

Catches of the Javanese mini-seiners fleet: the main fishing statistics

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This technical document groups together the data and basic results regarding the mini seiners units operating on the North shore of Java. This information was gathered by the team of the Pelfish Program³ involved in the study on the mini-seiners from 1995 to 1997. The information is based either on what was observed within this period or on observations collected previously. Whether they are concomitant or anterior to the period of study, all the surveys are homogenous regarding the collection of information and were submitted to the same type of treatment and validation.

The document presents these surveys, the way the information was collected, the necessary processes for validation as well as the main results after these processes. This document offers neither argumentation nor interpretation. The results will be discussed and interpreted in a further study.

Materiel and methods

1. Sampling plan

In this study, daily listings of landings by mini-seiners were recorded in nine important fishing ports. Two axes were favoured for the study: a spatial axle with the study of the information collected in all the ports in 1995; a temporal axle following the landings in one port, Sarang from 1992 to 1996.

1.1. Presentation of the ports

Daily listings of landings by mini seiners were used to complete the study. During 1995, these listings were recorded in eight important ports on the north shore of Java (fig. 1). Different censuses of the mini seiner fleet operating in the Java Sea (Ecoutin *et al.*, 1997; Jung,

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³ The description of the Pelfish program (1991-1996) and the main results are given by Durand and Widodo (1997); about the present scientific results, see Potier and Nurhakim (1995), Pelfish (1996), Petit, Cotel and Nugroho (1997), Roch, Nurhakim and Widodo (1998).



* Banyutowo, also called Tayu (n°4), is a small TPI situated north west of the Bay of Rembang. The fishing units from the villages located between Rembang and Sarang regularly visit this port. Mini seiners dock at the end of a long pier built on a beach where the water level is very low.

* Tasik Agung (n°5) is one of the auction places of the village of Rembang. This TPI is different in that it trades pelagic fish caught mainly by mini seiner units and secondly by large and medium seiners (57 landings for 2,300 tons in 1994 or 1.5% of the total catches by this fishing fleet, Potier *et al.*, 1995).

* Sarang (n°6) is the more eastern TPI for the province of Central Java. Many fishing techniques were observed there. For this reason, the port of Sarang can be compared to that of Eretan Wetan (n°1).

* Bulu (n°7) is a landing place located in the province of East Java. It is different in that the mini seiner units that unload their catch here almost exclusively originate from this village and few fishing units registered in Bulu moved to other locations on the north shore of the island of Java during the year.

* Kranji (n°9) is a small TPI located east of the port of Brondong (Luong, 1997) where fishing units using many fishing techniques land.

1.2. Temporal stratum

In 1996 the surveys were carried out in five of the ports that had already been studied in 1995, three of which were covered by a year-lasting survey (tab. 1).

It was possible for the TPI of Sarang to reconstitute the landings of each or part of the years 1992, 1993 and 1994. This reconstruction was realised by using data from *buku bakul* equivalent to those used in 1995 and 1996. The preparation of the above mentioned survey sheets are therefore similar to the survey and treatment process of the reference year (1995).

Table 1: Sampling plan of landings by mini seiners fleet between 1992 and 1996 (A, studied month; B, validated data, except Bulu)

Ports		1992	1993	1994	1995	1996
Eretan Wetan	A				12	4
	B				788	60
Pekalongan	A				12	6
	B				2119	1443
Batang	A				12	
	B				3925	
Banyutowo	A				11	12
	B				935	766
Tasik Agung	A				12	12
	B				8063	6436
Sarang	A	9	11	8	12	12
	B	5088	6389	4825	7420	6808
Bulu	A				2	4
	B				856	1035
Kranji	A				12	
	B				838	
Total	B	5088	6389	4825	24944	16548

Other data may be used in comparison with the years of reference; those are data collected in 1991 at Sarang, 1992 at Eretan Wetan and hronological series 1992-1996 for Tasik Agung. These data were either not collected by the programme Pelfish and consequently do not follow the protocol of collecting data, or not quite similar to the reference data. The results of those specific data are not presented in this technical document and will be used within their own limits in a further study.

2. Presentation of the surveys

When the catch of fish is unloaded from a mini-seiner unit, it is generally divided into different categories depending on:

- the species,
- its importance in the unloading,
- its selling price,
- the state and quality of the fraction in the unloading,
- the possibility of grouping together the species according to their sizes.

Some selling categories correspond to grouping of species of similar prices or even grouping of various species to form a satisfactory selling unit.

The fishermen usually prepare the categories. When a category presents an important volume, it is sold by auction 30 to 50 kg a basket.

Each sale of fish unloading category is registered by the administration of each TPI (*Tempat Pelelangan Ikan*) in a book called *buku bakul* in Indonesia. A description of the sales methods by the TPI is proposed by Luong (1997) in his study on fishing activity in the port of Brondong (East Java).

Referring to the *buku bakul*, the investigator groups together the various sales statements to reconstitute the unloading for each fishing unit and he carries over these groupings on sheets specific to the study of fishing mini-seiners statistics. These sheets show indications allowing the identification of the units (boat identification, owner's and captain's names, origin of the fishing unit), information on the fishing site (fishing location, time at sea, possible use of a fishing aggregating device), as well as the composition of catches by categories of species; the investigator groups together under the same name, a same category, various sales fractions of a species or close species (see further). Generally 6 or 8 categories of species are reported on the survey sheet. Lightweight, low-priced or uncommon species are often grouped together under a category "miscellaneous" (*lain-lain* in Indonesian, see further). Finally, the investigator gives an indication of the weight, often the sale value of the landing of this category as registered by the TPI.

3. Corrections and validations of surveys

All the information gathered by the investigators of the mini-seiners project was keyed in, corrected and validated by different programs under Dbase/FoxBase software⁵.

The main corrections concerned, on the one hand the spelling of the names of the fishing units, captains and locations, on the other hand the vernacular names of the species. Indeed, depending on the investigation sites, the TPI agents register the landed fractions either in Indonesian, thus following the protocol of the Indonesian Fishing Department, or in

⁵ Microsoft Foxbase version 2.6.

Javanese, or according to the local practice. Depending on the type of correction required (automatically or manually), the whole data was systematically proofread.

The main validations focused on the study of quantitative data limiting values: landing in weight or value for a species far from the likely values for this very species in an area and a given season; ex-vessel prices information for a species far from the values observed in the same period.

Some surveys could be corrected, others could not be validated for all the studies concerning the landing analysis but kept for further investigation on the mini seiners fleet. Finally some surveys were erased from the data files.

4. Listing of species or grouping of species

For the editing of the fishing statistics of the mini seiners fleet operating in the Island of Java, the species that were observed and validated were grouped together within about ten categories, which allowed the edition of usable-sized tables. The full list of these groupings is given in Annex 1, as well as the correspondence between scientific names and vernacular names, as follows:

- *banyar* groups together all fishes of *Rastrelliger* genus,
- *bentong*, all the species of *Selar* and *Selaroides*,
- *layang*, all the *Decapterus*,
- *tanjan*, all the species belonging to the *Clupeoides* family,
- *tenggiri*, all *Scomberomorus*,
- *tongkol*, all small inshore tuna,
- *cumi-cumi*, all the cephalopods,
- the item *campuran* group together all the species that are not mentioned above but were identified while unloading and were part of a sales fraction,
- *lain-lain*, all fractions described as mixed species when sold or those whose names given to describe the species are unknown.

The category *jumlah* represents the total of the landings.

Presentation of the results

Three variables have been worked out from the validated surveys and then presented in the records. It amounts to a calculation of the mean landing estimated on the one hand according to weight (kg/landing), on the other hand according to value (Rp/landing) as well as the prices at the TPI. The various results can be found respectively in Annexes 2, 3 and 4.

The basic stratum for this study is composed of the collection of surveys validated for a given month per port of investigation and per year of study.

In annex 2 (catches in weight per landing) complementary footnotes are provided in order to help clarify difficulties.

Annexes 3 and 4 give no commentary except for specific difficulties regarding the other two variables.

- catch per landing (in kg)

For each grouping but *jumlah* the tables show the maximum observed value (the minimum value being 0, allowing for exceptions, is not given), the mean and standard

deviation, calculated on the whole stratum, the number of surveys analysing this category (registered landing superior to 0) as well as the percentage of the category present in the study stratum (annex 2).

For the category *jumlah*, the one that represents the observed full landing, the minimal values are shown (there can not be no landing) as well as the maximal values observed in the stratum, mean and standard deviation, and the full number of surveys of this monthly stratum.

The same values as those above mentioned will be found for each category but they will be worked out on all the surveys realised within the year.

The mean and standard deviation are not given for all the categories, except *jumlah*, if there are not at least five surveys in the stratum studied.

- revenue per landing (in 1.000 Rp)

Similar calculations have been made when the investigators have given information on transactions values registered at TPI (annex 3). Usually the information is always accessible via the *buku bakul* but depending on the investigator's training skills, the feedback of this kind of data has proved more or less difficult.

- Ex-vessel price (in Rp per kg)

Sales prices by kg have been calculated when the investigator has given indications of weight and value for a species in a loading.

Mean values and standard deviations of prices per kg for each species have not been calculated according to all the data of the temporal stratum but according to the non-nil data of this stratum. For each species category, the tables presented annex 4 show the minimal and maximal observed value, the mean and standard deviation as well as the numbers present in this category when the price may be calculated.

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Annex 1:
List of species and their grouping in this study

Used name	Vernacular name	Scientific name
Banyar	<i>Banyar</i>	<i>Rastrelliger kanagurta</i>
	<i>Kembung</i>	<i>Rastrelliger spp.</i>
	<i>Jamaka</i>	<i>R. kanagurta</i>
	<i>Kemaren</i>	<i>R. kanagurta</i>
	<i>Kemari</i>	<i>Rastralliger spp.</i>
Bentong	<i>Bentong</i>	<i>Selar spp.</i>
	<i>Selar</i>	<i>Selaroides spp.</i>
	<i>Mandring</i>	<i>Selar crumenophthalmus</i>
	<i>Como</i>	<i>Selaroides spp.</i>
	<i>Gontor</i>	<i>Selaroides leptolepis</i>
Campuran	<i>Campuran</i>	Group of identified species during the
	<i>Bawal, Dorang</i>	<i>Formio spp.</i>
	<i>Kakap</i>	<i>Lutjanus spp.</i>
	<i>Bambangan</i>	<i>Lates spp.</i>
	<i>Petek</i>	<i>Leiognathus spp.</i>
	<i>Manyung</i>	<i>Arius spp.</i>
	<i>Alu-alu</i>	<i>Sphyreana spp.</i>
	<i>Kerapu</i>	<i>Epinephelus spp.</i>
	<i>Udang</i>	<i>Paeneus spp.</i>
	<i>Layur</i>	<i>Trichiurus sp.</i>
	<i>Parang-parang</i>	<i>Chirocentrus dorab</i>
	<i>Pari, Peh</i>	<i>Dasyatis spp.</i>
	<i>Sunglir</i>	<i>Elagatis spp.</i>
	<i>Terbang</i>	<i>Cypsilurus spp.</i>
<i>Teri</i>	<i>Stolephorus spp.</i>	
Cumi-cumi	<i>Cumi-cumi</i>	<i>Sepia spp., Loligo spp.</i>
	<i>Mus, Sotong</i>	
Jumlah	<i>Jumlah</i>	Total
Lain-lain	<i>Lain-lain</i>	Group of mixed or unknown species
Layang	<i>Layang</i>	<i>Decapterus spp.</i>
	<i>Bloco</i>	<i>Decapterus spp.</i>
	<i>Korok</i>	<i>Decapterus spp.</i>
	<i>Unyir</i>	<i>Decapterus spp.</i>
Tanjan	<i>Tanjan</i>	<i>Sardinella spp.</i>
	<i>Tembang</i>	<i>Sardinella spp.</i>
	<i>Belo</i>	<i>Anodontostoma sp.</i>
	<i>Japuh</i>	<i>Dussumieria acuta</i>
	<i>Juwi</i>	<i>Sardinella spp.</i>
	<i>Lemuru</i>	<i>A.sirm, S. lemuru</i>
	<i>Siro</i>	<i>Amblygaster sirm</i>
Tenggiri	<i>Tenggiri</i>	<i>Scomberomorus spp.</i>
Tongkol	<i>Tongkol</i>	<i>Auxis spp.</i>
	<i>Cakalang</i>	<i>Katsuwomus pelamis</i>

Annex 2

The catches per landing (in kg)

Catches of the Javanese mini seiners fleet

Banyutowo 1995 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	353	254	479	877		317	404	781	1035	718	616	766	1035
	Mean	48	74	76	99		82	54	128	94	49	40	124	74
	St. deviation	65	72	116	170		95	96	153	167	120	105	180	132
	Occurrence	53	40	35	29		25	25	70	43	33	28	28	409
	%Occur./land.	60	74	68	51		65	47	77	35	19	18	42	43
<i>Bentong</i>	Maximum	645	140	185	67		41	0	0	470	0	366	501	645
	Mean	92	18	12	0		0	0	0	0	0	32	35	19
	St. deviation	124	33	38	0		0	0	0	0	0	75	95	64
	Occurrence	59	18	9	1		3	0	0	4	0	29	12	135
	%Occur./land.	67	33	17	1		7	0	0	3	0	19	18	14
<i>Layang</i>	Maximum	1096	967	667	1207		366	1330	1620	2201	1880	2198	1052	2201
	Mean	150	186	103	246		91	300	364	512	417	382	350	328
	St. deviation	178	183	127	245		97	264	313	423	399	313	273	333
	Occurrence	63	47	36	42		27	51	79	107	131	127	53	763
	%Occur./land.	72	87	70	75		71	96	87	89	77	84	80	81
<i>Tanjan</i>	Maximum	307	876	696	1765		1181	763	2696	1582	3015	3985	969	3985
	Mean	7	35	93	118		130	82	458	222	313	148	0	180
	St. deviation	36	139	159	283		280	138	516	292	532	398	0	379
	Occurrence	5	7	26	18		11	27	78	66	71	43	4	356
	%Occur./land.	5	12	50	32		28	50	86	55	42	28	6	38
<i>Tongkol</i>	Maximum	276	0	0	60		0	340	634	80	306	224	0	634
	Mean	7	0	0	0		0	29	44	0	0	0	0	8
	St. deviation	36	0	0	0		0	61	111	0	0	0	0	45
	Occurrence	5	0	0	2		0	18	26	2	2	4	0	59
	%Occur./land.	5	0	0	3		0	33	28	1	1	2	0	6
<i>Lain-lain</i>	Maximum	98	180	155	0		15	0	0	0	0	0	271	271
	Mean	11	10	22	0		0	0	0	0	0	0	0	3
	St. deviation	23	29	38	0		0	0	0	0	0	0	0	19
	Occurrence	26	11	22	0		2	0	0	0	0	0	2	63
	%Occur./land.	29	20	43	0		5	0	0	0	0	0	3	6
<i>Jumlah</i>	Minimum	38	63	30	56		36	40	59	64	46	21	29	21
	Maximum	1246	1186	1100	2200		1181	1675	3072	3738	4095	4110	2115	4110
	Mean	314	316	319	466		307	465	994	835	783	607	546	613
	St. deviation	226	214	256	408		261	353	640	658	637	479	411	544
	Landing	87	54	51	56	0	38	53	90	120	169	151	66	935

During the month of May, these informations can not be collected.

