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AGENCY FOR AGRICULTURAL RESEARCH AND DEVELOPMENT

RESEARCH INSTITUTE FOR MARINE FISHERIES

ORSTOM



**JAVA SEA PELAGIC FISHERY
ASSESSMENT PROJECT
(ALA/INS/87/17)**

**MEDIUM SIZE PURSE SEINERS FISHERY
STATISTICAL COLLECTION
1987 - 1991**

By

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INTRODUCTION

In 1987, it appears at Pekalongan harbour a new category of purse seiners called there purse seine "sedang" or literally "medium size" seiners. This new category extends in the second semester of 1987.

This category of vessels exists only at Pekalongan. Until 1989, they land in this harbour exclusively. Since 1990 some of them land in Juwana which is most often closer to the fishing grounds.

The fishing grounds are limited to the Java Sea from the northern coast of the Java island to Masalembo islands (Fig. 1). These purse seiners stay at sea from one week to two weeks. They catch the same species as the "big" seiners and land only fresh fish.

The vessels (Fig. 2) have an in-board engine with a power comprised between 30 to 60 Hp, a size of 13 to 18 metres long and a gross tonnage of about 10 to 17 GT.

Since 1987 until 1989, their purse seining activity was seasonal and they changed of fishing gear according to the species they search or to the season of fishing. Since 1990, they are exclusively purse seiners and use this gear along the year.

In the Pekalongan auction they are not recorded by the harbour administration and the TPI with the "big" seiners and the data were not collected by the scientists of BPPL. After an examination of the species caught and of the fishing strategies used by these seiners, the project has decided to edit a document that gathers all the data available about this fishery since 1987.

