

KEDUDUKAN SEKTOR PERIKANAN DI MALAYSIA

1. LATARBELAKANG

- 1.1 Pada dasarnya industri perikanan di Malaysia adalah terdiri daripada perikanan laut dan ternakair. Perikanan darat buat masa ini tidak memberi sumbangan yang penting kepada industri perikanan. Bagi tujuan pengurusan, perikanan laut dibahagikan kepada sektor perikanan pantai dan sektor perikanan laut dalam. Ternakair pula merangkumi ternakan airtawar dan ternakan airpayau.
- 1.2 Perikanan pantai telah dieksploitasikan dengan sepenuhnya dan ada tanda-tanda yang menunjukkan perikanan di kawasan tersebut telah mencapai tahap lebih daripada had maksima. Pendaratan ikan daripada sektor ini telah mencapai tahap tertinggi dan dijangka tidak akan berkembang lagi. Walau bagaimanapun sektor perikanan laut dalam telah menunjukkan perkembangan yang menggalakkan dan mempunyai potensi yang baik. Ternakair juga mempamerkan prospek yang cerah bagi pembangunan dan perkembangan selanjutnya. Berdasarkan keupayaan sumber, usaha pembangunan ditumpu kepada sektor perikanan laut dalam dan ternakair sementara mengekalkan sahaja pengeluaran sektor perikanan pantai pada tahap sedia ada.

2. GUNATENAGA

- 2.1 Pada tahun 1991 sebanyak 90,362 nelayan terlibat dalam sektor perikanan laut berbanding dengan seramai 88,494 nelayan dalam tahun 1990 iaitu menunjukkan pertambahan sebanyak 2.11%. Kenaikan bilangan nelayan ini berlaku terutamanya di negeri-negeri Pantai Timur Semenanjung Malaysia iaitu sehingga 11.32% (daripada 20,747 kepada 23,096). Bilangan bagi Pahang naik sebanyak 41.93%, Kelantan 8.11%, Terengganu 6.34% manakala Johor Timur mencatatkan kejatuhan bilangan nelayan sebanyak 1.79%. Keseluruhannya terdapat kemerosotan bilangan nelayan yang bekerja di atas vesel-vesel berlesen di negeri Pantai Barat Semenanjung Malaysia sebanyak 2.15% (daripada 39,054 kepada 38,213). Perlis mencatat kemerosotan sebanyak 1.56%, Kedah 5.11%, Pulau Pinang 3.66%, Perak 2.78%, Negeri Sembilan 2.46%, Melaka 6.87% dan Johor Barat 0.84%. Walau bagaimanapun, negeri Selangor mencatat sedikit pertambahan sebanyak 3.84%.

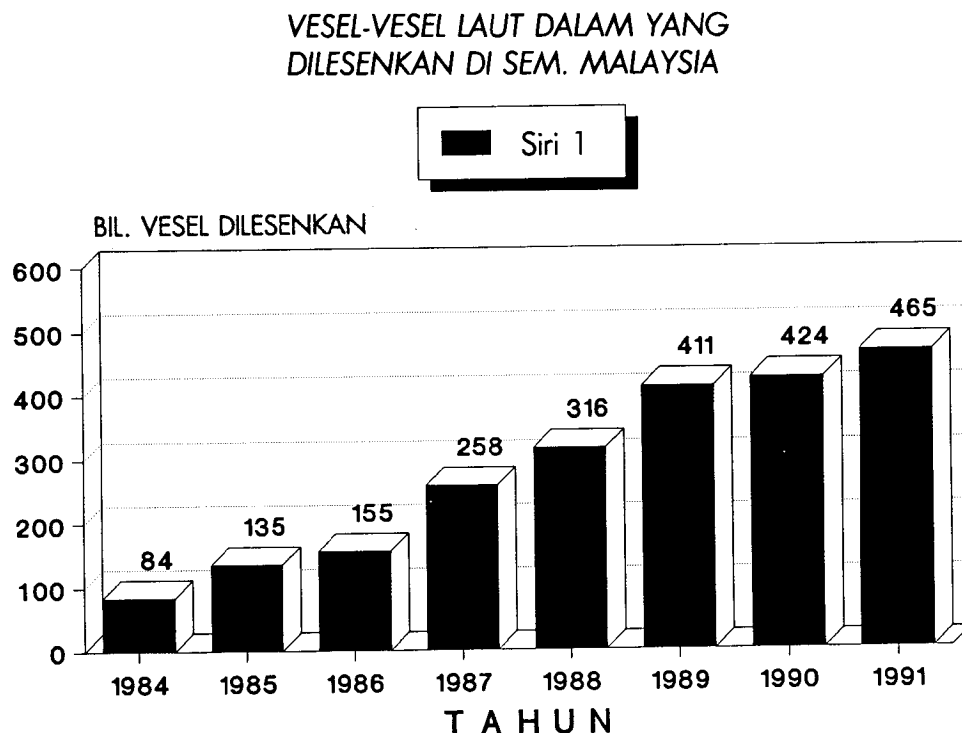
- 2.2 Bilangan nelayan yang bekerja di atas vesel-vesel berlesen di Labuan meningkat sebanyak 9.66% dan Sabah sebanyak 0.32%. Bagi tahun ini bilangan nelayan bekerja di atas vesel-vesel yang berlesen di Sarawak dicatatkan sebanyak 6,966. Disamping itu seramai 5,500 lagi nelayan dianggar bekerja di atas vesel-vesel yang tidak berlesen menjadikan jumlah kesemuanya 12,466. Berbanding dengan jumlah keseluruhan nelayan sebanyak 12,197 yang bekerja di atas vesel-vesel berlesen dan tidak berlesen pada tahun 1990, dianggarkan jumlah bilangan nelayan di Sarawak meningkat sebanyak 2.21%.