Catches of the Javanese mini seiners fleet

Banyutowo 1996 (kg /landing)		MONTH											
		1	2	3	4	5	6	7	8	9	10	11	12
<i>Banyar</i>	Maximum	21	756	695	925	491	468	340	429	651	279	3055	3055
	Mean	0	129	74	84	97	90	55	72	67	39	89	77
	St. deviation	0	150	103	151	112	117	77	106	104	65	376	157
	Occurrence	1	55	48	36	37	38	27	53	104	32	28	459
	%Occur./land.	9	78	70	67	78	57	61	51	64	45	38	59
<i>Bentong</i>	Maximum	228	1309	393	148	538	360	180	1160	1028	472	553	1309
	Mean	0	42	28	23	92	70	29	205	156	94	118	102
	St. deviation	0	162	67	40	121	86	44	239	206	116	124	166
	Occurrence	2	19	19	20	29	41	18	73	122	45	57	445
	%Occur./land.	18	27	27	37	61	62	40	71	75	64	78	58
<i>Cumi-cumi</i>	Maximum	0	0	0	0	0	16	30	21	0	0	0	30
	Mean	0	0	0	0	0	0	0	0	0	0	0	0
	St. deviation	0	0	0	0	0	0	0	0	0	0	0	2
	Occurrence	0	0	0	0	0	1	2	2	0	0	0	5
	%Occur./land.	0	0	0	0	0	1	4	1	0	0	0	0
<i>Layang</i>	Maximum	479	607	736	1098	1590	1540	1137	1477	1100	747	1511	1590
	Mean	171	43	133	164	132	316	325	313	281	228	207	225
	St. deviation	123	101	163	239	255	377	291	316	253	220	237	268
	Occurrence	11	29	53	36	22	61	42	84	141	58	64	601
	%Occur./land.	100	41	77	67	46	92	95	82	87	82	87	78
<i>Tanjan</i>	Maximum	0	460	477	296	224	736	141	304	434	1139	296	1139
	Mean	0	64	37	0	11	71	23	19	33	36	48	35
	St. deviation	0	121	96	0	41	153	38	59	83	143	76	95
	Occurrence	0	30	17	2	7	20	18	15	35	13	30	187
	%Occur./land.	0	42	25	3	14	30	40	14	21	18	41	24
<i>Tenggiri</i>	Maximum	0	0	0	0	0	0	0	0	45	38	8	45
	Mean	0	0	0	0	0	0	0	0	1	1	0	0
	St. deviation	0	0	0	0	0	0	0	0	4	5	1	2
	Occurrence	0	0	0	0	0	0	0	0	3	2	2	7
	%Occur./land.	0	0	0	0	0	0	0	0	1	2	2	1
<i>Tongkol</i>	Maximum	0	18	0	269	51	0	0	0	94	332	242	332
	Mean	0	0	0	0	3	0	0	0	0	0	0	2
	St. deviation	0	0	0	0	10	0	0	0	0	0	0	19
	Occurrence	0	1	0	2	5	0	0	0	1	2	4	15
	%Occur./land.	0	1	0	3	10	0	0	0	0	2	5	1
<i>Campuran</i>	Maximum	0	0	0	0	0	0	0	133	143	119	78	143
	Mean	0	0	0	0	0	0	0	0	4	6	0	2
	St. deviation	0	0	0	0	0	0	0	0	18	18	0	12
	Occurrence	0	0	0	0	0	0	0	3	15	9	2	29
	%Occur./land.	0	0	0	0	0	0	0	2	9	12	2	3
<i>Lain-lain</i>	Maximum	0	377	496	262	157	0	0	0	272	105	275	496
	Mean	0	20	28	18	10	0	0	0	7	6	14	10
	St. deviation	0	57	77	48	28	0	0	0	28	18	39	38
	Occurrence	0	26	23	17	10	0	0	0	19	14	18	127
	%Occur./land.	0	37	33	32	21	0	0	0	11	20	24	16
<i>Jumlah</i>	Minimum	68	24	36	25	30	51	28	49	60	37	60	24
	Maximum	479	1403	1122	1249	1618	1900	1211	2064	1922	1288	3055	3055
	Mean	200	297	300	301	345	548	432	611	549	416	484	452
	St. deviation	118	274	223	317	265	426	271	420	373	264	421	362
	Landing	5	11	70	68	53	47	66	44	102	162	70	73

During the month of January, only 5 landings were recorded in this place.

Catches of the Javanese mini seiners fleet

Eretan Wetan 1995 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	2410	940	100	680	1140	1220	940	950	960	1600	720	200	2410
	Mean	381	234	34	66	94	201	121	137	193	150	82	80	137
	St. deviation	572	337	39	110	146	249	174	186	190	273	128	104	227
	Occurrence	27	10	10	53	117	57	60	44	93	63	47	3	584
	%Occur./land.	84	71	52	56	71	82	88	81	91	63	66	100	74
<i>Bentong</i>	Maximum	940	360	500	710	600	1820	660	2000	400	1000	1000	280	2000
	Mean	237	0	74	68	38	159	75	119	61	85	117	0	87
	St. deviation	242	0	121	134	88	300	124	339	80	160	177	0	180
	Occurrence	25	4	13	46	69	36	35	25	65	44	49	2	413
	%Occur./land.	78	28	68	49	42	52	51	46	63	44	69	66	52
<i>Layang</i>	Maximum	3600	1700	200	300	2420	1600	2600	2660	3200	4400	2400	400	4400
	Mean	1101	180	0	11	25	60	110	295	333	301	321	0	201
	St. deviation	991	452	0	44	195	223	444	653	586	577	600	0	520
	Occurrence	28	6	2	8	18	17	13	19	54	49	41	2	257
	%Occur./land.	87	42	10	8	11	24	19	35	52	49	57	66	32
<i>Tanjan</i>	Maximum	4220	4000	4680	5400	3400	2300	1900	2400	5100	3400	6000	2200	6000
	Mean	436	356	884	537	276	451	305	391	1020	313	491	0	478
	St. deviation	938	1052	1148	920	559	585	484	590	1086	495	1087	0	818
	Occurrence	15	9	16	68	93	45	38	33	89	58	41	3	508
	%Occur./land.	46	64	84	73	57	65	55	61	87	58	57	100	64
<i>Tongkol</i>	Maximum	100	0	0	0	140	200	190	20	170	600	600	0	600
	Mean		0	0	0	2	0	0	0	0	0	0	0	3
	St. deviation		0	0	0	15	0	0	0	0	0	0	0	33
	Occurrence	2	0	0	0	7	2	3	1	3	1	2	0	21
	%Occur./land.	6	0	0	0	4	2	4	1	2	1	2	0	2
<i>Lain-lain</i>	Maximum	2100	140	930	2010	1550	4100	3200	880	1560	1320	1140	90	4100
	Mean	502	19	145	220	107	195	145	124	211	103	181	0	167
	St. deviation	682	39	224	333	178	554	428	168	257	207	275	0	333
	Occurrence	27	5	18	86	136	57	45	45	82	56	55	1	613
	%Occur./land.	84	35	94	92	83	82	66	83	80	56	77	33	77
<i>Jumlah</i>	Minimum	70	70	140	10	20	10	20	20	20	20	50	610	10
	Maximum	6556	4200	5420	5460	3720	4900	6730	4060	5500	4400	6440	2300	6730
	Mean	2660	852	1154	901	542	1069	758	1066	1819	957	1202	1367	1072
	St. deviation	1652	1163	1201	991	667	1081	1054	1006	1228	812	1269	859	1142
	Landing	32	14	19	93	163	69	68	54	102	100	71	3	788

Catches of the Javanese mini seiners fleet

Eretan Wetan 1996 (kg /landing)		MONTH				
		1	2	3	4	Total
<i>Banyar</i>	Maximum	80	0	700	800	800
	Mean	0	0	112	64	66
	St. deviation	0	0	226	142	149
	Occurrence	3	0	7	24	34
	%Occur./land.	50	0	77	54	56
<i>Bentong</i>	Maximum	220	10	460	860	860
	Mean	0	0	98	67	73
	St. deviation	0	0	159	173	162
	Occurrence	4	1	5	18	28
	%Occur./land.	66	100	55	40	46
<i>Layang</i>	Maximum	140	0	0	10	140
	Mean	0	0	0	0	6
	St. deviation	0	0	0	0	23
	Occurrence	4	0	0	1	5
	%Occur./land.	66	0	0	2	8
<i>Tanjan</i>	Maximum	385	140	1180	3000	3000
	Mean	0	0	0	749	609
	St. deviation	0	0	0	851	783
	Occurrence	4	1	4	35	44
	%Occur./land.	66	100	44	79	73
<i>Tongkol</i>	Maximum	0	0	40	0	40
	Mean	0	0	0	0	1
	St. deviation	0	0	0	0	5
	Occurrence	0	0	1	0	1
	%Occur./land.	0	0	11	0	1
<i>Lain-lain</i>	Maximum	260	120	180	1600	1600
	Mean	0	0	62	127	110
	St. deviation	0	0	68	251	220
	Occurrence	4	1	8	33	46
	%Occur./land.	66	100	88	75	76
<i>Jumlah</i>	Minimum	100	270	5	40	5
	Maximum	645	270	2460	3270	3270
	Mean	360	270	563	1008	864
	St. deviation	198	0	821	914	875
	Landing	6	1	9	44	60

Catches of the Javanese mini seiners fleet

Kranji 1995 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	0	0	826	648	720	304	786	925	2091	1207	706	1078	2091
	Mean	0	0	0	125	138	0	13	45	201	65	33	25	72
	St. deviation	0	0	0	222	163	0	90	149	346	171	115	127	200
	Occurrence	0	0	4	5	24	2	5	12	52	53	17	6	180
	%Occur./land.	0	0	50	35	68	33	6	13	40	24	12	6	21
<i>Bentong</i>	Maximum	79	0	0	33	372	0	0	0	221	67	306	0	372
	Mean	0	0	0	0	28	0	0	0	0	0	0	0	2
	St. deviation	0	0	0	0	85	0	0	0	0	0	0	0	23
	Occurrence	1	0	0	1	5	0	0	0	1	1	2	0	11
	%Occur./land.	2	0	0	7	14	0	0	0	0	0	1	0	1
<i>Layang</i>	Maximum	0	0	0	0	266	0	92	1602	4818	4559	3458	1180	4818
	Mean	0	0	0	0	0	0	0	84	349	282	150	46	165
	St. deviation	0	0	0	0	0	0	0	297	818	646	474	189	525
	Occurrence	0	0	0	0	1	0	1	8	39	60	24	7	140
	%Occur./land.	0	0	0	0	2	0	1	8	30	27	17	7	16
<i>Tanjan</i>	Maximum	2125	511	0	556	1499	2760	4636	7001	8442	8881	931	1790	8881
	Mean	0	0	0	0	0	0	1194	1729	956	977	0	0	716
	St. deviation	0	0	0	0	0	0	864	1529	1349	1577	0	0	1266
	Occurrence	1	1	0	1	1	4	73	84	78	93	2	3	341
	%Occur./land.	2	33	0	7	2	66	94	91	60	43	1	3	40
<i>Tenggiri</i>	Maximum	0	0	0	897	467	0	0	0	46	3541	2774	284	3541
	Mean	0	0	0	166	73	0	0	0	0	29	120	0	33
	St. deviation	0	0	0	251	120	0	0	0	0	244	403	0	212
	Occurrence	0	0	0	9	17	0	0	0	2	25	41	4	98
	%Occur./land.	0	0	0	64	48	0	0	0	1	11	30	4	11
<i>Tongkol</i>	Maximum	7116	0	563	358	37	228	586	223	973	2529	13893	5812	13893
	Mean	798	0	0	0	0	0	0	0	31	78	668	696	243
	St. deviation	1313	0	0	0	0	0	0	0	128	261	1555	1048	827
	Occurrence	27	0	2	3	1	1	3	2	16	33	63	82	233
	%Occur./land.	79	0	25	21	2	16	3	2	12	15	46	92	27
<i>Campuran</i>	Maximum	443	62	220	196	605	0	0	0	507	742	677	0	742
	Mean	52	0	0	68	133	0	0	0	0	27	29	0	22
	St. deviation	112	0	0	78	164	0	0	0	0	77	82	0	74
	Occurrence	8	1	3	7	23	0	0	0	4	39	25	0	110
	%Occur./land.	23	33	37	50	65	0	0	0	3	18	18	0	13
<i>Lain-lain</i>	Maximum	1312	402	510	412	522	70	540	620	1852	4010	3543	1413	4010
	Mean	93	0	0	0	52	0	0	23	214	223	334	78	165
	St. deviation	292	0	0	0	111	0	0	98	364	440	635	203	396
	Occurrence	5	1	3	4	12	1	3	6	48	98	68	22	271
	%Occur./land.	14	33	37	28	34	16	3	6	37	45	50	24	32
<i>Jumlah</i>	Minimum	149	62	64	204	107	206	74	24	13	79	112	80	13
	Maximum	7116	511	1247	1109	1499	2760	4636	7001	8442	8881	14009	5812	14009
	Mean	1007	325	566	509	476	1154	1235	1867	1761	1682	1344	880	1419
	St. deviation	1278	234	429	306	324	1052	849	1431	1455	1491	1535	1073	1387
	Landing	34	3	8	14	35	6	77	92	129	216	135	89	838

