

IMPROVING PROFITABILITY OF LOW PROFIT FISHERMEN'S ASSOCIATIONS IN MALAYSIA

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ABSTRACT

There are 87 fishermen's associations (FAs) operating throughout Malaysia. Their aim is to uplift the living status of the fishing communities. Because of their importance in national food production, the associations are also concerned with the development and the social and economic status of the Malaysian fishermen. Their performance is evaluated by the Fisheries Development Authority of Malaysia (FDAM), a government statutory body that is in charge of governing and controlling the FAs. The FAs are analysed and categorised based on the efficiency of their operations according to their profitability. However, data proves that some of the enterprises are running at below acceptable performance. The FDAM, which is also the Registrar of FAs in Malaysia, is responsible for identifying these problems and seeking solutions, actions or changes in operations that can be suggested for the less profitable FAs in Malaysia in order to improve their performance towards establishing strong, viable and capable fishermen's organisations, and hence, their profitability. When profit margins of an FA are decreasing, the need for a reliable and efficient profitability analysis model becomes more important. In this paper, a relevant and suitable model of profitability ratios will be developed and used to evaluate the present situation and to test the management operating effectiveness. This study is a descriptive analysis where primary and secondary data and information are gathered.

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LIST OF ABBREVIATIONS

AFA - Area Fishermen Association
DOF - Department of Fisheries
FA – Fishermen Association
FDAM - Fisheries Development Authority of Malaysia
MOA - Ministry Of Agriculture and Agro-Based Industry
NFA - National Fishermen's Association
RM - Ringgit Malaysia (Currency of Malaysia)
ROE - Return on Equity
SFA - State Fishermen Association
USD - Dollar of the United State of America

1 INTRODUCTION

The main purpose of establishing a fishermen's association (FA) is to expand and develop the interests and socioeconomic status of fishermen (Act 44 1971). Normally, the establishment of an FA is with the initiative of fishermen with a lot of good will. The Fishermen's Association Act 1971 – Act 44 stipulates that 50 or more promoters are required to establish an FA. Today, there are more fishermen involved in FAs in Malaysia than before. As of 2005, there were 59,525 fishermen registered as members of the 74 area fishermen's associations (AFAs), 12 state fishermen's associations (SFA) and the National Fishermen's Association (NEKMAT) as shown in Table 1.

Table 1: The membership of fishermen's associations in 2005.

Fishermen's Associations (FAs)	Number	Membership
Area Fishermen's Associations (AFAs)	74	59,525 fishermen
State Fishermen's Associations (SFAs)	12	74 AFAs
National Fishermen's Association (NEKMAT)	1	12 SFAs

Source: FDAM 2005.

The FAs generate profits through their economic activities. In generating profits, the AFAs run activities of economic projects such as supply of diesel, ice, fish marketing and others, whereas other revenues are mostly from social grants and also capital interest. In running the operations of the FAs there has, in several cases, been some inefficiency, and as a result some of them are not profitable. Even though structured guidelines have been stipulated by the government to enable the FAs to run properly, there are data which prove that there are still FAs which are running below acceptable performance. Not all of the FAs are equally successful in their operations of economic and social activities. There are many reasons why the FAs are performing below expectations.

“In Malaysia, the AFAs can be grouped into 3 clusters” (Othman 2004a). In cluster 1, are AFAs involved in buying fish from the fishermen and selling it back either through auction activities or consigning the fish to the wholesale market. Generally, these AFAs are the most active ones, having four or more economic activities and they are directly in contact with the members. In cluster 2, are AFAs involved in buying fish for their own use, either for agro-tourism activities such as for seafood restaurants or processing activities such as fish crackers or fish paste. In cluster 3, are AFAs not buying or selling fish for business or their own use. Most of them are active in two to three economic activities such as diesel supply, civil works and agro-tourism. In this last cluster, there are AFAs faced with negative balances in their profit and loss accounts for the years 2000, 2001 and 2002.

Fish marketing is the most important activity between the fishermen and the FAs. In the years 2000 to 2002 the overall market share of the FAs in the fish brokers industry was only about 1% of the total fish landings, which means that 99% of the fish in the country was handled by fish brokers other than the FAs (Othman 2004b). The trend showed that total fish handling by all FAs was too small, not dominant and did not create aggressive fish marketing activity.

In addition to the above reasons, there could also be other reasons that could be the causes of non-performing FAs such as incompetence of the human resources in

administering the business of the associations, lack of capital, unstable fish resources and many other reasons. Some FAs at area level, especially those which are located in remote areas, often prove to be inefficient. Some of them have not had the desired impact on the economic and sustainability of the FAs. Despite recent improvements, it is important to seek out and to understand the reasons for these problems so that they can be overcome and solved.

The objective of this study is to analyse the performance and the problems of processes in operating the business of the low profit AFAs. Relevant and suitable profitability ratios will be used as the test of management operating effectiveness. It will be developed and tailored to aspects relevant to operations and administration of the FAs in Malaysia. Basically, this study is a descriptive analysis; the information and the data collection are from secondary data except for the interviews where primary data is gathered. A study on relevant companies in Iceland will also be carried out to see if there is anything that can be compared on their operations and processes that could be followed and implemented in Malaysia.

Therefore, the main research question that should be answered is:

What solutions, actions or changes in operations can be suggested for the less profitable FAs in Malaysia in order to improve profitability?

The expectations from this study are:

- To be able to derive solutions that can assist FAs in sustaining their operations so that they will generate more revenues and earn more profits.
- To be able to give suggestions to the Registrar of FAs in implementing its duties to govern and control the FAs in Malaysia as stipulated in the Fishermen's Associations Act 1971, Act 44.

2 LITERATURE REVIEW

2.1 The Fisheries Development Authority of Malaysia (FDAM)

There are two important government agencies committed to the fisheries industry of Malaysia: the Department of Fisheries (DOF) and the Fisheries Development Authority of Malaysia (FDAM). Both of these agencies are under the Ministry of Agriculture and Agro-based Industry, Malaysia, which is a Cabinet Ministry which has an overall mandate in managing, developing and conserving agriculture in the country including fisheries resources.

The DOF is entrusted with the role of developing, managing and regulating the fisheries sector. Its objectives are to increase the national fish production, manage the fisheries resources on a sustainable basis, develop a dynamic fisheries industry, intensify the development of fish-based industries and maximise the income of the fisheries industry.

In governing and controlling the FAs in Malaysia, a statutory body known as the Fisheries Development Authority of Malaysia (FDAM) was established through the

Act of Parliament of Malaysia No 49, 1971. FDAM came into force in Peninsular Malaysia on 1 November 1971 in Sarawak on 1 July 1983 and in Sabah on 1 August 1995. According to section 4 of the Fisheries Development Authority Act 1971, the objectives of FDAM are to improve the socioeconomic status of fishermen by focusing on increasing their income and modernising the fishing industry in Malaysia. The main programmes of FDAM are fishing industries development, marketing and support services, institutional development and entrepreneurial development.

