THE VIABILITY STATUS AND LEVEL OF COMPITATIVENESS OF TOBACCO INDUSTRY IN PENINSULAR MALAYSIA

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ABSTRACT

The main intention of this paper is to evaluate the viability status and the competitiveness of the tobacco industry in Peninsular Malaysia. There are two methods of analysis has been adopted encompasses of i) financial analysis to find out how feasible tobacco farming activity from different type of farming options and ii) competitive analysis using break-even point concept to find out the level of competitiveness. This financial analysis uses current price data to reflect the performance of the different types of tobacco farming activities. Its role of discipline in the project analysis is mainly towards diagnosing weakness in the existing system and to recommending action for further consideration. Financial analysis is based on the information from the cash flow budget for any project. Using the cash flow data, the break-even analysis will be computed so that any change in tobacco price will affect the whole tobacco farming activities budget. The data from Kelantan and Terengganu has been used for this study. These two states are two major tobacco-producing areas in Peninsular Malaysia, comprising 14,615 ha or 92.7% of the total area in the Peninsular Malaysia. There are three types of tobacco farming techniques. Firstly farmers plant only tobacco and sell wet tobacco leaves to curers. Secondly farmers plant tobacco as well as curing the leaves. Thirdly farmers only cure the leaves. Each of these tobacco-farming activities has its own entity of individual operational cash flows for running the business. This study develops individual cash flow for financial analysis in order to examine viability of the farming activities. The viability of this financial analysis is based on the net present value and internal rate of return for each type of the farming activities. The break-even analysis will be computed in order to know the break-even price for each of the farming group. The results from this financial analysis will reflect the viability of the tobacco industry according to the farming activities and the break-even analysis will determine the level of competitiveness of the tobacco industry in Peninsular Malaysia.

Keywords: Tobacco, net farm income, production cost, break-even analysis

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INTRODUCTION

In the early 1990s the General Agreement on Tariffs and Trade (GATT) had become no longer a prominent institution. The most recent round of multilateral trade negotiations held on the Uruguay round, was discussed on her role and effectiveness in handling the world trade. Due to this reason World Trade Organization (WTO) was established (Bernard M.et al., 1995). It role has increased for more challenging in handling multilateral trading system. Its coverage was expanded to services and intellectual property rights, as well as trade in goods. One of the important issues is the trade liberalization, whereby there is tariff deduction over a certain period. Forestry sector products will not be exempted from this New Economic World Order. Even though this issue is still in debatable in the international forum among 154 members countries, it is most likely will be implemented in the near future.

The tobacco industries will not being exempted from trade liberalization program. Due to this reason, it is good to carry out study about the viability as well competitiveness of tobacco industry in Malaysia as compared with the others tobacco producers. In order to know how viable the tobacco industry, a feasibility study is required to be carried out for each types of tobacco growing groups. A feasibility study is a comprehensive report designed to give investors, bankers and operators a close-up look at the overall sequence of investment in a specific area. It provides a statement of the trade area, the economy of the area, an estimate of demand, supply, an analysis of the competition and an estimate of the unmet demand if any. It also includes the costs and expenses on the financial side, cash flow projections and the like. With these components in mind, a feasibility study serves to help the developer decide whether to go ahead with a specific project or other wise. In addition to that, the decision on the site is also important with regard to soil suitability. The study should also provide answers to several other important questions. The feasibility study answers a lot of questions like should I do it, should I do it now, how big should it be and with what unit mix.

As a source of analysis and recommendations, a feasibility study is an important tool that investors can rely on to help them make management and development decisions. When done correctly, a feasibility study should be a document like a business plan that has to provide investors with an objective go or no go vantage point. The investors can look at all the objective risk points and decide if they are willing to forgo the risks to get the forecasted reward. With some experienced investors opt to forgo the feasibility study with the high price of today's projects; it is always wise for professionals to conduct extensive research before making any investment.