Catches of the Javanese mini seiners fleet

Pekalongan 1995 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	1466	2850	3420	1603	510	724	120	360	1320	1338	1350	611	3420
	Mean	98	321	117	44	52	65	0	14	49	67	20	129	70
	St. deviation	249	648	318	121	72	92	0	53	158	179	139	200	211
	Occurrence	48	34	282	322	191	214	4	18	75	144	19	9	1360
	%Occur./land.	60	69	71	59	77	89	66	22	46	66	19	90	64
<i>Bentong</i>	Maximum	1174	1260	2191	2250	885	661	92	139	245	534	480	90	2250
	Mean	163	69	38	34	60	47	0	9	25	17	47	0	42
	St. deviation	203	185	129	128	116	90	0	22	40	47	83	0	116
	Occurrence	68	27	189	220	161	138	3	27	100	110	67	4	1114
	%Occur./land.	86	55	48	40	65	57	50	33	61	50	69	40	52
<i>Cumi-cumi</i>	Maximum	0	0	149	0	0	0	0	0	0	28	60	11	149
	Mean	0	0	3	0	0	0	0	0	0	1	2	0	1
	St. deviation	0	0	12	0	0	0	0	0	0	4	8	0	6
	Occurrence	0	0	41	0	0	0	0	0	0	14	8	1	64
	%Occur./land.	0	0	10	0	0	0	0	0	0	6	8	10	3
<i>Layang</i>	Maximum	360	1590	580	0	13	37	0	0	0	298	0	78	1590
	Mean	22	66	0	0	0	0	0	0	0	0	0	0	3
	St. deviation	56	269	0	0	0	0	0	0	0	0	0	0	47
	Occurrence	24	5	4	0	2	4	0	0	0	3	0	2	44
	%Occur./land.	30	10	1	0	0	1	0	0	0	1	0	20	2
<i>Tanjan</i>	Maximum	553	870	2758	4860	5580	5940	570	2880	3660	5880	3780	570	5940
	Mean	62	52	277	454	596	613	324	272	576	363	262	0	414
	St. deviation	114	145	390	754	708	959	217	476	813	617	443	0	683
	Occurrence	37	16	313	429	213	166	6	54	147	196	85	4	1666
	%Occur./land.	46	32	79	79	86	69	100	66	90	89	88	40	78
<i>Tenggiri</i>	Maximum	540	30	139	690	150	36	6	26	516	1106	211	28	1106
	Mean	27	3	16	21	3	1	0	0	16	37	19	0	16
	St. deviation	87	7	23	48	12	4	0	0	59	97	37	0	49
	Occurrence	34	16	229	307	71	27	2	4	45	168	54	3	960
	%Occur./land.	43	32	58	57	28	11	33	4	27	77	56	30	45
<i>Tongkol</i>	Maximum	892	570	1269	1039	3262	527	10	369	360	4518	539	4094	4518
	Mean	71	0	17	13	28	18	0	6	10	148	35	721	36
	St. deviation	199	0	79	79	243	65	0	41	40	431	88	1392	209
	Occurrence	23	3	69	61	21	63	1	6	29	96	29	7	408
	%Occur./land.	29	6	17	11	8	26	16	7	17	44	30	70	19
<i>Campuran</i>	Maximum	830	1188	2048	1174	788	618	30	1382	818	1287	2970	16	2970
	Mean	50	118	139	99	31	36	0	242	53	84	75	0	88
	St. deviation	122	255	191	165	80	61	0	251	108	150	324	0	172
	Occurrence	39	31	339	441	141	165	2	64	79	180	50	1	1532
	%Occur./land.	49	63	86	81	57	68	33	79	48	82	52	10	72
<i>Lain-lain</i>	Maximum	65	293	269	800	360	210	75	138	306	218	150	0	800
	Mean	6	12	15	24	8	3	0	6	12	10	6	0	13
	St. deviation	14	46	31	64	31	17	0	21	40	29	24	0	41
	Occurrence	16	8	168	287	64	16	2	14	45	61	8	0	689
	%Occur./land.	20	16	42	53	25	6	33	17	27	27	8	0	32
<i>Jumlah</i>	Minimum	31	12	19	22	14	22	83	36	11	30	42	80	11
	Maximum	1931	3795	5410	5018	9388	6083	705	3191	3726	6634	3878	5197	9388
	Mean	498	663	625	688	780	783	409	550	741	729	489	956	685
	St. deviation	403	870	576	794	911	989	225	459	797	788	601	1669	779
	Landing	79	49	393	538	247	240	6	81	162	218	96	10	2119

Catches of the Javanese mini seiners fleet

Pekalongan 1996 (kg /landing)		MONTH						Total
		1	2	3	4	5	6	
<i>Banyar</i>	Maximum	13	125	814	2211	3691	2774	3691
	Mean	0	38	56	90	180	221	140
	St. deviation	0	37	106	239	434	495	366
	Occurrence	1	8	93	330	444	184	1060
	%Occur./land.	33	100	52	67	86	73	73
<i>Bentong</i>	Maximum	160	80	930	1053	1399	330	1399
	Mean	0	0	39	55	24	21	36
	St. deviation	0	0	103	105	86	46	91
	Occurrence	3	8	102	297	218	92	720
	%Occur./land.	100	100	57	60	42	36	49
<i>Cumi-cumi</i>	Maximum	38	21	0	226	96	176	226
	Mean	0	9	0	9	1	5	4
	St. deviation	0	7	0	19	7	15	14
	Occurrence	1	6	0	169	17	74	267
	%Occur./land.	33	75	0	34	3	29	18
<i>Tanjan</i>	Maximum	40	330	2300	4736	4290	3385	4736
	Mean	0	0	153	329	211	324	263
	St. deviation	0	0	298	545	449	587	498
	Occurrence	2	4	137	378	344	167	1032
	%Occur./land.	66	50	77	77	66	66	71
<i>Tenggiri</i>	Maximum	9	15	699	526	283	115	699
	Mean	0	0	27	32	7	2	17
	St. deviation	0	0	63	56	24	10	44
	Occurrence	1	2	113	320	183	23	642
	%Occur./land.	33	25	64	65	35	9	44
<i>Tongkol</i>	Maximum	45	68	1374	5287	2330	1885	5287
	Mean	0	0	42	64	33	55	48
	St. deviation	0	0	164	338	136	187	234
	Occurrence	1	4	33	158	138	75	409
	%Occur./land.	33	50	18	32	26	29	28
<i>Campuran</i>	Maximum	63	6	740	1482	990	1000	1482
	Mean	0	0	125	63	52	26	60
	St. deviation	0	0	137	132	100	85	118
	Occurrence	2	2	160	383	356	88	991
	%Occur./land.	66	25	90	78	69	35	68
<i>Lain-lain</i>	Maximum	0	15	469	1356	2731	1489	2731
	Mean	0	0	58	42	62	31	49
	St. deviation	0	0	82	128	201	142	156
	Occurrence	0	1	137	216	287	38	679
	%Occur./land.	0	12	77	44	55	15	47
<i>Jumlah</i>	Minimum	93	33	22	17	25	19	17
	Maximum	277	420	3034	5689	5380	4127	5689
	Mean	201	139	499	682	580	685	620
	St. deviation	96	128	429	702	657	764	671
	Landing	3	8	176	490	515	251	1443

Catches of the Javanese mini seiners fleet

Sarang 1992 (kg /landing)		MONTH									
		4	5	6	7	8	9	10	11	12	Total
<i>Banyar</i>	Maximum	0	0	0	3694	2000	1252	2654	1774	2223	3694
	Mean	0	0	0	314	105	112	187	236	264	169
	St. deviation	0	0	0	458	187	190	214	252	286	266
	Occurrence	0	0	0	432	496	527	814	488	522	3279
	%Occur./land.	0	0	0	72	53	55	83	87	88	64
<i>Bentong</i>	Maximum	0	0	0	2164	1694	1443	1506	1063	928	2164
	Mean	0	0	0	80	80	116	123	61	79	85
	St. deviation	0	0	0	207	158	183	179	107	117	161
	Occurrence	0	0	0	235	418	574	656	321	390	2594
	%Occur./land.	0	0	0	39	45	60	67	57	65	50
<i>Layang</i>	Maximum	0	0	0	2837	4422	5310	2966	2394	2522	5310
	Mean	0	0	0	313	730	691	316	172	255	406
	St. deviation	0	0	0	408	751	845	449	330	357	617
	Occurrence	0	0	0	388	760	704	623	313	437	3225
	%Occur./land.	0	0	0	65	82	74	63	55	73	63
<i>Tanjan</i>	Maximum	0	0	0	2883	2577	11750	4012	1059	4146	11750
	Mean	0	0	0	42	116	225	79	12	52	90
	St. deviation	0	0	0	228	348	677	308	77	321	386
	Occurrence	0	0	0	73	213	321	212	47	51	917
	%Occur./land.	0	0	0	12	23	34	21	8	8	18
<i>Tenggiri</i>	Maximum	0	0	0	57	78	237	235	51	60	237
	Mean	0	0	0	0	0	1	6	1	0	1
	St. deviation	0	0	0	0	3	9	18	5	3	9
	Occurrence	0	0	0	1	6	38	196	42	9	292
	%Occur./land.	0	0	0	0	0	4	20	7	1	5
<i>Tongkol</i>	Maximum	0	0	0	566	1414	3343	3462	2453	3290	3462
	Mean	0	0	0	11	26	36	134	57	47	50
	St. deviation	0	0	0	48	112	184	361	213	266	221
	Occurrence	0	0	0	76	139	138	367	118	107	945
	%Occur./land.	0	0	0	12	15	14	37	21	18	18
<i>Campuran</i>	Maximum	0	0	0	0	0	0	270	46	28	270
	Mean	0	0	0	0	0	0	3	0	0	1
	St. deviation	0	0	0	0	0	0	16	0	0	7
	Occurrence	0	0	0	0	0	0	55	4	4	63
	%Occur./land.	0	0	0	0	0	0	5	0	0	1
<i>Lain-lain</i>	Maximum	0	0	0	1376	1500	2840	3310	3660	2375	3660
	Mean	0	0	0	37	27	83	243	401	89	126
	St. deviation	0	0	0	134	123	255	447	624	274	349
	Occurrence	0	0	0	132	142	299	624	399	159	1755
	%Occur./land.	0	0	0	22	15	31	64	71	26	34
<i>Jumlah</i>	Minimum	10	14	25	20	23	30	20	23	24	10
	Maximum	3660	2310	4043	3741	4491	11800	4110	3909	4206	11800
	Mean	390	233	869	797	1084	1264	1092	939	786	970
	St. deviation	609	363	830	599	795	964	726	709	628	792
	Landing	341	91	67	595	925	942	974	560	593	5088

Catches of the Javanese mini seiners fleet

Sarang 1994 (kg /landing)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Maximum	1225	1370	1063	901	970	1380	1134	727						1380
	Mean	58	100	85	67	97	143	91	33						84
	St. deviation	111	157	150	123	141	205	139	78						145
	Occurrence	257	491	273	392	359	381	287	176						2616
	%Occur./land.	48	60	54	48	65	65	59	30						54
<i>Bentong</i>	Maximum	1380	1880	2851	3211	1413	2249	1354	2471						3211
	Mean	257	141	94	69	250	277	182	111						166
	St. deviation	241	225	210	203	268	292	241	226						250
	Occurrence	493	536	252	373	473	529	378	347						3381
	%Occur./land.	93	65	50	46	86	91	78	61						70
<i>Cumi-cumi</i>	Maximum	0	150	206	70	125	62	110	0						206
	Mean	0	3	16	7	6	0	1	0						4
	St. deviation	0	12	25	11	11	3	6	0						12
	Occurrence	0	59	195	280	199	15	11	0						759
	%Occur./land.	0	7	39	34	36	2	2	0						15
<i>Layang</i>	Maximum	1468	1417	738	1269	1048	989	2525	5437						5437
	Mean	165	55	16	8	20	73	194	883						165
	St. deviation	236	142	70	63	76	155	372	825						425
	Occurrence	365	284	60	42	91	202	246	533						1823
	%Occur./land.	68	34	12	5	16	34	51	93						37
<i>Tanjan</i>	Maximum	3566	6400	3400	4600	3960	3557	5148	3061						6400
	Mean	279	564	469	500	331	338	140	68						358
	St. deviation	497	864	619	642	558	482	432	294						617
	Occurrence	295	542	439	719	367	456	192	92						3102
	%Occur./land.	55	66	88	88	66	78	40	16						64
<i>Tenggiri</i>	Maximum	60	107	163	128	238	42	20	7						238
	Mean	0	2	8	5	10	0	0	0						3
	St. deviation	4	9	19	12	24	3	0	0						12
	Occurrence	13	93	152	248	185	17	3	1						712
	%Occur./land.	2	11	30	30	33	2	0	0						14
<i>Tongkol</i>	Maximum	2229	2689	641	3153	2656	1662	3961	1621						3961
	Mean	41	44	6	16	37	63	84	26						39
	St. deviation	161	172	38	148	191	164	251	124						166
	Occurrence	173	253	53	92	69	272	220	100						1232
	%Occur./land.	32	31	10	11	12	46	45	17						25
<i>Campuran</i>	Maximum	90	444	79	805	362	216	276	390						805
	Mean	0	2	0	2	10	2	3	2						3
	St. deviation	0	24	4	29	29	12	19	21						21
	Occurrence	1	18	10	26	142	34	24	12						267
	%Occur./land.	0	2	2	3	25	5	5	2						5
<i>Lain-lain</i>	Maximum	720	1520	730	3150	403	3440	5911	2550						5911
	Mean	18	55	35	50	19	63	183	21						54
	St. deviation	59	141	69	150	42	230	493	142						208
	Occurrence	118	356	264	463	205	217	298	82						2003
	%Occur./land.	22	43	53	57	37	37	62	14						41
<i>Jumlah</i>	Minimum	7	14	17	10	11	9	17	10						7
	Maximum	3852	6796	3937	5224	4268	4912	6493	7389						7389
	Mean	818	966	729	723	781	960	877	1145						875
	St. deviation	596	885	757	722	663	673	776	889						770
	Landing	529	813	498	808	548	581	480	568						4825

Catches of the Javanese mini seiners fleet

Sarang 1996 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	1010	2042	1230	622	2457	1452	1001	1730	784	802	959	1175	2457
	Mean	92	200	77	46	150	109	64	54	35	49	50	82	75
	St. deviation	148	312	149	76	234	193	132	133	86	99	111	131	153
	Occurrence	342	169	265	337	345	336	303	205	212	359	200	214	3287
	%Occur./land.	59	63	51	50	74	54	43	38	29	40	38	61	48
<i>Bentong</i>	Maximum	2960	3613	5047	1446	3083	2095	1759	2722	1821	2067	796	1877	5047
	Mean	124	162	146	54	224	119	71	119	118	61	24	136	105
	St. deviation	221	342	367	116	381	232	149	223	176	146	61	209	228
	Occurrence	395	149	309	377	363	371	394	342	496	423	190	251	4060
	%Occur./land.	68	56	59	56	78	60	56	64	69	47	36	72	59
<i>Cumi-cumi</i>	Maximum	0	0	200	85	80	140	20	0	157	100	60	95	200
	Mean	0	0	9	7	3	3	0	0	0	1	2	2	2
	St. deviation	0	0	18	11	9	12	2	0	0	7	8	9	9
	Occurrence	0	0	168	246	61	71	13	0	2	62	47	23	693
	%Occur./land.	0	0	32	36	13	11	1	0	0	6	9	6	10
<i>Layang</i>	Maximum	2072	2051	3087	1312	1374	1335	4332	4460	5042	5480	3209	3317	5480
	Mean	171	162	90	16	17	47	335	606	637	756	500	540	348
	St. deviation	290	342	304	88	103	169	482	642	660	820	547	528	570
	Occurrence	368	104	120	57	35	93	503	454	650	760	409	296	3849
	%Occur./land.	64	39	23	8	7	15	72	85	90	85	78	85	56
<i>Tanjan</i>	Maximum	2444	3340	5440	5080	4600	4466	2530	936	2090	4025	3840	1680	5440
	Mean	78	133	395	414	478	213	71	22	44	78	91	51	168
	St. deviation	221	348	664	660	673	518	251	92	182	352	347	176	448
	Occurrence	215	114	413	569	358	244	116	55	94	126	136	75	2515
	%Occur./land.	37	42	79	85	77	39	16	10	13	14	26	21	36
<i>Tenggiri</i>	Maximum	70	70	170	226	150	212	120	17	363	270	89	114	363
	Mean	1	2	5	10	3	1	1	0	1	2	2	1	2
	St. deviation	5	8	16	25	14	11	7	0	14	13	8	8	13
	Occurrence	23	24	105	191	49	31	22	4	14	73	32	11	579
	%Occur./land.	4	9	20	28	10	5	3	0	1	8	6	3	8
<i>Tongkol</i>	Maximum	997	4095	4866	832	4233	730	2214	1856	1209	6314	1629	1804	6314
	Mean	26	53	20	7	78	12	39	28	29	70	15	19	33
	St. deviation	97	364	225	47	312	59	159	130	106	426	108	128	219
	Occurrence	112	22	54	46	140	79	157	93	146	144	42	38	1073
	%Occur./land.	19	8	10	6	30	12	22	17	20	16	8	10	15
<i>Campuran</i>	Maximum	533	594	1102	429	1122	376	432	1292	303	180	86	57	1292
	Mean	74	30	6	5	23	2	5	7	2	2	1	0	12
	St. deviation	103	84	52	22	96	17	31	63	16	15	6	4	54
	Occurrence	369	54	58	114	93	57	46	21	28	44	9	7	900
	%Occur./land.	64	20	11	17	20	9	6	3	3	4	1	2	13
<i>Lain-lain</i>	Maximum	386	1260	3541	1520	585	1952	895	1310	1790	1620	440	1015	3541
	Mean	18	31	56	41	20	124	63	26	44	21	15	42	43
	St. deviation	50	105	230	109	58	225	123	84	143	87	42	104	132
	Occurrence	132	101	254	361	145	404	343	157	223	219	144	148	2631
	%Occur./land.	22	37	48	54	31	65	49	29	31	24	27	42	38
<i>Jumlah</i>	Minimum	11	20	10	7	8	14	20	30	20	10	16	35	7
	Maximum	3926	4508	7477	5120	4982	5065	4332	5340	5255	6314	3880	3668	7477
	Mean	584	773	804	601	996	631	649	862	910	1041	701	874	788
	St. deviation	571	814	928	694	871	660	581	713	740	909	594	586	753
	Landing	575	266	519	667	461	618	692	534	718	892	518	348	6808