Malaysia is comprised of 13 states, comprising two distinct regions separated by some 650 km (400 mi) of the South China Sea. Peninsular Malaysia comprises 11 states occupying the southern half of the Malay Peninsula, bordered on the north by Thailand, on the south by Singapore, on the west by the Strait of Malacca, and on the east by the South China Sea. The states of Sabah and Sarawak occupy the northern third of the island of Borneo, and are bordered on the north and west by the South China Sea, on the east by the Sulu and Celebes seas, and on the south by the Indonesian province of Kalimantan as shown in Figure 1.



Figure 1: Map of Malaysia (World Fact Book 2005).

The government has given additional function to FDAM to become a Registrar to FAs. One of the duties in governing and controlling the FAs in Malaysia is as stipulated in section 4 (1) Act No 49, 1971 of the Fisheries Development Authority of Malaysia that is to promote, activate, assist and develop the socioeconomics of fishermen and FAs.

In catering to the needs of the expanding fishing industry in Malaysia, FDAM has the responsibility of providing and maintaining infrastructure facilities such as fisheries landing complexes, fisheries harbours and fisheries inspection centres.

A fisheries landing complex is a complex which includes jetties, landing space and other adjacent areas that serve as wholesale fish markets or auction halls. A fisheries harbour is classified as a harbour that includes all types of wharfs, piers, docks, jetties, landing stages and other adjacent areas that serve as wholesale fish markets and boat repair yards. This also includes centre supplying power, fuel, or ice to the industry. A fisheries inspection centre is classified as a centre where imported and exported

fisheries products undergo inspection processes to ensure that they comply the Fish Marketing Regulation (1973) and related procedures made under FDAM Act 1971. These three infrastructures function as a one-stop multi-services provider and a legal entity to collect charges for the complex services and also manages an extensive and updated information system relating to the fish import/export industry and registered license holders. As of today, the FDAM has 27 fish landing complexes, one fisheries harbour and 61 fish inspection centres situated all over Malaysia.

So far, in assisting the FAs to generate more income, FDAM has appointed nine AFAs as the agents to manage, maintain, supervise and administer fisheries landing complexes to cater to the needs of the expanding fishing industry.

“The Fisheries Development Authority of Malaysia is marked as an important milestone in the development of the fishing industry and signified the beginning of a new era for the fishing community in the country” (FDAM 1996). The Fisheries Development Authority of Malaysia is also responsible for leading the development of the fisheries industry and steering the fishing community towards greater achievements. Various efforts have been made by FDAM in its endeavour to accomplish its objectives of producing a more self reliant community of fishermen and a strong and beefed up socioeconomics status for fishermen and also facilitating the fishermen’s involvement in the respective fisheries economic activities through the FAs.

2.2 The fishermen’s associations of Malaysia

In order to have legal existence, an FA must be registered. For this purpose, the Parliament of Malaysia has enacted Act No 44, the Fishermen’s Association Act, 1971. Under this Act, the Director General of FDAM is appointed as a Registrar of the FAs. The enforcement of this Act started on 1 November 1971.

An FA is an association of fishermen, who have joined voluntarily together to achieve a common economic purpose and upgrading of their living conditions through the formation of a democratically controlled business organisation. The liability of a member is limited to his own contribution and debts. Every member is required to contribute a minimum sum in share capital, entrance fee and annual subscription.

The members of the AFAs are registered members who are comprised of full time fishermen according to section 11.1(a); processors and fish traders section 11.1(b) and those who earn 60% of their income from fishing section 11.1 (c) of Act No 44, Fishermen Association Act, 1971. According to the AFAs constitution, each member has to own a minimum share of the value of RM 5, one share in the FA and the maximum shareholding permitted is 25% of the total share issue. The share is registered in a separate account and cannot be used directly for financing any economic activities. When the AFAs make sufficient profits at the end of each year, its surplus is returned to its members according to the percentage of their total share holding. In addition, each member is also required to pay RM 1 membership fee every year.

Through the FDAM’s guidance and supervision as the Registrar of FAs, FAs at various levels and locations are administered and organised, ensuring that they

comply with the regulations and by-laws. The distribution of AFAs throughout Malaysia includes 52 AFAs in West Peninsular Malaysia and 22 AFAs in East Malaysia as shown in Figure 2 below:

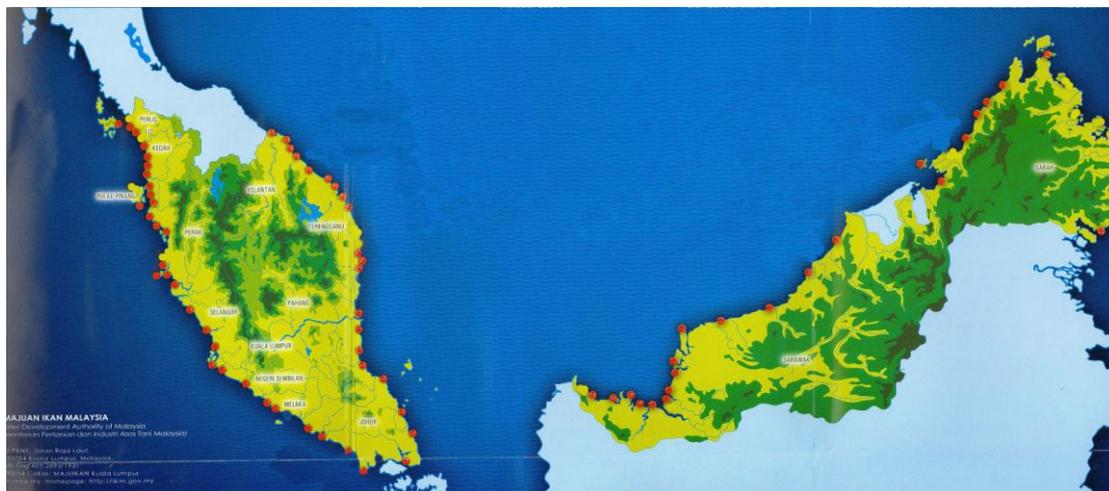


Figure 2: Map of Malaysia showing the scatters of AFAs.

2.2.1 Operations of fishermen's associations

An AFA has its own constitution which governs its operations and is in accordance with the Act. Registration gives the AFAs legal status, enables them to enter into contracts both with non-members and with other parties and if necessary, to sue or be sued in their own name. Without registration, the members have no legal protection. The AFAs are owned by their members and membership is open to anyone who resides in the area of operations of associations and who has attained the age of 18 years.

