Kedudukan Sektor Perikanan di Malaysia Dari Tahun 1988 dan 1989

1. MAKLUMAT LATARBELAKANG

1.1 Industri perikanan memainkan peranan yang penting dalam ekonomi negara. Ia menyumbangkan lebih kurang 2% kepada Keluaran Dalam Negeri Kasar (KDNK) sejak 10 tahun yang lalu. Dari segi pemakanan, industri perikanan menyumbang 60% keperluan protin negara. Selain daripada itu, industri ini menyumbangkan peluang pekerjaan secara langsung kira- kira 1.7% daripada keseluruhan tenaga kerja negara. Eksport komoditi perikanan pula menambahkan pertukaran wang asing negara.

1.2 Kerajaan sedang mengambil tindakan intensif terhadap pengurusan sumber melalui langkah-langkah seperti Pengawaseliaan (Monitoring), Pengawalan (Control) dan Pengesanan (Surveillance), penubuhan Taman Laut dan Rizab Laut dan pembinaan tukun tiruan.

1.3 Sektor perikanan dibahagikan kepada 3 sub-sektor iaitu perikanan pantai, perikanan laut dalam dan ternakair. Perikanan pantai meliputi perairan pantai sehingga 12 batu notika, manakala perikanan laut dalam meliputi perairan yang melebihi 12 batu notika sehingga had luar ZEE. Ternakair melingkungi semua aktiviti-aktiviti ternakan kolam/sangkar, ternakan ikan/udang, pengutipan kerang dari kawasan semulajadi dan kawasan ternakan, penangkapan ikan dan udang diperairan umum dan juga bekas-bekas kolam lombong.

1.4 Perikanan laut dalam telah berkembang dengan maju semenjak beberapa tahun ini. Kerajaan telah banyak memberi insentif dan galakan supaya sub-sektor ini boleh menambahkan sumbangannya kepada bekalan ikan. Setakat ini sumbangan dari aspek ini telah bertambah baik. Pengawasan prestasi sektor ini menunjukkan pulangan yang baik. Kerajaan akan terus berusaha untuk mengawasi perikanan laut bagi maksud pengurusan dan perancangan.

1.5 Industri ternakair juga menunjukkan perkembangan yang baik terutamanya perkembangan ternakan spesies-spesies airpayau. Kerajaan juga memberi insentif-insentif dan perkhidmatan sokongan melalui aktiviti penyelidikan, pengembangan dan latihan. Sebuah pusat penyelidikan penetasan dan pengeluaran benih udang negara telah ditubuhkan di Pulau Sayak, Kedah dimana temuan-temuan seperti "eye-stalking ablation" untuk ternakan anak udang telah berjaya dilaksanakan.

2. GUNATENAGA

2.1 Pada keseluruhannya terdapat 93,545 nelayan dan 16,065 penternak dalam tahun 1989, iaitu berjumlah 109,610 berbanding dengan 103,280 dalam tahun 1988 (penambahan 6.1%).

2.2 Di Semenanjung Malaysia, bilangan nelayan bertambah sebanyak 4,297 orang ke 62,580 orang (7.4%). Penambahan ini adalah terutamanya untuk pukat hanyut (14.5%), pukat tunda (5.7%), dan pukat jerut ikan (4.4%). Kenaikan bagi pukat hanyut adalah kerana keputusan kerajaan untuk mengeluarkan lesen- lesen kepada pengusaha kecil yang menggunakan bot-bot berinjin sangkut.

2.3 Bilangan nelayan di Sarawak berkurangan sedikit (1.8%) kepada 12,358 orang. Kekurangan ini berlaku terutama digolongan perkakas tradisional, manakala sebaliknya bilangan bertambah bagi pukat tunda sebanyak 1,429 (43.1%) kerana perkembangan industri laut dalam.

2.4 Di Sabah pula terdapat penambahan sebanyak 2.9% kepada sejumlah 18,250 nelayan. Kenaikan ini adalah untuk pukat tunda manakala untuk perkakas lain bilangannya tidak berubah dengan nyata.

2.5 Mengikut kaum, nelayan Cina yang merupakan 36% dari jumlah, masih tertumpu di pantai barat Semenanjung Malaysia. Sebaliknya nelayan Melayu pula (57.4%) kekal di pantai timur Semenanjung Malaysia. Nelayan Thai berkelompok di negeri-negeri sempadan iaitu Perlis,Kelantan dan Kedah dan merebak ke negeri Pahang dan Johor Timur akibat perkembangan industri laut dalam di negeri-negeri ini. Diperhatikan juga bahawa bilangan nelayan Thai berkurangan sebanyak 10%. Penglibatan mereka adalah sebagai pekerja mahir di bot-bot laut dalam. Pengurangan mereka menunjukkan bahawa dasar-dasar kerajaan untuk akhirnya mengganti mereka dengan pekerja tempatan secara berperingkat-peringkat sedang dicapai.

2.6 Dengan bertambahnya jumlah penternak sebanyak 5,938 (5.7%) kepada 15,673 orang, industri ternakair telah berkembang dengan baik. Bilangan penternak di Semenanjung Malaysia bertambah 7.8% kepada 10,760 orang. Pertambahan yang tertinggi berlaku dinegeri Johor Barat (34.0%), Melaka (30.4%), Kelantan (26.3%) dan Perak (22.6%). Negeri-negeri lain seperti Kedah dan Terengganu berkembang dengan sederhana iaitu masing-masing sebanyak 11.62% dan 5.3%. Sebaliknya bilangan penternak jatuh bagi negeri-negeri Perlis (19.6%), Pulau Pinang (27.7%), Selangor (14.3%), Johor Timur (2.7%), dan Pahang (17.3%). Walau bagaimanapun, pengurangan tenaga kerja di negeri-negeri seperti Pahang dan Johor Timur tidak mempengaruhi pengeluaran kerana terdapat ladang yang beroperasi secara skel dagangan.

2.7 Guna tenaga disektor ternakair di Sabah dan Sarawak juga bertambah sebanyak 21.86% dan 11.16% kepada 3,904 untuk Sabah dan 1,009 untuk Sarawak. Seperti tahun-tahun yang lalu industri ternakair di Labuan masih belum mula berkembang.