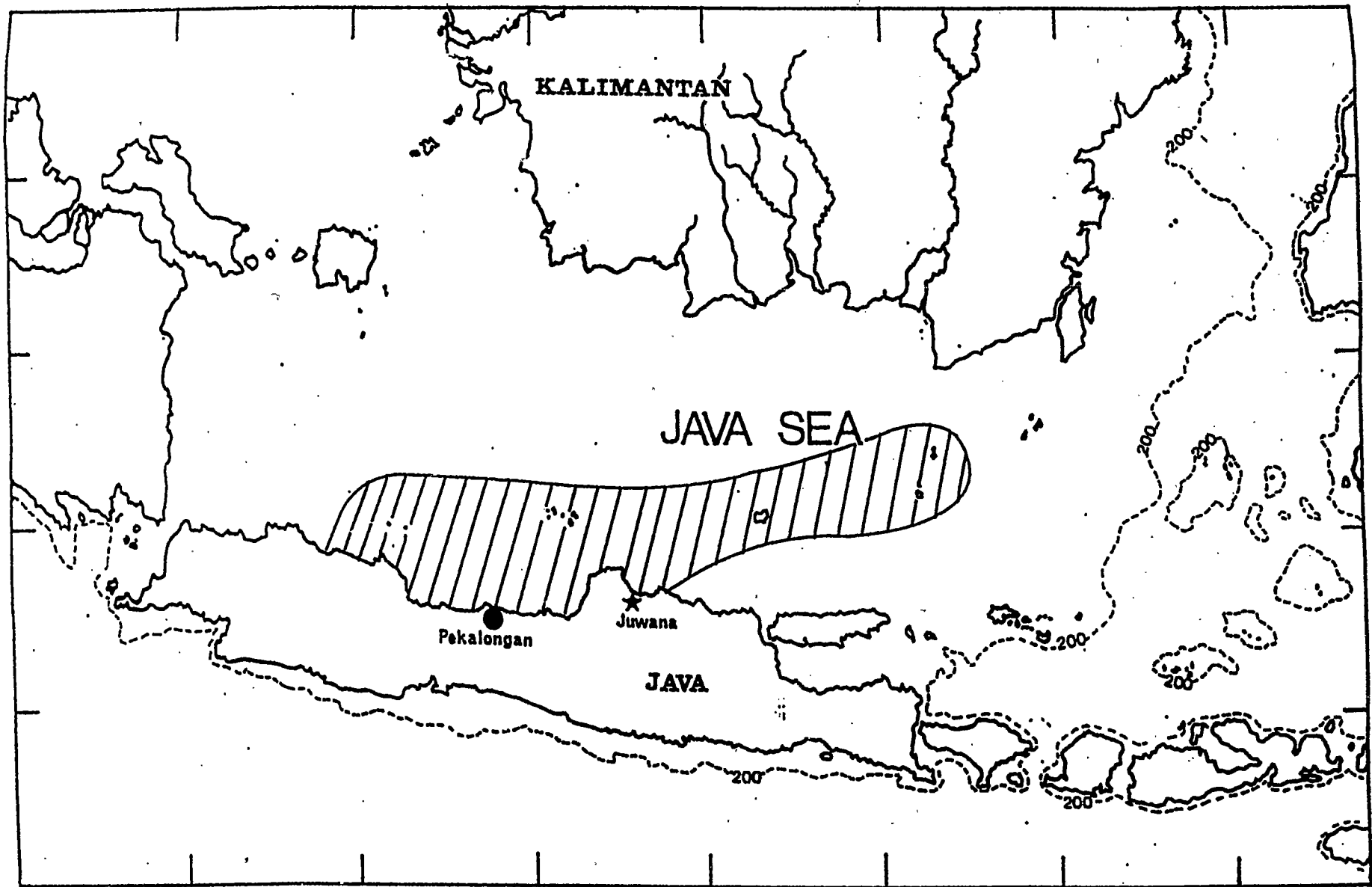

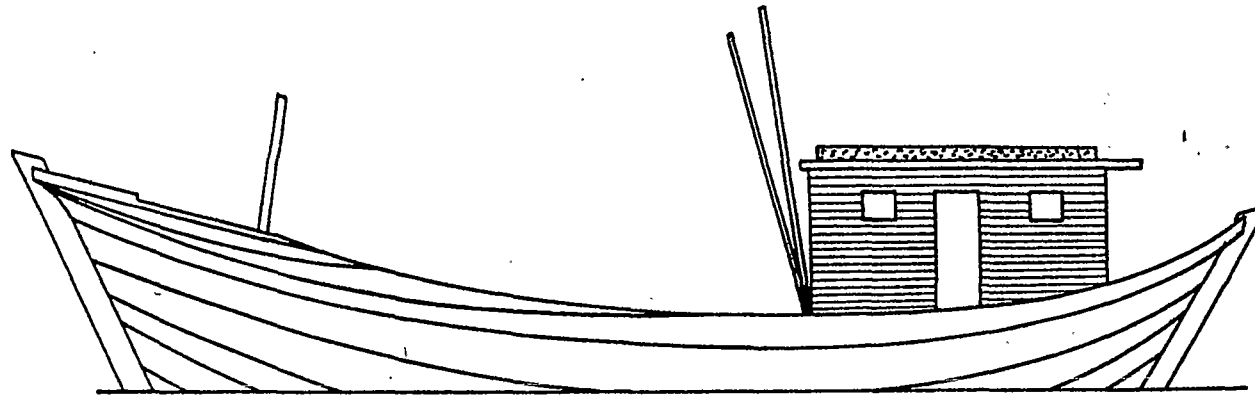
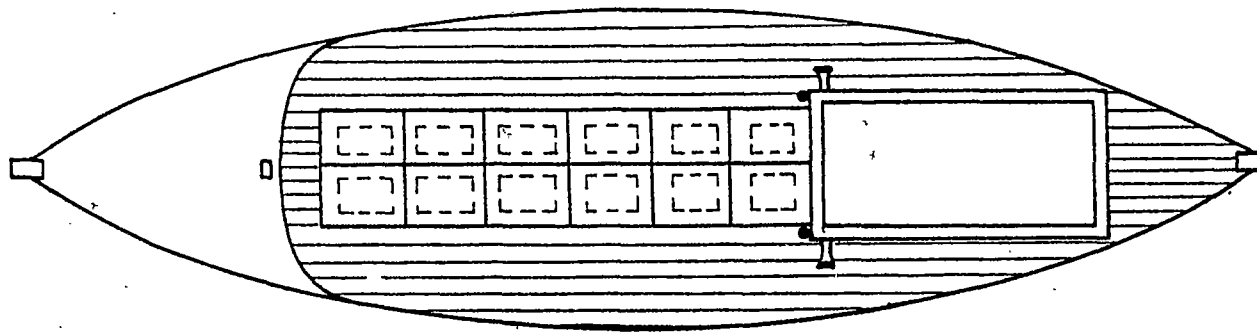


Figure 1. Fishing grounds  , port of registration ● , main landingplace ● and minor landing place ★ , of the medium size purse seiners of the Java Sea.



- Side view-



- Upper view-

Figure 2. Design of a medium size purse seiner. Type sopek.

PRESENTATION

This document presents by year the activity of that category of seiners. For each year, we edit two tables. For 1990 and 1991 we give separately the results from Pekalongan and Juwana.

The first one presents the catch per month and per main commercial categories, the total landings and the value of these landings.

The second one gives by month some indexes of the effort as the number of vessels which are active, the number of trips, the number of days at sea and the mean number of days at sea per trip. As in 1990 and until July 1991 we have no data for Juwana we use the values found in Pekalongan to estimate the number of days at sea in this harbour.

At the end of this report one presents a table that gives since 1987 the evolution of the general characteristics of these vessels i.e. length, width, GT, HP and the development of the fleet in number of units..

