

The 1998 production and status of aquaculture in South Africa

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Abstract

The total South African aquacultural production for 1998 was 5301 t with a total value of ZAR 228.986 m. (US\$ 38.167 m.). The major attributer to this income was the koi carp industry (ZAR 135 m.) and the rainbow trout industry (ZAR 24.75 m.). The abalone industry has now moved into a commercial production phase with the production of 22 t at a value of ZAR 5.94 m. This should increase exponentially within the next number of years as more and more farms become fully operational.

Globally there has been a 7.4% increase in the world sea catch during the period 1993 (84 468 000 t) to 1997 (93 329 000 t). Africa has produced 5 703 483 t of fish during 1997, of this catch 8.93% (509 390 t) is by South African industries (FAO, 1997a). During the same period, there has been a 32% increase in tonnage of world aquaculture production in inland and marine waters (1993: 24 537 643 t; 1997: 36 050 168 t). On a monetary scale this is equivalent to a 28% increase (1993: US\$ 36 468 716 000; 1997: US\$ 50 369 096 000). In 1997, Africa as a whole produced 0.34% (121 905 t; US\$ 321 589 000) of the world's aquaculture production (FAO, 1997b). Asia was the major producer (90.9%).

Despite its small size, the local South African inland and marine aquaculture is growing rapidly and now produces 5 301 t (Table 1 and 2) with a monetary value of ZAR 228.986 m. (US\$ 38.167 m.). This is a significant increase from the ZAR 71 m. of 1997.

Freshwater species that have shown a rapid increase in production throughout Southern Africa are the tilapia species. Since 1997, commercial projects have been established in Namibia, Zambia, Botswana, Zimbabwe and Swaziland producing approximately 600 t. Within South Africa, commercial projects have been established in the Northern and Western Cape Provinces, Mpumalanga, Northern Province and KwaZulu-Natal that has resulted in a 1998 production of 45 t. It is expected that the production of these species will develop at a faster rate since the acknowledgement of tilapias' potential by the Industrial Development Co-operation early in 1999.

After stabilising at an annual production of $\pm 1\ 000$ t during the mid-nineties (Table 2) the rainbow trout production has since increased to the current level of 1 650 t. The increase is mainly attributed to the growth of the sport fishery in Mpumalanga, KwaZulu-Natal and the Eastern Cape Provinces and the establishment of small cage-farming enterprises and modern processing facilities in the Western Cape Province. A further major increase can be expected when the envisaged Lesotho Highlands Water cage-farming projects are initiated. Due to the large-scale production potential of this water body, caution needs to be exercised in

its establishment, so as to ensure that market stability is maintained as it is debatable whether the South African consumer market alone will be able to absorb this sudden increased production. The exports of eyed ova have stabilised at levels of 35 m./a.

Of the other freshwater fish species suitable for human consumption, the African catfish *Clarias gariepinus* seems to be enjoying revived attention with a 1998 production of 40 t compared to 15 t in 1996. However this is still far below the levels of 1991 (1 150 t), whereafter a rapid decline in the production of this species was experienced due to marketing constraints.

The smaller tropical ornamental fish industry is still showing a steady increase in production and had an estimated value of ZAR 7.5 m. in 1998. Hobbyists are still making a meaningful contribution ($\pm 1/3$) whilst commercial producers are responsible for most of the growth in this sector. Goldfish *Carassius auratus* and koi carp have shown a strong growth since 1996 which is mainly attributed to the introduction of large commercial farms aimed at replacement of imports and leading onto export markets. Presently, the goldfish industry is valued at ZAR 15.6 m. and the koi carp at ZAR 135 m. The latter sectors have achieved international recognition as regarding their quality and disease status.

Abalone industry has now moved into a commercial production phase with the production of 22 t at a value of ZAR 5.94 m. This production should increase exponentially within the next few years as more and more farms become fully operational. It is estimated that once all the farms are fully operational, a tonnage in excess of 800 t will be produced. Sea ranching as a production method has also recently been introduced in the north west coast at Port Nolloth.

A number of marine fish species (e.g. spotted grunter *Pomadasys commersonnii*, red roman, cob and carpenter) are currently being evaluated as candidate species suitable for commercial production.