Catches of the Javanese mini seiners fleet

Tasik Agung 1995 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	1251	1988	1299	1049	2967	957	688	975	1391	2083	1976	1174	2967
	Mean	133	194	90	131	134	66	51	66	111	114	68	74	97
	St. deviation	191	261	157	160	183	91	84	102	154	188	126	126	153
	Occurrence	205	178	442	726	756	506	415	637	780	634	499	340	6118
	%Occur./land.	80	86	67	82	91	74	64	70	80	77	66	70	75
<i>Bentong</i>	Maximum	1521	713	1171	816	645	680	1756	1017	1793	1065	1136	863	1793
	Mean	199	35	57	53	71	65	103	73	97	97	125	80	85
	St. deviation	233	81	110	82	89	103	202	126	158	147	187	118	143
	Occurrence	219	86	345	516	647	424	308	430	551	502	511	344	4883
	%Occur./land.	85	41	52	58	78	62	48	47	56	61	68	70	60
<i>Cumi-cumi</i>	Maximum	0	192	153	750	213	93	15	20	22	100	30	60	750
	Mean	0	7	8	4	1	0	0	0	0	1	1	1	2
	St. deviation	0	20	17	29	11	4	0	1	0	8	3	6	12
	Occurrence	0	40	212	103	35	6	4	10	4	29	36	33	512
	%Occur./land.	0	19	32	11	4	0	0	1	0	3	4	6	6
<i>Layang</i>	Maximum	2674	2992	1404	3223	2597	390	4240	6396	8400	4370	4093	3661	8400
	Mean	167	94	28	33	38	12	180	498	646	593	322	334	277
	St. deviation	301	278	105	158	126	41	409	699	889	762	496	376	567
	Occurrence	164	76	147	180	267	111	377	678	792	633	572	415	4412
	%Occur./land.	64	36	22	20	32	16	58	75	81	77	76	85	54
<i>Tanjan</i>	Maximum	3679	3970	4938	8940	4109	4300	5000	22050	9030	3180	3200	2919	22050
	Mean	91	593	512	645	172	565	379	443	147	67	93	85	313
	St. deviation	327	840	768	908	356	706	612	1016	472	287	308	244	672
	Occurrence	93	142	423	649	425	522	422	540	328	123	213	159	4039
	%Occur./land.	36	68	64	73	51	77	65	59	33	15	28	32	50
<i>Tenggiri</i>	Maximum	0	0	167	342	80	70	0	15	101	130	1541	204	1541
	Mean	0	0	3	4	0	0	0	0	0	1	8	3	2
	St. deviation	0	0	15	24	4	4	0	0	4	8	65	18	22
	Occurrence	0	0	74	74	13	15	0	3	8	25	73	39	324
	%Occur./land.	0	0	11	8	1	2	0	0	0	3	9	8	4
<i>Tongkol</i>	Maximum	918	790	1900	2383	388	1608	844	740	652	4378	839	2736	4378
	Mean	14	47	9	12	3	10	22	15	6	83	21	41	22
	St. deviation	72	97	87	92	22	71	57	61	30	328	72	156	129
	Occurrence	43	85	65	96	35	83	237	187	113	154	137	149	1384
	%Occur./land.	16	41	9	10	4	12	36	20	11	18	18	30	17
<i>Campuran</i>	Maximum	0	1750	559	244	266	963	880	180	415	1550	350	800	1750
	Mean	0	15	13	5	5	3	3	1	2	8	5	37	7
	St. deviation	0	124	40	19	21	39	37	9	17	70	26	93	45
	Occurrence	0	25	157	112	96	48	11	12	37	57	94	169	818
	%Occur./land.	0	12	23	12	11	7	1	1	3	6	12	34	10
<i>Lain-lain</i>	Maximum	1090	468	1679	2420	275	480	1038	800	2785	2306	4050	546	4050
	Mean	53	19	47	41	11	9	34	28	36	50	131	15	41
	St. deviation	122	69	148	138	27	33	93	90	154	198	261	62	143
	Occurrence	158	47	278	306	262	152	223	218	224	253	503	71	2695
	%Occur./land.	61	22	42	34	31	22	34	24	22	30	67	14	33
<i>Jumlah</i>	Minimum	27	25	5	4	10	3	7	12	28	9	1	15	1
	Maximum	5973	4977	5211	9661	4290	4300	5060	22157	10520	4866	4093	3661	22157
	Mean	655	1011	767	928	435	730	772	1124	1045	1015	774	672	844
	St. deviation	586	1026	800	964	413	703	680	1107	957	817	623	479	832
	Landing	256	206	655	879	822	677	641	901	974	820	747	485	8063

Catches of the Javanese mini seiners fleet

Tasik Agung 1996 (kg /landing)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	1059	1862	2841	1072	2037	3334	1361	1783	1933	1653	1131	2293	3334
	Mean	86	185	160	92	99	164	169	121	138	81	53	107	109
	St. deviation	166	295	288	128	185	272	243	187	228	161	113	224	205
	Occurrence	180	154	352	392	349	449	199	366	393	632	440	384	4290
	%Occur./land.	60	78	81	77	65	79	80	81	68	55	50	59	66
<i>Bentong</i>	Maximum	1625	644	1071	584	1593	793	1735	798	2049	1625	1191	2035	2049
	Mean	80	71	75	61	75	83	124	70	101	77	97	105	85
	St. deviation	149	110	119	85	148	122	237	128	193	156	178	198	159
	Occurrence	220	130	288	370	341	343	164	234	283	506	460	354	3693
	%Occur./land.	74	65	66	72	64	60	66	52	49	44	52	55	57
<i>Cumi-cumi</i>	Maximum	150	51	712	350	172	100	30	22	35	110	350	190	712
	Mean	1	2	8	7	5	2	0	0	1	2	9	11	4
	St. deviation	11	8	38	24	15	8	3	0	4	8	25	26	19
	Occurrence	15	16	80	108	92	54	7	4	17	100	203	148	844
	%Occur./land.	5	8	18	21	17	9	2	1	2	8	23	23	13
<i>Layang</i>	Maximum	1437	1148	4147	1385	1236	1865	2870	2898	3935	7173	3502	4432	7173
	Mean	143	65	40	36	78	92	340	406	359	385	232	344	235
	St. deviation	197	132	233	114	146	204	501	480	499	622	372	472	434
	Occurrence	220	93	87	141	248	259	184	366	412	755	560	505	3830
	%Occur./land.	74	47	20	27	46	46	74	81	72	66	64	78	59
<i>Tanjan</i>	Maximum	2000	1920	4800	4150	5600	4000	2211	1574	1850	4100	3600	1786	5600
	Mean	115	131	400	357	250	185	82	69	46	102	73	64	147
	St. deviation	240	311	654	621	583	433	230	186	184	354	277	162	404
	Occurrence	128	76	271	339	284	252	82	142	102	268	210	193	2347
	%Occur./land.	43	38	62	66	53	44	33	31	17	23	24	30	36
<i>Tenggiri</i>	Maximum	127	87	1789	96	250	49	10	0	30	1057	500	150	1789
	Mean	1	3	8	2	1	0	0	0	0	2	5	2	2
	St. deviation	8	12	98	10	12	3	1	0	2	32	23	11	31
	Occurrence	8	18	36	45	21	7	3	0	10	69	103	38	358
	%Occur./land.	2	9	8	8	3	1	1	0	1	6	11	5	5
<i>Tongkol</i>	Maximum	1022	126	1929	417	2933	3141	488	1909	999	3092	2567	2964	3141
	Mean	11	2	27	3	40	28	8	17	22	68	63	88	41
	St. deviation	69	11	162	27	179	193	45	108	94	284	263	333	212
	Occurrence	29	7	54	21	147	107	18	66	95	168	141	140	993
	%Occur./land.	9	3	12	4	27	19	7	14	16	14	16	21	15
<i>Campuran</i>	Maximum	1204	395	3454	1200	388	818	229	740	731	1823	1375	1173	3454
	Mean	79	44	42	33	27	23	11	27	20	30	31	27	31
	St. deviation	173	72	204	108	55	75	30	85	64	114	86	102	107
	Occurrence	180	100	140	197	218	163	55	113	126	305	305	187	2089
	%Occur./land.	60	50	32	38	41	28	22	25	22	26	35	29	32
<i>Lain-lain</i>	Maximum	40	95	1200	800	195	1679	790	356	1982	1143	970	100	1982
	Mean	0	1	15	7	1	23	15	5	28	15	8	0	11
	St. deviation	3	9	77	53	12	108	72	26	171	88	56	6	80
	Occurrence	5	7	49	47	18	78	27	31	38	72	52	7	431
	%Occur./land.	1	3	11	9	3	13	10	6	6	6	5	1	6
<i>Jumlah</i>	Minimum	4	16	21	6	25	9	14	14	6	4	5	14	4
	Maximum	2397	2960	4864	4330	6000	4120	4161	2977	3988	8757	3678	4432	8757
	Mean	516	504	775	599	576	600	750	716	732	786	570	772	674
	St. deviation	425	480	765	624	621	601	690	568	621	742	521	591	633
	Landing	296	197	432	509	529	563	246	449	571	1130	871	643	6436

Annex 3 :
The sale values per landing (in Rp.)

Catches of the Javanese mini seiners fleet

Banyutowo 1995 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	629	539	811	1616		728	820	864	1209	969	742	1527	1616
	Mean	75	135	131	177		189	100	173	124	67	52	202	113
	St. deviation	115	136	196	312		225	173	201	216	165	134	314	202
	Occurrence	53	40	35	29		25	25	70	43	33	28	28	409
	%Occur./land.	60	74	68	51		65	47	77	35	19	18	42	43
<i>Bentong</i>	Maximum	429	170	104	54		47	0	0	252	0	236	460	460
	Mean	66	19	8	0		0	0	0	0	0	20	31	14
	St. deviation	83	36	23	0		0	0	0	0	0	47	89	46
	Occurrence	59	18	9	1		3	0	0	4	0	29	12	135
	%Occur./land.	67	33	17	1		7	0	0	3	0	19	18	14
<i>Layang</i>	Maximum	1029	1080	814	1286		852	1012	1238	1607	1521	1761	1073	1761
	Mean	178	234	116	253		154	234	275	421	345	301	334	286
	St. deviation	214	228	144	259		192	200	230	337	335	256	265	279
	Occurrence	63	47	36	42		27	51	79	107	131	127	53	763
	%Occur./land.	72	87	70	75		71	96	87	89	77	84	80	81
<i>Tanjan</i>	Maximum	108	174	426	408		225	219	936	665	1096	981	279	1096
	Mean	3	11	30	48		27	32	161	93	128	54	0	68
	St. deviation	13	34	69	90		57	49	168	122	216	122	0	139
	Occurrence	5	7	26	18		11	27	78	66	71	43	4	356
	%Occur./land.	5	12	50	32		28	50	86	55	42	28	6	38
<i>Tongkol</i>	Maximum	335	0	0	114		0	511	1311	136	398	288	0	1311
	Mean	9	0	0	0		0	40	83	0	0	0	0	13
	St. deviation	45	0	0	0		0	88	229	0	0	0	0	82
	Occurrence	5	0	0	2		0	18	26	2	2	4	0	59
	%Occur./land.	5	0	0	3		0	33	28	1	1	2	0	6
<i>Lain-lain</i>	Maximum	232	201	553	0		103	0	0	0	0	0	650	650
	Mean	25	17	79	0		0	0	0	0	0	0	0	9
	St. deviation	50	42	134	0		0	0	0	0	0	0	0	49
	Occurrence	26	11	22	0		2	0	0	0	0	0	2	63
	%Occur./land.	29	20	43	0		5	0	0	0	0	0	3	6
<i>Jumlah</i>	Minimum	34	67	48	85		82	16	42	23	33	30	39	16
	Maximum	1299	1376	1700	1905		1086	1562	2547	2430	1866	2235	2002	2547
	Mean	356	415	354	483		379	406	692	644	543	433	589	503
	St. deviation	266	279	300	396		256	310	484	483	426	322	450	401
	Landing	87	54	51	56	0	38	53	90	120	169	151	66	935