3. VESEL-VESEL MENANGKAP IKAN

- 3.1 Bilangan vesel menangkap ikan telah menurun sedikit (5.41%) daripada 39,541 unit dalam tahun 1990 kepada 37,401 unit dalam tahun 1991. Kemerosotan adalah minima bagi Semenanjung Malaysia, menurun sebanyak 1.40% (dari 23,134 kepada 22,809 unit) dimana Pantai Barat mencatat kejatuhan sebanyak 1.97% manakala Pantai Timur mencatat penambahan sebanyak 0.16%. Bilangan vesel menangkap ikan di Semenanjung Malaysia boleh dikatakan stabil dimana pertambahan oleh pelesenan vesel-vesel perikanan laut dalam yang baru, terutama di negeri-negeri Pantai Timur. Kekurangan di Pantai Barat pula adalah disebabkan sebilangan vesel-vesel yang keluar daripada industri perikanan dari masa ke semasa.
- 3.2 Walau bagaimanapun usaha untuk menganggarkan bilangan vesel-vesel perikanan di Sabah, Sarawak dan Labuan mengalami masalah yang besar memandangkan terdapat bilangan besar yang tidak berlesen terutama di kawasan pendalaman. Di Sabah bilangan vesel-vesel menangkap ikan bagi tahun 1990 telah dianggarkan sebanyak 9,200 unit dan angka ini dipercayai berlebihan Dengan sistem baru pengumpulan data, satu banci telah dibuat dalam tahun 1991 dan didapati bahawa jumlah bilangan vesel menangkap ikan yang beroperasi hanya sebanyak 7,204 unit. Perbezaan adalah disebabkan oleh lebih anggaran vesel-vesel kecil yang beroperasi di kawasan-kawasan pendalaman sebelum 1991. Bagi Sarawak, masalah yang sama timbul dimana didapati 50.00% vesel-vesel menangkap ikan tidak berlesen yang dianggarkan berjumlah hampir 4,500 unit, terutama vesel-vesel kecil.
- 3.3 Jadual I menunjukkan arah aliran bilangan vesel-vesel laut dalam yang dilesenkan di Semenanjung Malaysia. Walaupun pada keseluruhannya tanda-tanda menunjukkan kemerosotan dalam bilangan vesel menangkap ikan, bilangan vesel-vesel menangkap ikan laut dalam sebenarnya bertambah pada kadar tetap. Perkembangan ialah 17.6% bagi seluruh Malaysia dengan kenaikan sebanyak 103 unit daripada 586 dalam tahun 1990 kepada 689 dalam tahun 1991. Semenanjung Malaysia telah mencatatkan kenaikan 10.00% dimana pertambahan adalah terutamanya bagi negeri-negeri Pantai Timur (21.21%). Pahang mendahului dengan pertambahan sebanyak 44 unit daripada 76 unit dalam tahun 1990 kepada 120 unit dalam tahun 1991. Terengganu telah menambah angkatan vesel laut dalam sebanyak 6 unit sementara Kelantan bertambah 1 unit.

Johor Timur telah berkurang angkatan vesel laut dalam nya sebanyak 2 unit. Bagi Sabah, Sarawak dan Labuan, vesel-vesel menangkap ikan laut dalam meningkat sebanyak 38.30% daripada 162 unit kepada 224 unit. Di Sarawak bilangan vesel-vesel laut dalam yang beroperasi meningkat sebanyak 98 unit daripada 116 unit dalam tahun 1990 kepada 214 unit dalam tahun 1991 manakala Labuan telah bertambah seunit kepada 3, yang beroperasi sekarang. Sabah hanya mencatatkan 7 unit yang berlesen pada 1991, berbanding dengan 44 unit dalam tahun 1990. Perbezaan ini ketara berpunca daripada vesel- vesel SAFMA (Sabah Fisheries Marketing Authority) yang tidak dilesenkan semula pada tahun 1991 kerana beberapa sebab.

Jadual I:



4. PERKAKAS MENANGKAP IKAN

- 4.1 Jika mengambilkira perkakas menangkap ikan yang digunakan oleh vesel-vesel yang tidak dilesenkan di Sarawak yang berjumlah kira- kira 4,500 unit, jumlah perkakas menangkap ikan yang beroperasi dalam tahun 1991 adalah 34,738 unit. Iri menunjukkan sedikit peningkatan sebanyak 0.82% berbanding dengan perangkaan tahun lalu iaitu 34,457 unit. Bilangan perkakas menangkap ikan yang dilesenkan bagi Semenanjung Malaysia masih berada ditahap yang sama. Walaupun ada pertambahan lesen perkakas menangkap ikan dikeluarkan bagi perikanan laut dalam, bilangan lesen bagi angkatan vesel-vesel perikanan pantai sebenarnya menurun disebabkan kesesakan dikawasan tersebut. Kenaikkan sebanyak 0.23% dicatat bagi negeri-negeri Pantai Timur Semenanjung Malaysia manakala negeri-negeri Pantai Barat mencatat kemelesetan sebanyak 2.00%. Bagi Sarawak dianggarkan bilangan perkakas menangkap ikan

berkurangan sebanyak 2.40%. Walau bagaimanapun bilangan perkakas menangkap ikan yang beroperasi di Sabah meningkat sehingga 23.38% manakala Labuan mencatatkan peningkatan sebanyak 1.42%. Penambahan bagi setiap negeri adalah seperti di Jadual II di bawah :

