

# RESEARCH REPORTS IN THE ECONOMICS OF GIANT CLAM MARICULTURE

**Working Paper No. 8**

**Report on Possible Demand for Giant Clam  
Meat by Tongan Descendants in Australia:  
Inferences from Interviews Conducted in the  
Brisbane Area**

by

**Clem Tisdell and Rene Wittenberg**

**February 1990**



ISSN 1034-4294

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Conducted in the Brisbane Area<sup>1</sup>**

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**Clem Tisdell<sup>2</sup>**

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<sup>1</sup> Research for this paper has been supported by Australian Centre for International Agricultural Research (ACIAR) Project No. 8823, "Economics of Giant Clam Mariculture" and by a grant from the Research Corporation of the University of Hawaii, on behalf of the Center for Tropical and Subtropical Aquaculture, Hawaii (U.S. Department of Agriculture, CSRS Grant #88-38500-3884) as part of the project, "A Market Study of Pacific Giant Clam Products", co-ordinated by Professor Yung C. Shang, Department of Agriculture and Resource Economics, University of Hawaii.

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*RESEARCH REPORTS AND PAPERS IN ECONOMICS OF GIANT CLAM MARICULTURE* are published by the Department of Economics, University of Queensland, St Lucia, Queensland 4067, Australia, as part of Australian Centre for International Agricultural Research Project 8823 of which Professor Clem Tisdell is the Project Leader. Views expressed in these reports and papers are those of their authors and not necessarily of any of the organizations associated with the Project. They should not be reproduced in whole or in part without the written permission of the Project Leader. It is planned to publish contributions to the series over the next 3 - 4 years.

Research for the project *Economics of Giant Clam Mariculture* (Project 8823) is sponsored by the Australian Centre for International Agricultural Research (ACIAR), G.P.O. Box 1571, Canberra, A.C.T. 2601, Australia. The following is a brief outline of the Project:

The technical feasibility of culturing giant clams for food and for restocking tropical reefs was established in an earlier ACIAR project. This project is studying the economics of giant clam mariculture, to determine the potential for an industry. Researchers will evaluate international trade statistics on giant clams, establish whether there is a substantial market for them and where the major overseas markets would be. They will determine the industry prospects for Australia, New Zealand and South Pacific countries, and which countries have property right factors that are most favourable for commercial-scale giant clam mariculture. Estimates will be made of production/cost functions intrinsic in both the nursery and growth phases of clam mariculture, with special attention to such factors as economies of scale and sensitivity of production levels to market prices.

Commissioned Organization: University of Queensland.

Collaborators: James Cook University, Townsville, Queensland; South Pacific Trade Commission, Australia; Ministry of Primary Industries, Fiji; Ministry of Natural Resources and Development, Kiribati; Silliman University, Philippines; Ministry of Agriculture, Fisheries and Forests, Tonga; Forum Fisheries Agency, South Pacific; ICLARM, Manila, Philippines.

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# **Report on Possible Demand for Giant Clam Meat by Tongan Descendants in Australia: Inferences from Interviews Conducted in the Brisbane Area**

## **ABSTRACT**

The giant clam has been a traditional source of food among Pacific Islanders. Thus migrants and their descendants from these nations living in Australia might still want to maintain giant clam meat as part of their diet. Members of the Tongan community in Brisbane were interviewed in December 1989 and January 1990 in order to find out if this hypothesis holds. Information was collected in order to determine the size of the Tongan community in Australia, what quantities of clam meat they are prepared to buy at, what prices and the type of product they are looking for. Although the Tongan community is relatively small in Australia (about 10,000 – 15,000 persons) it could represent a substantial market because of the quantities of clam meat Tongan families plan to purchase (1 – 4 kg/week per family) even at relatively high prices (AUS\$5 – 12/kg). More importantly however, Tongans are prepared to buy the meat of the whole clam and not just the adductor muscle. In the past the adductor muscle has been the focus for meat marketing. But the value of the meat of a whole clam may be greater than for the adductor muscle alone, even though the price of the meat of the whole clam is moderate compared to that of the adductor muscle. Tongans in combination with other Pacific Islander communities (if the latter have similar consumption pattern as appears likely) could turn out to be a very profitable market for giant clam industry in Australia, and may provide scope for imports from the Pacific Islands themselves.