To run the AFA business and daily affairs, FDAM provides staff to be the General Manager, the Assistant Manager and the Accounts Keeper. The associations provide a number of services and facilities to their members, offering technical assistance, bulk purchase of supplies, advice on the conservation of fishery resources and setting up facilities for credit, processing and marketing. The organisational structure of an FA is shown in Figure 3:

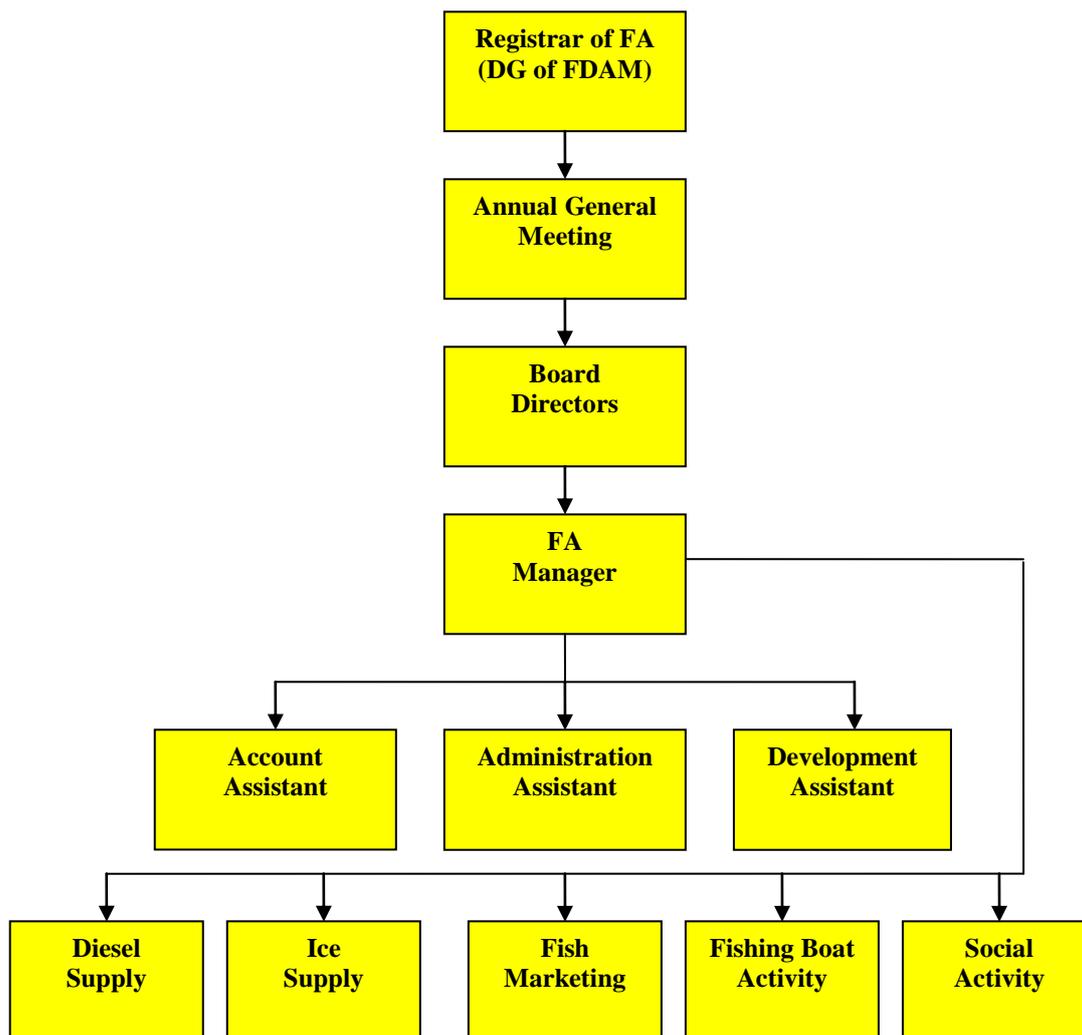


Figure 3: Organisational structure of an FA.

2.2.2 The general meeting and the Board of Directors

General meetings must be held at least once a year and at such meetings every member has one vote. In this meeting the members elect the Board of Directors and discuss strategies and programmes. It is the highest authority of an AFA and very important. The meeting can request the inclusion in its agenda of anything it deems relevant. At the general meeting the chairman of the Board of Directors presents the association's official report giving details of the AFA's activities during the previous period, submitting audited financial statements at the meeting for approval, and appointing auditors. In a democratically managed AFA, the general meeting is the source of all authority, including all directives and decisions.

The Board of Directors is the body responsible for administering the AFAs. It must ensure that the decisions made at the general meeting are carried out and that the directives given are properly implemented. The Board of Directors comprises a limited number of members. The board elects its chairman from among its members. It has been the custom that each member comes from different villages in the area of

the AFA. The term of office of the members is normally two years. Depending on the constitution of the AFA, board members can be eligible for re-elections.

2.2.3 Economic and social activities

The FAs provide fishermen with services which enable them to enjoy higher economic returns. The FAs will also strengthen their financial standing through activities such as marketing and input supplies like water, ice, diesel, transportation and boats. These activities will help the fishermen, especially artisan fishermen, who fish from small fishing boats and have no marketing outlet except for fish brokers. FAs can help them by providing facilities such as transport, packaging and storage, which an individual cannot do on his own. At the end of the year, if the FA's economic activities are making a profit, all the members will get a benefit, either through a rebate or dividend from the shares invested by the members.

Social activities and social obligations are two of the FAs' objectives. By providing basic infrastructure such as village roads, jetties, water supply and health education, the activities of the association benefits its members. Even though the social activities will not bring any economic returns in terms of income to the association it will bring the members closer to the association. The economically weaker associations can get a grant from the FDAM for social activities. Normally the FDAM will provide funds without charging any interest to the association.

2.2.4 Government control

The government, through the Registrar who is the Director-General of FDAM, has considerable powers over the FA management. The government also dictates FA policy. Since the government sees the FA as an integral part of government policy, the control tends to be great as there is a large amount of government money invested in the FA development. Anyway, this does not mean the government dominates FAs, as democratic control and members' voluntary participation have been encouraged and fully guaranteed by the government.

2.3 Status of the fisheries sector in Malaysia

The fisheries sector plays an important role in providing fish as a source of food and protein. According to the Status of the Fisheries Sector in Malaysia by the Department of Fisheries of Malaysia for the year 2004, fisheries' contribution to the Gross Domestic Product, increased to 1.73% in 2004 as compared to 1.37% for the year 2003 (DOF 2006).

Below are the data on fisheries statistics collected by the FDAM for the year 2005 (Table 2):

Table 2: Fisheries statistics for the year 2005.

Particulars	Quantity/Value
The number of fisheries landing complexes (FLC)	27
Quantity of fish landing at FLC	131,804.55 tm
Value	RM 391,877,857 (USD 103,125,752)
The number of fisheries inspection centres (FIC)	55
Export quantity	195,690.48 tm
Export value	RM 1,191,261,907 (USD 313,489,975)
Import quantity	253,500.75 tm
Import value	RM 1,589,851,300 (USD 418,381,921)
The total number of licensed fishing vessels	36,136
The total number of registered foreign fishermen	28,154
The total number of licensed deep-sea fishing vessels	833
The total number of fishing gear licenses issued	37,925
Types of gears	Trawler nets, purse seines, drift/gill nets, traps and hook & line
Common landing species	Scads, mackerel Bluefin tuna, sardine, blue red snapper, crab, squids and prawns

Source: FDAM 2005

The deep-sea fishing industry has been affected by a lack of large fishing vessels and skilled manpower. Various actions have been taken to ensure the expansion and development of the deep-sea fishing industry with the purpose of bringing maximum benefits to the country. Amongst these are the issuance of new permits and new licenses for deep-sea fishing as well as the training of fishermen. However, the operations of deep-sea fishing vessels to a certain extent will still have to rely on the foreign work force. The involvement is necessary to accelerate the development of the industry itself. Development of the deep-sea fishing fleet takes into serious consideration the status of the fisheries resources.