In order to make any business sustainable in the long run, we should make our business more competitive as compare with our rivals. Competition in an industry is rooted in its underlying economic structure and goes well beyond the behavior of current competitors. There are three most important factors if we want our business more competitive as compare with our rival. Lowest cost is one of the main factors, differentiation of the products is the other important factors and the last one we should focus for the business involved (Micheal, 1998). In fact the lowest-cost can be defined in terms of relative cost and relative prices, thus linking it directly to profitability, and presents a whole new perspective on how profit is created and divided. It is difficult to reduce the cost of production but we could increase the production efficiency in order to make the cost proportion low. Other than that, we can study how low the price can be reduced and yet the industry still could run the business.

Generally this paper will focus on two important issues. First it is looking at the viability of the tobacco industry in Peninsular Malaysia. Second, this study will look on the tobacco price and at what level could be reduced and yet the industry is still secured.

BACKGROUND

The record shows that, tobacco industry is one of the profitable crop in Malaysia, which could improve farmers' income and reduce the poverty in Malaysia. Involvement of poor farmers in the tobacco industry obviously would cause a paradigm shift in the farmers' income within in a short period under the supervision of related agencies such as National Tobacco Board and Department of Agriculture Malaysia. The development of tobacco industry started since 6th Malaysian Plan with proper control and with systematic agronomic practices. There was a great improvement on the productivity, quality of products as well as their level of production efficiency (Abdullah et. al., 2000).

Malaysian Tobacco Company (MTC) had initiated a tobacco plantation in the 20 acres plot in Kelantan. This private company has introduced systematic agronomics practices in planting tobacco in this plot. The main purpose for planting this crop was to cater her local cigarettes manufacturing company. This effort has attracted more local tobacco curer's stations in Kelantan, which had caused a negative effect on the quality control on tobacco production. To overcome this problem, the government in 1973 has created Lembaga Tembakau Negara (LTN) with the main task to solve the existing problem and redeveloped the tobacco industry (Alang Perang and Turiman, 1983).
LTN is one of the government agencies under this ministry, was given the main task to reshape the tobacco industry. Any entrepreneurs should emphasize on the efficiency of resource used to increase their production so that it could minimize the cost of production (Ahmad Fauzi, 1989). To achieve this objective, it is good to carry out the tobacco feasibility study in order to know the viability of this crop as compare with other crops. The competitiveness of our tobacco industry with other producers is a great concerned to our related agencies and well as our government.

RATIONAL OF THE STUDY

Tobacco farms are mainly concentrated in the rural areas. These farming activities are expected to increase farmers' income and help reduce poverty. Projects such as reallocation of poor farmers and fisherman in Rhu Tapai in the Farmers Industrial Garden Project (TIT – Taman Industri Tani) under LTN supervision with funds from the Ministry of Rural Development has benefited the farmers significantly. Their estimated monthly income of RM300 before joining the project, has increased to RM2,600 after joining the project (Ahmad Fauzi, 1989).

Tobacco leaves are used to make cigarette, cigar and chewing tobacco. Tobacco produces nicotine, which gives out is aroma for essential smokers. For years nicotine has been associated with cancer and sometimes tobacco is even referred to as "the killer weed". However the tobacco plant is not an irredeemable plant. Since its genetic makeup is fairly straightforward and well understood, scientists believe tobacco could turn out to be the perfect bio-technical factory for protein-based drugs. By splicing human genes, a technique developed in the early 1990's, researches have enabaled tobacco plants to produce a number of drugs and vaccines and even human blood components. Within 10 years, researches are hopeful that tobacco farmers might be raising millions of acres of biofactories (Catherine 2000). The latest.

breakthrough in tobacco "pharming" may bring such a vision one step closer to reality. Scientists at Monsanto Co. reported in the March 2000 issue of *Nature Biotechnology* that they were able to genetically engineer tobacco plants to produce human growth hormone, otherwise known as somatotropin, an extremely costly drug used to treat dwarfism.