Production of oyster and mussel has stabilised at 450 to 500 t and 2 600 to 2 800 t respectively (Tables 1 and 2). Market development will be a key factor in the future expansion of these sectors. The development of the commercial production in Namibia will also have an influence on the expansion of these sectors in South Africa.

Production of shrimp farming in KwaZulu-Natal has stabilised at 90 to 100 t and future growth seems to be towards the Mozambique coastal regions due to more favourable conditions.

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| TABLE 1 SOUTH AFRICAN AQUACULTURE STATISTICS FOR 1998 | | | | |
|--|-----------------|------------------|---------------|--------------|
| Species item | Common name | Metric tons 1998 | Value US\$/kg | Value ZAR/kg |
| Freshwater | | | | |
| <i>Aponogeton distachyos</i> | Water-hawthorne | 120 | 2.25 | 13.5 |
| <i>Carassius auratus</i> | Goldfish | 13 | 200 | 1200 |
| <i>Cherax tenuimanus</i> | Crawfish | 4 | 12.5 | 75 |
| <i>Clarias gariepinus</i> | African catfish | 40 | 2 | 12 |
| <i>Cyprinus carpio</i> | Carp | 45 | 2 | 12 |
| Koi carp (<i>C. carpio</i>) | Koi carp | 75 | 300 | 1800 |
| <i>Labeo</i> spp. | Labeo | 10 | 2.2 | 13 |
| <i>Micropterus salmoides</i> | Bass | 5 | 3 | 18 |
| <i>Mugilidae</i> | Mullet | 12 | 2.5 | 15 |
| <i>Oncorhynchus mykiss</i> | Rainbow trout | 1650 | 2.5 | 15 |
| <i>Oreochromis mossambicus</i> | Tilapia | 45 | 2.2 | 13 |
| <i>Oreochromis</i> spp. | Tilapia spp | 25 | 2.2 | 13 |
| Ornamental fish various | Ornamental | 5 | 250 | 1500 |
| <i>Penaeus indicus</i> | Shrimps | 85 | 10 | 60 |
| <i>Penaeus japonicus</i> | Shrimps | 4 | 10 | 60 |
| Marine | | | | |
| <i>Crassostrea gigas</i> | Oysters | 475 | 5 | 30 |
| <i>Gracilaria</i> spp. | Sea weed | 16 | 4.75 | 28.5 |
| <i>Haliotis midae</i> | Abalone | 22 | 45 | 270 |
| <i>Mytilus galloprovincialis</i> | Mussels | 2650 | 1 | 6 |

| TABLE 2 SOUTH AFRICAN AQUACULTURE PRODUCTION AND PRODUCTION VALUES, 1993 TO 1997 (SWART AND KING, 1999) | | | | | | |
|---|---------------------------|---------|---------|---------|---------|--------------------------|
| Species | Production in metric tons | | | | | Production value (xR000) |
| | 1993 | 1994 | 1995 | 1996 | 1997 | 1997 |
| Rainbow trout | 1 020 | 1 020 | 770 | 790 | 1 050 | 14 175 |
| Catfish | 50 | 50 | 10 | 20 | 35 | 280 |
| Ornamental | 1.0 m* | 1.5 m* | 2.0 m* | 3.5 m* | 5.3 m* | 20 000 |
| Tilapia | 60 | 60 | 25 | 15 | 20 | 200 |
| Carp | 22 | 22 | 30 | 12 | 35 | 280 |
| Other fish | 5 | 4 | 10 | 12 | 15 | 150 |
| Crocodiles | 800** | 1 500** | 2 500** | 5 000** | 8 700** | 8 700 |
| Freshwater crayfish | 1 | 2 | 1 | 2 | 1 | 70 |
| Waterhawthorne | 300 | 300 | 310 | 320 | 85 | 850 |
| Mussels | 2 345 | 2 700 | 2 256 | 2 088 | 2500 | 11 250 |
| Oysters | 480 | 520 | 339 | 339 | 450 | 9 765 |
| Abalone | 1 | 2 | 1 | 7 | 10 | 2 000 |
| Prawns | 39 | 51 | 86 | 86 | 70 | 3 080 |
| Seaweed | - | - | 4 | 8 | 10 | 200 |
| Total tonnage and ex farm value: 1997 | | | | | 4 281 | 71 000 |
| * x number or fish in millions | | | | | | |
| ** x number of skins | | | | | | |

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