Normally each fishing vessel is licensed to operate one fishing gear. However, there are fishing operations where more than one licensed fishing gear is being used. At the same time there are also licensed fishing vessels being issued to more than one fishing gear licensed but at different seasons. The number of fishing licenses issued for fishing gears will normally exceed the number of fishing vessels licensed.

3 METHODOLOGIES

3.1 AFA financial data

The financial data of 74 AFAs was obtained from the Development of Fishermen's Institutions Division, FDAM for the past three years from the years 2003-2005. All FAs are obliged to submit monthly performance reports through the Internet or manually to FDAM as FDAM is the Registrar of FAs. These data shall be keyed into the computerised integrated report system which was developed by FDAM. These reports showed the monthly performance of economic activities of the AFAs including financial data, memberships, share capital, debtors, creditors, fixed assets, current assets, income, expenses, minutes of Board of Directors and many others. Monthly reports are generated by FDAM and tabled in the management meeting to discuss the progress of the AFAs. At the end of the year, yearly reports shall be generated consisting of the main variables as follows:

- i) Totals of sales
- ii) Cost of goods sold
- iii) Income
- iv) Expenses
- v) Net profit/loss

Generally, these figures are reflected in the financial statement of the AFAs with the considerations of the accrual basis transactions.

In identifying and categorising the performance of the AFAs, FDAM has fixed a regulation for its key performance indicators (KPI) that has been practiced over the years as shown in Table 3. It is categorised according to profits in three categories and two subgroups are used for each category. For this research the three categories are used as follows:

Table 3: **Key performance indicators of AFAs.**

Categories of AFAs	Level of profits
Category A (high profit)	Yearly profit of RM 60,001 and above (USD 15,789 and above)
Category B (medium profit)	Yearly profit of RM 30,001 - 60,000 (USD 7,894 - 15,789)
Category C (low profit)	Yearly profit 0 - RM 30,000 (USD 0 - 7,894)

Currency exchange used: USD 1 = RM 3.80

The profit boundaries of each performance category have not been changed from 1971 and do not even take into account inflation in Malaysia since then. Due to this the greatest a part of total profits and total revenue comes from Category A AFAs and this renders the categories obsolete for aggregate financial analysis.

3.2 Profitability ratios analysis

A suitable tool or model will be developed which has the features of a warning signal, indicator or monitoring tool which can be used by the management of FDAM to evaluate the performance of the FAs, so that FDAM can act fast in case there is any signal that the FAs are performing below satisfactory level.

In this study, Profitability Ratios Analysis will be used as it supports and draws important conclusions and shows a better view of the association's financial health. When profit margins of FAs are decreasing, the need for a reliable and efficient profitability analysis model becomes more important. It is also used to assess the association's past performance, identify its current problems, and suggest strategies for dealing with these problems.

“The definition of profitability ratio measures the income or operating success of an enterprise for a given period of time” (Weygant *et al.* 1999:833). According to a Malaysian book entitled Cooperative Accounting Principles and Practices (Hashim 1982), states that profits can be defined as the excess of operating revenues over expenses incurred, whilst loss is the shortfall of operating revenues over the expenses incurred. In other words, profits are determined by measuring revenue and deducting the related costs.

3.3 Variables for analysing profitability ratios

Before analysing, it was necessary to identify the relevant variables, which are needed for estimating profitability. There are variables in the form of profitability ratios being created besides the variables that are already in the computerised system of FDAM.

These variables used in analysing the profitability of AFAs are as follows:

- i) Contribution margin
- ii) Profit margin
- iii) Locations of AFAs
- iv) Equity
- v) Return on equity (ROE)
- vi) Share capital
- vii) Number of members
- viii) Categories of AFAs (A-high profit, B-medium profit, C-low profit)
- ix) Activities

3.4 Developing the model

The model is developed and described in a logical and systematic way in identifying the relevant variables that are needed to develop measures for measuring profitability ratios using the Microsoft Excel Pivot Table for each year and also by using correlation, ANOVA and regression analysis. Four criteria have been considered in developing this model. It should be simple, illustrative, usable and logical (Appendix 1).

3.5 Benchmarking with Icelandic fisheries management

Iceland has been a successful country in fisheries management. The catch of Icelandic vessels from all fishing areas in 2005 was recorded at 1.6 million tons worth ISK 67,920,065 (Statistics Iceland 2006.). A study on relevant companies in Iceland will also be carried out to see if there is anything that can be compared with respect to their operations and processes that could be followed and implemented in the AFAs in Malaysia.

According to a paper called *Benchmarking – A Management Tool* (Gestsson 1998) benchmarking is a systematic and continuous measurement of process measuring which compares an organisation's business processes against business process leaders anywhere in the world to gain information which will help the organisation to take action to improve its performance to seeing it as the process of identifying, understanding and adapting outstanding practices from within the same organisation or from other businesses to help improve performance. Aspects used in Iceland regarding profitability assessment will be studied and if possible suggested for application in FAs in Malaysia if necessary. Observations and interviews will be conducted. It is a systematic process for evaluating the products, services, and work processes of Icelandic organisations that are recognised as representing best practices for the purpose of organisational improvement. In addition, the study will analyse the main factors to obtain higher profits and revenue gains. The results of the analysis will also provide some ideas or tools to all stakeholders to use in the management of the fishery.

4 FINDINGS

4.1 Financial performance 2003 – 2005

4.1.1 Revenue

The total revenue growth of the 74 AFAs was RM 320,410,546 in the year 2003, RM 383,515,752 in 2004 and RM 421,120,739 in 2005, showing an increase by 31.4% from 2003 to 2005 (Table 4).

Table 4: Revenues of all AFAs for the years 2003-2005.

Revenue	2003	Change	2004	Change	2005
Sales	313,308,638	18.1%	369,954,419	9.0%	403,328,837
Other revenues	7,101,908	91.0%	13,561,333	31.2%	17,791,902
Total revenue	320,410,546	19.7%	383,515,752	9.8%	421,120,739
Average sales	4,233,901	18.1%	4,999,384	9.0%	5,450,390
Average revenue	4,329,872	19.7%	5,182,645	9.8%	5,690,820

The sales of the AFAs consist of revenues from economic projects like diesel supply, ice supply and fish marketing and other revenues, which are mostly from social grants and also interest on capital. During this period, the other revenues have grown from 2.2% of total revenue to 4.2% in 2005. The Malaysian inflation rate (consumer prices) for the same year was 1.90% in 2003, 1.10% in 2004 and 1.30% in 2005 (CIA World Factbook 2006). The average revenue of each of the 74 AFAs was RM 4,329,872 in 2003, RM 5,182,645 in 2004 and grew to RM 5,690,820. The information on the growth of industries where the AFAs are competing in is not available, but it can likely be assumed for other industries than diesel fuel to be relatively stable both in demand and prices. In the diesel selling industry both costs and prices have been rising drastically for the period. Since the data used does not offer a break down of sales and cost of sales by activities, an assumption that this is the reason for increased revenues of AFAs over the three years can be made.

4.1.2 Profitability

A profitability margin is a measurement showing how much out of every dollar of sales an association actually keeps in earnings. A higher profit margin between competitor companies indicates a more profitable company relative to sales and a company that has better control over its costs.