3. BOT-BOT MENANGKAP IKAN

3.1 Jumlah bot menangkap ikan yang dilesenkan di Malaysia menurun sejak 1984 dari 41,079 unit kepada 37,802 unit pada 1988, dan akhirnya bertambah sedikit kepada 39,970 unit dalam tahun 1989. Kenaikan dalam tahun 1989 adalah kerana lesen-lesen baru dikeluarkan kepada bot-bot kecil berinjin sangkut terutama yang mengusaha pukat tradisional. Kenaikan juga disebabkan bilangan bot-bot laut dalam bertambah akibat perkembangan industri ini.

3.2 Jadual 1 menunjukkan bahawa dalam tahun-tahun yang lepas, bilangan bot bermuatan kebawah 70 GRT meleset sehingga tahun 1988 di Semenanjung Malaysia. Sebaliknya bilangan bot-bot bermuatan 70 GRT dan ke atas bertambah dari 84 unit pada 1984 sehingga 411 unit pada tahun 1989. Kejayaan ini disebabkan usaha-usaha yang gigih oleh kerajaan untuk mempastikan pertumbuhan yang pesat dalam industri laut dalam serta juga sambutan yang baik oleh pengusaha-pengusaha.

Jadual 1: Arah Aliran Bilangan Bot-bot Menangkap Ikan Yang Dilesenkan di Semenanjung Malaysia.

Tahun	Bawah 70 GRT	70 GRT dan ke atas	Jumlah
1984	25,589	84	25,673
1985	23,236	135	23,371
1986	22,321	155	22,476
1987	21,880	258	22,138
1988	21,025	316	21,341
1989	23,048	411	23,459

3.3 Di Semenanjung Malaysia terdapat kenaikan dalam bilangan bot berlesen sebanyak 2,178 unit kepada 23,459 unit dalam tahun 1989 (9.9%). Kenaikan ini adalah terutamanya bagi bot-bot berinjin sangkut yang mengusahakan perkakas tradisional.. Didapati juga bahawa penambahan yang berlaku adalah untuk negeri-negeri pantai barat seperti Kedah, Pulau Pinang, Perak dan Melaka.

3.4 Untuk Sarawak, jumlah bot-bot bertambah cuma sebanyak 135 unit kepada 7,165 unit (1.9%). Jumlah bot yang berlesen di Sabah untuk tahun 1989 berkurangan sebanyak 50 unit kepada 9,200 unit (1.0%).

3.6 Bilangan bot pukat tunda yang berlesen di Semenanjung Malaysia bertambah sebanyak 194 unit kepada 4,332 unit (2.8%). Penambahan ini adalah terutamanya untuk bot-bot bermuatan 70 GRT dan ke atas iaitu sebanyak 73 unit (44.5%). Sebaliknya bilangan bot pukat tunda ke bawah 15 GRT meleset sebanyak 104 unit. Untuk Sarawak pula, bilangan bot pukat tunda berlesen bertambah sebanyak 283 unit (40%) kepada 1,010 unit. Manakala untuk Sabah bilangan ini menurun sebanyak 10.9% (22 unit) kepada 1,800 unit.

3.7 Terdapat sejumlah 821 unit bot pukat jerut ikan berlesen dalam tahun 1989. Didapati bahawa bilangan ini menurun untuk Semenanjung Malaysia, Sabah dan Sarawak. Kekurangan ini adalah 72 unit (80%) kepada 647 unit untuk Semenanjung Malaysia, 1 unit kepada 22 unit untuk Sarawak dan 58 unit kepada 152 unit untuk Sabah. Dalam kes Semenanjung Malaysia kekurangan berlaku apabila beberapa lesen telah dibatalkan oleh kerajaan kerana kegagalan untuk mematuhi peraturan yang ditetapkan.

3.8 Bilangan bot berlesen untuk perkakas tradisional berbanding dengan tahun 1988 adalah seperti berikut:-

Perkakas	Sem. Malaysia	Sarawak	Sabah	Labuan
P.Jerut Bilis	+6(3.6%)	0	0	0
Lain-Lain P. Tarik	+83(8.8%)	+5(83.3%)	0	0
P.Hanyut	+2,176(11.6%)	+383(8.7%)	+60(2.0%)	0
P. Tangguk	- 28(3.1%)	- 25(52.1%)	0	0
Belat - Belat	- 71(17.5%)	- 68(58.6%)	0	0
Bubu	- 25(3.9%)	- 23(15.9%)	0	0
Pancing	+267(6.4%)	+4(2.4%)	+229(12.4%)	0
P.Bakul	- 252(17.5%)	- 297(29.7%)	0	0
P.Surung	+25(33.6%)	+24(83.7%)	0	0
P.Rentang	- 146(33.6%)	- 43(41.4%)	0	0
Memungut Siput	- 9(4.5%)	0	0	0
Rampaian	+3(0.2%)	- 7(35%)	- 60(4.7%)	- 35(19.3%)

3.9 Bilangan untuk Semenanjung Malaysia bertambah terutamanya untuk pukat hanyut iaitu sebanyak 2,176 unit kepada 13,147 unit (11.6%). Bilangan bot berlesen yang mengusaha pukat tangguk, bubu, memungut siput dan rampaian tidak berubah bagitu banyak hanya menurun masing-masing sebanyak 3.1%, 3.9%, 4.5% dan 0.2% kepada 156, 501, 215 dan 419. Bilangan bot-bot berlesen yang mengusaha perkakas belat dan rentang meleset masing-masing sebanyak 71 unit kepada 46 unit (17.5%) dan 146 unit kepada 87 unit (33.6%). Sebaliknya bilangan bot yang mengusaha perkakas memancing dan pukat surung naik sedikit iaitu masing-masing sebanyak 167 unit kepada 2,194 unit (6.4%) untuk memancing dan 25 unit kepada 41 unit (36.8%).

4. PERKAKAS MENANGKAP IKAN

4.1 Untuk setiap bot menangkap ikan yang beroperasi di Malaysia, dua jenis lesen dikeluarkan. Satu adalah untuk bot dan satu lagi untuk perkakas. Walau bagaimanapun, terdapat satu bot dikeluarkan lebih dari 1 lesen terutama untuk bot-bot tradisional supaya mereka boleh mengubahkan operasi mereka pada musim yang berlainan dan untuk jenis ikan berlainan. Faktor ini menyebabkan bilangan lesen bot yang dikeluarkan tidak bersamaan dengan bilangan lesen perkakas yang dikeluarkan dalam tahun yang sama. Dalam kes Sarawak, ada bot-bot yang berlesen tidak dikeluarkan lesen perkakas kerana peraturan-peraturan pentadbiran dalam pelesenan bot dan perkakas.