Jadual II menunjukkan perubahan bilangan lesen perkakas menangkap ikan yang dikeluarkan

Kawasan	1990	1991	Perubahan %
Pantai Barat Sem. Malaysia			
Perlis	775	712	-8.13
Kedah	2,299	2,171	-5.57
Pulau Pinang/Penang	2,150	2,026	-5.77
Perak	5,017	4,840	-3.53
Selangor	2,779	2,976	7.09
Negeri Sembilan	218	212	-2.75
Melaka/Malacca	874	832	-4.81
Johor Barat/West Johore	2,886	2,890	0.14
<i>Jumlah Kecil:</i>	16,998	16,659	-2.00
Pantai Timur Sem. Malaysia			
Kelantan	1,177	1,159	-1.53
Terengganu	2,408	2,381	-1.12
Pahang	1,031	1,113	7.95
Johor Timur/East Johore	1,520	1,497	-1.51
<i>Jumlah Kecil:</i>	6,136	6,150	0.23
* Sarawak	7,803	7,617	-2.38
Sabah	3,379	4,169	23.38
W.P. Labuan	141	143	1.42
<i>Jumlah Kecil:</i>	11,323	11,929	5.35
Jumlah Besar:	34,457	34,738	0.82

* Bagi negeri Sarawak, data termasuk 4,500 perkakas yang diusahakan atas vesel yang tidak dilesenkan.

5. PENDARATAN IKAN LAUT

- 5.1 Jumlah pendaratan tangkapan laut berkurangan sebanyak 4.14% dari 951,307 t.m dalam tahun 1990 kepada 911,933 t.m. dalam tahun 1991. Kemerosotan dalam pendaratan ikan laut sebenarnya adalah disebabkan oleh kejatuhan pendaratan ikan baja. Secara keseluruhan pendaratan ikan laut yang bernilai komersial adalah meningkat 0.80% dari 640, 398 t.m. dalam tahun 1990 kepada 645,026 t.m. dalam tahun 1991.
- 5.2 Kemerosotan pendaratan berlaku di Pantai Barat Semenanjung Malaysia yang menurun sebanyak 21.27% (510,470 t.m kepada 401,900 t.m). Semua negeri selain Johor Barat dan N. Sembilan menunjukkan kemerosotan yang ketara. Beberapa sebab kemerosotan yang dicatatkan ini telah dikenalpasti. Adalah didapati pendaratan ikan pelagik di Pantai Barat Semenanjung Malaysia telah berkurangan dalam tahun 1991. Biasanya pendaratan ikan-ikan pelagik meningkat dari bulan Mei dan berterusan ke bulan November. Walau bagaimanapun, bagi tahun ini, corak demikian tidak diperhatikan. Ini menunjukkan kemerosotan stok atau perubahan corak pergerakan ikan. Cuaca buruk yang bermula awal tahun dipercayai mempengaruhi pendaratan ikan. Keadaan cuaca yang "berkabus" menghalang ramai nelayan untuk keluar ke laut dan pada masa yang sama dijangka telah mempunyai kesan ke atas plankton mengakibatkan tangkapan yang berkurangan pada masa tersebut. Pada keseluruhannya kemerosotan tangkapan adalah disebabkan oleh pertukaran musim bagi spesies pelagik dan mungkin juga kemerosotan stok bagi spesies demersal. Bagi Pantai Timur Semenanjung Malaysia, pendaratan yang dicatatkan tidak berubah dengan ketara cuma berkurangan 0.56% sahaja iaitu daripada 309,432 t.m kepada 307,687 t.m. Terengganu dan Pahang mencatat sedikit kenaikan (masing-masing 4.34% dan 3.31%) manakala Kelantan mencatat kemerosotan sebanyak 18.54% daripada 31,557 t.m. kepada 25,706 t.m. dan Johor Timur mencatat kemerosotan sebanyak 4.79% (75,269 kepada 71,664 t.m). Kemerosotan di Kelantan adalah disebabkan oleh pendaratan yang kurang baik oleh pukat tunda, pukat hanyut dan pancing. Adalah diperhatikan juga bahawa sebilangan nelayan pukat tunda mendaratkan ikan di negara-negara jiran. Selain daripada itu, kekurangan pendaratan disebabkan oleh bilangan vesel beroperasi yang menurun.
- 5.3 Potensi perikanan yang lebih baik diperairan Sabah, Sarawak dan Labuan telah diketahui. Bagi tahun 1991, pendaratan tangkapan naik mendadak sebanyak 53.99% daripada 131,404 t.m kepada 202,346 t.m. Sarawak mencatat sebanyak 9.80% kenaikan dan Sabah mencatat lompatan besar sebanyak 142.32% (44,760 t.m kepada 108,464 t.m). Perbezaan besar disebabkan bukan hanya oleh pendaratan yang baik tetapi juga kerana kaedah pungutan data yang diubahsuai. Sebelum 1991, data dipungut dari pasar-pasar yang besar sahaja. Walau bagaimanapun bermula tahun 1991, sistem ini telah diperbetulkan dimana teknik kajian rangka (frame survey) seperti diamalkan di Semenanjung Malaysia mula dilaksanakan. Kaedah ini melibatkan pungutan data dari pengkalan pendaratan dan oleh itu memberi liputan yang lebih baik termasuk pendaratan ikan-ikan baja dan ikan-ikan kecil yang tidak sampai ke pasar-pasar. Pendaratan di Labuan berkeadaan stabil iaitu dalam lingkungan 7,200 t.m.

