catch	22
24•	Catch curve for P.indicus	23
25.	Regression analysis of C.P.U.E. and effort	24a
	for Negombo (1977 - 1983)	
26.	Regression analysis of C.P.U.E. and effort	24b
	for Chilaw (1977 - 1983)	
27.	Seasonal composition of shrimp by-catch in	25a
	Negombo	
28.	Seasonal composition of shrimp by-catch in	25b
	Chilaw	•
29.	Ford-Walford plot	26
30.	Relationship between total length and total	27
	weight of P.indicus	