4.2 Untuk tahun 1989, jumlah lesen perkakas yang dikeluarkan adalah 34,257 unit iaitu mencatit penambahan sebanyak 2,985 unit (9.5%). Penambahan ini adalah 9.9% untuk Semenanjung Malaysia kepada 23,459 unit, 6.8% untuk Sarawak kepada 7,955 unit dan 16.8% untuk Sabah kepada 2,689 unit. Sebaliknya, bilangan ini menurun sebanyak 13.8% untuk Labuan kepada 156 unit.

4.3 Di Semenanjung Malaysia, penambahan yang tertinggi dicatit untuk Kedah (43.1%), Perlis (29.1%), Pulau Pinang (15.9%), Perak (16.4%) dan N.Sembilan (26.2%). Negeri-negeri lain seperti Selangor, Kelantan dan Pahang mencatat penambahan yang sederhana iaitu masing-masing 1.1%, 4.9% dan 4.8% masing-masing. Bilangan lesen perkakas menangkap ikan dikeluarkan untuk negeri Johor Barat, Terengganu dan Johor Timur meleset sebanyak 3.2%, 4.0% dan 1.6%.

4.4 Mengikut kumpulan perkakas, perubahan yang ternyata adalah untuk pukat tunda (naik 10.5%), pukat hanyut (naik 13.6%), rampaian (naik 13.4%), memungut siput (naik 8.5%), dan pukat tarik (naik 8.2%). Bilangan lesen perkakas yang dikeluarkan untuk belat menurun sebanyak 27.0% dan sebanyak 12.6% untuk pukat tangguk. Bilangan lesen yang dikeluarkan untuk perkakas lain adalah lebih kurang sama dengan pukat jerut ikan menurun sebanyak 1.05% dan yang lain-lain sebanyak 2% hingga 4%.

5. USAHA MENANGKAP IKAN

5.1 Usaha menangkap ikan adalah berkaitan dengan bilangan trip, bilangan hari dan bilangan kali memukat. Purata bilangan trip tahunan bagi pukat tunda dan pukat jerut ikan di Semenanjung Malaysia adalah masing-masing 206 trip dan 160 trip. Jumlah bilangan trip menangkap ikan di pantai timur Semenanjung Malaysia adalah lebih rendah dari pantai barat Semenanjung Malaysia kerana masalah musim tengkujuh. Bilangan trip menangkap ikan setahun untuk pukat tunda dan pukat jerut ikan di pantai barat adalah 222 trip dan 171 trip berbanding dengan 155 dan 160 trip di pantai timur.

5.2 Jumlah bilangan hari menangkap ikan di Semenanjung Malaysia adalah 253 hari untuk pukat tunda dan 212 hari untuk pukat jerut ikan. Purata bilangan hari memukat adalah lebih tinggi di pantai barat berbanding dengan pantai timur juga kerana kerumitan di musim tengkujuh. Hari menunda di pantai barat ialah 267 hari dan di pantai timur 208 hari. Manakala ianya adalah masing-masing 228 hari dan 194 hari untuk pukat jerut ikan.

6. PENDARATAN IKAN LAUT

6.1 Berbanding dengan pendaratan untuk tahun 1988, pendaratan ikan laut bertambah sebanyak 6.9% kepada 882,492 tan metrik. Pertambahan ini adalah 7.6% untuk Semenanjung Malaysia kepada 746,884 tan metrik. Manakala untuk Sarawak, kenaikan adalah sebanyak 5.9% kepada 84,356 tan metrik. Kenaikan yang ternyata adalah untuk Labuan yang berkembang sebanyak 104.9% kepada 7,252 tan metrik. Walau bagaimanapun, pendaratan di Sabah meleset sebanyak 8.3% kepada 44,000 tan metrik. Jadual 2 menunjukan pendaratan mengikut kawasan untuk 1988 dan 1989.

Jadual 2: Pendaratan Mengikut Kawasan - 1988 dan 1989

Kawasan	1988	1989	%Perubahan
Pen.Malaysia	694,449	746,884	+ 7.75%
Sarawak	79,642	84,356	+ 5.92%
Sabah	48,000	44,000	- 8.33%
Labuan	3,540	7,252	+104.86%
Malaysia	825,631	882,492	+ 6.89%

6.2 Negeri-negeri yang mencatatkan kenaikan adalah Kelantan (83.2%) kepada 32,982 tan metrik, Pulau Pinang 73.7% kepada 38,624 tan metrik, Johor Timur 13.7% kepada 77,023 tan metrik, Selangor 23.9% kepada 112,646 tan metrik, Perak 10.6% kepada 198,974 tan

metrik, Kedah 3.9% kepada 75,615 tan metrik dan Perlis 3.9% kepada 42,360 tan metrik. Pendaratan di negeri-negeri lain meleset seperti berikut, Negeri Sembilan 28.7% kepada 221 tan metrik, Melaka 19.9 % kepada 1,989 tan metrik, Johor Barat 9.0% kepada 18,905 tan metrik, Terengganu 5.6% kepada 78,815 tan metrik dan Pahang 27.7% kepada 68,730 tan metrik.

6.3 Pendaratan pukat tunda bertambah sebanyak 13.4% kepada 503,515 tan metrik, pukat tarik 33.9% kepada 19,160 tan metrik, pukat hanyut 16.4% kepada 75,366 tan metrik, pukat tangguk 107.2% kepada 13,633 tan metrik, bubu 5.1 % kepada 6,750 tan metrik dan rampaian 125.5% kepada 31,799 tan metrik. Komposisi pendaratan pukat tunda, pukat jerut ikan dan perkakas tradisional adalah masing-masing 57.1%, 14.0% dan 28.9%.

6.4 Perubahan pendaratan untuk tahun 1989 berbanding dengan tahun 1988 mengikut perkakas untuk Semenanjung Malaysia adalah seperti di Jadual 3. Perubahan-perubahan ini dibanding dengan perubahan-perubahan bilangan unit beroperasi.