- 5.4 Pada keseluruhannya pendaratan pukat tunda merosot sebanyak 8.10% (daripada 576,223 t.m kepada 529,544 t.m) manakala pendaratan oleh pukat jerut jatuh sebanyak 2.3%. Pendaratan pukat jerut bilis menurun sebanyak 30.01% dan pendaratan bubu, pukat bakul, pukat surung dan pungutan kerang-kerangan juga merosot masing-masing sebanyak 17.30%, 2.90%, 51.70% dan 27.44%. Walau bagaimanapun pendaratan pukat tarik lain, pukat hanyut, pukat tangguk, belat, pancing dan pukat rentang meningkat masing-masing sebanyak 5.36%, 8.24%, 118.67%, 18.34%, 48.16% dan 34.63%.
- 5.5 Walaupun jumlah keseluruhan pendaratan laut menunjukkan kejatuhan, namun pendaratan oleh vesel-vesel laut dalam Semenanjung Malaysia mencatatkan kenaikan sebanyak 19.38% daripada 92,927 t.m dalam tahun 1990 kepada 110,943 t.m dalam tahun 1991. Pendaratan oleh pukat jerut bertambah baik meningkat sebanyak 26.02% (23,731 t.m kepada 29,907 t.m). Perkembangan ini amat menggalakkan bagi negeri-negeri Pantai Timur Semenanjung Malaysia yang mencatatkan kenaikan hebat sebanyak 55.51% (15,629 t.m kepada 24,304 t.m). Pendaratan pukat tunda oleh vesel-vesel Semenanjung Malaysia menunjukkan kemajuan sebanyak 17.10% daripada 69,196 t.m ke 81,036 t.m. Pertambahan ini kebanyakannya juga dari negeri-negeri Pantai Timur (21.88%).

6. TERNAKAIR

- 6.1 Pada dasarnya industri ternakair di Malaysia meliputi ternakan ikan airtawar dan airpayau. Ternakan airtawar dijalankan di kolam-kolam airtawar, sangkar airtawar dan bekas lombong. Sementara itu ternakan air payau merangkumi kolam airpayau, sangkar airpayau dan ternakan moluska seperti kerang, siput sudu dan tiram.
- 6.2 Jumlah pengeluaran daripada sektor ternakair mencapai 64,844 t.m tahun ini berbanding dengan 52,303 t.m dalam tahun 1990 iaitu kenaikan sebanyak 23.98%. Kenaikan yang baik daripada sektor air payau adalah sebanyak 26.14% (daripada 42,614 t.m kepada 53,755 t.m). Sementara bahagian airtawar mencatat tambahan sebanyak 14.44% (daripada 9,689 kepada 11,089 t.m). Dalam lingkungan sektor airpayau pengeluaran ternakan kolam bertambah sebanyak 10.97% dan ternakan sangkar sebanyak 3.65%. Kutipan kerang walau bagaimanapun mencatat kenaikan yang hebat sebanyak 29.76% manakala pengeluaran siput sudu menurun sebanyak 1.20%. Dengan harga yang lumayan bagi tiram, ternakannya telah bertambah popular dan pada tahun 1991, pengeluaran sebanyak 56.66 t.m telah dicatat. Ternakan ini adalah tertumpu di negeri Johor yang mengeluarkan sebanyak 52.81 t.m. sementara negeri Kedah dan Perak masing-masing menghasilkan cuma 1.37 t.m dan 2.48 t.m. Bagi ternakan air tawar, pengeluaran daripada kolam bekas lombong bertambah sebanyak 4.86% dan pengeluaran kolam meningkat sebanyak 15.70%. Adalah penting disebut disini bahawa ternakan belut telah berjaya dilaksanakan terutama di negeri Pahang yang menghasilkan 442.51 t.m dari 200 kolam air tawar seluas 1,663,215 meter persegi. Sektor ternakan sangkar juga meningkat sebanyak 11.24%.

- 6.3 Mengikut kawasan, pengeluaran di Semenanjung Malaysia sebenarnya meningkat sebanyak 32.94% daripada 42,444 t.m kepada 56,427 t.m. Kemajuan yang ketara dalam pengeluaran telah dicatat bagi Pulau Pinang (20.30%), Perak (52.74%), Selangor (15.33%), Johor (7.20%) Terengganu (0.13%) dan Kelantan sebanyak 0.34%. Walaupun jumlah pengeluaran di Perlis dan Kedah menunjukkan kemelesetan (masing-masing 36.51% dan 30.65%), pembangunan industri ternakair adalah sebenarnya meningkat kecuali pungutan kerang di kedua-dua negeri ini sahaja yang merosot dan dengan itu mempengaruhi jumlah angka pengeluaran keseluruhan. Pengeluaran siput sudu bagi Kedah misalnya meningkat daripada hanya 0.20 t.m dalam tahun 1990 kepada 20.33 t.m dalam tahun 1991. Pengeluaran ternakair di N. Sembilan dan Melaka telah menurun secara tidak ketara sebanyak 2.33% dan 4.94%. Sabah dan Sarawak juga tidak menunjukkan kemajuan baik dengan tiada perkembangan bagi Sarawak dan jumlah pengeluaran bagi Sabah telah merosot sebanyak 14.92%. Walau bagaimanapun, kemerosotan adalah juga disebabkan oleh pungutan kerang yang merosot daripada 3,640 m.t dalam tahun 1990 kepada 1,079 t.m dalam tahun 1991. Aktiviti ternakan yang lain untuk Sabah sebenarnya menunjukkan perkembangan dalam pengeluaran kolam air tawar meningkat sebanyak 19.67% dan kolam airpayau sebanyak 12.50%.
- 6.4 Pada keseluruhannya adalah diperhatikan bahawa terdapat hubungkait yang positif antara pengeluaran jenis ternakan dengan kawasan ternakan. Jadual III menunjukkan perubahan pengeluaran dibandingkan dengan kawasan ternakan.