**Keywords:** Giant clam industry, market for giant clam meat in Australia, Pacific Island communities, Tonga,

**JEL Classifications:** Q57, Q31

# **Report on Possible Demand for Giant Clam Meat by Tongan Descendants in Australia: Inferences from Interviews Conducted in the Brisbane Area**

## **1. Introduction**

The biological feasibility of aquaculturing giant clams has been established and there are prospects of commercial farms being set up throughout the South Pacific. In 1984/85 two commercial giant clam farms were established near Cairns in North Queensland and both are still in business with saleable output coming on stream. In 1989, James Cook University entered into a joint venture agreement with a view to establishing commercial mariculture of giant clams. Another group is to launch clam farming operations in Western Australia.

Markets will need to be found for the various clam products, supplied by commercial farms. Previous market studies conducted at the University of Queensland (Tisdell, 1989 a,b) indicate that the Australian market for clam shells and aquarium specimens will be insufficient to support a significant industry. This leaves clam meat as possibly a more promising outlet for supplies with shells and aquarium specimens providing subsidiary markets. This of course does not mean that markets for other clam products (eg. for medicinal use) could not become more prominent in the future.

Those Australian enterprises which have started giant clam ventures have done so without having clear forecasts of the demand for their product. Initially venturers believed that there were good prospects for exports of clam meat to Taiwan. But studies by Dawson and Philipson (1989) indicated that the demand in Taiwan is only for the adductor muscle and the market is not large. Despite the cautious conclusions by Dawson and Philipson (1989) about the size of the Japanese for meat from young giant clams, prospects in this market continue to be alluring to ventures farming clams including Australian ventures. However, the size of this market remains uncertain, and it may very well be that at present it would be unable at realistic prices to absorb all potential giant clam production.

It is, therefore, important to explore other geographical markets especially in the Southwest Pacific. Australia and New Zealand are potential markets. While the Australian market may be satisfied by Australian supplies, there could still be room for imports from the Pacific. The

New Zealand market would need to rely completely on imports since New Zealand is ecologically unsuitable for growing giant clams. In New Zealand, the United States and Australia there are a significant number of migrants from the Pacific Islands and their descendants. Since giant clams are very popular food items in the Pacific Islands where they occur, the overseas 'migrant' population of Islanders might constitute a potential market for farmed giant clam meat. As a step to assessing this market in Australia interviews were conducted with Tongans resident in Brisbane, Australia.

## **2. Background on the Respondents**

Three Tongans who have been residing in Brisbane for 2 to years were interviewed individually. Another 30 to 40 Tongans were consulted at the annual meeting of The Tongan Ethnic Association in Brisbane and 3 major points were discussed:

1. Does a demand for clam meat exist in Australia among the Tongan descendants? The answer was definitely yes.
2. General consensus about the size of the Tongan descendant population in Australia was that it lies somewhere between 10,000 to 15,000.
3. The prices Tongans would be prepared to pay for clam meat and quantities they would be prepared to purchase. Responses varied, but overall responses from the three individual respondents appeared to be representative for the rest of the Tongans present at the meeting.

The first respondent was Mrs. Pilimilose Mafi who is the secretary of The Tongan Ethnic Association of Queensland, which was established about 12 months ago. She migrated to Australia with her family in 1973 and has only recently been back to Tonga. While she was there she consumed a lot of clam meat. She has never eaten giant clam meat in Australia due to a lack of availability but she has frequently eaten giant clams in Tonga where it forms an important part of the inhabitants' diets.

The second respondent was the Reverend Kalapoli Paongo who has been residing in Brisbane for the last 4 years. During that time he has been studying in the Education Department at the University of Queensland.

