

## **1987 Fiji Aquaculture Symposium**

### PRE STUDY ON NATIONAL AND INTERNATIONAL PRAWN MARKETING SITUATION OF FIJI AND PRAWNS (FIJI) LIMITED IN THESE MARKETS.

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#### ABSTRACT

It is believed, that the technically sophisticated Australian trollers will have a dramatic effect on the natural sea resources; the same scenario will not be observed only in AUSTRALIA, but also in prawns producing countries as: SOUTHEAST ASIA, INDIA, CHINA, SOUTH/CENTRAL AMERICA, AFRICA, etc....

The more and more sophisticated fishing gears and techniques overreach the capacity to harvest, as against conservation of the natural resources. The effect should be evident in two (2) years in regards to competition against the prawns farm and FIJI. We therefore see a much greater reliance and emphasis on aqua-culture to fill the increasing world demand for prawns, as the scale of cost per kilo as against net returns from natural harvesting, meet with the production cost of prawn farming.

FIJI, as a developing country and with the recent pacific economic emphasis, on fish productions and assistance, as well as its strategic place in the pacific and air freight facilities to such Countries as JAPAN, HAWAII, NEW-ZEALAND, and AUSTRALIA , is on the ground floor to realize the prawns farms full potential and value.

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## **INTRODUCTION**

This pre-study on the general prawn market, in term of results on production on sales is available only for the next six (6) months. But, the study on the general prawn market is estimated to be enough accurate for the next 1 to 2 years.

The actual trends of the world prawn demand and the exhausting of world living prawns stocks due to overfishing, will in a shot term contribute to the full development of prawn farms through the inter-tropical and tropical zones. This situation will go and develop quickly, since the catching cost/kilo of prawns per natural harvesting will dramatically increase as against the production cost of prawn farming.

By its strategic geographic situation toward the main prawn demanding countries, the air freight facilitate to any pacific countries, and the advantaging customs duties between pacific countries, FIJI can become one of the most future important prawn producers in the pacific, if FIJI wants to develop the prawn farms significantly.

In addition the low promotion on cost per kilo of prawns in aqua-culture farms in FIJI as against the other countries, and the quality offered, will place FIJI in the first positions on the international market.

## **SITUATION OF PRAWNS (FIJI) LIMITED IN THE MARKETS**

PRAWNS (FIJI) LTD. originally has been created to supply the entire FIJI consumption in prawns. The Japanese yen is the major reason for the dramatic improvement in current prawn value mainly based on the upward valuation of the yen as against other world countries. Particularly prawn exporting countries.

For these reasons PRAWNS (FIJI) LIMITED, will aim to export 50% of its total production to JAPAN for the next six (6) months. In addition because of the estimated increasing prawn demand and the reality of increasing import value of Japanese yen 30 to 40 % over the last 6 to 12 months, PRAWNS (FIJI) LIMITED must take advantage of the situation.

So, the major production of PRAWNS (FIJI) LIMITED will finally go to overseas, as it is planned that PRAWNS (FIJI) LIMITED will furnish about 70 % of the estimated 35 tons of FIJI prawn local consumption.

PRAWNS (FIJI) LIMITED has at the moment the two top class species asked on the international and national market. We have to notice that the choice of the species, in such enterprise, takes, a high importance regarding the future farm face value to the local purchasers or overseas, importers. This value is measured in terms of prawn species, wholesome prawn and meat quality, regular supply, proposed prawn grades high quality processing and packaging.

As a comparison against the strong scale of economy for the jumbo size, the economical size factor of the prawns produced by PRAWNS (FIJI) LIMITED, (between 20 to 30 grams / prawn), is however for the moment, a limiting aspect.