Jadual III

Perubahan Pengeluaran dan Kawasan Ternakan

	Ternakan Airtawar			Ternakan Airpayau			
	Kolam	Bekas Lombong	*Sangkar	Kolam	*Sangkar	Kerang	Siput Sudu
1991							
Pengeluaran (t.m.)	9,566	949	574	3,379	2,130	46,625	1,563
Luas Kawasan Ternakan (ha.)	4,861	644	24,613	1,631	301,777	5,674	41,023
1990							
Pengeluaran (t.m.)	8,268	905	516	3,045	2,055	35,932	1,582
Luas Kawasan Ternakan (ha.)	4,249	641	21,413	1,552	242,971	5,542	55,455
Perubahan %							
Pengeluaran	15.70	4.86	11.24	10.97	3.65	29.76	1.20
Luas Kawasan Ternakan	14.40	0.47	14.94	5.09	24.20	2.38	-26.02

* Luas kawasan sangkar dalam meter persegi

- 6.5 Pengeluaran kolam airtawar meningkat sebanyak 15.70% berbanding dengan peningkatan kawasan ternakan sebanyak 14.40%. Kawasan ternakan kolam bekas lombong meningkat hanya 0.47% mengakibatkan peningkatan pengeluaran sebanyak 4.86%. Peningkatan kawasan ternakan sangkar airtawar adalah sebanyak 14.94% berbanding dengan peningkatan pengeluaran sebanyak 11.24%. Arah aliran yang sama dapat diperhatikan bagi ternakan airpayau. Pengeluaran kolam meningkat sebanyak 10.97% berbanding dengan peningkatan kawasan kolam sebanyak 5.09%. Walau bagaimanapun pengeluaran dari sangkar hanya naik sebanyak 3.65% walaupun kawasan ternakan bertambah sebanyak 24.20%. Pungutan kerang meningkat sebanyak 29.76% tahun ini dengan peningkatan kawasan ternakan sebanyak 2.38%. Pengeluaran siput menurun sebanyak 1.20%, begitu juga kawasan ternakan menurun sebanyak 26.02%.

7. IKAN HIASAN

- 7.1 Pengeluaran ikan-ikan hiasan adalah daripada negeri Pulau Pinang, Perak, Selangor, Melaka, Johor dan bermula tahun ini ialah N. Sembilan. Penghasilan keseluruhan bagi 1991 adalah 88,584,841 ekor bernilai \$14.5 juta. Ini merupakan peningkatan sebanyak 26.48% dibandingkan dengan 1990 (70,037,369 ekor). Negeri Melaka menunjukkan prestasi yang baik, bertambah sebanyak 410.34% diikuti dengan negeri Perak dan negeri Johor yang bertambah sebanyak 39.47% dan 28.85% masing-masing. Pengeluaran dari negeri Selangor masih pada tahap yang sama manakala pengeluaran dari Pulau Pinang menurun sebanyak 15.09%.
- 7.2 Nilai pengeluaran bertambah sebanyak 61.09% dari \$9.0 juta ke \$14.5 juta. Nilai pengeluaran bagi Perak, Melaka dan Johor masing-masing bertambah sebanyak 242.92%, 298.96% dan 38.64%. Sebaliknya nilai pengeluaran meleset untuk negeri Selangor sebanyak 18.47% walaupun pengeluarannya pada tahap yang sama. Untuk negeri Pulau Pinang, nilai pengeluaran bertambah sebanyak 163.14% walaupun pengeluarannya menurun mungkin kerana spesis-spesis ikan hiasan yang berharga tinggi lebih ditumpukan.

Status of The Fisheries Sector in Malaysia

1. Introduction

- 1.1 Basically the fisheries industry in Malaysia consists of marine capture fisheries and aquaculture. Inland fishery at this present moment does not contribute significantly to the industry. For management purposes, the marine capture fisheries is categorized into the inshore sector and the deep sea sector. Aquaculture on the other hand covers freshwater culture and brackishwater culture.
- 1.2 The inshore capture fishery is already heavily exploited and there is evidence that fishing is over-saturated. Landings from this sector have peaked and is not expected to expand any further. However the deep sea sector has shown steady growth and has further potential for development. Aquaculture also offers bright prospects for further development and expansion. Based on resource potential, the developmental efforts are geared towards the deep sea fishery and aquaculture sector while sustaining production from the inshore sector.