The last respondent was Mr. Pita Taufatofua who worked for the Department of Agriculture & Fisheries in Tonga. He has come to Australia with his family to complete a doctorate (in agriculture) at the University of Queensland. While he was living in Tonga he was well aware of the Tridacnidae family through his work at the Fisheries Department and also consumed giant clam meat regularly. This made him an ideal respondent.

### 3. Giant Clam Species Represented in Tonga

The Tongan name for giant clam is 'Vasuva' or 'Vasua' and according to Mrs Mafi two types of giant clams are consumed in Tonga. Namely a smaller clam referred to as 'Kukukuku', which may be *T.maxima*<sup>3</sup> and a larger clam 'Tokanoa'. Translated from Tongan this means 'they don't stick to the rocks'. These bigger clams are probably the *T.derasa*, but could even be *T.squamosa*, which are also found in Tonga (Heslinga, 1989, p.305).

Besides the two types of clams mentioned above, namely the 'Kukukuku' and the 'Tokanoa', Mr. Taufatofua said there was another type of giant clam consumed in Tonga, namely the 'Matahele'.<sup>4</sup> This is his favourite eating clam and he prefers the largest available ones. As only fossils of *H.hippopus* have been found in Tonga (Dawson & Philipson, 1989, p.97), all species found in Tonga have been accounted for by Tongan names; 'Kukukuku' = *T. maxima*, 'Tokanoa' = *T. derasa*, 'Matahele' = *T. squamosa*. It is interesting to note however, that McKoy (1980, p.8) interprets the Tongan names differently 'Tokanoa' - large tridacnids, 'Matahele' - medium-sized giant clam, 'Kukukuku' - small giant clams.

Mr.Paongo pointed out that in Tonga the inhabitants collect giant clams and store them near the sea shore in the shallow water until they are required. This is quite common practise in the Pacific Islands. The continuing interest of Tongans in preserving giant clam stocks is evident from Fairbairn (1990).

### 4. Use of Giant Clams in Tongan Cooking

Both small and large clams are consumed by Tongans in whole form raw as well as cooked, minus the kidney and minus the byssal attachment in the case of the *T.maxima*. Mrs.Mafi's

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<sup>3</sup> Mrs Mafi showed us some shells of this smaller clam, which she had eaten in Tonga and they appear to be *T.maxima*, which coincides with the population distribution of *T.maxima*.

<sup>4</sup> From Mr. Taufatofua's description it would appear to be the *T.squamosa*.



personal preference is to eat the small giant clams raw whereas she prefers to eat the larger ones cooked. This is mainly because the smaller clams are tender compared to larger ones. The mantles of the bigger clams can be quite 'rubbery' and rough as well as blackish blue in colour.

Mrs.Mafi rates the giant clam's meat as an excellent product on a scale of 'below average product' to 'excellent product' (disregarding 'do not know'; see Q.14 of the survey form in Appendix A).

For culinary purposes Mrs. Mafi distinguishes three parts of the giant clam:

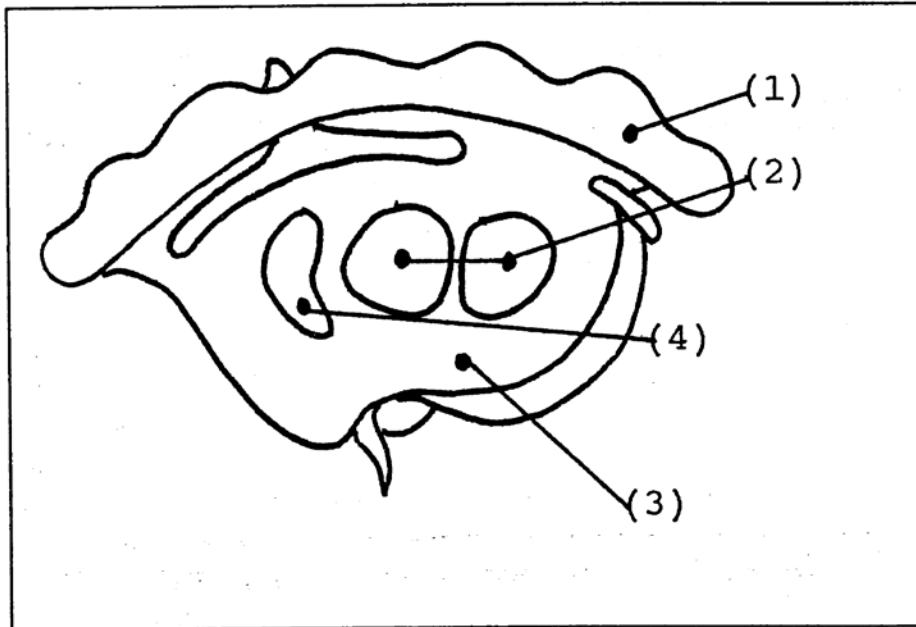
- (i) The mantle (black and blue in colour), which she likes least out of the three parts and
- (ii) two white parts, one of which is somewhat harder than the other one. The harder part appears to be the adductor muscle. Mrs. Mafi likens it in taste to scallop or abalone and it is her second most favourite part of the clam.
- (iii) The other white part, is softer and she describes it as similar in taste to octopus. It is Mrs. Mafi's favourite part. This appears to be the gonad, which comprises 35 to 40 % of the body mass when it peaks in size shortly before the spawning activity takes place (Shelley & Southgate, 1988, p.86).

Mr. Paongo focused his discussion mainly on the larger variety, which he says he likes best. He also categorised the meat of the giant clam into three edible parts, the two white parts (one, of which is harder than the other one) and the mantle.

Mr. Taufatofua says that in preparing the giant clam its byssal attachment and its kidney are removed and the remaining part chopped into small pieces and then cooked in a number of ways.

Mr. Taufatofua like the other respondents described three edible parts of the clam. From his description and from scientific information about Tridacnid physiology available the four major parts of the giant clam can be illustrated by Fig.1: (Tongan translations for the various parts are indicated in the brackets)

1. the mantle - (lau)
2. the adductor muscle - (hoke)
3. the gonad or the white soft tissue - (fua)
4. the kidney - ('ahu)



**Fig.1 Three edible parts of the giant clam and kidney (inedible) of the giant clam as described by Tongans.**

The white soft part of the giant clam appears to be the gonad. It is referred to in Tongan as 'fua', which translated means the egg and which adds further support to the view, that it is the gonad. The 'fua', according to Mr. Taufatofua, can vary in colour from white to brownish.

### **5. Tongan 'Recipes' for Preparing Giant Clam Meat**

According to Mrs. Mafi, when Tongans cook clams they are cooked with coconut cream or just cooked and then coconut cream is added afterwards.

Mr. Paongo described three different ways of preparing the giant clam as a dish, all of which involve the use of coconut milk. All parts of the giant clam are used except of course the kidney. The three ways are:

- (1) The clam meat can be baked in banana leaves to soften it and then cooked in coconut milk.
- (2) It can be eaten raw by just adding coconut milk to it. This dish is called 'ota' in Tongan.
- (3) It can simply be boiled in coconut milk.

Mr. Taufatofua likes to eat the giant clam's meat in raw form as a main dish or marinated in lemon juice and then cooked in coconut milk. All Tongan recipes for preparing giant clam meat appear to make use of coconut milk. However Mr. Taufatofua has seen edible giant clam in dried form in Tonga about 20 - 30 years ago.

## **6. Availability of Giant Clam Meat in Australia**

There are no clams for sale in Brisbane nor nearby as far as Mrs. Mafi knows.

Mr. Paongo has not personally been able to obtain giant clam meat in Australia because it is not available for sale. Also natural stocks of giant clams are not available near Brisbane in the areas where Tongans go to collect shellfish e.g. at Wynnum or at Sandgate).

Mr. Taufatofua has never seen giant clam meat for sale in Australia. Due to the stringent restrictions on the collection of giant clams in Australia (Great Barrier Reef Marine Park Act 1975, Fisheries Act 1976-1984 & Fishing Industry organization and Marketing Act 1982-1984) and on the importation (CITES agreement & Wildlife Protection (Regulation of Exports and Imports) Act 1982)), giant clam meat from natural sources is unavailable. Because of the unavailability of giant clam meat in Australia, all of the respondents indicated that the Tongan community as a whole would welcome a move to sell giant clam meat by the giant clam farms.