Table 5 shows that the total profits of the AFAs in 2003 were RM 17,823,650, it had gone down to RM 17,419,721 in 2004 and still down to RM 16,508,595 in 2005.

Table 5: Performance of all AFAs for the years 2003-2005.

Performance	Year 2003	Change	Year 2004	Change	Year 2005
Total profits in RM	17,823,650	-2.3%	17,419,721	-5.2%	16,508,595
Average ROE	33.6%	-19.0%	27.2%	-21.5%	21.4%
Profit to revenue	5.6%	-18.3%	4.5%	-13.7%	3.9%

In spite of a rise 31.4% in revenues from 2003 to 2005 (Table 3), the profits had gone down by 7.4%. The average return on equity of the AFAs for the same period had steadily gone down from 33.6% in 2003 to 27.2% in 2004 to 21.4% in 2005. At the

same time the ratio of profits to total revenues had also gone down from 5.6% in 2003 to 3.9% in 2005, thus showing a trend of an unfavourable margin of business. Since information on how the profits are divided between sales of activities and project investments and interests is not available, the difference in margin of profit to sales and profit to other income cannot be estimated. However, it can be seen that the total operations and the investments of the AFAs for the period is showing an unfavourable trend.

4.1.3 Performance of AFAs according to categories of AFAs

During the years 2003 to 2005, the 74 AFAs fell into the categories A, B and C (see Table 3) according to their performance as is identified in Table 6 below:

Table 6: Number of AFAs in profit categories.

Year	Category A	of total	Category B	of total	Category C	of total	Total
2003	42	56.8%	16	21.6%	16	21.6%	74
2004	50	67.6%	15	20.2%	9	12.2%	74
2005	44	59.5%	14	18.9%	16	21.6%	74

In Category A, the yearly profits are over RM 60,001 (USD 15,789). The number of AFAs in Category A varies through the years 2003 to 2005, increasing from 42 to 50 in 2004 and falling to 44 in 2005. In Category B, with yearly profits over RM 30,001 (USD 7,894), the number of AFAs is almost steady through the years, falling from 16 to 15 and then to 14 in 2005. In Category C (yearly profits under RM 30,001) the number varies quite similarly to Category A through the years, from 16 to 9 and back to 16 in the year 2005.

Table 7 shows that almost all revenues come from Category A AFAs, from 95.7% in 2003, up to 97.2% in 2004 and to 96.6% in 2005. The total revenues over these years were growing yearly from RM 320,410,546 in 2003, RM 383,515,752 in 2004 and RM 421,120,739 in 2005 (Table 4).

Table 7: Profit categories as a percentage of total revenues 2003 – 2005.

Category	2003	No. of AFAs	2004	No. of AFAs	2005	No. of AFAs
A	95.7%	42	97.2%	50	96.6%	44
B	3.1%	16	2.7%	15	2.8%	14
C	1.2%	16	0.1%	9	0.6%	16

The revenues in Category B decreased from 3.1% in 2003 to 2.8% in 2005 and the same happens with total profits of Category C going from only 1.2% in 2003 to 0.6% in 2005.

When looking at total profits for all categories, Category A returns 99.7% of RM 17,823,650 total profits for all AFAs in 2003, falling to 97.3% of RM 17,419,721 total profits in 2004 and 97.6% of RM 16,508,595 of total profits in 2005.

Yearly profits in Category B rise from 2.2% of total profits to 3.1% in 2005.

Category C is showing loss all three years lowering (-) the total yearly profits by 1.9% to 0.2% in 2004 and 0.7% in 2005.

Table 8: Profit categories as a percentage of total profits 2003–2005.

Category	2003	No. of AFAs	2004	No. of AFAs	2005	No. of AFAs
A	99.7%	42	97.3%	50	97.6%	44
B	2.2%	16	2.90%	15	3.1%	14
C	-1.9%	16	-0.2%	9	-0.7%	16

If AFAs in Category C are looked at more closely, only three AFAs are constantly in Category C all three years. All these three AFAs show a loss in 2003, only one in 2004 and in 2005 all three AFAs show a small profit. The other eight AFAs are two years out of three in the C Category. Three of them move to the B Category in the third year while the other five AFAs jump to Category A. The other AFAs in the C Category stay there only for one year.

4.1.4 Locations

Different location can be an important factor of profitability for the AFAs. For this reason four different locations for the AFAs are analysed. Location 1 is the western peninsular coast of Malaysia. In Location 1, 28 AFAs are operating. Location 2 is the east peninsular coast where 24 AFAs operate. Location 3 is the western part of East Malaysia where 13 AFAs operate. The fourth and the last location is the eastern part of East Malaysia where only nine AFAs operate.

The locations differ according to the number and percentage of AFAs in profit categories through the three years.

Table 9 shows that the majority of AFAs in Location 1 fall into profit Category A and they return almost all the profits of this location all the years. This location shows the AFAs steadily falling out of Category A from 21 in year 2003 to 20 in year 2004 and to 15 in the year 2005. However, the A Category still returns 99.2% of the total profits in Location 1 in 2005. For Category B AFAs, there is a rise from three AFAs in 2003 to four in 2004 and to five in 2005. In Category C AFAs, it rose to double from four in 2003 and 2004 to eight in 2005.

Table 9: Profits (RM) in Location 1, 2003–2005.

Loc.1	2003	AFAs	of total	2004	AFAs	of total	2005	AFAs	of total
Cat. A	10,172,017	21	100.4%	8,572,584	20	98.9%	6,447,391	15	99.2%
Cat. B	76,510	3	0.8%	101,444	4	1.2%	161,991	5	2.5%
Cat. C	-112,057	4	-1.1%	-3,725	4	0.0%	-111,701	8	-1.7%
	10,136,470	28	100.0%	8,670,303	28	100.0%	6,497,681	28	100.0%

Table 10 below shows that the majority of AFAs in Location 2 are in Category A where 18 AFAs in 2003 return 98.9% of the profits and 17 AFAs in 2005 return 96% of the profits. It is of great interest that the total profits for this category in Location 2 falls dramatically from RM 7,082,499 to RM 3,757,408 in 2005. This is a reduction of 53%.

Table 10: **Profits (RM) in Location 2, 2003–2005.**

Loc. 2	2003	AFAs	of total	2004	AFAs	of total	2005	AFAs	of total
Cat. A	7,082,499	18	98.9%	4,546,751	18	95.4%	3,757,408	17	96.0%
Cat. B	103,598	4	1.4%	213,695	5	4.5%	147,863	4	3.8%
Cat. C	-24,816	2	-0.3%	3,605	1	0.1%	6,700	3	0.2%
	7,161,281	24	100.0%	4,764,051	24	100.0%	3,911,971	24	100.0%

In Table 11 below, for Location 3, the number of AFAs in Category A increased steadily from three in 2003 to seven in 2004 and then to eight in 2005. Over those years the total profits for this category rose 893% from only RM 513,689 and 82.3% of the location's total profits in 2003 to RM 4,558,093 and 98.3% in 2005.