Catches of the Javanese mini seiners fleet

Banyutowo 1996 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum		38	1475	1911	2565	672	959	775	667	1057	441	4958	4958
	Mean		0	285	180	212	174	171	120	124	113	77	144	150
	St. deviation		0	313	267	401	188	229	171	176	170	119	599	288
	Occurrence		1	55	48	36	37	38	27	53	104	32	28	459
	%Occur./land.		9	78	70	67	78	57	61	51	64	45	38	59
<i>Bentong</i>	Maximum		317	815	354	123	514	310	200	973	941	432	395	973
	Mean		0	34	31	19	87	62	26	165	124	82	87	84
	St. deviation		0	107	74	32	120	75	43	194	162	102	95	133
	Occurrence		2	19	19	20	29	41	18	73	122	45	57	445
	%Occur./land.		18	27	27	37	61	62	40	71	75	64	78	58
<i>Cumi-cumi</i>	Maximum		0	0	0	0	0	64	152	93	0	0	0	152
	Mean		0	0	0	0	0	0	0	0	0	0	0	1
	St. deviation		0	0	0	0	0	0	0	0	0	0	0	7
	Occurrence		0	0	0	0	0	1	2	2	0	0	0	5
	%Occur./land.		0	0	0	0	0	1	4	1	0	0	0	0
<i>Layang</i>	Maximum		946	861	1188	1796	2185	2559	2055	1989	1291	1020	1697	2559
	Mean		295	73	232	291	200	445	480	391	320	329	283	307
	St. deviation		260	159	301	427	366	526	438	388	287	310	313	363
	Occurrence		11	29	53	36	22	61	42	84	141	58	64	601
	%Occur./land.		100	41	77	67	46	92	95	82	87	82	87	78
<i>Tenggiri</i>	Maximum		0	335	184	103	134	356	103	138	163	308	81	356
	Mean		0	29	13	0	7	37	12	8	11	10	13	14
	St. deviation		0	60	34	0	27	78	23	25	29	39	20	39
	Occurrence		0	30	17	2	7	20	18	15	35	13	30	187
	%Occur./land.		0	42	25	3	14	30	40	14	21	18	41	24
<i>Tenggiri</i>	Maximum		0	0	0	0	0	0	0	0	123	149	34	149
	Mean		0	0	0	0	0	0	0	0	0	0	0	1
	St. deviation		0	0	0	0	0	0	0	0	0	0	0	8
	Occurrence		0	0	0	0	0	0	0	0	3	2	2	7
	%Occur./land.		0	0	0	0	0	0	0	0	1	2	2	0
<i>Tongkol</i>	Maximum		0	145	0	544	72	0	0	0	165	549	493	549
	Mean		0	0	0	0	5	0	0	0	0	0	0	4
	St. deviation		0	0	0	0	16	0	0	0	0	0	0	36
	Occurrence		0	1	0	2	5	0	0	0	1	2	4	15
	%Occur./land.		0	1	0	3	10	0	0	0	0	2	5	1
<i>Campuran</i>	Maximum		0	0	0	0	0	0	0	349	586	520	241	586
	Mean		0	0	0	0	0	0	0	0	17	21	0	7
	St. deviation		0	0	0	0	0	0	0	0	74	74	0	45
	Occurrence		0	0	0	0	0	0	0	3	15	9	2	29
	%Occur./land.		0	0	0	0	0	0	0	2	9	12	2	3
<i>Lain-lain</i>	Maximum		0	780	252	609	287	0	0	0	229	498	765	780
	Mean		0	48	26	40	20	0	0	0	9	23	32	18
	St. deviation		0	111	51	97	52	0	0	0	33	70	103	64
	Occurrence		0	26	23	17	10	0	0	0	19	14	18	127
	%Occur./land.		0	37	33	32	21	0	0	0	11	20	24	16
<i>Jumlah</i>	Minimum		107	31	37	63	34	60	73	59	80	38	44	31
	Maximum		946	2706	2456	3002	2242	2869	2055	2646	2418	1246	4958	4958
	Mean		338	471	482	577	493	715	643	694	595	555	575	583
	St. deviation		239	405	447	635	373	596	428	472	408	314	654	479
	Landing		11	70	68	53	47	66	44	102	162	70	73	766

Catches of the Javanese mini seiners fleet

Eretan Wetan 1995 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	6506	2090	345	1776	2170	2850	1730	2360	2557	2700	2500	530	6506
	Mean	730	528	89	179	242	500	306	369	449	231	171	0	311
	St. deviation	1331	723	109	284	378	628	367	509	527	402	341	0	517
	Occurrence	27	10	10	53	117	57	60	44	93	63	47	3	584
	%Occur./land.	84	71	52	56	71	82	88	81	91	63	66	100	74
<i>Bentong</i>	Maximum	1476	597	1095	1300	1977	3420	1664	1980	510	1551	872	327	3420
	Mean	331	0	171	149	80	303	180	168	84	97	138	0	143
	St. deviation	349	0	271	253	203	547	323	391	110	208	167	0	288
	Occurrence	25	4	13	46	69	36	35	25	65	44	49	2	413
	%Occur./land.	78	28	68	49	42	52	51	46	63	44	69	66	52
<i>Layang</i>	Maximum	4279	1034	304	495	2811	3900	2144	3900	2860	4560	5569	580	5569
	Mean	1251	158	0	22	44	127	97	318	296	242	328	0	207
	St. deviation	1115	301	0	87	263	501	339	722	560	558	809	0	574
	Occurrence	28	6	2	8	18	17	13	19	54	49	40	2	256
	%Occur./land.	87	42	10	8	11	24	19	35	52	49	56	66	32
<i>Tanjan</i>	Maximum	4203	3035	1978	6080	1700	1438	1530	1800	3193	2537	2944	2400	6080
	Mean	411	305	312	317	108	284	275	376	555	167	242	0	283
	St. deviation	954	798	447	846	228	357	414	517	671	360	570	0	567
	Occurrence	15	9	16	68	93	45	38	33	89	58	41	3	508
	%Occur./land.	46	64	84	73	57	65	55	61	87	58	57	100	64
<i>Tongkol</i>	Maximum	209	0	0	0	346	635	667	74	390	1590	1090	0	1590
	Mean	0	0	0	0	6	0	0	0	0	0	0	0	8
	St. deviation	0	0	0	0	39	0	0	0	0	0	0	0	80
	Occurrence	2	0	0	0	7	2	3	1	3	1	2	0	21
	%Occur./land.	6	0	0	0	4	2	4	1	2	1	2	0	3
<i>Lain-lain</i>	Maximum	2673	976	479	3300	4640	3540	2000	1670	1190	2295	2865	252	4640
	Mean	465	90	194	331	244	261	178	278	205	194	239	0	245
	St. deviation	682	262	168	524	502	520	347	428	232	398	469	0	448
	Occurrence	27	5	18	86	136	57	45	45	82	56	55	1	613
	%Occur./land.	84	35	94	92	83	82	66	83	80	56	77	33	78
<i>Jumlah</i>	Minimum	61	47	202	19	5	17	39	14	46	27	109	995	5
	Maximum	9190	4072	3576	7300	5369	7924	4816	5797	5397	4560	5589	2676	9190
	Mean	3198	1178	796	998	724	1487	1047	1511	1594	948	1136	1811	1197
	St. deviation	1928	1144	735	1138	799	1547	1061	1218	1136	920	1139	842	1232
	Landing	32	14	19	93	163	69	68	54	102	100	71	3	788

Catches of the Javanese mini seiners fleet

Eretan Wetan 1996 (Rp * 1000)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Maximum	320	0	2960	1745										2960
	Mean	0	0	487	230										252
	St. deviation	0	0	962	436										527
	Occurrence	3	0	7	24										34
	%Occur./land.	50	0	77	54										56
<i>Bentong</i>	Maximum	360	38	1580	1651										1651
	Mean	0	0	337	148										176
	St. deviation	0	0	550	348										369
	Occurrence	4	1	5	18										28
	%Occur./land.	66	100	55	40										46
<i>Layang</i>	Maximum	400	0	0	33										400
	Mean	0	0	0	0										18
	St. deviation	0	0	0	0										72
	Occurrence	4	0	0	1										5
	%Occur./land.	66	0	0	2										8
<i>Tanjan</i>	Maximum	319	107	2029	2560										2560
	Mean	0	0	0	431										388
	St. deviation	0	0	0	555										547
	Occurrence	4	1	4	35										44
	%Occur./land.	66	100	44	79										73
<i>Tongkol</i>	Maximum	0	0	126	0										126
	Mean	0	0	0	0										2
	St. deviation	0	0	0	0										16
	Occurrence	0	0	1	0										1
	%Occur./land.	0	0	11	0										1
<i>Lain-lain</i>	Maximum	369	360	770	1900										1900
	Mean	0	0	299	290										276
	St. deviation	0	0	318	451										409
	Occurrence	4	1	8	33										46
	%Occur./land.	66	100	88	75										76
<i>Jumlah</i>	Minimum	316	505	17	113										17
	Maximum	1231	505	7339	3166										7339
	Mean	699	505	1516	1100										1112
	St. deviation	324	0	2311	924										1185
	Landing	6	1	9	44										60

Catches of the Javanese mini seiners fleet

Kranji 1995 (Rp * 1000)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
<i>Jumlah</i>	Minimum	190	47	74	229	162	100	26	31	43	42	93	64	26
	Maximum	5693	201	544	1276	1354	581	1071	1235	2706	7486	4400	4729	7486
	Mean	727	117	329	578	506	294	261	372	549	630	906	700	597
	St. deviation	989	78	191	295	327	184	195	241	480	653	980	823	679
	Landing	34	3	8	14	35	6	77	92	129	216	135	89	838

Catches of the Javanese mini seiners fleet

Pekalongan 1995 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	2744	2606	3377	1661	963	1451	255	509	1862	2604	2520	592	3377
	Mean	146	310	136	80	94	124	0	24	94	125	36	172	107
	St. deviation	368	613	314	183	127	173	0	82	244	339	258	225	259
	Occurrence	48	34	282	322	191	214	4	18	75	144	19	9	1360
	%Occur./land.	60	69	71	59	77	89	66	22	46	66	19	90	64
<i>Bentong</i>	Maximum	1192	1642	1078	1605	1043	1077	207	194	356	1044	628	120	1642
	Mean	169	89	44	50	87	77	0	14	41	22	58	0	57
	St. deviation	189	240	98	150	154	160	0	32	68	82	102	0	135
	Occurrence	68	27	189	220	161	138	3	27	100	110	67	4	1114
	%Occur./land.	86	55	48	40	65	57	50	33	61	50	69	40	53
<i>Cumi-cumi</i>	Maximum	0	0	544	0	0	0	0	0	0	125	81	47	544
	Mean	0	0	9	0	0	0	0	0	0	4	4	0	2
	St. deviation	0	0	38	0	0	0	0	0	0	17	14	0	18
	Occurrence	0	0	41	0	0	0	0	0	0	14	8	1	64
	%Occur./land.	0	0	10	0	0	0	0	0	0	6	8	10	3
<i>Layang</i>	Maximum	252	1575	440	0	6	48	0	0	0	517	0	100	1575
	Mean	19	59	0	0	0	0	0	0	0	0	0	0	3
	St. deviation	46	250	0	0	0	0	0	0	0	0	0	0	43
	Occurrence	24	5	4	0	2	4	0	0	0	3	0	2	44
	%Occur./land.	30	10	1	0	0	1	0	0	0	1	0	20	2
<i>Tanjan</i>	Maximum	134	140	1820	877	773	1186	260	2355	788	786	1144	270	2355
	Mean	9	10	67	79	85	141	137	101	112	48	43	0	79
	St. deviation	19	29	130	132	104	203	97	289	167	82	125	0	146
	Occurrence	37	16	313	429	213	166	6	54	147	196	85	4	1666
	%Occur./land.	46	32	79	79	86	69	100	66	90	89	88	40	79
<i>Tenggiri</i>	Maximum	2732	142	589	2687	479	185	14	114	2378	4515	922	177	4515
	Mean	124	16	57	76	12	4	0	0	74	138	75	0	60
	St. deviation	441	32	84	183	37	18	0	0	285	387	145	0	203
	Occurrence	34	16	229	307	71	27	2	4	45	168	54	3	960
	%Occur./land.	43	32	58	57	28	11	33	4	27	77	56	30	45
<i>Tongkol</i>	Maximum	1031	1329	2883	2350	2487	1615	13	438	488	9067	1142	9345	9345
	Mean	89	0	38	28	34	50	0	8	18	261	69	1554	67
	St. deviation	246	0	180	172	223	187	0	50	69	787	175	3149	387
	Occurrence	23	3	69	60	21	63	1	6	29	96	29	7	407
	%Occur./land.	29	6	17	11	8	26	16	7	17	44	30	70	19
<i>Campuran</i>	Maximum	592	1389	1144	3096	1305	1107	21	595	531	4626	1691	3	4626
	Mean	44	109	154	156	36	85	0	179	45	148	54	0	114
	St. deviation	108	289	195	308	102	133	0	165	85	422	203	0	247
	Occurrence	39	31	339	441	141	165	2	64	79	180	50	1	1532
	%Occur./land.	49	63	86	81	57	68	33	79	48	82	52	10	72
<i>Lain-lain</i>	Maximum	153	1422	375	1188	300	225	74	272	461	89	58	0	1422
	Mean	13	42	29	34	12	3	0	15	14	6	2	0	20
	St. deviation	33	205	51	77	34	17	0	47	48	14	10	0	60
	Occurrence	16	8	168	287	64	16	2	14	45	61	8	0	689
	%Occur./land.	20	16	42	53	25	6	33	17	27	27	8	0	32
<i>Jumlah</i>	Minimum	13	27	22	10	19	12	86	57	15	4	17	164	4
	Maximum	2936	4768	3377	3809	2624	2666	549	2871	2599	9168	2542	5436	9168
	Mean	612	687	537	502	359	485	264	344	399	755	361	914	505
	St. deviation	624	939	472	530	392	428	177	334	389	969	465	1611	576
	Landing	79	49	393	538	247	240	6	81	162	218	96	10	2119

Catches of the Javanese mini seiners fleet

Pekalongan 1996 (Rp * 1000)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Maximum	35	101	2109	6382	5306	4626								6382
	Mean	0	57	131	209	329	382								271
	St. deviation	0	31	250	570	722	832								657
	Occurrence	1	8	93	330	444	184								1060
	%Occur./land.	33	100	52	67	86	73								73
<i>Bentong</i>	Maximum	371	140	2605	2222	2324	387								2605
	Mean	0	38	80	109	38	28								66
	St. deviation	0	43	246	211	138	58								177
	Occurrence	3	8	102	297	218	92								720
	%Occur./land.	100	100	57	60	42	36								49
<i>Cumi-cumi</i>	Maximum	190	49	0	442	281	230								442
	Mean	0	28	0	31	3	14								14
	St. deviation	0	21	0	60	22	32								42
	Occurrence	1	6	0	169	17	74								267
	%Occur./land.	33	75	0	34	3	29								18
<i>Tanjan</i>	Maximum	8	130	1292	1939	1054	1959								1959
	Mean	0	0	75	134	69	144								105
	St. deviation	0	0	149	232	142	270								205
	Occurrence	2	4	137	378	344	167								1032
	%Occur./land.	66	50	77	77	66	66								71
<i>Tenggiri</i>	Maximum	40	75	3312	1999	1337	441								3312
	Mean	0	0	131	135	34	8								75
	St. deviation	0	0	307	232	118	45								195
	Occurrence	1	2	113	320	183	23								642
	%Occur./land.	33	25	64	65	35	9								44
<i>Tongkol</i>	Maximum	83	162	3764	16768	5013	3293								16768
	Mean	0	0	123	169	78	133								123
	St. deviation	0	0	486	982	312	446								653
	Occurrence	1	4	33	158	138	75								409
	%Occur./land.	33	50	18	32	26	29								28
<i>Campuran</i>	Maximum	141	24	1466	1250	1382	315								1466
	Mean	0	0	207	76	88	19								86
	St. deviation	0	0	235	136	171	45								163
	Occurrence	2	2	160	383	356	88								991
	%Occur./land.	66	25	90	78	69	35								68
<i>Lain-lain</i>	Maximum	0	53	508	1016	1976	1733								1976
	Mean	0	0	103	47	58	29								54
	St. deviation	0	0	100	113	140	144								129
	Occurrence	0	1	137	216	287	38								679
	%Occur./land.	0	12	77	44	55	15								47
<i>Jumlah</i>	Minimum	280	69	73	29	39	38								29
	Maximum	635	361	4895	10000	5306	4782								10000
	Mean	422	203	849	893	703	758								792
	St. deviation	188	102	750	1018	815	912								900
	Landing	3	8	176	490	515	251								1443