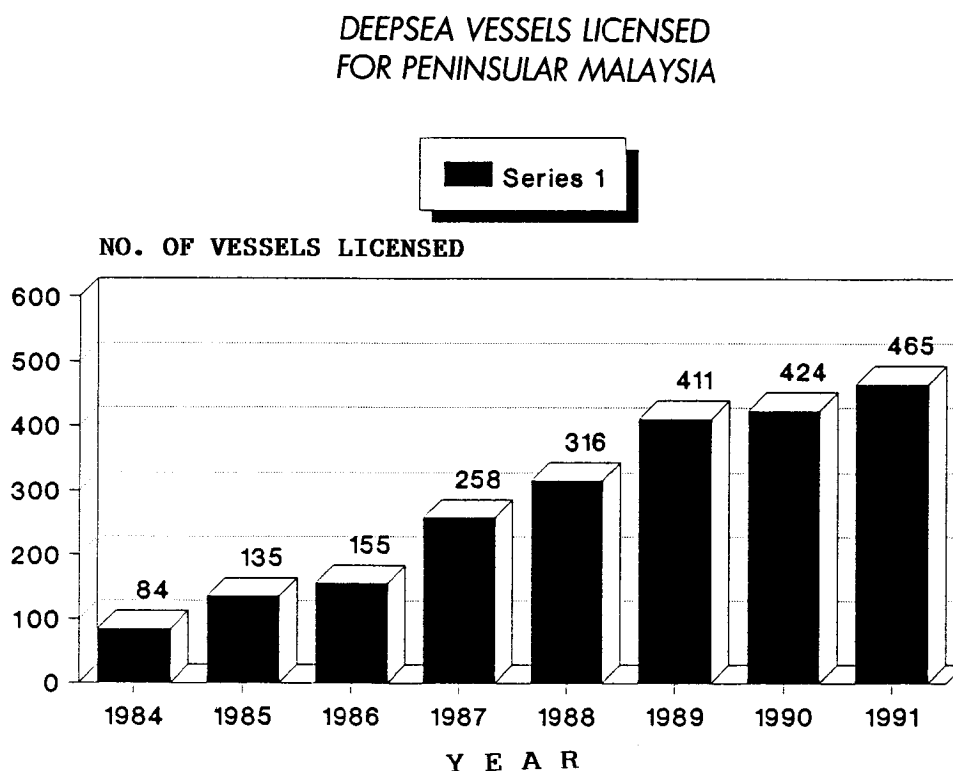
2. Employment

- 2.1 A total of 90,362 fishermen were engaged in the marine fisheries sector in 1991 compared to 88,494 in 1990 thus showing an increase of 2.11%. The increment in the number of fishermen occurred mostly in the east coast states of Peninsular Malaysia going up by 11.32% (from 20,747 to 23,096). The number for Pahang increased by 41.93%, Kelantan 8.11%, Terengganu 6.34% whereas East Johore recorded a drop in the number of fishermen by 1.79%. Overall there was a drop in the number of fishermen working on licensed vessels in the west coast states of Peninsular Malaysia by 2.15% (from 39,054 to 38,213). Perlis recorded a drop of 1.56%, Kedah 5.11%, Penang 3.66%, Perak 2.78%, N.Sembilan 2.46%, Malacca 6.87% and W.Johore 0.84%. However, the state of Selangor recorded a marginal increment of 3.84%.
- 2.2 The number of fishermen working on licensed vessels in Labuan increased by 9.66% and Sabah by 0.32%. For this year the number of fishermen working on licensed vessels in Sarawak was recorded at 6,966 and a further 5,500 fishermen working on unlicensed vessels giving a total of 12,466 as against a total of 12,197 working on both licensed and unlicensed vessels recorded in 1990. As such it was estimated that the total number of fishermen in Sarawak increased by 2.21%.

3. Fishing Vessels

- 3.1 The fishing fleet decreased slightly from 39,541 units in 1990 to 37,401 units in 1991 that is by 5.41%. The reduction was minimal for Peninsular Malaysia going down by only 1.40% (from 23,134 to 22,809) with the west coast dropping by 1.97% whereas the east coast actually had an increase of 0.16%. The fishing fleet for Peninsular Malaysia can be said to be stabilised with the increment due mainly to new vessels licensed for deep sea fishing especially in the east coast states. Reduction in the west coast was due to the small number of vessels which were phased out of the industry.
- 3.2 However the task of estimating the number of fishing vessels in Sabah, Sarawak and Labuan was greatly affected by difficulty in recording. This was due to the large number of unlicensed vessels operating especially in remote areas. The estimation of the number of these vessels had posed great problems throughout the years. In Sabah the number of fishing vessels for 1990 was over estimated at 9,200 units. However with the new system of data collection, a census was done and the total fishing vessel was found to be 7,204 units in 1991. The difference was due to the over estimation of the small vessels operating in remote areas before 1991. For Sarawak, the same problem arose with more than 50% of the fishing vessels unlicensed. Overall an estimated 4,500 vessels were unlicensed which were mainly small crafts.
- 3.3 Table I shows the trend in the number of deep sea vessels licensed in Peninsular Malaysia. Though overall there was a drop in number of fishing vessels, the deep sea fishing fleet increased at a steady rate. The expansion was 17.6% for the whole of Malaysia increasing by 103 units from 586 in 1990 to 689 in 1991. Peninsular Malaysia recorded a 10% increase in the number of deep sea vessels. The increment was especially for the east coast states (21.21%), with Pahang going ahead with an addition of 44 vessels from only 76 in 1990 to 120 units in 1991. Terengganu increased its deep sea fleet by 6 units whereas Kelantan increased by 1 unit. For East Johore the fleet decreased by 2 units. For Sabah, Sarawak and Labuan, the deep sea fishing vessels increased by 38.3% from 162 units to 224 units. In Sarawak the number in operation increased by 98 units from 116 in 1990 to 214 in 1991 whereas Labuan licensed only an additional unit to a total of 3 units now in operation. Sabah recorded only 7 licensed deep sea vessels in 1991 as against 44 units in 1990. The sharp decline was the result of numerous vessels not relicensed for 1991 especially SAFMA's (Sabah Fisheries Marketing Authority) vessels which were non-operational in 1991 for various reasons.