Table 11: **Profits (RM) in Location 3, 2003–2005.**

Loc. 3	2003	AFAs	of total	2004	AFAs	of total	2005	AFAs	of total
Cat. A	513,689	3	82.3%	3,144,650	7	95.9%	4,558,093	8	98.3%
Cat. B	173,229	7	27.7%	144,750	4	4.4%	95,316	2	2.1%
Cat. C	-62,480	3	-10.0%	-9,984	2	-0.3%	-14,185	3	-0.3%
	624,438	13	100.0%	3,279,416	13	100.0%	4,639,224	13	100.0%

Table 12 below shows that there were no AFAs in Category A in 2003, but in 2004 there were five AFAs and the number had dropped to four in year 2005. The total profits of the category grew to 95.9% of the location's total profits in 2004 and were 92.9% in 2005. For Category B AFAs, there were two to three throughout the years whereas for Category C AFAs there were seven in the year 2003. This figure, however, dropped to two in the two years after that.

Table 12: **Profits (RM) in Location 4, 2003–2005.**

Loc. 4	2003	AFAs	of total	2004	AFAs	of total	2005	AFAs	of total
Cat. A	0	0	0.0%	677,257	5	95.9%	1,355,461	4	92.9%
Cat. B	46,472	2	-47.2%	49,334	2	7.0%	99,917	3	6.8%
Cat. C	-145,011	7	147.2%	-20,640	2	-2.9%	4,341	2	0.3%
	-98,539	9	100.0%	705,951	9	100.0%	1,459,719	9	100.0%

In Figure 4 average revenues for the four locations are shown as well as average yearly profits for the locations. This graph shows that for the years 2003 to 2005, the performance of Category A AFAs in Location 1 were dominating the first two years, however, there was a decrease in 2005. In Location 2, there was a steady increase of average revenues from the year 2003 to 2005. For Location 3, there was a growth from 2003 to 2005. For Location 4, in the year 2003, the average revenues were very small; however, they rose to almost RM 150,000 in the year 2005. This is possible because the AFAs in the state of Sabah received increased revenues in building many social projects. The overall trend of the average profits is also increasing steadily. Since the number of AFAs in each location has not changed in these years the same holds for total revenues and total profits in the specific locations but not in the country as a whole since there are different numbers of AFAs in different locations.

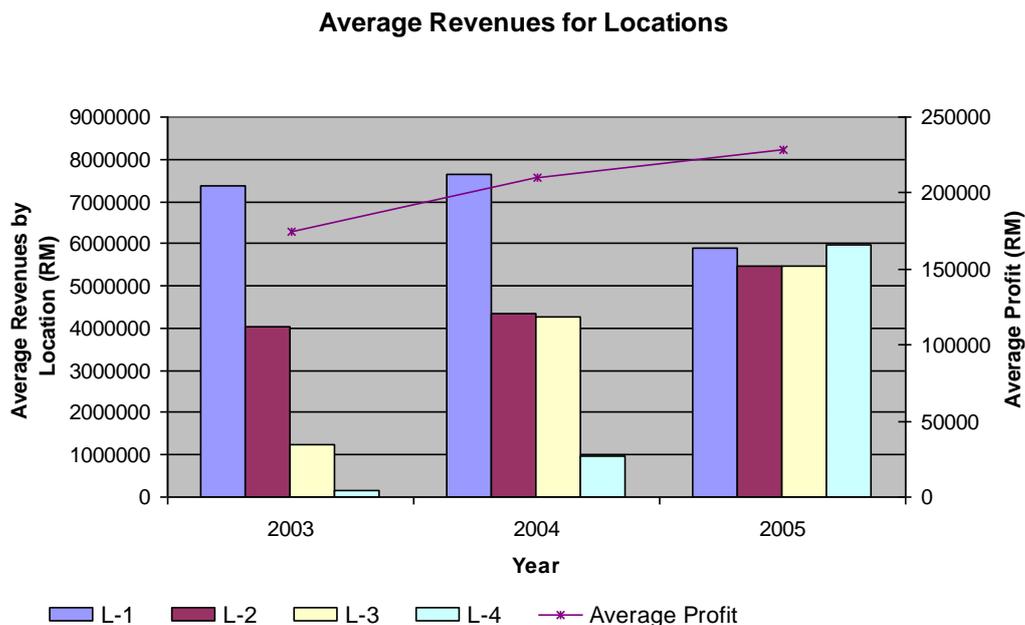


Figure 4: Average revenues and average profits according to location.

In Figure 5 the average profits of AFAs are shown according to location. Locations 1 and 2 show a steady decrease of average profits over the three years. The AFAs in East Malaysia, that is in Locations 3 and Location 4, however, are showing a positive growth throughout all the three years, and especially Location 4 coming from a loss in the year 2003 to showing the highest AFAs average profit for the year 2005.

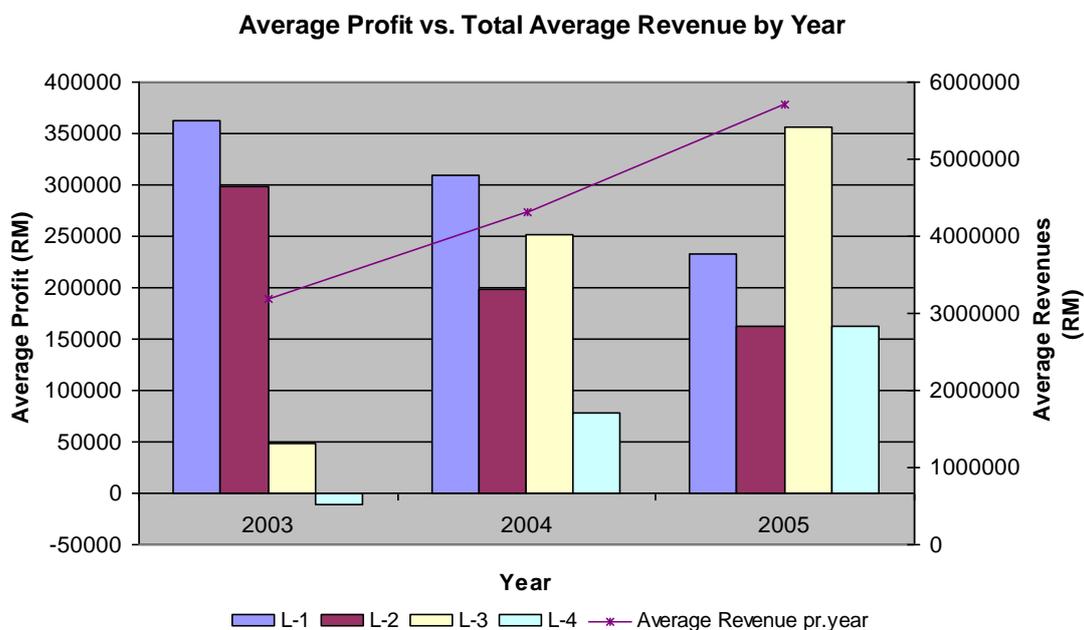


Figure 5: Average profits and total average revenues according to location.

4.1.5 Statistical analysis

Correlation, ANOVA and regression analysis were used for all the years. The variables that were analysed were profits versus locations, regression, total activities, equity, profit margins, return on equity and number of members. The purpose was to find whether any of these variables had statistical significance with the profits of the AFAs ($P > 0.05$). Of special interest is to see whether, and how, profits are related to the activities, number of activities and members, since a necessary break down of data does not allow a complete financial analysis of these factors.