Catches of the Javanese mini seiners fleet

Sarang 1992 (Rp * 1000)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Maximum				1233	611	1021	0	0	0	0	0	0	0	1233
	Mean				36	47	190	0	0	0	0	0	0	0	6
	St. deviation				96	94	235	0	0	0	0	0	0	0	48
	Occurrence				196	43	52	0	0	0	0	0	0	0	297
	%Occur./land.				57	47	77	0	0	0	0	0	0	0	5
<i>Bentong</i>	Maximum				760	226	862	0	0	0	0	0	0	0	862
	Mean				35	27	82	0	0	0	0	0	0	0	4
	St. deviation				89	47	186	0	0	0	0	0	0	0	34
	Occurrence				120	35	25	0	0	0	0	0	0	0	181
	%Occur./land.				35	38	37	0	0	0	0	0	0	0	3
<i>Layang</i>	Maximum				958	8	221	0	0	0	0	0	0	0	1466
	Mean				20	0	10	0	0	0	0	0	0	0	4
	St. deviation				108	0	38	0	0	0	0	0	0	0	54
	Occurrence				23	1	7	0	0	0	0	0	0	0	53
	%Occur./land.				6	1	10	0	0	0	0	0	0	0	1
<i>Tanjan</i>	Maximum				956	1020	1355	0	0	0	0	0	0	0	1355
	Mean				44	61	146	0	0	0	0	0	0	0	6
	St. deviation				126	151	291	0	0	0	0	0	0	0	55
	Occurrence				252	58	32	0	0	0	0	0	0	0	344
	%Occur./land.				73	63	47	0	0	0	0	0	0	0	6
<i>Tenggiri</i>	Maximum				673	45	12	0	0	0	0	0	0	0	673
	Mean				20	2	0	0	0	0	0	0	0	0	1
	St. deviation				51	7	0	0	0	0	0	0	0	0	14
	Occurrence				150	16	1	0	0	0	0	0	0	0	167
	%Occur./land.				43	17	1	0	0	0	0	0	0	0	3
<i>Tongkol</i>	Maximum				935	23	949	0	0	0	0	0	0	0	949
	Mean				16	0	76	0	0	0	0	0	0	0	2
	St. deviation				73	0	185	0	0	0	0	0	0	0	30
	Occurrence				64	4	20	0	0	0	0	0	0	0	88
	%Occur./land.				18	4	29	0	0	0	0	0	0	0	1
<i>Lain-lain</i>	Maximum				622	147	351	0	0	0	0	0	0	0	622
	Mean				18	12	27	0	0	0	0	0	0	0	2
	St. deviation				59	20	65	0	0	0	0	0	0	0	18
	Occurrence				224	58	30	0	0	0	0	0	0	0	314
	%Occur./land.				65	63	44	0	0	0	0	0	0	0	6
<i>Jumlah</i>	Minimum				8	7	18	13	11	2	0	8	19	0	0
	Maximum				1249	1147	1704	2785	3055	8178	3907	3202	4749	8178	8178
	Mean				189	150	531	505	570	610	622	518	603	544	544
	St. deviation				250	217	456	378	432	507	472	429	541	466	466
	Landing				341	91	67	595	925	942	973	560	593	5087	5087

Catches of the Javanese mini seiners fleet

Sarang 1993 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Jumlah</i>	Minimum	7	5	4	4	8	12	27		20	11	7	14	4
	Maximum	3518	3579	3613	2311	2442	1862	9193		7985	5061	2670	4351	9193
	Mean	501	677	345	310	475	416	554		855	736	673	705	582
	St. deviation	455	568	390	315	458	308	560		737	595	495	606	554
	Landing	474	205	779	681	245	299	648		689	1019	841	509	6389

Sarang 1994 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Jumlah</i>	Minimum	2	4	5	7	18	7	11	7					4
	Maximum	3948	3842	3124	7600	4135	3772	6408	5015					7600
	Mean	632	488	363	410	765	742	899	888					627
	St. deviation	480	435	349	487	577	541	797	702					584
	Landing	528	813	498	808	547	578	478	563					4813

Catches of the Javanese mini seiners fleet

Sarang 1995 (Rp * 1000)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Maximum	1419													
	Mean	100													
	St. deviation	173													
	Occurrence	242													
	%Occur./land.	63													
<i>Bentong</i>	Maximum	3780													
	Mean	208													
	St. deviation	385													
	Occurrence	274													
	%Occur./land.	71													
<i>Layang</i>	Maximum	2725													
	Mean	209													
	St. deviation	339													
	Occurrence	246													
	%Occur./land.	64													
<i>Tanjan</i>	Maximum	660													
	Mean	35													
	St. deviation	98													
	Occurrence	112													
	%Occur./land.	29													
<i>Tenggiri</i>	Maximum	100													
	Mean	1													
	St. deviation	8													
	Occurrence	11													
	%Occur./land.	2													
<i>Tongkol</i>	Maximum	3165													
	Mean	79													
	St. deviation	306													
	Occurrence	95													
	%Occur./land.	24													
<i>Campuran</i>	Maximum	0													
	Mean	0													
	St. deviation	0													
	Occurrence	0													
	%Occur./land.	0													
<i>Lain-lain</i>	Maximum	387													
	Mean	22													
	St. deviation	51													
	Occurrence	150													
	%Occur./land.	39													
<i>Jumlah</i>	Minimum	3	12	10	10	13	9	10	22	29	17	9	8	3	
	Maximum	3907	2982	4444	4589	2631	1581	2652	4795	9022	7415	3814	9545	9545	
	Mean	661	481	402	428	351	336	509	672	699	846	691	800	618	
	St. deviation	558	433	414	490	353	268	391	463	606	787	518	670	564	
	Landing	382	439	675	415	323	303	666	1010	790	873	812	732	7420	

Catches of the Javanese mini seiners fleet

Sarang 1996 (Rp * 1000)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
<i>Jumlah</i>	Minimum	15	12	7	13	20	13	19	14	18	5	10	14	5
	Maximum	2999	3033	5598	4422	3993	6113	3960	3750	5431	6471	4040	4176	6471
	Mean	704	557	805	640	849	564	563	791	757	797	712	1019	724
	St. deviation	521	540	810	654	714	605	533	657	653	728	596	756	664
	Landing	575	266	519	667	461	618	692	534	718	892	518	348	6808

Catches of the Javanese mini seiners fleet

Tasik Agung 1995 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	1902	1855	1692	1293	3453	910	832	2243	1720	5400	2371	1878	5400
	Mean	168	235	100	172	207	92	67	108	136	153	92	130	133
	St. deviation	258	283	163	206	230	116	107	182	191	291	161	221	206
	Occurrence	205	178	442	726	756	506	415	637	780	634	499	340	6118
	%Occur./land.	80	86	67	82	91	74	64	70	80	77	66	70	76
<i>Bentong</i>	Maximum	1298	570	1522	571	1184	853	1756	729	995	816	1527	1291	1756
	Mean	146	29	52	50	87	66	82	46	64	56	101	90	69
	St. deviation	182	70	104	73	123	103	163	90	110	92	188	142	124
	Occurrence	219	86	345	516	647	424	308	430	551	502	511	343	4882
	%Occur./land.	85	41	52	58	78	62	48	47	56	61	68	70	61
<i>Cumi-cumi</i>	Maximum	0	326	286	1950	720	233	41	82	57	329	110	210	1950
	Mean	0	12	20	10	3	1	0	0	0	5	2	4	4
	St. deviation	0	33	42	73	31	10	0	4	0	29	8	20	32
	Occurrence	0	40	212	103	35	6	4	10	4	29	36	33	512
	%Occur./land.	0	19	32	11	4	0	0	1	0	3	4	6	6
<i>Layang</i>	Maximum	1801	4189	1544	2901	3636	659	3816	4478	9576	7398	4292	4759	9576
	Mean	158	129	33	48	60	19	175	395	525	495	306	439	251
	St. deviation	273	380	116	185	182	66	346	566	817	727	445	485	514
	Occurrence	164	76	147	180	267	111	377	678	792	633	572	415	4412
	%Occur./land.	64	36	22	20	32	16	58	75	81	77	76	85	55
<i>Tanjan</i>	Maximum	1074	2198	1257	6271	1075	1720	2000	8820	3612	954	1167	1751	8820
	Mean	32	327	141	235	56	241	180	176	59	22	32	46	121
	St. deviation	103	443	199	419	108	276	267	408	189	87	103	133	272
	Occurrence	93	142	423	649	425	522	422	540	328	123	213	159	4039
	%Occur./land.	36	68	64	73	51	77	65	59	33	15	28	32	50
<i>Tenggiri</i>	Maximum	0	0	412	616	128	112	0	30	182	390	5546	449	5546
	Mean	0	0	9	6	1	1	0	0	1	3	26	8	5
	St. deviation	0	0	37	38	7	6	0	0	8	24	226	38	72
	Occurrence	0	0	74	74	13	15	0	3	8	25	73	39	324
	%Occur./land.	0	0	11	8	1	2	0	0	0	3	9	8	4
<i>Tongkol</i>	Maximum	999	1106	1042	3098	1101	2412	844	1620	913	3772	1259	2738	3772
	Mean	17	69	9	18	6	19	39	30	11	95	33	70	32
	St. deviation	83	137	53	129	53	117	89	119	51	357	112	211	155
	Occurrence	43	85	65	96	35	83	237	187	113	154	137	149	1384
	%Occur./land.	16	41	9	10	4	12	36	20	11	18	18	30	17
<i>Campuran</i>	Maximum	0	875	684	360	346	674	528	135	275	489	801	1904	1904
	Mean	0	14	28	7	7	4	2	1	3	8	11	96	12
	St. deviation	0	71	80	28	29	33	23	7	23	43	58	247	75
	Occurrence	0	25	157	112	96	48	11	12	37	57	94	169	818
	%Occur./land.	0	12	23	12	11	7	1	1	3	6	12	34	10
<i>Lain-lain</i>	Maximum	658	371	649	2420	237	558	931	1189	1409	1000	3227	905	3227
	Mean	63	13	32	34	13	9	23	18	24	33	91	13	30
	St. deviation	105	48	78	116	27	34	70	65	94	96	199	60	99
	Occurrence	158	47	278	306	262	152	223	218	224	253	503	71	2695
	%Occur./land.	61	22	42	34	31	22	34	24	22	30	67	14	33
<i>Jumlah</i>	Minimum	35	18	6	2	18	6	7	17	14	22	7	26	2
	Maximum	3292	4254	2176	6290	4003	2633	3816	8981	9715	8497	5603	4759	9715
	Mean	584	828	424	580	441	451	568	774	823	863	693	896	657
	St. deviation	477	749	330	553	341	331	434	670	830	792	562	594	612
	Landing	256	206	655	879	822	677	641	901	974	820	747	485	8063

Catches of the Javanese mini seiners fleet

Tasik Agung 1996 (Rp * 1000)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Maximum	3165	3724	4972	1715	2489	4426	2855	1882	1883	2101	2404	4199	4972
	Mean	233	381	321	201	174	266	253	169	151	131	103	220	191
	St. deviation	478	590	520	254	293	401	407	251	241	235	211	477	353
	Occurrence	180	154	352	392	349	449	199	366	393	632	440	384	4290
	%Occur./land.	60	78	81	77	65	79	80	81	68	55	50	59	66
<i>Bentong</i>	Maximum	2345	909	1154	1071	1115	898	2591	1297	1639	1887	1661	3400	3400
	Mean	105	82	100	93	83	103	118	77	92	80	114	131	98
	St. deviation	196	126	148	132	145	156	247	155	180	166	217	278	187
	Occurrence	220	130	288	370	341	343	164	234	283	506	460	354	3693
	%Occur./land.	74	65	66	72	64	60	66	52	49	44	52	55	57
<i>Cumi-cumi</i>	Maximum	630	255	906	714	413	261	102	115	155	286	437	483	906
	Mean	6	9	21	19	14	6	2	0	2	6	23	29	12
	St. deviation	44	35	67	59	38	21	10	0	11	24	53	68	44
	Occurrence	15	16	80	108	92	54	7	4	17	100	203	148	844
	%Occur./land.	5	8	18	21	17	9	2	0	2	8	23	23	13
<i>Layang</i>	Maximum	1877	1083	4940	2102	2101	4092	4305	4824	2882	6456	4153	3989	6456
	Mean	273	119	67	71	139	157	395	531	364	401	309	510	299
	St. deviation	367	206	319	222	276	379	614	646	496	643	515	679	529
	Occurrence	220	93	87	141	248	259	184	366	412	755	560	505	3830
	%Occur./land.	74	47	20	27	46	46	74	81	72	66	64	78	59
<i>Tanjan</i>	Maximum	1000	826	2051	2668	3878	2393	884	944	810	2050	2160	776	3878
	Mean	70	60	211	183	132	116	46	40	21	45	37	31	77
	St. deviation	144	141	349	326	341	274	116	112	83	166	149	79	219
	Occurrence	128	76	270	339	284	252	82	142	101	268	210	193	2345
	%Occur./land.	43	38	62	66	53	44	33	31	17	23	24	30	36
<i>Tenggiri</i>	Maximum	368	196	3821	384	243	80	20	0	138	1903	2508	657	3821
	Mean	3	9	19	7	2	0	0	0	1	7	20	6	7
	St. deviation	27	35	205	33	15	5	0	0	11	63	107	37	74
	Occurrence	8	18	36	45	21	7	3	0	10	69	103	38	358
	%Occur./land.	2	9	8	8	3	1	1	0	1	6	11	5	5
<i>Tongkol</i>	Maximum	1635	239	3925	1031	4106	7853	601	3523	2420	4844	4877	5840	7853
	Mean	26	3	62	8	67	57	14	31	39	114	119	169	76
	St. deviation	137	21	368	71	288	421	71	200	177	464	491	648	391
	Occurrence	29	7	54	21	147	107	18	66	95	168	141	140	993
	%Occur./land.	9	3	12	4	27	19	7	14	16	14	16	21	15
<i>Campuran</i>	Maximum	2769	768	2370	1118	1302	2564	321	3622	3509	2513	3350	1215	3622
	Mean	204	109	68	41	64	54	11	70	39	46	91	25	62
	St. deviation	407	177	230	116	176	197	33	314	185	199	303	101	226
	Occurrence	180	100	140	197	218	163	55	113	126	305	309	187	2093
	%Occur./land.	60	50	32	38	41	28	22	25	22	26	35	29	32
<i>Lain-lain</i>	Maximum	107	383	853	420	117	1800	600	407	2085	2060	1379	172	2085
	Mean	1	5	17	7	1	20	12	3	30	21	10	1	12
	St. deviation	8	33	75	37	10	102	64	23	180	139	79	8	94
	Occurrence	5	7	49	47	18	78	27	31	38	72	52	8	432
	%Occur./land.	1	3	11	9	3	13	10	6	6	6	5	1	6
<i>Jumlah</i>	Minimum	12	23	21	28	39	13	21	11	14	9	10	16	9
	Maximum	5131	3860	5190	3820	4161	7853	6290	4824	4379	7825	5081	6374	7853
	Mean	920	776	885	630	677	779	850	923	755	881	825	1158	845
	St. deviation	774	637	799	493	590	800	840	786	643	836	752	984	779
	Landing	296	197	432	509	529	563	246	449	571	1130	871	643	6436

Annex 4

Ex-vessel prices (in Rp per kg)