It might be noted that there have been a number of cases in which Pacific islander groups have collected giant clams illegally from northern Australian waters for consumption. This further indicates the existence of a demand.

## **7. Sales of Giant Clams in Tonga**

Mr. Paongo reported, that in Tonga in 1988 a big clam of approximately 40 cm in size would

cost about Tongan\$5<sup>5</sup>, while smaller clams were sold in bunches of 10 for about T\$ 6-8.

Small clams are sold by the basket while large clams of around 30 40 cm are sold individually. Early in 1989, according to Mr. Taufatofua, baskets which contained 12 small clams sold for about T\$ 4-5 while the large clams were sold for about T\$ 4-10 each. The price of the large clams in Tonga varies according to the availability of supply of them. Natural stocks in Tonga have been seriously depleted as a result of over-fishing by locals<sup>6</sup> and poaching by foreign vessels.

## **8. Type of Product Required by Tongans**

If clam meat was commercially available in Australia through clam farms, Mrs. Mafi would be interested in purchasing it and she claims so would a lot of other Tongans and even Samoans.

Preferably she would like to purchase fresh giant clam meat, as that is how it is consumed in Tonga. However, if it was available only in frozen form she would still purchase it.

She would even be inclined to buy dried clam meat. Although she has never tried it, she believes it might be similar in flavour to dried fish or dried octopus, which she has eaten in Tonga.

Mr. Paongo says clams, like fish, form an integral part of the diet of Tongans and as they have developed a taste and a liking for the giant clams, they would definitely buy some giant clam meat even if a wide range of other types of meat were available. However, as Mr. Paongo is not accustomed to dried clam meat he would prefer to purchase fresh or even frozen clam meat. He would be inclined to buy clam meat quite regularly. This of course would be subject to the price of the clam meat. If the price was high he would not buy the clam meat as often as he would like to. Thus price would influence the degree to which Mr. Paongo would purchase clam meat. If the price of giant clam meat was extremely high he might refrain from using it in his diet, even though he personally prefers clam meat to any other kind of meat.

Mr. Taufatofua would welcome the opportunity to purchase giant clam meat supplied by

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<sup>5</sup> The Tongan \$ is pegged against the Australian \$ at 1:1 in 1990.

<sup>6</sup> The landing figures of giant clams in Tongatapu increased more than six-fold from 1974 (24,090 kg) to 1978 (153, 293 kg) (McKoy, 1980, p.37)

clam farmers. However whether or not he would purchase giant clam meat and in what quantities would be determined by the price of the clam meat and to some extent by the quality of the product. 'There are too many other products available for your dollar, if the clam should be too expensive', according to Mr. Taufatofua. He is indifferent between fresh or frozen clam meat, but if dried clam meat was also available it would be on the bottom of his list (ranked as inferior).

## **9. Potential Quantities and Prices of Giant Clam Meat**

As Mrs. Mafi and her husband very much like the taste of giant clam meat, she would buy it on a regular basis taking about 1 kg/week. This of course would depend greatly on the price of the clam meat in question. Mrs. Mafi was not very specific on what price she would be willing to pay for giant clam meat, except that she would pay a bit more for it than the price for mussels. To a Tongan she says, the clam meat is rated as superior to the mussel meat. Thus she would be willing to pay a premium for clam meat. As she could not provide us with a price for the mussels, a seafood outlet which was contacted quoted a price between AUS\$4.99 - 6.99/kg for mussel meat. Thus it would seem, that Mrs. Mafi would be prepared to spend in the order of AUS\$5 – 7/kg for the clam meat.

Because the clam meat is rare in Australia and Mr. Paongo has developed a taste for it he would be willing to pay about AUS\$5 – 6/kg for the clam meat. Mr. Paongo would be prepared to spend about AUS\$15 – 20/week to obtain about 3 to 4 kg of clam meat per week for his family of 6 people. Not surprisingly Mr.Paongo rates giant clam meat as an excellent product.