Table 13 below shows that the variable location is not very significantly correlated to the profitability of AFAs during the period 2003 to 2005 as correlation only shows medium high negative correlation in 2003 as supported by the P-value in the regression analysis. For the total activities, it was shown that there was great correlation in year 2003 and 2004 but not in 2005. This is also supported by the regression analysis. For equity at the beginning of the year, a strong correlation is found for the years 2003 and 2004 and a medium one in 2005, the regression only shows significance in 2003. For the variable profit margin, the P-value shows correlation only in ANOVA analysis in the year 2003. For the variable return on equity, there was no correlation. For the variable number of members, a high correlation was found in 2003 and 2004 and a medium one in 2005, showing significance in the regression analysis in 2003 and 2004 but not in 2005.

As a conclusion for the financial analysis it can be stated that because of these inconsistencies in the financial data, and in the results of the statistical analysis these calculations cannot be used to explain the differences in the profits of the AFAs.

Table 13: Correlation, ANOVA and regression analysis of AFAs profits.

Profits	Correlation			ANOVA P-Value			Regression P-Value		
	2003	2004	2005	2003	2004	2005	2003	2004	2005
Profit vs.									
Location	-0.349	-0.212	0.016	0.018	0.194	0.361	0.002	0.769	0.758
Tot. Activities	0.490	0.418	0.127	2.4E-04	0.007	0.652	9.2E-06	0.284	0.248
Equity 1/1/03	0.661	0.596	0.355	/	/	/	1.5E-10	1.5E-05	3.7E-04
Profit Margin	0.087	-0.067	-0.043	/	/	/	0.461	0.471	0.710
ROE	0.224	0.290	0.558	/	/	/	0.055	2.2E-05	7.9E-10
No of Members	0.555	0.608	0.295	1.5E-41	1.4E-07	0.028	2.8E-07	1.7E-04	0.993

5 BENCHMARKING

A visit was conducted on 23 January 2007 to a fish auction company known as Fiskmarkadur Dalvikur ehf. in Dalvik. Dalvik is a fishing village situated in the northern part of the Iceland. The observation showed that there are many supporting industries in that area such as companies which are selling fuel, ice, salt and that all these companies are conducting and concentrating on one activity at a time. These companies are privately owned. This observation was noted through an interview with the manager of Fiskmarkadur Dalvikur, and also by surfing the related Internet website (RSF 2005). The company acts as a middleman, buying part of the fish that is landed at Dalvik harbour and selling it to the buyers through a fish auction system, and earning revenues through a commission. The activity of this company is conducting daily auctions to 200 to 300 fresh fish buyers in real time by a computerised system of e-business. It allows buyers to take part in the auction on the Internet from their workplace or at home through the auction system called Fisknet. To get access to Fisknet, the buyer has to download Fisknet software and also to have a bank guarantee from an Icelandic bank for the purpose of paying in advance if the successful buyer gets the bid. This fish auction company collects payments from buyers and disburses it to sellers, auctions, harbours, government, and other related expenses. The company has three workers. The company handles 12 thousand tons of fish per year.

The similarities and the differences in terms of operations between Fiskmarkadur Dalvikur ehf. in Iceland with the FAs in Malaysia are listed in Appendix 2.

After doing the benchmarking, nothing was found that could be directly followed in the processes of the fish marketing company and used in Malaysia at this time.

6 CONCLUSION

Even though the model used in this project is a suitable tool to analyse the profitability of AFAs in Malaysia, there is no specific conclusion that can be used to suggest to the FDAM or Registrar of FAs solutions that can assist FAs in sustaining their operations with the aim of generating more revenue. This is partly due to the non-review of the profit categories for the AFAs and partly because the break down of financial data did not make it possible to find the gross margin (markup) of different activities. However, in the process of evaluating underperforming AFAs, enabling the FDAM to act fast in taking suitable action, the management is suggested to do further studies on several other aspects, not related to financial data, which will be raised in the following discussion.

It is proposed that the FDAM redefines the limits of profit categories relevant to its strategies and the AFAs competitive environment of today so that a better financial analysis can be made on a regular basis. It is still suggested that this excel model should be used as an alert system to the management of FDAM to ensure that the performance of the FAs in Malaysia is under control. The management should check the performance of AFAs every three months and then yearly, so that the Registrar of FAs can have a closer monitoring system and take fast action if there is a fall in the performance. The performance indicators for each AFA should include the following: (Table 14):

Table 14: Suggested indicators for regular performance analysis.

Suggested indicators	Period of analysing	Last period	Change	Period last year	Change
Total sales					
Other revenue					
Total revenue					
Profit to sales %					
Profit to other income%					
Profit to total revenues%					
Gross margin tot. sales%					
Gross margin activity %					
Profits in RM					
Profits % of total profits					
Profits % of profit category					
Profits % of profit location					
Average profits in location					
Average profits per member					
ROE %					

The FDAM will act as a catalyst and facilitator of the fishing industry's development and ensure the well being and empowerment of the fishing community. Basically, stakeholders are particularly interested in the profitability of the firms that they own. The purposes of ratios can be useful in planning for the future, setting goals, and evaluating the performance of low profit AFAs. Even though different analysts may calculate ratios slightly differently, it is still needed to know exactly how the ratios are calculated in a given situation. It is a must to think about the future improvement of low profit AFAs now.

The AFAs in Malaysia need a paradigm shift and at the same time they need to revamp and improve the existing operations. It is high time for Malaysia to make fisheries a well functioning profitable industry, and even though the process in that direction has already started, it still needs more effort from all stakeholders.

7 DISCUSSION

With the goal of improving their profitability, the FAs should transform their operations towards more business oriented methods of operation.

These issues have been discussed at various levels of management meetings in FDAM such as the Audit Committee of Fishermen's Associations meeting, Head of Division / Directors meeting, Annual Division meetings and also the FDAM Board of Directors meeting. These organisations meet according to a fixed schedule, varying from monthly, quarterly, twice a year and yearly. Since these issues have not been backed up with data that could be explained, proofed and justified, it is likely that this lack of data has contributed to the underperformance of the AFAs. With the aim of overcoming these problems the following issues, which all have been discussed during the above mentioned meetings, are suggested to be studied further.

7.1 Unskilled AFA staff

According to the minutes of the meetings, it was claimed that the staff at the low profit AFAs was known to be unskilled and this factor was believed to be one of the main problems contributing to the underperformance of the AFAs. Their non commercially orientated mindsets, ingressiveness and incompetence were always being raised as some of the main factors contributing to the underperformance of the affected AFAs. This would result in the weak management of these AFAs.

It was suggested that the posts should be filled by skilled and qualified staff from the beginning to instil a corporate way of conducting work by the staff by connecting them to private sectors companies and also to provide comfortable office facilities, follow business courses, motivational and attitude changing courses, provide training programmes to update skills and knowledge, update ICT skills, uplift human capital, and also communication and negotiation skills. It is also important that the office manager must have no vested interests, that is no special interests in promoting his/her own personal advantage thereby deriving private benefits. So far FDAM has been conducting courses for the AFA managers to enhance their skills.