Catches of the Javanese mini seiners fleet

Banyutowo 1995 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	935	1000	1089	1391		1677	1407	732	638	771	688	819	638
	Maximum	2231	2654	3545	2533		2900	3375	4050	2143	1959	1810	7413	7413
	Mean	1554	1793	1913	1784		2322	2001	1439	1368	1356	1305	1725	1638
	St. deviation	376	334	503	245		307	452	432	372	209	204	1151	537
	Occurrence	53	40	35	29		25	25	70	43	33	28	28	409
<i>Bentong</i>	Minimum	377	488	520	806		789	0	0	354	0	508	610	354
	Maximum	1438	2000	1280	806		1146	0	0	1406	0	690	6053	6053
	Mean	829	1107	823	0		928	0	0	751	0	625	1121	847
	St. deviation	265	383	287	0		191	0	0	460	0	46	1556	534
	Occurrence	59	18	9	1		3	0	0	4	0	29	12	135
<i>Layang</i>	Minimum	433	556	612	547		621	414	464	421	601	86	634	86
	Maximum	2043	1712	1857	1622		3309	2286	1393	1467	1483	1190	1811	3309
	Mean	1181	1236	1182	1042		1611	862	772	853	824	791	973	942
	St. deviation	325	236	299	211		662	293	150	203	134	129	234	311
	Occurrence	63	47	36	42		27	51	79	107	131	127	53	763
<i>Tanjan</i>	Minimum	352	173	69	141		150	286	95	311	213	189	288	69
	Maximum	611	817	1170	797		377	578	634	553	845	507	507	1170
	Mean	469	519	305	503		234	403	388	424	414	380	405	399
	St. deviation	95	249	216	145		89	82	100	45	92	75	90	117
	Occurrence	5	7	26	18		11	27	78	66	71	43	4	356
<i>Tongkol</i>	Minimum	1120	0	0	1887		0	1048	1080	1700	1301	1196	0	1048
	Maximum	1800	0	0	1900		0	2154	2382	2227	1400	1319	0	2382
	Mean	1414	0	0	1894		0	1385	1777	1964	1351	1259	0	1587
	St. deviation	340	0	0	9		0	235	389	373	70	64	0	376
	Occurrence	5	0	0	2		0	18	26	2	2	4	0	59
<i>Lain-lain</i>	Minimum	296	367	2651	0		4933	0	0	0	0	0	2098	296
	Maximum	5100	4786	9375	0		9364	0	0	0	0	0	2399	9375
	Mean	2580	2454	4042	0		7149	0	0	0	0	0	2249	3203
	St. deviation	1193	1737	1530	0		3133	0	0	0	0	0	213	1748
	Occurrence	26	11	22	0		2	0	0	0	0	0	2	63
<i>Jumlah</i>	Minimum	377	318	148	141		191	400	252	354	213	86	615	86
	Maximum	2974	2698	4433	2533		3309	2069	1275	2071	1959	1810	7413	7413
	Mean	1190	1371	1389	1181		1679	915	720	813	744	748	1156	967
	St. deviation	439	443	845	442		826	345	253	306	275	244	853	529
	Landing	87	54	51	56	0	38	53	90	120	169	151	66	935

Catches of the Javanese mini seiners fleet

Banyutowo 1996 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	1810	1307	1757	1870	575	1404	1500	1068	440	1462	739	440	
	Maximum	1810	3891	3529	3814	3063	2455	2857	3550	3902	2778	2615	3902	
	Mean	0	2328	2463	2552	2027	1879	2188	1842	1795	2085	1799	2063	
	St. deviation	0	571	427	406	577	248	278	409	431	275	424	506	
	Occurrence	1	55	48	36	37	38	27	53	104	32	28	459	
<i>Bentong</i>	Minimum	482	580	420	286	314	550	578	522	345	541	379	286	
	Maximum	4342	1770	2692	2591	1519	3082	1727	1200	1346	2000	1452	4342	
	Mean	2412	977	1088	949	886	906	888	804	817	906	738	861	
	St. deviation	2729	331	618	618	298	392	252	126	163	231	196	335	
	Occurrence	2	19	19	20	29	41	18	73	122	45	57	445	
<i>Cumi-cumi</i>	Minimum	0	0	0	0	0	4000	5067	3190	0	0	0	3190	
	Maximum	0	0	0	0	0	4000	5833	4650	0	0	0	5833	
	Mean	0	0	0	0	0	0	5450	3920	0	0	0	4548	
	St. deviation	0	0	0	0	0	0	542	1032	0	0	0	1009	
	Occurrence	0	0	0	0	0	1	2	2	0	0	0	5	
<i>Layang</i>	Minimum	575	1000	746	733	882	1018	1009	866	623	1061	719	575	
	Maximum	2690	5281	2747	3025	2217	2367	2784	1777	2009	2195	2071	5281	
	Mean	1725	2085	1583	1788	1568	1468	1519	1264	1179	1458	1361	1430	
	St. deviation	744	1254	494	536	381	306	300	187	243	236	269	475	
	Occurrence	11	29	53	36	22	61	42	84	141	58	64	601	
<i>Tanjan</i>	Minimum	0	100	202	348	286	143	226	150	131	164	132	100	
	Maximum	0	1509	586	514	765	643	730	580	909	600	439	1509	
	Mean	0	449	387	431	551	477	488	393	361	314	281	396	
	St. deviation	0	233	110	117	167	126	153	140	166	125	79	169	
	Occurrence	0	30	17	2	7	20	18	15	35	13	30	187	
<i>Tenggiri</i>	Minimum	0	0	0	0	0	0	0	0	1400	1800	2333	1400	
	Maximum	0	0	0	0	0	0	0	0	5125	3921	4250	5125	
	Mean	0	0	0	0	0	0	0	0	3461	2861	3292	3241	
	St. deviation	0	0	0	0	0	0	0	0	1894	1500	1356	1396	
	Occurrence	0	0	0	0	0	0	0	0	3	2	2	7	
<i>Tongkol</i>	Minimum	0	8056	0	1761	1412	0	0	0	1755	1611	1800	1412	
	Maximum	0	8056	0	2022	2100	0	0	0	1755	1654	2037	8056	
	Mean	0	0	0	1892	1796	0	0	0	0	1633	1914	2233	
	St. deviation	0	0	0	185	273	0	0	0	0	30	101	1622	
	Occurrence	0	1	0	2	5	0	0	0	0	1	2	4	
<i>Campuran</i>	Minimum	0	0	0	0	0	0	0	1136	3389	2452	808	808	
	Maximum	0	0	0	0	0	0	0	2827	5813	5147	3825	5813	
	Mean	0	0	0	0	0	0	0	2196	4493	3833	2317	3901	
	St. deviation	0	0	0	0	0	0	0	923	545	761	2133	1104	
	Occurrence	0	0	0	0	0	0	0	3	15	9	2	29	
<i>Lain-lain</i>	Minimum	0	812	292	954	1031	0	0	0	143	1912	145	143	
	Maximum	0	7500	5125	4500	4875	0	0	0	5000	5714	5625	7500	
	Mean	0	3486	2195	3162	3311	0	0	0	2000	3587	2768	2882	
	St. deviation	0	1496	1589	1084	1610	0	0	0	1639	862	1624	1548	
	Occurrence	0	26	23	17	10	0	0	0	19	14	18	127	
<i>Jumlah</i>	Minimum	575	366	202	733	792	555	931	619	462	425	267	202	
	Maximum	3038	4630	2887	4097	3500	2107	2607	2346	4504	4370	2087	4630	
	Mean	1853	1814	1596	2072	1509	1269	1496	1182	1138	1465	1155	1407	
	St. deviation	867	772	609	664	489	318	357	304	443	578	398	581	
	Landing	11	70	68	53	47	66	44	102	162	70	73	766	

Catches of the Javanese mini seiners fleet

Batang 1995 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	699	597	470	500	225	700	996	900	1471	1297	1296	1500	225
	Maximum	1500	1097	1345	1284	951	1201	1600	1305	2000	1732	1714	1708	2000
	Mean	966	754	820	814	808	1036	1231	1180	1644	1506	1491	1610	1009
	St. deviation	462	131	82	70	53	151	154	67	142	189	176	95	310
	Occurrence	3	53	296	535	457	227	46	129	108	176	107	32	2169
<i>Bentong</i>	Minimum	442	491	230	389	418	295	334	372	450	768	1079	1193	230
	Maximum	8854	851	804	1248	744	902	774	5364	920	1204	1201	1200	8854
	Mean	1794	590	638	615	588	623	585	693	699	1191	1197	1198	668
	St. deviation	3116	87	86	75	52	83	110	530	178	55	18	3	289
	Occurrence	7	35	277	617	286	131	34	87	83	70	43	7	1677
<i>Layang</i>	Minimum	818	660	591	350	697	699	898	897	1198	599	117	900	117
	Maximum	1500	1099	852	830	759	908	1200	908	1511	964	9066	1017	9066
	Mean	1013	760	702	701	702	820	935	902	1245	901	970	907	775
	St. deviation	281	72	19	19	4	94	89	2	109	28	790	23	228
	Occurrence	5	56	375	511	324	181	29	83	54	131	108	26	1883
<i>Tanjan</i>	Minimum	450	422	118	99	100	113	115	108	113	202	243	281	99
	Maximum	511	700	703	721	605	584	480	500	505	842	979	822	979
	Mean	468	515	488	411	391	374	315	375	320	585	603	531	455
	St. deviation	29	43	84	75	82	98	121	91	100	133	143	134	129
	Occurrence	4	49	292	368	247	109	13	58	93	201	117	38	1589
<i>Tongkol</i>	Minimum	0	0	898	900	0	1500	0	1602	0	0	2123	0	898
	Maximum	0	0	2700	3056	0	1505	0	1655	0	0	2123	0	3056
	Mean	0	0	1220	1801	0	1501	0	1636	0	0	2123	0	1455
	St. deviation	0	0	436	1090	0	2	0	29	0	0	0	0	480
	Occurrence	0	0	16	5	0	18	0	3	0	0	1	0	43
<i>Lain-lain</i>	Minimum	522	706	115	700	932	1022	2590	899	903	3444	0	0	115
	Maximum	1462	2391	7857	5287	3280	3634	2590	2238	904	3444	0	0	7857
	Mean	995	1175	1209	1456	1468	1358	0	1321	904	0	0	0	1360
	St. deviation	470	412	858	708	579	599	0	572	1	0	0	0	752
	Occurrence	3	14	165	231	46	19	1	5	3	1	0	0	488
<i>Jumlah</i>	Minimum	500	491	115	203	293	500	241	500	398	500	343	429	115
	Maximum	1185	816	2700	1381	1302	914	1600	1007	1480	1598	9066	1017	9066
	Mean	695	696	694	693	701	828	886	886	869	897	931	861	760
	St. deviation	57	43	114	55	47	101	150	81	125	63	551	129	178
	Landing	154	80	592	991	703	382	56	192	179	310	227	58	3924

Catches of the Javanese mini seiners fleet

Eretan Wetan 1995 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	567	1000	950	800	100	425	885	815	590	275	548	2400	100
	Maximum	3550	3742	3450	9200	5000	4008	5850	4250	6644	6450	4300	3400	9200
	Mean	1816	2308	2566	3156	2589	2354	2802	2789	2248	1862	2104	2817	2443
	St. deviation	834	811	721	1301	913	750	929	852	982	970	846	520	1008
	Occurrence	27	10	10	53	117	57	60	44	93	63	47	3	584
<i>Bentong</i>	Minimum	774	650	1550	475	700	900	540	519	389	248	272	1168	248
	Maximum	4750	2488	3220	4900	6200	3567	4000	3600	2925	3400	2888	2067	6200
	Mean	1568	1438	2274	2493	2209	2092	2318	1989	1533	1273	1540	1618	1894
	St. deviation	803	859	431	731	822	621	712	924	624	630	710	636	819
	Occurrence	25	4	13	46	69	36	35	25	65	44	49	2	413
<i>Layang</i>	Minimum	736	194	1520	1650	1000	1011	580	491	137	290	249	1450	137
	Maximum	2252	3231	2092	2711	3083	7233	3188	3455	8200	2541	3315	2057	8200
	Mean	1159	1608	1806	2283	2221	2540	1528	1457	1086	817	1134	1754	1337
	St. deviation	316	987	404	349	624	1366	816	821	1070	406	582	429	917
	Occurrence	28	6	2	8	18	17	13	19	54	49	40	2	256
<i>Tanjan</i>	Minimum	283	370	243	17	106	295	160	467	34	123	220	1091	17
	Maximum	2040	6900	688	2875	2800	3185	3887	1733	2300	5286	1850	1575	6900
	Mean	925	1691	376	502	541	690	1014	1039	588	647	559	1285	669
	St. deviation	437	2088	123	448	448	445	590	270	309	780	360	256	576
	Occurrence	15	9	16	68	93	45	38	33	89	57	41	3	507
<i>Tongkol</i>	Minimum	2090	0	0	0	1000	3175	1750	3700	2294	2650	1410	0	1000
	Maximum	3733	0	0	0	3425	4000	3511	3700	5800	2650	1817	0	5800
	Mean	2912	0	0	0	2219	3588	2554	0	3681	0	1614	0	2705
	St. deviation	1162	0	0	0	796	583	891	0	1864	0	288	0	1089
	Occurrence	2	0	0	0	7	2	3	1	3	1	2	0	21
<i>Lain-lain</i>	Minimum	177	733	419	112	35	243	317	395	83	125	111	2800	35
	Maximum	3067	6971	6387	7000	8000	6800	11200	9836	8542	13000	7800	2800	13000
	Mean	1045	2717	2139	1974	2400	2269	2083	2312	1666	2307	1659	0	2061
	St. deviation	591	2656	1570	1322	1716	1607	1999	2025	1853	2097	1572	0	1742
	Occurrence	27	5	18	86	136	57	45	45	82	56	55	1	613
<i>Jumlah</i>	Minimum	580	427	284	32	125	362	372	467	74	125	285	1163	32
	Maximum	2083	4143	2343	4231	5188	5300	5850	9836	3103	7263	6228	1631	9836
	Mean	1258	1801	916	1353	1859	1644	1878	2005	980	1301	1277	1425	1505
	St. deviation	334	1009	531	876	1132	953	918	1712	500	1153	909	239	1058
	Landing	32	14	19	93	163	69	68	54	102	100	71	3	788

Catches of the Javanese mini seiners fleet

Eretan Wetan 1996 (Rp per kg)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Minimum	3500	0	2400	1525										1525
	Maximum	5900	0	5290	27000										27000
	Mean	4467	0	4096	4439										4371
	St. deviation	1266	0	981	4936										4156
	Occurrence	3	0	7	24										34
<i>Bentong</i>	Minimum	1636	3800	2417	750										750
	Maximum	2825	3800	4400	3967										4400
	Mean	2151	0	3472	2630										2754
	St. deviation	496	0	705	931										920
	Occurrence	4	1	5	18										28
<i>Layang</i>	Minimum	2139	0	0	3300										2139
	Maximum	3513	0	0	3300										3513
	Mean	2981	0	0	0										3044
	St. deviation	631	0	0	0										565
	Occurrence	4	0	0	1										5
<i>Tanjan</i>	Minimum	829	764	633	300										300
	Maximum	1050	764	1719	2700										2700
	Mean	969	0	1111	624										703
	St. deviation	99	0	548	413										429
	Occurrence	4	1	4	35										44
<i>Tongkol</i>	Minimum	0	0	3150	0										3150
	Maximum	0	0	3150	0										3150
	Mean	0	0	0	0										3150
	St. deviation	0	0	0	0										0
	Occurrence	0	0	1	0										1
<i>Lain-lain</i>	Minimum	1419	3000	400	369										369
	Maximum	8571	3000	8900	13571										13571
	Mean	3902	0	4783	2848										3280
	St. deviation	3226	0	2553	2500										2594
	Occurrence	4	1	8	33										46
<i>Jumlah</i>	Minimum	1067	1870	1827	324										324
	Maximum	3160	1870	5022	6400										6400
	Mean	2176	0	3388	1652										1969
	St. deviation	707	0	1087	1492										1487
	Occurrence	6	1	9	44										60