For his family of six people, Mr. Taufatofua, who rates the giant clam as an above average product would be willing to buy about 1 to 2 kg/week of giant clam meat for which he would be prepared to pay AUS\$10 – 12/kg. He justifies this price as reasonable, because he believes that the meat content of a 30 cm clam in Tonga would be about 1 kg and the clams there would cost up to T\$10 each. J.L. Munro states that the flesh weight of the giant clam is about 16.5% of the total weight (Munro J.L., 1989, p.555) and he calculated the average total weight of the *Tridacna gigas* at size 31.95 cm (5yrs) to be 7.02kg and at size 41.05 cm (7yrs) to be 15.46 kg (Munro J.L., 1988, p.219). Thus at size 31.95 cm, the meat content of the clam would be 1.16 kg (7.02 kg x.165 = 1.16 kg), while at size 41.05 cm, it would be 2.55 kg (15.46 kg x.165= 2.55 kg). Thus his price justification would be correct for the 30 cm clam,

but not for the 40 cm clam. Notwithstanding that, it seems, that Mr. Taufatofua would be prepared to pay between AUS\$10 and AUS\$12 /kg for giant clam meat.

## **10. Tongan Population in Australia**

Mrs. Mafi estimates, if one includes illegal immigrants, that there could be up to 700 Tongans living in Brisbane alone. On the Gold Coast, sunshine Coast and in North Queensland, there are apparently not a lot of Tongans.

According to Mr. Paongo there are 900 Tongans living in Brisbane and they are on the increase, as more and more Tongans are sponsored by their Australian relatives. Mr. Paongo states that there are only very few Tongans living in North Queensland (maybe less than 100). Tongans appear to be mainly concentrated in large Australian urban centres.

Mr.Paongo estimates for:

- (a) Sydney: more than 6,000 (possibly up to 10,000)
- (b) Melbourne: 1,500 to 2,000
- (c) Newcastle: 900
- (d) Perth: 600

Mr. Taufatofuas' estimates of the size of the Tongan population in Australia are very similar to those of Mr. Paongo:

- (a) Sydney: 8000
- (b) Melbourne: 3000-4000
- (c) Perth: 400
- (d) Brisbane: 700
- (e) North QLD: Few

He says Tongans feel secure in numbers (groups). Because initially they concentrated in a few centres they are less likely to move from their established communities. This would

account for the lack of Tongans in North Queensland.

The Australian Bureau of Statistics population Census of 1986 stated the Australian Tongan born population to be 4473. If one accounts for an increase in the Tongan population due to immigration to Australia and that the ancestry was not considered in the census, nor were possibly some illegal 15,000 Tongan descendants immigrants, a figure of 10,000 living in Australia seems to be justified.

## **11. Market Prospects for Giant Clam Meat**

If other Tongans living in Australia were just as eager to buy giant clam meat as Mr. Paongo (3 - 4 kg/week for a family) the Tongan community alone could be a substantial market for giant clam meat. Even at lower levels of consumption of giant clam meat the market would remain substantial.

Estimates are given below for consumption of 1.25 kg and for 2.50 kg of clam meat per Tongan family in Australia assuming 6 Tongans per family and taking two population estimates:

- (a)            **10,000** Tongans Australia wide  
                      6 Tongans per family (assumed on average)  
= 1,650 Tongan families
- (i)            1,650 x **1.25** kg of clam meat per week per family = 2,062.5 kg/week

**or**

$$2,062.5 \times 52 = 107.25 \text{ tonnes/year}$$

- (ii)           1,650 x **2.50** kg of clam meat per week per family - 4,125 kg/week

**or**

$$4,125 \times 52 = 214.5 \text{ tonnes/year}$$

- (b)            **15,000** Tongans Australia wide  
                      6 Tongans per family (assumed on average)  
= 2,500 Tongan families

$$(i) \quad 2,500 \quad x \quad 1.25 \text{ kg of clam meat per week per family} \\ = 3,125 \quad \text{kg/week}$$