Jadual 3: Perubahan Pendaratan dan Perubahan Unit Menangkap Ikan - 1989

Perkakas	% Perubahan dalam Unit Menangkap Ikan	% Perubahan dalam Pendaratan	Pendaratan t.m. 1989
P.Tunda	+2.8%	+9.48%	436,287
P.Jerut Ikan	-80.0%	-13.28%	110,612
P.Jerut Bilis	+6.0%	-13.66%	30,023
Lain-Lain P. Tarik	+8.8%	+33.86%	19,160
P.Hanyut	+11.6%	+10.23%	50,523
P. Tangguk	-3.1%	+96.66%	11,587
Belat - Belat	-17.5%	-2.01%	891
Bubu	-3.9%	+1.98%	6,202
Pancing	+6.4%	+1.22%	22,145
P.Bakul	-17.5%	-11.43%	32,072
P.Rentang	-33.6%	-6.17%	889
P.Surung	+36.8%	+0.22%	2,024
Memungut Siput	-4.5%	-48.38%	782
Rampaian	+0.2%	+165.52%	23,687
Keseluruhan	+9.9%	+7.55%	746,884

6.5 Pada kebanyakan keadaan, perubahan unit menangkap ikan mempunyai kaitan positif dengan pendaratan, kecuali untuk pukat jerut bilis, pukat tangguk dan bubu. Ini bermakna, pendaratan akan turut bertambah apabila bilangan unit bot beroperasi bertambah. Untuk pukat jerut bilis, pendaratan meleset 13.8% walaupun bilangan bot beroperasi bertambah sebanyak 6.0%. Kejadian ini secucuk dengan temuan kajian bahawa sumber bilis kita memang sedang merosot. Pendaratan untuk pukat tangguk meningkat sehingga 96.7% walaupun bilangan unit tidak berubah dengan nyata. Ini kemungkinan kerana kegunaan teknologi yang lebih baik seperti penggunaan lampu untuk mengumpul ikan. Kenaikan pendaratan oleh bubu sebanyak 2.0% berbanding kepada penurunan dalam bilangan unit beroperasi sebanyak 3.9% mungkin mencerminkan bahawa projek-projek pemulihan semula seperti tukun tiruan mula menunjuk kesan. Ini memandangkan bahawa tukun-tukun yang dibina adalah untuk ikan-ikan demersal yang ditangkap oleh bubu.

6.6 Pendaratan oleh pukat tunda, pukat tarik, pukat hanyut, pukat surung dan rampaian bertambah apabila bilangan unitnya bertambah. Sebaliknya pendaratan pukat jerut ikan, pukat bakul, pukat rentang dan memungut siput merosot apabila bilangan unit yang beroperasi menurun. Adalah penting untuk memerhati bahawa pendaratan memungut siput meleset sebanyak 48.4% walaupun usaha merosot hanya sebanyak 4.5%. Kemerosotan ini berlaku kerana kemunculan kerang/siput semulajadi berkurangan akibat keadaan cuaca dan biologikal yang tidak sesuai.

6.7 Untuk Sarawak, pendaratan pukat tunda bertambah sebanyak 41.4% berbanding kepada kenaikan 38.9% unit-unit beroperasi. Walau bagimanapun, pendaratan oleh pukat jerut ikan bertambah sebanyak 20.4% walaupun bilangan unit berlesen menurun sebanyak 4.3%. Untuk perkakas tradisional arah aliran perubahan pendaratan dan bilangan unit berlesen berkait secara positif. Apabila unit berlesen berubah sedikit (naik atau turun), aliran pendaratan berubah bersama(juga naik dan turun). Keadaan ini mencerminkan bahawa sumber di Sarawak masih boleh diterokai kepada paras optima.

6.8 Corak ini adalah serupa untuk Sabah dimana walaupun bilangan pukat tunda berlesen menurun sebanyak 10.9%, pendaratan masih bertambah sebanyak 13.7%. Pendaratan pukat jerut ikan juga meningkat walaupun terdapat kemerosotan dalam jumlah unit beroperasi.

7. AKUAKULUR

7.1 Jumlah pengeluaran dari ternakair adalah sebanyak 53,118.92 tan metrik, bertambah sebanyak 13.1% berbanding dengan 1988. Sarawak mencatat pertumbuhan yang terbesar dengan 92.4% kepada 212.28 tan metrik diikuti dengan Sabah yang bertambah sebanyak 48.3% kepada 140.48 t.m. Industri ini di Semenanjung Malaysia menikmati pertambahan sebanyak 9.2% kepada 52,766 t.m.

7.2 Prestasi baik yang dicapai adalah kerana lebih banyak tanah diguna untuk akuakultur iaitu dari cuma 4,397.56 ha kepada 5,483.37 ha. Perkembangan yang ternyata adalah untuk Sarawak iaitu sebanyak 30.7% kepada 192.37 ha. Kawasan akuakultur di Semenanjung Malaysia bertambah sebanyak 27.5% kepada 3,986.03 ha. Di Sabah, luas tanah yang terlibat dalam industri ini adalah sejumlah 1,304.97 ha iaitu meningkat 16.0%. Jadual 4 menunjukkan perubahan dalam tahun 1989 berbanding dengan tahun 1988.

Jadual 4: Bilangan Penternak, Luas Kawasan dan Pengeluaran - 1988 dan 1989 - Malaysia

Kawasan	1988			1989		
	Bilangan Penternak	* Luas Kawasan (h.a)	Pengeluaran (t.m)	Bilangan Penternak	* Luas Kawasan (h.a)	Pengeluaran (t.m)
Pen. Malaysia	12,901	3,125.00	42,397.60	15,397	3,986.03	46,306.64
Sarawak	947	47.14	110.32	1,186	192.37	212.28
Sabah	7,804	1,125.37	4,450.00	8,878	1,304.97	6,600.00
Malaysia	21,652	4,297.51	46,957.92	25,461	5,483.37	53,118.92

Luas Kawasan Tidak Termasuk Sangkar

7.3 Nilai pengeluaran akuakultur bertambah sebanyak 32.6% kepada $118 juta. Kenaikan ini kerana pengeluaran yang lebih serta pengeluaran spesis-spesis yang bernilai seperti udang harimau . Peningkatan dari segi pengeluran dan nilai menunjukkan bahawa industri ini telah berkembang bukan sahaja secara fisikal tetapi juga dari aspek teknologi dan pengurusan. Jadual 5 menunjukan perubahan dalam nilai berbanding dengan 1988.