Table I:



4. Fishing Gears

- 4.1 Including gears operated by unlicensed vessels in Sarawak numbering some 4,500 units, the total number of gears operating in 1991 was 34,738. This showed a slight increase over last year's figure of 34,457 by 0.82%. The number of gears licensed for Peninsular Malaysia remained about the same. Though there was an increase of gear licensed issued for deep sea fishing, licenses for the rest of the inshore fleet actually decreased due to over saturation in this area. There was a slight increase of 0.23% for the east coast states of Peninsular Malaysia and a drop of 2.0% for the west coast states. As for Sarawak it was estimated to decrease by 2.4%. However, the number of gears in operation in Sabah increased by as much as 23.38% whereas Labuan recorded an increase of 1.42%. The changes by states are as shown in Table II.

Table II to show changes in Gear Licences Issued

Area	1990	1991	% Change
West Coast of Peninsular Malaysia			
Perlis	775	712	-8.13
Kedah	2,299	2,171	-5.57
Pulau Pinang/Penang	2,150	2,026	-5.77
Perak	5,017	4,840	-3.53
Selangor	2,779	2,976	7.09
Negeri Sembilan	218	212	-2.75
Melaka/Malacca	874	832	-4.81
Johor Barat/West Johore	2,886	2,890	0.14
<i>Sub-Total:</i>	16,998	16,659	-2.00
East Coast of Peninsular Malaysia			
Kelantan	1,177	1,159	-1.53
Terengganu	2,408	2,381	-1.12
Pahang	1,031	1,113	7.95
Johor Timur/East Johore	1,520	1,497	-1.51
<i>Sub-Total:</i>	6,136	6,150	0.23
* Sarawak	7,803	7,617	-2.38
Sabah	3,379	4,169	23.38
W.P. Labuan	141	143	1.42
<i>Sub-Total:</i>	11,323	11,929	5.35
Grand Total:	34,457	34,738	0.82

* For Sarawak, figure includes 4,500 gears operating on unlicensed vessels

5. Marine Landings

- 5.1 The total landing from marine capture fisheries declined by 4.14% from 951,307 m.t. in 1990 to 911,933 m.t. in 1991. The drop in the marine capture is actually due to the reduction in trash fish landings. Generally, the commercial marine fish landings has increased 0.8% from 640,398 m.t. in 1990 to 645,026 m.t. in 1991.
- 5.2 The reduction occurred mainly in the West Coast of Peninsular Malaysia going down by as much as 21.27% (510,470 m.t. to 401,900 m.t.). All states except for West Johore and N.Sembilan recorded a drop in landing. Landings in West Johore and N.Sembilan did not show any significant changes. Various reasons have been identified for the decline recorded. It was noted that the pelagic landings in the West Coast of Peninsular Malaysia deteriorated in 1991. Normally the landings of pelagic fishes increased from May and continued through to November. However, this trend was not observed this year suggesting a stock reduction or a change in migratory patterns. The weather was also cited as a factor for the poor landings which began early in the year right into the second half of the year. The 'foggy' situation prevented many fishermen from going out and at

the same time could have an effect on the plankton resulting in poor catches during the period. On the whole the decline in catch, was the result of seasonal changes for pelagic species and probably declining stock for demersal species. As for the East Coast of Peninsular Malaysia, the landings recorded remained almost unchanged dropping by only 0.56% i.e from 309,432 m.t to 307,687 m.t. Terengganu and Pahang registered a slight increase (4.34% and 3.31% respectively) whereas Kelantan recorded a decrease of 18.54% from 31,557 tonnes to 25,706 tonnes and East Johore a decrease of 4.79% (75,269 to 71,664 m.t.). The decline in Kelantan was due to bad landings by trawlers, gill netters and hooks and lines. It was observed that a significant number of trawlers landed their fishes in neighbouring states and countries for various reasons. The reduction in landing by the rest was due to the lesser number of boats in operation.

- 5.3 The better potential in the waters of Sabah, Sarawak and Labuan has been known. For 1991, the marine catch landings shot up by 53.99% from 131,404 m.t to 202,346 m.t. Sarawak recorded a 9.80% increase and Sabah recorded a huge jump of 142.32% (44,760 m.t to 108,464 m.t). The big difference was due not only to better landings but also by improvement in data collection methodology. Before 1991, data were collected from major markets. However, beginning 1991, this system was revamped where the frame-survey technique practised in Peninsular Malaysia was implemented. This method involved the collection of data from landing sites, thus giving better coverage. It also included landings of trash fishes and small fishes that did not reach the market. Landings in Labuan remained stable at around 7,200 m.t.
- 5.4 The overall trawl landings deteriorated by 8.10% (from 576,223 m.t. to 529,544 m.t) whereas landings from the purse seiners dropped marginally by 2.3%. Landings of anchovy by purse seiners came down by 30.01% and landings of portable traps, bag nets, push nets and shellfish collection also declined by 17.30%, 2.90%, 51.70% and 27.44% respectively. However landings of other seine nets, gill nets, lift nets, stationary traps, hook and lines and barrier nets crept up by 5.36%, 8.24%, 118.67%, 18.34%, 48.16% and 34.63% respectively.
- 5.5 Even though the total marine catch showed a decline, however, the landings by deep sea vessels recorded an increase of 19.38% from 92,927 m.t. in 1990 to 110,943 m.t in 1991. Landings of fish purse seiners improved by a much as 26.02% (23,731 to 29,907 m.t.). The improvement was most remarkable for the east coast states of Peninsular Malaysia recording an impressive 55.51% increment (15,629 to 24,304 m.t.). Trawl landings by these big vessels improved by 17.10% from 69,196 m.t to 81,036 m.t. This increment came mostly from the east coast states (21.88%).