**or**

$$3,125 \quad x \quad 52 = 162.5 \text{ tonnes/year}$$

$$(ii) \quad 2,500 \quad x \quad 2.50 \text{ kg of clam meat per week per family} \\ = 6,250 \quad \text{kg/week}$$

**or**

$$4,125 \quad x \quad 52 = 325 \text{ tonnes/year}$$

Table 1 indicates the potential quantities and values of annual sales of clam meat to Tongans' in Australia for alternative prices and quantities of consumption per capita. It suggests annual values of sales ranging from \$0.5 m to almost \$4 m depending upon the assumptions used. Sales with the range of approximately \$1 m to somewhat more than \$2.5 m seem to be a realistic possibility. The number of clams required to supply this market will be greater than that needed to supply shells for the whole Australian market (Tisdell, 1989 a) if clams of 7 years or less in age are used to supply meat. Table 2 relates the meat weight of a clam to its age and provides information on the value of a clam for its meat alone at various ages. Table 3 indicates the total numbers of clams needed at various ages to supply total quantities of clam meat.



**Table 1 Potential value of annual sales (AUS\$m) of giant clam meat and quantities (t) to 'Tongans' in Australia at alternative assumed prices and quantities of consumption per 'Family' (6).**

	10,000 Tongans		15,000 Tongans	
	1.25 kg/ family	2.50 kg/ family	1.25 kg/ family	2.50 kg/ family
Total quantity	107.25t	214.5t	162.5t	325.0t
\$5.00/kg	\$.54m	\$1.07m	\$.81m	\$1.63m
\$8.50/kg	\$.91m	\$1.82m	\$1.38m	\$2.76m
\$12.00/kg	\$1.29m	\$2.57m	\$1.95m	\$3.9m

**Table 2 Value of a single clam at varying weights(ages) and varying prices/kg for clam meat alone (whole clam). Weight based on estimates by Munro (1988) for *T.gigas*.**

Aus\$ price/kg	weight of meat & age of clam		
	1.16kg(5yrs)	2.55kg(7yrs)	4.29kg(9yrs)
\$5.00	\$5.80	\$12.75	\$21.45
\$8.50	\$9.86	\$21.68	\$36.47
\$12.00	\$13.92	\$30.60	\$51.48

**Table 3 Number of clams required to supply the varying total quantities of clam meat**

tonnes/year	weight of meat & age of clam		
	1.16kg(5yrs)	2.55kg(7yrs)	4.29kg(9yrs)
107.25t	92,457 clams	42,059 clams	25,000 clams
162.50t	140,086 clams	63,725 clams	37,879 clams
214.50t	184,914 clams	84,118 clams	50,000 clams
325.00t	280,172 clams	127,451 clams	75,758 clams

From an economic point of view it would seem important to sell all of the edible meat of the clam not just the adductor muscle. This can be seen as follows. The adductor muscle makes up about 10 -15% of the total meat weight (Dawson & Philipson, 1989, p.94). Assuming the adductor muscle is 15% of the total flesh at:

- (a) \$5.00/kg for the whole clam meat:

$$1000/150 \times \$5.00 = \$33.33/\text{kg}$$

\$5.00/kg of whole clam meat is equivalent to \$33.33/kg for just the adductor muscle.

- (b) \$8.50/kg for the whole clam meat:

$$1000/150 \times \$8.50 = \$56.67/\text{kg}$$

\$8.50/kg of whole clam meat is equivalent to \$56.67/kg for just the adductor muscle.

- (c) \$12.00/kg for the whole clam meat:

$$1000/150 \times \$12.00 = \$80/\text{kg}$$

\$12.00/kg of whole clam meat is equivalent to \$80/kg for just the adductor muscle.

Of course with larger clams it may be economic to separate the adductor muscle from the soft tissue and sell these independently. But clearly there are economic advantages in selling all the meat.