7.2 Mindset of AFAs' Boards of Directors and members

The majority of the AFAs' Boards of Directors and the members have a rather low educational level. The Boards of Directors of the AFAs are the bodies responsible for administering the AFAs, and according to the above mentioned meeting minutes, their weaknesses are always claimed to be that the Board members are not skilled enough and do not have a commercial mindset.

It was suggested that proper courses should be held on business programmes for the Boards of Directors and the members of the AFAs, with the aim of developing a

corporate culture, creative and critical thinking that could add value to their knowledge and strengthen the mentality of challenges and eradicate the subsidised mentality.

7.3 A proposal to create a fishing village with high levels of economic and social components

As a new strategy for helping low profit AFAs which are located at non strategic areas to sustain themselves, FDAM are discussing the idea of a pilot project of investing heavily in one or two fishing villages enabling them to be at a top level regarding economic and social components. To ensure success FDAM should fix its Key Performance Indicators (KPI) on the progress in order to make this project a successful model for others. Dalvik fishing village in Iceland, or other successful fishing villages, can be used as a good example. There are many supportive industries that make up a complete fishing village and it is much commercialised. Since Dalvik fishing village in Iceland is a very good model, Malaysia could adopt the main ideas, but at the same time it must be ensured that it is done in Malaysian way. All aspects of development must be taken into account while taking care of the current activities.

7.4 Create a sea estate by building more Fish Aggregating Devices

It has been suggested that FDAM could build more Fish Aggregating Devices (FADs) along the Malaysian coastal sea. FADs are concrete or culvert blocks built that are thrown in specific locations in the sea to attract schools of ocean pelagic fish. In recent years, FADs have become widely adopted as a means of improving fisheries catches and also to change the technique of catching fish from hunting to precession fishing.

7.5 Fishermen's fund to be a source for modernising fishing activities

In order for the low profit AFAs to generate sources of income through activities like aquaculture, fish processing, agro tourism, seafood restaurants, grilled fish ground sports fishing and others, they should be able get some loans from Fishermen's Fund provided by the FDAM.

7.6 Revision of the organisation of fishermen's institutions by reviewing the Fishermen's Association Act 1971 and related by-laws

It would be a necessary action for the FDAM to reorganise the fishermen's institutions by reviewing the Fishermen Association Act 1971 in order to increase the efficiency and effectiveness of the management of the FAs. The suggested ways that could be considered are as follows:

- Amend the Fishermen's Association Act 1971 with the aim of making the fishermen's institutions into an agent to change the fishing community to be more professional, self reliant, dedicated to integrity and business minded
- Amend by-laws of FAs in order to be able to appoint a Board of Directors from professional groups with regards to the approval of the Minister of Agriculture and Agro-based Industry, Malaysia

- The appointment of a General Manager at all levels of FAs is from the senior officers from the FDAM.
- FAs should concentrate on the activities that they are best at.
- The implementation of subsidised diesel supply to the fishermen should be continued. The fishermen are benefiting from the decrease in the operational cost burden and hence should be able to increase income. The Malaysian government decided and agreed to sell diesel at RM 1.00 per litre to the fishermen nationwide starting from 1 January 2006.
- Conduct motivational programmes and mind changes for the Board of Directors of FAs at all levels.

7.7 Encourage more fishermen to be members of AFAs

In order to strengthen the AFAs more members are required. The AFAs should be allowed to attract anybody from the fishing industry such as processors, marketers, aqua culturists, not only fishermen, to join the AFAs. In return they will get a better dividend. Fishermen in a community are encouraged to become members of the AFAs in order to create more share capital and also able to give dividends to the members. It is suggested that an ex officio can be elected, for example the children of the members who have high education levels.

7.8 Dissemination of information to the public about the fishing industry

One of the ways to increase the awareness of the fishing industry is to keep telling people, especially young kids, success stories. The marine or fisheries faculties in the institutes of higher learning in Malaysia need to be boosted. The current science fisheries education should be reorganised and refocused with the aim of making it more attractive for the students.

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APPENDIX 1

Steps to develop a model for measuring performance of FAs by using Profitability ratios of the AFAs

<i>Steps</i>	<i>Actions</i>
1	Gather data of performance of 74 AFAs which was sent to the Development of Fishermen Institution Division, FDAM for the past 3 years from the year 2003 till 2005 which was available in the computerised integrated report system which was developed by FDAM.
2	Design a worksheet. Create a worksheet for each year, and put the name Performance 2003, 2004 and 2005.
3	Compile a large list of data. Organize the cells and insert new rows or columns into the worksheet and must have the details of the following particulars : list of 74 AFAs, Sales, Cost of Goods Sold, Revenue, Expenses, Profit, Location, Equity carry forward at the beginning of the year, Equity carry forward at the end of the year, Share Capital, Number of Members, Category (High/Medium/Low Profit), Activities and Total Activities.
4	Create a formula to calculate the Contribution Margin, Profit Margin (Rate of return on Sales), Average Equity, and Return of Equity (ROE), net profit margin, and Return on Equity for each year. Two general principles must be considered when building the database: Principle 1, let Excel do as much of the work as possible to avoid mistakes and minimize data entry errors, and increase productivity by reducing the amount of data that needs to be entered; Principle 2, format the worksheet in such a way as to make it easy to comprehend.
5	Create a PivotTable® report—an interactive table that automatically extracts, organizes, and summarizes your data. This report would analyze data, make comparisons, detect patterns and relationships, and discover trends and find answers to questions.
6	Analyse the data, and evaluate the trend. Select and generate suitable variables for measuring profitability ratios. The variables that related to the profitability of the AFAs that being looked into are location, sales, activities and no. of members are seems to be measurable parameters.
7	Calculate the observed variables. The numerical results of the measures will be used for monitoring changes in the maintenance of profitability ratios.
8	After analysing the trend of financial data according to Pivot Table, analyse the data according to Correlation, ANOVA and Regression analysis. Finally, make conclusion.

APPENDIX 2

Similarities and the Differences of the Fish Market Company in Iceland with the Fishermen Associations in Malaysia (FA)

<i>Issues</i>	<i>Fiskmarkadur Dalvikur ehf in Dalvik, Iceland</i>	<i>Fisherman Association in Malaysia</i>
<u><i>Differences:</i></u>		
<i>Activities</i>	Running only one activity, buying and selling fish	Running many activities such as diesel supply, ice supply, fish supply, agrotourism, carrying out social projects using grants from FDAM
<i>Ownership</i>	Self own, only in Dalvik	Members of FA, having many FA's at area, state and national level
<i>Sources of revenue</i>	Commission from buying and selling fish	Trading of diesel, ice and fish marketing
<i>Terms of Sales</i>	Cash (on a valid bank guarantee of the buyer)	Members purchase diesel and ice on credit terms with the control of FA's credit policy
<i>Human Resources</i>	3 staffs	Depends on the size of the FAs, mostly has many staff for the high profit FAs and less staff for the low profit FAs
<u><i>Similarities:</i></u>		
<i>Activities</i>	Buying and selling fish – earn commission	Buying and selling fish – earn commission