6. Aquaculture

- 6.1 Basically the aquaculture industry in Malaysia comprises freshwater and brackishwater culture. Freshwater culture is carried out in freshwater ponds, freshwater cages and ex-mining pools. On the other hand brackishwater culture covers brackishwater ponds, brackishwater cages and mollusc culture comprising cockle, mussels, and oysters.
- 6.2 The total production from the aquaculture sector came to 64,844 m.t. this year compared to 52,303 m.t. in 1990 thus improving by 23.98%. The improvement in production from the brackishwater sector was 26.14% (from 42,614 m.t to 53,755 m.t). Whereas the freshwater side recorded a 14.44% gain (from 9,689 to 11,089 m.t). Within the brackishwater sector, pond culture production increased by 10.97% and cage culture by 3.65%. Cockle harvest however improved remarkably by 29.76% and mussel production decreased slightly by 1.20%. With good prices for oysters, the culture had gained popularity and for 1991, a harvest of 56.66 m.t was recorded. The culture is prominent in Johore recording a production of 52.81 m.t in 1991. The rest came from Kedah (1.37 m.t) and Perak (2.48 m.t). For freshwater culture, production from ex-mining ponds increased by 4.86% and production from ponds went up by 15.70%. It is important at this point that eel culture had been successfully implemented especially in the state of Pahang which produced 442.51 m.t in 1991 out of about 200 ponds totalling 1,663,215 meter square area. Lastly, the cage culture sector also increased by 11.24%.
- 6.3 By area, production in Peninsular Malaysia actually increased by 32.94% from 42,444 m.t to 56,427 m.t. Significant improvement in production was recorded for Penang (20.30%), Perak (52.74%), Selangor (15.33%), Johor (7.20%), Terengganu (0.13%) and Kelantan with a marginal increase of only 0.34%. Even though the total production in Perlis and Kedah showed a decline (36.51% and 30.65% respectively), the development of the culture industry was significant except that the cockle harvests in both these states were very poor thus affecting the total production figure. Production of mussels for Kedah for example went up from only 0.20 m.t in 1990 to 20.33 m.t. in 1991. Production of aquaculture in N. Sembilan and Malacca remained relatively stagnant dipping insignificantly by 2.33% and 4.94% respectively. Sabah and Sarawak did not perform well with no growth for Sarawak and decline in total production for Sabah by as much as 14.92%. However, the decline was again due to the poor harvest of cockle, dropping from 3,640 m.t. in 1990 to 1,079 m.t. in 1991. Other cultures actually expanded with freshwater pond production increasing by 19.67% and brackishwater ponds by 12.50%.

- 6.4 It was noticed that generally there was a positive relationship between the production of each type of culture with the area of cultivation. The Table III below shows the changes in production as compared to area of production.

Table III:

Changes of Production and Culture Areas

	Freshwater Culture			Brackishwater Culture			
	Ponds	Ex-pools	* Cages	Ponds	* Cages	Cockle	Mussels
1991							
Production (m.t)	9,566	949	574	3,379	2,130	46,625	1,563
Culture Area (ha)	4,861	644	24,613	1,631	301,777	5,674	41,023
1990							
Production (m.t)	8,268	905	516	3,045	2,055	35,932	1,582
Culture Area (ha)	4,249	641	21,413	1,552	242,971	5,542	55,455
% Changes							
Production	15.70	4.86	11.24	10.97	3.65	29.76	1.20
Culture Area	14.40	0.47	14.94	5.09	24.20	2.38	-26.02

* Culture area for cages is in meter square.

- 6.5 Production of freshwater ponds increased by 15.70% as against an increase of 14.40% of culture area. Culture area for ex-mining ponds went up by only 0.47% resulting in an increase in production of 4.86%. The increase in the area of freshwater cages by 14.94% could possibly explain the improvement in production by 11.24%. The same trend could be noticed for brackishwater culture. Pond production increased by 10.97% as against an increase of pond area by 5.09%. However, production from cages only crept up by 3.65% even though the culture area went up by 24.20%. Cockle harvest went up by 29.76% this year with an increase of 2.38% in culture area. However production of mussels declined by 1.20% and there was a decline of area by 26.02% recorded in 1991.

7. Ornamental Fish

- 7.1 Production of ornamental fishes came mainly from Penang, Perak, Selangor, Malacca, Johor and also some from N.Sembilan. The total production for 1991 was recorded at 88,584,841 pieces valued at \$14.5 million. This represents an increase of production by 26.48% as compared to 1990 (70,037,369 pieces). Malacca showed good performance, increasing by 410.34%, with Perak and Johore moving up by 39.47% and 28.85% respectively. Production from Selangor remained at the same rate. However, production from Penang declined by 15.09% this year.
- 7.2 The production value went up by 61.09% from \$9.0 million to \$14.5 million. As the production increased for Perak, Malacca and Johore, the production value also increased by 242.92%, 298.96% and 38.64% respectively. However, the production value decreased by 18.47% for Selangor in spite of maintaining its production at about the same level. On the other hand the production value for Penang increased by 163.14% in spite of a decline in production due to the production of higher priced species.