Main commercial categories used in the Tables :

- Banyar : *Rastrelliger kanagurta.*
- Bentong : *Selar crumenophthalmus.*
- Juwi : *Sardinella gibbosa, Sardinella fimbriata, Sardinella lemuru.*
- Tongkol : *Euthunnus affinis, Thunnus tonggol, Auxis rochei, Auxis thazard.*
- Layang : *Decapterus macrosoma, Decapterus russelli.*
- Lemuru : *Amblygaster sirm.*
- Selar : *Selaroides leptolepis, Alepes spp., Atule spp.*

1987

Month	Banyar	Bentong	Juwi	Tongkol	Layang	Lemuru	Selar	Total	Value
J	6	5	0	0	10	0	0	21	12539
F	2	2	0	0	4	0	0	5	7422
M	4	22	0	0	10	0	1	39	28753
A	4	4	1	0	2	0	3	16	10926
M	4	2	2	0	1	0	1	10	7923
J	10	16	14	1	1	0	2	53	40142
J	19	13	8	1	26	0	1	92	67810
A	29	14	48	0	4	6	0	116	61004
S	29	18	93	2	17	10	2	181	86333
O	40	42	39	9	110	12	2	307	140749
N	43	36	28	15	239	1	13	426	188421
D	26	25	18	3	106	3	10	204	98919
Total	216	198	252	31	529	33	34	1471	750940

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Pekalongan.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	7	5	11	9	12	18	17	20	27	42	46	33	85
2	10	7	28	10	13	36	40	47	56	91	110	63	511
3	76	46	180	75	52	261	292	421	390	694	871	537	3895
4	7.6	6.5	6.4	7.5	4	7.2	7.3	9.0	7.0	7.6	7.9	8.5	

1: Number of active vessels

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Pekalongan.

1988

Month	Banyar	Bentong	Juwī	Tongkol	Layang	Lemuru	Selar	Total	Value
J	30	49	13	7	121	8	21	259	187265
F	21	13	10	12	29	2	21	123	105182
M	49	38	9	5	29	5	2	174	117512
A	17	17	10	4	21	3	3	111	84283
M	67	29	114	22	17	0	11	296	162457
J	65	31	101	6	12	8	26	282	175907
J	149	40	192	13	40	26	19	536	245274
A	39	12	82	4	158	4	9	333	171066
S	152	47	106	3	87	16	4	535	394183
O	51	93	12	11	222	0	11	446	309596
N	72	91	66	19	266	1	20	583	433180
D	16	9	37	5	69	0	26	210	163202
Total	728	470	753	110	1071	73	174	3888	2549107

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Pekalongan.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	39	40	43	38	42	28	52	36	53	58	63	53	115
2	103	70	83	75	100	80	127	85	134	137	161	105	1260
3	852	514	755	650	835	674	1038	756	1155	1267	1336	845	10677
4	8.3	7.3	9.1	8.7	8.4	8.4	8.2	8.9	8.6	9.3	8.3	8.1	

- 1: Number of active vessels 2: Number of trips
 3: Number of Days at sea 4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Pekalongan.

1989

Month	Banyar	Bentong	Juwī	Tongkol	Layang	Lemuru	Selar	Total	Value
J	128	78	13	7	107	1	15	360	368096
F	127	31	0	0	89	0	20	272	316665
M	62	32	4	5	72	1	9	195	247632
A	126	59	75	4	61	0	2	419	318613
M	91	29	158	6	1	0	4	389	265821
J	95	54	412	13	27	1	7	774	368418
J	150	136	431	21	34	8	9	885	487123
A	139	46	337	19	84	19	23	774	416870
S	164	48	287	23	415	10	21	1126	461873
O	314	95	320	22	487	2	29	1332	548722
N	145	258	41	14	492	1	52	1085	618941
D	110	137	62	7	525	6	125	1042	663207
Total	1651	1002	2138	142	2394	48	317	8652	5081981

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Pekalongan.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	70	53	73	96	82	85	84	79	83	83	88	94	164
2	153	81	136	193	142	195	193	169	185	204	201	207	2059
3	1481	899	1567	2021	1335	1874	2019	1824	1881	2032	1958	2142	21033
4	9.7	11.1	11.5	10.5	9.4	9.6	10.5	10.8	10.2	10.0	9.7	10.4	

1: Number of active vessels

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Pekalongan.