Jadual 5: Nilai Pengeluaran Akuakultur -
1988 dan 1989 (M$'000) - Malaysia

Kawasan	1988($'000)	1989($'000)
Pen. Malaysia	$58,078.92	$ 77,959.49
Sarawak	$ 547.99	$ 1,700.46
Sabah	$31,000.00	$ 38,547.00
Malaysia	$89,626.91	$118,206.95

7.4 Industri akuakultur di Malaysia boleh dibahagikan kepada ternakan air tawar atau ternakan air payau. Ternakan- ternakan ini pula dibahagikan kepada berbagai sistem seperti kolam, kolam bekas lombong dan sangkar. Ternakan air payau juga termasuk ternakan kerang dan kupang.

7.5 Ternakan air tawar dalam kolam dan bekas lombong bertambah sebanyak 15.0% kepada 23,645 unit dimana bilangan penternak bertambah sebanyak 11.7% kepada 14,207 orang. Bersamaan ini, pengeluarannya juga bertambah 3.5% kepada 8,051 t.m, manakala nilai pengeluaran mencatat kenaikan sebanyak 18.7% kepada $45 juta. Kenaikan nilai pengeluaran disebabkan kenaikan harga ikan seperti lampan jawa ($0.58/kg), kap biasa ($0.39/kg), kap rumput ($1.43/kg) dan kap kepala besar ($1.99/kg).

7.6 Bilangan sangkar airtawar bertambah sebanyak 32 unit kepda 948 unit dan bilangan penternak pula bertambah 2.7% kepada 495. Walau bagaimanapun, pengeluaran berlipat ganda kepada 141.32 t.m. menghasilkan nilai pengeluaran empat kali ganda sebanyak $682,840. Kejayaan ternakan sangkar disebabkan teknologi, pengurusan dan pemasaran yang lebih baik.

7.7 Ternakan ikan/udang air payau turut bertambah baik. Bilangan kolam bertambah 63.8% kepada 1,816 unit melibatkan kawasan tanah seluas 1,396.77 ha. Pengeluaran meningkat 44.0% kepada 2,134.39 ha bernilai $35,271,150. Pengeluaran utama ialah udang harimau iaitu 1,961 t.m. diikuti dengan udang putih sebanyak 105.38 t.m.

7.8 Bilangan sangkar air payau bertambah 38.0% kepada 22,865 unit mengeluarkan 1,895.08 t.m. ikan (28.9%) bernilai $18,319,060. Prestasi ini dicapai oleh penternak dengan pengurusn yang lebih baik.

7.9 Ternakan kerang juga menunjuk prestasi yang baik, bertambah sebanyak 12.8% dalam pengeluaran kepada 39,346.12 t.m. bernilai $18,180,900. Begitu juga ternakan kupang yang mencatat kenaikan sebanyak 13.4% dalam pengeluaran iaitu berjumlah 1,550.76 t.m. bernilai $718,820.Jadual 6 menunjukan pengeluaran berbagai sistem ternakan dalam tahun 1988 dan 1989.

Jadual 6: Pengeluaran dan Nilai Pelbagai Sistem Ternakan, 1988 - 1989

Sistem	1988		1989	
	Pengeluaran(t.m.)	Nilai($'000)	Pengeluaran(t.m.)	Nilai($'000)
Kolam Air Tawar	7,777.28	$37,948.05	8,051.25	$ 45,034.18
Sangkar Air Tawar	52.48	$ 171.44	141.32	$ 682.84
Kolam Air Payau	1,313.90	$23,624.11	2,134.39	$ 35,271.15
Sangkar Air Payau	1,579.28	$15,876.93	1,895.08	$ 18,319.06
Kerang	34,867.00	$11,535.09	39,346.12	$ 18,180.90
Kupang	1,367.98	$ 471.29	1,550.76	$ 718.82
Jumlah	46,957.92	$89,626.90	53,118.92	$118,206.95

8.. IKAN HIASAN

8.1 Dengan iklim yang baik, Malaysia didapati sesuai untuk menternak ikan-ikan hiasan tropikal. Industri ini sebenarnya sudah wujud agak lama dan memandangkan ianya telah berkembang kepada satu tahap yang baik, Jabatan telah mula mengawasi aktibitinya. Data pengeluaran ikan hiasan mula di pungut dalam tahun 1989.

8.2 Industri ini telah mengeluarkan lebih dari 70 juta ekor ikan hiasan bernilai lebih daripada $16 juta pada 1989. Negeri-negeri yang pesat dalam industri ini adalah Perak (54.4%) diikuti dengan Johor (42.9%). Negeri-negeri lain ialah termasuk Selangor (2.3%) dan P.Pinang (0.4%). Setakat ini industri ini tidak berkembang di tempat-tempat yang lain.

THE STATUS OF FISHERIES SECTOR IN MALAYSIA 1989

1. BACKGROUND INFORMATION

1.1 The fishing industry plays important roles in the economy of the nation. It contributes to the gross Domestic Product, averaging 2% over the last ten years. It is also the main source of protein, contributing about 60% of the total protein intake. The industry provides employment to some 1.7% of the total nation's manpower. Exports of fishery commodities also provide foreign exchange to the nation.

1.2 The government is undertaking intensive resource management and conservation measures through Monitoring, Control and Surveillance, the setting up of Marine Park and Marine Reserve and construction of artificial reefs.

1.3 The fisheries sector is divided into 3 sub-sectors, namely in-shore fishery, deep sea fishery and aquaculture. The in-shore fishery covers coastal waters up to 12 nautical miles, while deep sea fishery covers waters beyond 12 nautical miles to the outer limit of EEZ. Aquaculture covers all activities of pond/cage culture, fish/prawn culture, collection of cockles from natural or artificial beds, fishing of fish and prawns in public water bodies and ex- mining ponds.

1.4 Deep sea fishing has developed very well over the last two years. The government has given incentives and encouragement for the sub-sector to increase its contribution to the supply of fish. The contribution of the sub-sector has increased reasonably . Monitoring of the performance generally indicates good returns to the operation. The government will continue to monitor the deep sea fishing for management and planning purposes.

1.5 Aquaculture has also shown tremendous progress, especially the development of brackishwater culture. The government has also provided fiscal incentives and support services. The latter is achieved through research, extension and training. The government has set up the National Prawn Fry Production and Research Centre in Pulau Sayak, Kedah; it has succeeded in eye-stalking ablation for breeding of prawn fry.

2. EMPLOYMENT

2.1 There were a total of 93,545 fishermen and 16,065 aquaculturists in 1989, giving a total of 109,610 as against 103,280 persons in 1988 (increment of 6.1%).