### **1. COMPETITIVES OF SUPPLIERS & AND MARKET FORECAST ON THE NEXT 12 MONTHS**

#### **1.1 COMPETITION FROM EXPORT MARKET PRODUCER'S FROM NATURAL RESOURCES AND OTHER PRAWN FARMS.**

1.1.1 From natural sources until now, the natural harvest of prawns through the world did not cease to increase. This is due to the excessive improvement of the technology and technique of fishing. From the last decade the harvests from natural resources have always been highly superior to the farming production in terms of sizes and quality of the prawn, but it is estimated that in a very short term, prawn farming will become a highly competitive within in the market place

On this market forecast, several main reasons exist:

- a. The over fishing of prawn resources is continuing to reduce dramatically the average size level and the volume of prawns from natural resources.
- b. The scale of economy and the cost for catching vessels has become intolerable in relation to catch rates. Example in the Gulf of Carpentaria in Australia about 50 % of the vessels are operating uneconomically and some which are withdrawing to new fishing grounds, for example: Arabian Gulf, Indonesia, India, etc.
- c. The operating cost/kg will also be dramatically affected by the fuel becoming dearer.

Over the last ten years, the progresses in fishing gear have been stupefying. The technical ability of the equipments, the modern electronics, the extremely high performing new net designs, etc. have increased dramatically the capacity of each fishing vessel unit.

With all these non-stop evolutions and improvement on equipment already over efficient, it is no more question of knowledge of fishing or ways to catch prawn, but this is now only a matter of high computerization in vessels, satellite detections of productive fishing zones, pitiless tracking of night and environment, etc ....

With this kind of fishing, the prawns get no chance to survive because we have overreached the capacity to harvest as against conservation of the natural resources (regeneration problem).

Brief examples;

- 1/ the speed of trawlers reach now 3.5 to 4.5 knots
- 2/ invention of the variable pitch propeller for vessels
- 3/ new net designs reducing mouth size and coefficient drag .
- 4/ electronic computerization allowing special I.R. radars to detect the Prawn schools also identifying the species of prawn.

It is true now that the catching capacity has increased from 2 to 3 times per unit,  
DECREASING NATURAL RESOURCES DUE TO THE DAMAGE INFLICTED ON  
THE MARINE SURFACE BOTTOM .

Due to the decrease of natural live stocks and the over - fishing of specific species, the export countries having highly sophisticated and over efficient fish. The result is a very light application on of reasonable conservation measures in third world countries, caused by the important needs for foreign exchange. Earning capacity from lucrative prawn harvest, usually cancels out any rational long term conservation policies. This particularly applies to the major prawn production countries as: ASIA, SOUTH/EAST ASIA, INDIA SUB-CONTINENT, CHINA, etc. The same scenario exists in SOUTH/CENTRAL AMERICA, supplying mainly prawns to the USA market, and in the AFRICAN SUB-CONTINENT supplying mainly to EUROPEAN EEC markets.

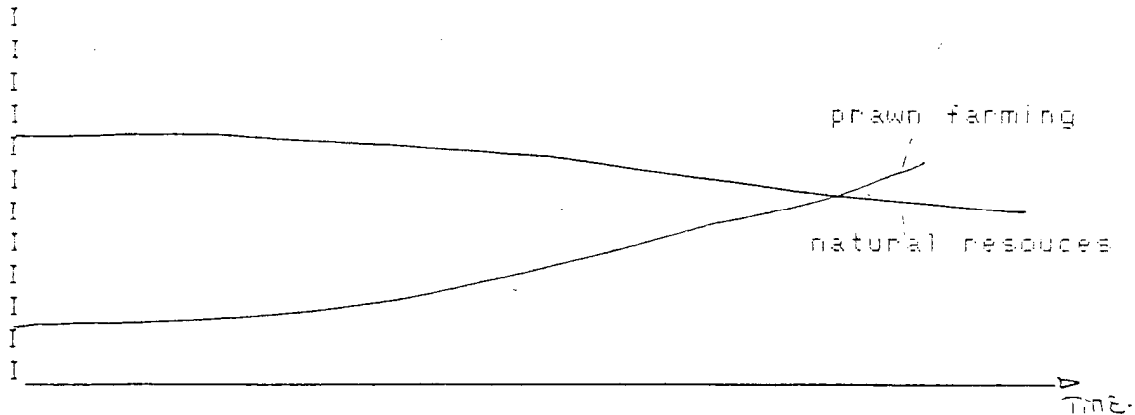
It is believed that the technically sophisticated Australian trawlers, (in financial difficulties due to the fall of prawn stocks over several years in this area of the pacific. So, many of them are transferring to new fishing zones, will have a marked effect on the already taxed resources of the above mentioned countries. We have to notice that the new trawling equipment of these vessels are destroying more than 100 kg of varied live organisms to obtain the equivalent of only 1kg of prawns (often they cover the same ground up to two to three times, completely destroying all habitation.)