1990

Month	Banyar	Bentong	Juwi	Tongkol	Layang	Lemuru	Selar	Total	Value
J	46	68	2	0	148	3	19	295	321539
F	232	304	17	0	457	1	78	1089	944034
M	71	145	15	0	148	1	18	395	414631
A	67	97	57	9	95	0	8	333	299097
M	37	76	245	1	58	10	9	415	222405
J	26	103	141	4	71	10	7	387	251531
J	35	53	324	0	6	61	3	498	294930
A	36	67	210	0	400	73	1	793	556402
S	158	71	6	0	1173	4	0	1418	775284
O	286	53	42	16	1529	15	1	2009	823464
N	205	104	62	24	1664	84	59	2289	1038802
D	71	137	10	43	1045	12	49	1368	127096
Total	1271	1283	1132	99	6794	275	254	11288	7213014

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Pekalongan.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	76	93	87	82	75	68	79	86	85	85	89	98	146
2	107	190	152	146	133	108	137	151	151	167	188	176	1806
3	1129	1617	1584	1440	1260	1213	1251	1336	1444	1615	1512	1461	16863
4	10.6	8.5	10.4	9.9	9.5	11.2	9.1	8.9	9.6	9.7	8.0	8.3	

1: Number of active vessels

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Pekalongan.

1990

Month	Banyar	Bentong	Juwi	Tongkol	Layang	Lemuru	Selar	Total	Value
J									
F									
M									
A									
M									
J									
J									
A	6	11	35	0	67	12	0	132	93639
S	25	11	1	0	182	1	0	220	116343
O	12	2	2	1	66	1	0	86	33645
N	5	3	2	1	44	2	2	61	28749
D	1	1	0	0	8	0	0	11	9312
Total	49	28	39	2	366	16	2	509	272375

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Juwana.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
2								13	20	10	4	4	51
3								*116	*192	*97	*32	*33	*470
4								p8.9	p9.6	p9.7	p8.0	p8.3	

p: Pekalongan values

*: Estimated values

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Juwana.

1991

Month	Banyar	Bentong	Juwi	Tongkol	Layang	Lemuru	Selar	Total	Value
J	56	127	8	0	583	4	23	802	778569
F	109	91	13	0	367	1	50	650	995621
M	201	332	124	1	742	31	32	1467	1257260
A	86	152	83	0	160	18	6	505	401228
M	57	70	101	9	110	15	7	409	417898
J	74	109	299	3	55	63	7	642	378318
J	188	99	143	11	399	51	2	1009	634161
A	171	37	15	19	946	53	1	1294	870397
S	257	72	58	12	1028	174	0	1743	1047782
O	254	74	40	22	1253	156	0	1892	986226
N	303	84	35	35	1713	88	3	2355	934632
D	196	95	91	20	1477	67	11	2029	846997
Total	1951	1342	1011	133	8833	721	142	14796	9549086

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Pekalongan.

	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	91	67	95	72	87	75	81	79	83	88	85	92	142
2	146	94	184	80	130	110	126	127	138	143	155	160	1593
3	1613	1166	2131	900	1587	1169	1309	1300	1380	1619	1234	1344	16752
4	11.1	12.4	11.6	11.3	12.2	10.7	10.4	10.2	10.0	11.3	8.0	8.4	

1: Number of active vessels

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Pekalongan.

1991

Month	Banyar	Bentong	Juwi	Tongkol	Layang	Lemuru	Selar	Total	Value
J									
F	1	1	0	0	3	0	0	5	5230
M	3	5	2	0	11	0	0	21	10084
A	1	1	1	0	1	0	0	4	2234
M	0	0	1	0	1	0	0	2	1578
J	2	4	10	0	2	2	0	21	23118
J	56	30	43	3	119	15	1	302	193068
A	99	21	9	11	547	31	0	749	495073
S	56	16	13	3	224	38	0	380	217845
O	52	15	8	4	255	32	0	384	201297
N	38	11	4	4	217	11	0	298	135062
D	35	17	16	4	261	12	2	358	182210
Total	343	120	105	29	1640	141	5	2525	1466798

Landings of the main species (tons) caught by the medium-size seiners and total value of these landings in thousands of rupiah in Juwana.

	F	M	A	M	J	J	A	S	O	N	D	Total
2	1	2	1	1	3	25	57	28	29	18	24	189
3	*12	*23	*11	*12	*32	318	496	232	194	140	185	1655
4	p12.4	p11.6	p11.2	p12.2	p10.6	12.7	8.7	8.3	6.7	7.8	7.7	

p: Pekalongan values

*: Estimated values

2: Number of trips

3: Number of Days at sea

4: Mean days at sea per trip

Monthly evolution of some indexes of the effort for the medium size seiners in Juwana.

	1987	1988	1989	1990	1991
N. of vessels	85	115	164	146	142
Mean Horse power	31.4	34.3	36.2	38.7	40.6
Mean Gross Tonnage	10.2	11.0	13.1	15.4	17.5
Mean Length	12.4	12.4	13.1	13.9	14.6
Mean Width	3.6	3.9	4.4	4.7	4.9

General evolution of the main characteristics of the medium size seiners, and development of the fleet in number since 1987 until 1991.

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