2.2 In Penisular Malaysia, the number of fishermen increased by 4,297 to 62,580 persons, (7.4%). The increased were mainly gill netters (14.5%), trawlers (5.7%), and purse seiners (4.4%). The increase for the gill netters was largely due to the decision of the government to issue licences to small out-board operated boats.

2.3 The number of fishermen in Sarawak showed a slight decrease of 1.8% to 12,358 persons. The reduction occured mostly in the traditional gear group, whereas for the trawlers there was an increase of 1,429 fishermen (43.1%) mainly due to the growth in the deep sea industry.

2.4 There was 2.9% increase in the number of fishermen in Sabah, to 18,250 persons. The increase was for the trawlers, whereas the number remained the same for traditional gears.

2.5 According to ethnicity, the Chinese fishermen who formed some 36% of the total, were mostly found in the west coast of Penisular Malaysia, and the Malays (57.4%) in the east coast of Penisular Malaysia. The Thai fishermen, on the other hand, worked initially in the border states of Perlis, Kelantan and Kedah; they eventually spread to Pahang and East Johore due to the expansion of the deep sea industry in these states. It was also noted that the number of Thai fishermen decreased by 10.0 %. The involvement of Thai fishermen were mainly as skilled workers operating on deep sea boats. The reduction indicated that the government's policy of gradually phasing them out has met with some success.

2.6 The total number of aquaculturists increased by 5,938 (5.7%) to 15,673 persons, indicating a healthy growth in the industry. The number of aquaculturist in Peninsular Malaysia increased 7.8% to 10,760 persons. The highest growth was recorded for West Johore (34.0%), Melaka (30.4%), Kelantan (26.3%) and Perak (22.6%). Other states like Kedah and Terengganu improved moderately by 11.62 %, and 5.3% respectively. On the other hand, the number of aquaculturist dropped for the states of Perlis (19.6%), Penang (27.7%), Selangor (14.3%), East Johore (2.7%) and Pahang (17.3%). However the reduction in manpower in some states like Pahang and East Johore does not affect the production because some of the farms were operated on a large scale basis.

2.7 The aquaculture manpower also increased in Sabah and Sarawak, that was, by 21.86% and 11.16% to 3,904 and 1,009 respectively. As in the past, aquaculture in Labuan was still insignificant.

3. FISHING BOATS

3.1 The total number of fishing boats licensed in Malaysia dropped steadily since 1984 from 41,079 to 37,802 units in 1988, and increased slightly to 39,970 in 1989. As can be seen, the increase this year was due to two reasons. Firstly, new licences were issued to small mechanised fishing units operating traditional gears mostly gill/drift nets. Secondly, the number of deep sea fishing units has increased.

3.2 Table 1 shows that over the years the number of boats of less than 70 GRT was decreasing up to 1988. The number of deep sea fishing boats (70 GRT) climbed steeply from 84 units in 1984 to 411 units in 1989. The achievement in the latter was due to the serious efforts made by the government to ensure greater growth in deep sea fishing and good response shown by the entrepreneurs.

Table 1: Trend of Number of Fishing Boats
Licenced in Peninsular Malaysia

Year	below 70 GRT	70 GRT and above	Total
1984	25,589	84	25,673
1985	23,236	135	23,371
1986	22,321	155	22,476
1987	21,880	258	22,138
1988	21,025	316	21,341
1989	23,048	411	23,459

3.3 Comparing the number of boats licensed in 1989 and 1988, there was an increase of 2,178 units to 23,459 unit for Peninsular Malaysia (9.9%). The increase was mainly for outboard-powered boats operating traditional gears. The increase was mainly in the west coast states such as Kedah, Penang, Perak and Melaka.

3.4 For Sarawak, the total number of boats increased by only 135 units to 7,165 units (1.9%). The total number of boats licensed in Sabah for 1989 decreased by 50 units to 9,200 units (1.0%).

3.5 The number of boats licenced in Peninsular Malaysia for trawlers increased marginally in 1989 by 2.8% or 194 units to 4,332 units. The increase was mainly for boats of higher tonnage particularly for 70 GRT and above, that is by 44.5% (73 units). On the other hand, trawlers below 15GRT showed a decrease by 104 units. The number of trawlers licenced in Sarawak increased by nearly 40% (283 units) to 1,010 units and decreased by 10.9% (22 units) to 1,800 units in Sabah.

3.6 There were 821 units of purse seiners licensed in 1989, with a reduction of 72 units (80%) to 647 for Peninsular Malaysia, 1 unit to 22 units for Sarawak and 58 units to 152 units for Sabah. In the case of Peninsular Malaysia, some of the licences were revoked by the government for failing to comply with the regulations stipulated.

3.7 The number of boats licensed for traditional gears as compared to 1988 changed as follows:

Gears	Pen. Malaysia	Sarawak	Sabah	Labuan
Ach.P.Seine	+6(3.6%)	0	0	0
Other Seine	+83(8,8%)	+5(83.3%)	0	0
Gill/Drift Net	+2,176(11.6%)	+383(8.7%)	+60(2.0%)	0
Lift Net	- 28(3.1%)	- 25(52.1%)	0	0
Stationery Traps	- 71(17.5%)	- 68(58.6%)	0	0
Portable Traps	- 25(3.9%)	- 23(15.9%)	0	0
Hooks & Lines	+267(6.4%)	+4(2.4%)	+229(12.4%)	0
Bag Nets	- 252(17.5%)	- 297(29.7%)	0	0
Scoop Nets	+25(33.6%)	+24(83.7%)	0	0
Barrier Nets	- 146(33.6%)	- 43(41.4%)	0	0
Shellfish Collection	- 9(4.5%)	0	0	0
Miscellaneous	+3(0.2%)	- 7(35%)	- 60(4.7%)	- 35(19.3%)

3.8 The numbers for Peninsular Malaysia increased mainly for gill/drift nets that is by 2,176 units to 13,147 units (11.6%). The number of boats operating lift nets, portable traps, shell fish collection, and miscellanous gears stabilised, dropped by 3.1%, 3.9%, 4.5% and 0.2% to 156, 501, 215 and 419 respectively for Peninsular Malaysia. There was a significant dropped in the number of boats operating stationary traps and barrier nets i.e by 71 units (17.5%) and 146 units (336%) to 46 units and 87 units respectively. However the number of boats operating hook and lines and scoop nets increased slightly by 267 units (6.4%) and 25 units (36.8%) to 2194 units and 41 units respectively.