Catches of the Javanese mini seiners fleet

Kranji 1995 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Jumlah</i>	Minimum	180	200	300	353	200	150	150	100	150	84	79	150	79
	Maximum	2000	760	1150	2000	2000	1000	1000	1000	3750	3600	2000	2000	3750
	Mean	814	487	724	1289	1216	444	231	228	412	517	771	885	578
	St. deviation	385	280	334	452	541	418	154	131	544	413	436	257	477
	Landing	34	3	8	14	35	6	77	92	129	216	134	89	837

Catches of the Javanese mini seiners fleet

Pekalongan 1995 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	545	493	393	625	915	300	1200	1054	900	133	500	969	133
	Maximum	2132	2333	3600	3643	3773	3633	2375	2625	3469	2500	2833	2409	3773
	Mean	1513	1134	1440	1916	1831	1896	1866	2023	2375	1743	1699	1634	1772
	St. deviation	423	467	361	417	336	338	510	533	716	473	666	437	490
	Occurrence	48	34	282	322	191	214	4	18	75	144	19	9	1360
<i>Bentong</i>	Minimum	233	833	375	52	357	308	300	1048	500	300	311	1333	52
	Maximum	2800	2680	3943	5143	2600	2938	2250	2200	2450	2391	1720	1500	5143
	Mean	1115	1371	1395	1620	1553	1560	1050	1578	1565	1098	1222	1431	1444
	St. deviation	364	449	444	543	347	366	1050	356	510	418	366	72	474
	Occurrence	68	27	189	220	161	138	3	27	100	110	67	4	1114
<i>Cumi-cumi</i>	Minimum	0	0	873	0	0	0	0	0	0	3643	533	4273	533
	Maximum	0	0	4300	0	0	0	0	0	0	5000	5222	4273	5222
	Mean	0	0	3325	0	0	0	0	0	0	4252	2977	0	3499
	St. deviation	0	0	585	0	0	0	0	0	0	361	1808	0	893
	Occurrence	0	0	41	0	0	0	0	0	0	14	8	1	64
<i>Layang</i>	Minimum	200	767	250	0	308	600	0	0	0	693	0	1267	200
	Maximum	1456	1667	759	0	600	1600	0	0	0	1735	0	1282	1735
	Mean	877	1018	624	0	454	1150	0	0	0	1076	0	1275	907
	St. deviation	397	373	249	0	206	443	0	0	0	573	0	11	405
	Occurrence	24	5	4	0	2	4	0	0	0	3	0	2	44
<i>Tanjan</i>	Minimum	67	67	56	57	73	68	200	69	48	42	42	444	42
	Maximum	500	800	4353	1250	699	894	505	818	538	533	1816	2127	4353
	Mean	154	234	253	200	148	291	383	250	204	166	139	956	209
	St. deviation	89	199	258	113	58	146	109	126	114	111	192	795	169
	Occurrence	37	16	313	429	213	166	6	54	147	196	85	4	1666
<i>Tenggiri</i>	Minimum	2000	1300	1000	1000	1400	1000	1833	577	800	667	2667	3529	577
	Maximum	5750	10000	7000	10000	6500	7250	4667	5700	7333	6333	6500	6429	10000
	Mean	4028	4504	3688	3470	3753	4039	3250	2967	4452	3648	4041	5426	3709
	St. deviation	1089	2042	946	897	961	1236	2004	2394	1579	929	818	1644	1046
	Occurrence	34	16	229	307	71	27	2	4	45	168	54	3	960
<i>Tongkol</i>	Minimum	673	2290	568	625	365	1238	1300	1187	438	600	882	1044	365
	Maximum	2857	9000	3500	4452	3750	3866	1300	2400	3000	3064	3625	2283	9000
	Mean	1318	4541	2137	2227	2200	2623	0	1929	1891	1730	2084	1867	2073
	St. deviation	447	3862	492	812	678	563	0	528	708	482	673	418	761
	Occurrence	23	3	69	60	21	63	1	6	29	96	29	7	407

Catches of the Javanese mini seiners fleet

Pekalongan 1996 (Rp per kg)		MONTH												Total	
		1	2	3	4	5	6	7	8	9	10	11	12		
<i>Banyar</i>	Minimum	2692	808	1222	457	711	769								457
	Maximum	2692	2950	4273	5463	3933	4000								5463
	Mean	0	1806	2286	2359	1970	1752								2081
	St. deviation	0	706	444	605	456	526								567
	Occurrence	1	8	93	330	444	184								1060
<i>Bentong</i>	Minimum	1500	1346	430	341	500	317								317
	Maximum	2319	2500	4455	3500	2849	3556								4455
	Mean	2006	1948	1883	1980	1588	1476								1783
	St. deviation	443	425	607	481	431	561								536
	Occurrence	3	8	102	297	218	92								720
<i>Cumi-cumi</i>	Minimum	5000	2333	0	367	1667	1000								367
	Maximum	5000	4000	0	7206	4429	8125								8125
	Mean	0	3313	0	3349	3316	3371								3358
	St. deviation	0	672	0	767	801	1081								866
	Occurrence	1	6	0	169	17	74								267
<i>Tanjan</i>	Minimum	200	300	100	152	129	147								100
	Maximum	500	778	1700	1143	1000	975								1700
	Mean	350	464	483	404	331	431								395
	St. deviation	212	213	184	132	107	140								144
	Occurrence	2	4	137	378	344	167								1032
<i>Tenggiri</i>	Minimum	4444	5000	1111	800	1000	1300								800
	Maximum	4444	7250	8889	7667	7000	5781								8889
	Mean	0	6125	4834	4177	4542	3697								4386
	St. deviation	0	1591	949	885	1085	1129								1010
	Occurrence	1	2	113	320	183	23								642
<i>Tongkol</i>	Minimum	1844	1364	1250	467	654	400								400
	Maximum	1844	2857	4336	4429	3545	4375								4429
	Mean	1844	2129	2707	2534	2440	2451								2496
	St. deviation	0	639	716	601	461	627								577
	Occurrence	1	4	33	158	138	75								409
<i>Campuran</i>	Minimum	810	667	106	128	119	190								106
	Maximum	2238	4800	5583	6500	7500	6000								7500
	Mean	1524	2734	2052	1637	2081	1078								1816
	St. deviation	1010	2922	1487	1297	1935	823								1585
	Occurrence	2	2	160	383	356	88								991
<i>Lain-lain</i>	Minimum	0	3533	167	300	265	143								143
	Maximum	0	3533	4714	8000	5250	2833								8000
	Mean	0	0	2492	1924	1732	923								1904
	St. deviation	0	0	1239	1288	1239	494								1279
	Occurrence	0	1	137	216	287	38								679
<i>Jumlah</i>	Minimum	1511	860	506	193	223	161								161
	Maximum	3011	2633	4788	5900	5814	3374								5900
	Mean	2271	1842	1885	1546	1464	1248								1510
	St. deviation	750	520	856	805	905	624								838
	Landing	3	8	176	490	515	251								1443

Catches of the Javanese mini seiners fleet

Sarang 1992 (Rp per kg)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Jumlah	Minimum				42	330	333	119	59	30	54	78	67	54
	Maximum				3599	1595	1739	1857	3694	6414	2976	5345	3796	6414
	Mean				615	681	720	658	545	511	596	627	786	608
	St. deviation				360	227	262	192	204	271	240	356	272	276
	Landing				341	91	67	595	925	942	973	560	593	5087

Sarang 1993 (Rp per kg)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Jumlah	Minimum	164	305	31	139	249	226	100		29	73	41	113	29
	Maximum	7240	1771	9622	2458	2194	9874	5179		6086	5885	4994	3569	9874
	Mean	782	986	660	638	921	790	733		705	630	567	824	702
	St. deviation	486	314	479	317	365	641	291		371	390	314	320	403
	Landing	474	205	779	681	245	299	648	0	689	1019	841	509	6389

Sarang 1994 (Rp per kg)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Jumlah	Minimum	61	58	89	155	66	99	40	133					40
	Maximum	9571	3000	3613	12875	5906	8953	18050	3327					18050
	Mean	833	622	636	675	1166	832	1101	810					812
	St. deviation	548	412	414	678	512	549	939	336					599
	Landing	528	813	498	808	547	578	478	563					4813

Sarang 1995 (Rp per kg)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Jumlah	Minimum	99	56	69	30	79	144	74	75	128	43	57	102	30
	Maximum	4404	1931	3389	2350	2719	2821	3130	7489	10308	7815	3821	12778	12778
	Mean	938	779	581	492	836	641	734	601	696	818	701	1070	738
	St. deviation	428	370	433	412	560	493	414	376	510	610	418	629	505
	Landing	382	439	675	415	323	303	666	1010	790	873	812	732	7420

Sarang 1996 (Rp per kg)		MONTH												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Jumlah	Minimum	218	242	227	128	122	126	376	330	294	108	250	278	108
	Maximum	5273	3440	9203	6111	4955	2547	7325	1141	3338	6604	8541	3762	1141
	Mean	1524	846	1178	1249	968	940	888	941	826	834	1067	1176	1027
	St. deviation	896	457	719	581	502	307	403	539	267	451	479	398	561
	Landing	575	266	519	667	461	618	692	534	718	892	518	348	6808

Catches of the Javanese mini seiners fleet

Tasik Agung 1996 (Rp per kg)		MONTH												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
<i>Banyar</i>	Minimum	898	200	324	410	477	393	275	450	212	148	260	200	148
	Maximum	4600	4700	7000	4000	4375	5217	4267	3168	4083	4952	6000	7647	7647
	Mean	2626	2271	2259	2358	1936	1814	1496	1520	1242	1813	2091	2069	1919
	St. deviation	739	678	707	663	704	630	528	486	492	619	777	814	748
	Occurrence	180	154	352	392	349	449	199	366	393	632	440	384	4290
<i>Bentong</i>	Minimum	500	429	311	320	261	221	90	343	265	102	180	10	10
	Maximum	6750	4417	5000	4000	3625	8125	4440	4900	2500	4280	6881	3900	8125
	Mean	1420	1300	1432	1609	1225	1383	1040	1124	922	1122	1243	1256	1262
	St. deviation	595	680	568	555	522	763	589	494	333	509	588	521	590
	Occurrence	220	130	288	370	341	343	164	234	283	506	460	354	3693
<i>Cumi-cumi</i>	Minimum	1750	2529	530	300	1200	800	2400	3133	1000	850	400	1000	300
	Maximum	5000	6026	9625	6300	6400	8700	5286	5750	5400	8000	7500	7250	9625
	Mean	3325	4097	3425	3075	2874	3108	3290	4616	3105	3178	3064	3034	3124
	St. deviation	978	1064	1225	986	686	1678	1106	1133	1444	1211	1143	916	1123
	Occurrence	15	16	80	108	92	54	7	4	17	100	203	148	844
<i>Layang</i>	Minimum	500	667	400	596	205	367	183	404	154	160	160	357	154
	Maximum	4702	3700	4267	3400	4958	8500	2985	2600	4250	4782	6123	4108	8500
	Mean	1956	2084	1887	1959	1768	1803	1260	1341	1135	1174	1332	1529	1453
	St. deviation	481	601	789	581	634	805	500	358	420	435	501	470	591
	Occurrence	220	93	87	141	248	259	184	366	412	755	560	505	3830
<i>Tanjan</i>	Minimum	160	224	40	40	69	78	200	150	50	20	119	140	20
	Maximum	1100	1533	1619	2821	1713	3328	2510	3550	2375	5692	5750	5000	5750
	Mean	621	523	552	563	530	706	636	695	577	604	627	571	597
	St. deviation	163	230	194	310	174	397	414	528	373	635	677	470	423
	Occurrence	128	76	270	339	284	252	82	142	101	268	210	193	2345
<i>Tenggiri</i>	Minimum	1600	1701	1000	500	700	1000	1600	0	3000	1000	578	731	500
	Maximum	8500	6385	8000	7000	5800	6375	2000	0	5882	7500	12000	6133	12000
	Mean	4337	3851	3706	3165	2707	2800	1867	0	4287	3959	4118	3052	3682
	St. deviation	2280	1648	1237	1470	1589	1869	231	0	990	1627	1747	1414	1650
	Occurrence	8	18	36	45	21	7	3	0	10	69	103	38	358
<i>Tongkol</i>	Minimum	1591	1897	912	1707	900	258	489	531	751	387	618	237	237
	Maximum	5000	3133	3685	3900	6000	4800	3611	4118	5577	6429	5833	4429	6429
	Mean	2867	2315	2317	2576	2081	2514	1839	2215	1864	2095	2003	2036	2144
	St. deviation	943	450	607	694	914	979	717	738	693	934	682	571	825
	Occurrence	29	7	54	21	147	107	18	66	95	168	141	140	993
<i>Campuran</i>	Minimum	200	400	200	255	205	139	125	80	47	80	35	33	33
	Maximum	6700	6296	8000	6333	7600	9286	4600	6222	7750	9000	12467	9200	1246
	Mean	2909	2617	2198	1694	2161	2600	1294	1758	2207	1773	2796	1217	2150
	St. deviation	1402	1336	1573	1200	1554	1886	950	1783	2058	1741	2292	1186	1773
	Occurrence	180	100	140	197	218	163	55	113	126	305	305	187	2089
<i>Lain-lain</i>	Minimum	1000	1067	333	400	300	469	170	67	300	80	363	270	67
	Maximum	3690	6154	4917	4583	5000	7471	17000	3300	4076	3517	6509	5056	17000
	Mean	2698	3325	1643	1499	1562	1117	1435	818	1284	1339	1351	1379	1374
	St. deviation	1091	1891	1238	978	1201	1091	3168	613	715	743	979	1660	1286
	Occurrence	5	7	49	47	18	78	27	31	38	72	52	7	431
<i>Jumlah</i>	Minimum	551	248	357	157	198	272	320	386	125	66	266	371	66
	Maximum	5000	6072	4658	6333	5367	5840	3004	6000	6000	7425	6541	3667	7425
	Mean	1949	1874	1467	1350	1406	1452	1186	1335	1176	1273	1657	1497	1435
	St. deviation	765	933	777	649	636	644	422	568	643	651	886	492	712
	Landing	296	197	432	509	529	563	246	449	571	1130	871	643	6436

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ASSESSMENT PROJECT
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THE MAIN FISHING STATISTICS
and
APPROACH of THE DYNAMICS of THE FLEET

By : Ecoutin J.M. and Dharmadi

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