Another interesting point is that these extreme catching effects plunder are targeting mainly on the exclusive valuable species PENAEUS monodon.

The effect of this over fishing and quality harvested should be regards to competition against the affecting volumes, grades evident in 1 to 2 years, in prawn farm and FIJI.

We therefore see a much greater reliance and emphasis on aquaculture, to fill the increasing world demand for prawns as the scale of cost per kilo as against net returns from natural harvesting , met with the production cost of prawn farming,

## Curve example showing this evolution



### 1, 1.2 from other prawn farms.

These other competitors are represented mainly by TAILAND, PHILIPPINES, TAIWAN, and SOUTH/EST ASIA in general. These countries have the peculiarity to have important stocks of *P.monodon* as natural resources.

From few centuries the aquaculture of the prawns in these countries have been entirely traditional often mixed agriculture. As for example the pure traditional polyculture of fish and crustacean in the numerous irrigations canals acting as natural earthen ponds- and traps for the harvests.

Due to the fast evolution of the prawn market through the world, these countries have also developed recently new prawn farms to face the increasing market. Only few years ago, the technology from traditional rearing) has evolved to new modern structures, producing fry up to the commercial sizes.

Due to the excellent conditions of the environment -of the local giant tiger prawn species, and their high knowledge of the habits these species (through years of traditional rearing) the prawn farms are recording excellent productions yields with average marketable sizes around 50 grams /prawn in about 4 to 5 months of rearing only.

At the present moment, the traditional and the aquaculture productions are beginning to play an increasing influence on the market supply demand. This influence would develop very strongly in the future with the multiplication of the prawn farms, if they were not suffering of two diseases pollution and politic, considerably slowing this evolution down.

Again, by developing its aquaculture farms, FIJI, is able to come (as the above mentioned countries) in the first places of the export market of rearing prawn in the next decade.

## II MARKET ANALYSIS

### II .1 LOCAL MARKET

FIJI seems to have an annual prawn consumption turning around 35 tons head-on prawn in majority due to tourist industries (restaurants and hotels mainly). Until now these prawns have been imported from AUSTRALIA.

The target of PRAWNS (FIJI) LIMITED will be to supply about 70% of this market (about 25 tons).

The presentation of our products will be under three forms:

1. prawn tails, for medium to large size representing 70 to 80% of the estimated market
2. head-on prawn (for 10 to 25 % of the estimated market)
3. prawn meat (for 5 to 10 % of the estimated market)

The income of these three forms has been studied as follows:

- a. from 65 % yield for a tail, we can count an average of \$ 32 to 33 per kilo of tails grade : 30 to 40 /kg. This is representing an income of:

$$25000\text{kg} \times 65 \% \times 75 \% \times \$32 /\text{kg} = \$ 390,000$$

- b. for the head-on prawn, we can count an average price of \$ 15 to 20 per kilo for the grades : 40 to 50 /kg. This is representing a minimum income of:

$$25000 \text{ kg} \times 17.5 \% \times \$15.00 /\text{kg} = \$ 65,600.$$

- c. From 55 % yield for prawn meat, we can count an average of \$ 20 to 25 per kilo for grades / 40 to 50 /kg. This is representing a minimum income of:

$$25000 \text{ kg} \times 55 \% \times 7.5 \% \times \$ 20 /\text{kg} = \$ 20,600.$$

THE GROSS TOTAL represents the amount of \$426,200.

These calculations estimated for a stable marketing and are concerning the whole sale value with profit margins allocated to distributor / processor and producer gross incomes.