4. FISHING GEARS

4.1 For each fishing boat operating in Malaysia, two licences were issued, one for the boat and the other for the gear. Normally, each boat will be issued with one boat licence and one gear licence. However, at times one boat will be issued two gear licences especially for traditional boats to enable them to diversify their fishing at different seasons and for different species. This explained why the number of boats licences issued never tallied with the number of gear licences issued in the same year. In the case of Sarawak, some gears are not licensed due to administrative arrangement regarding the authorities licensing the fishing boat and gear.

4.2 For 1989, the total number of gear licences issued was 34,257,recording an increase of 2,985 units (9.5%). The increment was 9.9% for Penisular Malaysia to 23,459 units, 6.8 % for Sarawak to 7,955 units and 16.8 % for Sabah to 2,687 units. On the other hand, the number dropped by 13.8% for Labuan to 156 units.

4.3 In Penisular Malaysia, the highest increase recorded was for Kedah (43.1%), Perlis (29.1%), Penang (15.9%), Perak (16.4%) and Negeri Sembilan (26.2%). The other states like Selangor, Kelantan and Pahang recorded a marginal increase of only 1.1%, 4.9% and 4.8% respectively. The number of gear licences issued for the states of West Johore, Terengganu and East Johore dipped by 3.2%, 4.0% and 1.6% respectively.

4.4 By gear type, the most significant changes were for trawlers (up 10.5%), gill/drift nets (up 13.6%), miscellaneous gears (up 13.4%) , shellfish (up 8.5%) and other Seine Nets (up 8.2%). The number of gear licences issued for stationary traps decreased by 27.0% and for lift nets by 12.6%. The number of licenses issued for the other gears remained almost the same with purse seine decreasing by only 1.05% and the rest by 2 to 4 %.

5. FISHING EFFORTS

Fishing efforts relate to the number of trips, number of days and number of hauls. The annual average fishing trips for trawlers and fish purse seiners in Penisular Malaysia was 206 trips and 160 trips respectively. The total number of fishing trips in the east coast Penisular Malaysia was lower than those in the west coast mainly because of the monsoon. The number of fishing trips per year for trawlers and fish purse seiners in the west coast were 222 trips and 171 trips as compared to 155 and 160 trips in the east coast respectively.

5.2 The total number of fishing days in Penisular Malaysia were 253 days for trawlers and 212 days for fish purse seiners. The average fishing days were higher in the west coast as compared to the east coast which is also due to the monsoon period. Trawling in the west coast was 267 days and in the east coast 208 days, while purse seining was 228 days and 194 respectively.

6. LANDINGS OF MARINE FISH

6.1 Comparing the landings for 1988 and 1989, the total marine capture fisheries landings increased to 882,492 m.t by 6.9%. The increase was 7.6% for Peninsular Malaysia to 746,884 m.t. whereas for Sarawak, the increased was 5.9% to 84,356 m.t. The most significant increase was for Labuan which registered a growth of 104.9% increasing to 7,252 m.t. However the catches in Sabah dipped a little by 8.3% reducing by 4,000 metric tonnes to 44,000 m.t. Table 2 showed the landings according to regions for 1988 and 1989.

Table 2: Landings by Area - 1988 and 1989

Area	1988	1989	%Change
Pen.Malaysia	694,449	746,884	+ 7.75%
Sarawak	79,642	84,356	+ 5.92%
Sabah	48,000	44,000	- 8.33%
Labuan	3,540	7,252	+104.86%
Malaysia	825,631	882,492	+ 6.89%

6.2 The states which showed the increase in their catches were Kelantan by (83.2%), to 32,982 m.t., Penang by 73.7% to 38,624 m.t., East Johore by 13.7% to 77,023 m.t., Selangor by 23.9% to 112,646 m.t., Perak by 10.5 % to 198,974 m.t., Kedah by 3.9% to 75,615 m.t. and Perlis by 4.0% to 42,360 m.t. The states of Negeri Sembilan, Melaka, West Johore, Terengganu and Pahang registered a decline in catches by 28.7% to 221 m.t., 19.9 % to 1,989 m.t., 9.0% to 18,905 m.t., 5.6% to 78,815 m.t. and 27.7% to 68,730 m.t. respectively.

6.3 Trawl Catches increased 13.4% to 503,515 m.t., seine nets other than purse seine and anchory seine increased 33.9% to 19,160 m.t., gill/drift nets 16.4% to 75,366 m.t., lift nets 107.2% to 13,633 m.t., portable traps 5.06% to 6,750 m.t and miscellenous gears 125.5% to 31,799 m.t. The catch compositions of the trawlers, fish purse seine nets and traditional gears were 57.1%, 14.0% and 28.9% respectively.

6.4 The changes in catches for 1989 as compared to 1988 by gear types for Peninsular Malaysia were shown in Table 3. These changes were compared against changes in the number of fishing units operating the respective gears.

Table 3: Changes in Catches and Fishing Units - 1989

Gears	% Change in Fishing Units	% Change in Catches	Catch m.t. 1989
Trawlers	+2.8%	+9.48%	436,287
Fish P.Seine	-80.0%	-13.28%	110,612
Ach.P.Seine	+6.0%	-13.66%	30,023
Other Seine	+8.8%	+33.86%	19,160
Gill/Drift Net	+11.6%	+10.23%	50,523
Lift Net	-3.1%	+96.66%	11,587
Stationery Traps	-17.5%	-2.01%	891
Portable Traps	-3.9%	+1.98%	6,202
Hooks & Lines	+6.4%	+1.22%	22,145
Bag Nets	-17.5%	-11.43%	32,072
Barrier Nets	-33.6%	-6.17%	889
Push Nets	+36.8%	+0.22%	2,024
Shellfish	-4.5%	-48.38%	782
Miscellaneous	+0.2%	+165.52%	23,687
Overall	+9.9%	+7.55%	746,884

6.5 As can be seen from the table, the changed in fishing units correlated positively with the changed in catches for most gears except for anchovy purse seines, lift nets and portable traps. For anchovy purse seines, the catches decreased 13.8% even though the number of boats operating the gear increased 6.0%. The trend is in line with the findings that the anchovy resources have been overexploited to some extent. As for lift nets, the catches (even though not significant) shot up by 96.7% although the number of fishing units remained more or less the same. This could probably be due to better technology such as using spotlights to aggregate the fishes. The better performance of portable traps by 2.0% against a reduction of the fishing units by 3.9% could indicate that rehabilitation projects undertaken, like the development of artificial reefs, was begining to see results. This is in view that the reefs created were mostly for demersal coral fishes which formed the main catches of portable traps.