## **12. Concluding Comments**

In Table 1, the quantity of giant clam meat purchased per family has not been allowed to vary with its price, although it would do so in practice. We have insufficient information to judge the extent of the likely variation. Our statistics should not be regarded as precise estimates, but as indicative. We have also used rather conservative consumption levels, given the responses from those interviewed. In addition, it might be observed that the sample is small three respondents interviewed in-depth plus 30 to 40 members of The Tongan Ethnic Association commenting on in-depth responses. Nevertheless, there is no reason to expect the results to be unrepresentative.

The results in this paper support our hypothesis that a substantial market for giant clam meat is likely to exist amongst Pacific Islanders in Australia, given the Tongan response. But evidence of other Islander groups would be worthwhile having. The paper indicates that in terms of size of market the market for meat rather than shells and aquarium specimens is likely to be the mainstay of any commercial industry concentrating on the Australian market. Worldwide, the meat market is likely to be the mainstay of the giant clam industry (Tisdell, 1990).

In Australia, there are also other Pacific Islander communities and communities from Asia, which may provide further market outlets for meat of giant clams. While we have tentative evidence to suggest a high level of demand from other Pacific Island groups, the situation remains uncertain in relation to Asian communities in Australia.

### 13. Acknowledgements

We wish to thank the three individual respondents Mrs. Pilimilose Mafi, Reverend Kalapoli Paongo and Mr. Pita Taufatofua as well as the members of The Tongan Ethnic Association for their helpful assistance with this paper.

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## APPENDIX A

Confidential

January, 1989

### QUESTIONNAIRE FOR PACIFIC ISLANDERS, REGARDING GIANT CLAM MEAT CONSUMPTION

1. Name, address and telephone number of respondent

.....  
.....

2. From which country do you originate from or are a descendant of?

.....  
.....  
.....

3. How long have you been residing in Australia?

.....  
.....

4. Have you ever consumed giant clam meat?

.....  
.....

5. a) Do you know the names of the giant clams, which you have eaten? (eg.Hippo clam or  
Tridacna gigas)

.....  
.....  
.....

b) Are there any varieties, which you like best?

.....  
.....  
.....

6. What is the preferred size of the clam you eat?

.....  
.....  
.....

7. a) How do you prepare the giant clam meat?

.....  
.....  
.....

b) Do you know of any other recipe for giant clams?

.....  
.....  
.....  
.....  
.....

8. What parts of the giant clam do you use for eating? (eg. mantle, adductor muscle, whole clam)

.....  
.....  
.....  
.....

9. Have you been able to obtain giant clam meat in Australia? (Please circle your correct answer)

Yes

No

a) If yes, where do you get it from?

.....  
.....  
.....

b) If no, do you know where it might be sold?

.....  
.....  
.....  
.....

10. As you may know, it is now possible to farm giant clams. If there was someone farming giant clams in Australia, would you be interested in buying giant clam meat from them?

.....  
.....  
.....

11. Would you be interested in purchasing fresh clam meat, frozen clam meat or dried clam meat?

Please elaborate

.....  
.....  
.....  
.....



12. a) Would you buy the clam meat on a regular basis or just occasionally? (eg. How many times per year)

Please elaborate

.....  
.....  
.....  
.....

b) What quantities of giant clam meat would you buy?

.....  
.....  
.....  
.....

13. What would you regard as a reasonable price to pay for giant clam meat per kilo? (please specify: a)whole clam, mantle or adductor muscle b)fresh, frozen or dried)

.....  
.....  
.....  
.....

14. How highly do you rate clam meat as a food item?

- a) Excellent product ( )
- b) Above average product ( )
- c) Average product ( )
- d) Below average product ( )
- e) Do not know ( )

15. In what other areas of Australia do you think there might be Pacific Islanders, who are interested in purchasing giant clam meat and how many Pacific Islanders live there?

.....  
.....  
.....  
.....

16. Do you have any contact address of Pacific Islander clubs or Associations in those areas?

Please list

.....  
.....  
.....  
.....  
.....

17. Would you like a complimentary copy of the report on this survey?

Yes                      No

Thank you very much for your co-operation,

Clem Tisdell,  
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