This income, will replace in majority, the importations of overseas prawns.

## **11.2 EXPORT MARKET**

The export market is naturally identifying JAPAN as the main market target. The line FIJI-JAPAN is in addition, serviced with excellent air and sea freight allowing a high quality transport for fresh or frozen products because of efficient equipment.

An important secondary market with a high Japanese local residency population, and a very high Japanese tourist industry dependency, is of course HAWAII. By its situation, FIJI is the closest source of supply to HAWAII, and the size of this market is totally suitable to the prawn farm (70 TO 100 ton/year), regarding PRAWNS (FIJI) LIMITED sales volumes and prices. In addition, the duty rules between Polynesian markets are offering enormous advantages.

### **II. 2.1 EXPORT MARKET REQUIREMENTS**

Different grades and presentations are requested in the export market:

- LIVE PRAWN... large size, highest value
- FRESH, WHOLE, or TAILS.... all grades, current market value...  
(Indication = WHOLE 30 to 40/KG ...about \$30/KG)
- FROZEN WHOLE or TAILS ....in packs of 12 to 1 KG

It is interesting to note that products and prices as described are readily available on export market.



**PRAWNS (FIJI) LIMITED POLITIC....** is based on a long term basis.

- a) The export market will be axed first on graded whole bulk prawn frozen in 12 kg net weight cartons. Then, in function of the evolution of the demand and market value on more specific grades, the export will pass to whole and tails forms in 1 to 2 kg packs.
- b) After the frozen market, we will go into the fresh chilled prawn by air in various species and grades as required "Technically the operation has to be very well organized and sophisticated to satisfy the stringent Japanese standards and requirements.
- c) A later development will come in the prawn farm as compliment of the fresh prawn market, representing a very small volume but a very high value (80 to 100/ kg). This very special market is the market of the large size LIVE PRAWN. This development will occur much later due to the high standard equipment requested.

This evolution on is based on a long term. The market of frozen prawn will certainly take one complete year. The passage to the fresh prawn market will necessitate more important new equipment for harvest and processing since the prawns have to be in perfect condition when packed. In addition the sanitary control regarding the shipment of fresh sea-food is particularly stringent in JAPAN, so the decision to enter in this market will be done only when we will have a perfect organization on and equipment to satisfy entirely the future importers. This attitude will also avoid important possible net losses on unsatisfying shipments and will definitely associate our trade name with quality.

The Japanese market is the -most demanding buy also the most sophisticated and stringent prawn market in the world.

### **III - CONCLUSION**

In consequence of the important raise of the international prawn market value, PRAWNS (FIJI) LIMITED (as private company) market, and particularly JAPAN or HAWAII'. It is anticipated that the current market situation in JAPAN, will continue to have an important effect on improving PRAWNS (FIJI) LIMITED income. However it had been planned to supply about 7% of the local market.

(In function of the evolution of the future markets and the results obtained for the prawn farm, it would be judicious to revise the high prawn import duty in FIJI. As a matter of fact, if in the future, PRAWNS (FIJI) LIMITED axes its sales only on overseas market because of major income, it would be vital for the FIJI tourist industries to reduce this prawn import duty.

PRAWNS (FIJI) LIMITED met a lot of difficulties at its beginning, but is now on the real way of production. In a close future, PRAWNS (FIJI) LIMITED hopes to see its development to 150 hectares if the reclaimed land is conceded to PRAWNS (FIJI) LIMITED by FIJI government. This extension should represent about 600 TONS of prawns per year. In this situation, PRAWNS (FIJI) LIMITED would take the entire FIJI prawn consumption under competitive sales prices, and the important production would place FIJI as one of the main prawn suppliers in the all pacific. The resulting income for FIJI would also be not negligible.

FIJI, as a developing country and with the recent pacific economic emphasis, on fish productions and assistance, as well as its strategic place in the pacific and air freight facilities to such countries as JAPAN, HAWAII, NEW-ZEALAND, and AUSTRALIA, is on the ground floor to realize the prawns farm(s) full potential and value.