6.6 Catches of trawlers, other seine nets, gill/drift nets, hook & lines, push nets and miscellenous, increased as compared against the increase of the respective fishing units. On the other hand the catches of fish purse-seines, bag-nets, barrier nets and shellfish collection decreased corresponding with the reduction of the respective fishing units. It is important to note that shellfish collection reduced by as much as 48.4% even though the efforts went down by only 4.5%. This drop was unfortunately due to poor occurence of natural spatfalls as the result of unfavorable climatic and biological conditions.

6.7 As for Sarawak, the trawl landings increased by 41.4% against an increase of 38.9% in the fishing units. However landings by purse seiners enjoyed an increase of 20.4% against a reduction of only 4.3% in fishing units. For the traditional gears, the trend of landings and number of fishing units correlated positively. As the number of fishing efforts stabilised, the catches adjusted accordingly. This could indicate that the resources in Sarawak was yet to be exploited to the maximum.

6.8 The same goes for Sabah where even though the number of trawlers reduced by 10.9%, the landings still increased by 13.7%. The landings by purse seiners also increased inspite the significant reduction in the fishing units.

7. AQUACULTURE

7.1 The total production from aquaculture was 53,118.92 m.t., an increase of 13.1% over 1988. Sarawak registered the most growth in production by 92.4% to 212.28 m.t, followed by Sabah with a growth of 48.3% to 140.48 m.t. The industry in Peninsular Malaysia enjoyed an increase of 9.2%, in production to 52,766.16 m.t.

7.2 The improvement was brought about mainly due to more land being utilised for aquaculture, from 4,397.56 ha to 5,483.37 ha. The expansion in land area was highest in Sarawak, that is by 30.7% to 192.37 ha. The aquaculture land area in Peninsular Malaysia grew by 27.5% to 3,986.03 ha. In Sabah the total land used for aquaculture was 1,304.97 ha., increased by 16.0%. Table 4 shows the changes in number of culturists, area, and production in 1989 as compared to 1988.

Table 4 : Number of Culturist, Land Area and Production - 1988 and 1989 - Malaysia

Area	1988			1989		
	Number Culturist	* Area (ha..)	Production (m.t.)	Number Culturist	* Area (ha.)	Production (m.t.)
Pen.Malaysia	12,901	3,125.00	42,397.60	15,397	3,986.03	46,306.64
Sarawak	947	47.14	110.32	1,186	192.37	212.28
Sabah	7,804	1,125.37	4,450.00	8,878	1,304.97	6,600.00
Malaysia	21,652	4,397.56	46,957.92	25,461	5,483.37	53,118.92

* Area does not include cages.

7.3 The value of aquaculture production increased 32.6% to $118 million. The increase was due to increased production and more high-valued species being produced, like marine prawns. The improvement in volume and price suggests that the industry had grown not only physically but also from the aspects of technology and management. Table 5 shows the changes in value of aquaculture production in 1989 as compared to 1988.

Table 5: Production value of Aquaculture-
1988 and 1989 (M$'000)-Malaysia

Area	1988($'000)	1989($'000)
Pen. Malaysia	$58,078.92	$ 77,959.49
Sarawak	$ 547.99	$ 1,700.46
Sabah	$31,000.00	$ 38,547.00
Malaysia	$89,626.91	$118,206.95

7.4 The aquaculture industry in Malaysia can be divided into Freshwater or Brackish water culture. These cultures can be further divided into various systems like ponds, ex-mining ponds and cages. Brackish water culture also includes cockle and mussel cultures.

7.5 Freshwater culture in ponds and ex-mining ponds increased 15.0 % to 23,645 units in terms of numbers, and 11.7% to 14,207 persons in terms of culturists. Likewise, the production increased 3.5% to 8,051.25 m.t., and the value increased 18.7% to $45 million. The increase in value was made possible with the increase in the prices of some fishes like Javanese Carp ($0.58/kg), Common Carp ($0.39/kg), grass carp ($1.43/kg), and big head carp ($1.99/kg).

7.6 The number of fresh water cages increased by 32 units to 948 units and the number of culturists increased 2.7% to 495. However, the production doubled to 141.32 metric tonnes enjoying a four fold increase in value at $682,840. The success of the cage culture could be contributed to the technological improvement, better management and marketing.

7.7 The fish/prawn brackish water pond culture did equally well, registering an encouraging growth. The number of ponds increased 63.8% to 1,816 units on a total area of 1,396.77 ha. The production went up 44.0% to 2,134.39 m.t. at a value of $35,271,150. The main production was tiger prawn at 1,961.78 m.t., and banana prawn at 105.38 m.t.

7.8 The number of brackishwater cages increased 38.0% to 22,865 units, producings 1,895.08 m.t. of fish (an increase of 28.9%). The value was $ 18,319,060. The better production could be contributed by the culturists practising better management.

7.9 The cockle culture also improved with a growth of 12.8% in production at 39,346.12 m.t., valued at $18,180,900. Similarly the mussel culture also recorded an increase of 13.4% in production, at 1,550.76 m.t, valued at $718,820.

Table 6: Productions and value of Various Culture Systems, 1988 - 1989

Systems	1988		1989	
	Prod(m.t.)	Value($'000)	Prod(m.t.)	Value($'000)
Freshwater Pond	7,777.28	$37,948.05	8,051.25	$ 45,034.18
Freshwater Cages	52.48	$ 171.44	141.32	$ 682.84
Brackishwater Pond	1,313.90	$23,624.11	2,134.39	$ 35,271.15
Brackishwater Cages	1,579.28	$15,876.93	1,895.08	$ 18,319.06
Cockle	34,867.00	$11,535.09	39,346.12	$ 18,180.90
Mussel	1,367.98	$ 471.29	1,550.76	$ 718.82
Total	46,957.92	$89,626.90	53,118.92	$118,206.95

8. ORNAMENTAL FISH

8.1 With suitable climatic conditions, Malaysia is a suitable place for tropical ornamental fish culture. This industry was in fact quite extablish howeever due to it's recent favourable expansion, their production was monitored in early 1989.

8.2 On the whole the industry produced more than 70 million ornamental fishes valued at more than $16 million in 1989. States which were actively involved were Perak (54.4%) followed by Johore (42.9%). Other states included Selangor (2.3%) and Penang (0.4%). Productions in the rest of the states were still insignificant.