An analysis for the farmers' investment as well as funds from the government is a good tool in ensuring the sustainability of the industry. Today the public image of tobacco is not very encouraging, especially with protest from NGOs against cigarettes. By a turn a fate, `Tobacco Pharming` has given light to this industry. We know that tobacco has vast medical importance to mankind in the future.

STUDY AREA

Two study sites have been chosen, one in Kelantan and the other one is in Terengganu (Figure 1). These two states are two major tobaccos producing areas in the Peninsular Malaysia, comprising 14,615 ha or 92.7% of the total tobacco area in the Peninsular Malaysia. This is the main reason why there are being chosen for the study.

Kelantan: Area of Air Tawar was chosen for the study, it is located about 45 km south of Kota Bahru along the coastal road from Bachok to Besut, Terengganu. It is in Pasir Putih District, Kelantan. Tobacco was first introduced in 1983 with only 72 farmers. The average monthly income of the farmers at the initial stage was estimated RM200. Total areas of 162 hectares were under tobacco farming.

Terengganu: Rhu Tapai was chosen for the study, it is located about 17 km north of Kuala Terengganu along the coastal road to Kampong Penarik, Mukim Marang , Setiu District, Terengganu. Most of the tobacco farmers belong to reallocation of poor farmers program (*Projek Pembangunan Rakyat Termiskin* - PPRT) in Terengganu. This project was started in 1999 with the first phase involving 30 tobacco farmers with a total area of 210 hectare. By 2001 the total number of farmers have increased to 57. The initial average monthly income of the farmers was estimated RM300. The actual total area involved under this project was 380 hectares, which comprised farm and buildings area for curing bans.

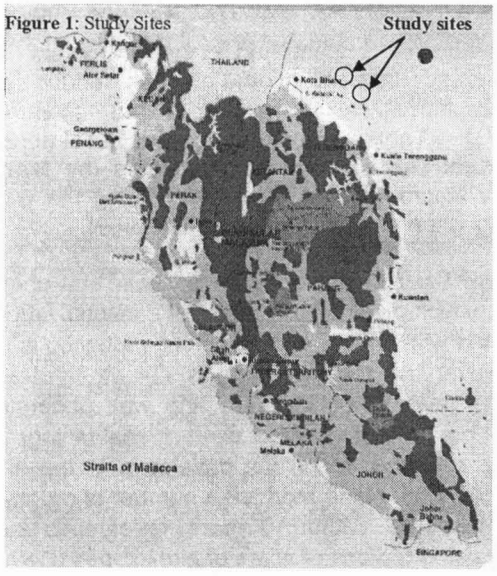


Figure 1: Study Sites

SCOPE OF THE STUDY

The primary data was collected from the study sites. A stratified random sampling method has been used in selecting the respondents from the LTN list of tobacco farmers for both project areas. Table 1 shows the number of respondents chosen for the study.

Table 1: The Number of Respondent for the Study

State	Kelantan (Air Tawar)	Terengganu (Rhu Tapai)	Total
Inside project	70	49	119
Outside project	76	42	118
Total	146	91	237

There are three types of tobacco farmers.

i) *Individual grower and curer (PPI)* : Individual farmers who grow tobacco and at the later stage, also cure their own tobacco leaves. They process green (wet) leaves to brown (dry) leaves themselves. These farmers could sell their products directly to cigarette manufacturing companies and usually get good prices. They are under close supervision by LTN.

ii) *Growers:* individual farmers who only grow tobacco on their farm and sell their green leaves to nearby curers. The LTN provides credit facilities for agriculture input to them through registered curers under LTN. As they do not process green leaves to brown. They usually do not get good prices. They are not under close supervision by LTN.

iii) *Curers:* This type of farmers act as guarantor to individual grower for agricultural inputs credit given by LTN. They also buy green leaves from individual growers to be cured in their factory. The processed leaves can be sold directly to cigarette manufacturing companies.

THE OBJECTIVES OF THE STUDY

The study aims to know the present status of tobacco farming business from economic point of views. There are questions to be answered, such as how feasible the tobacco farming business in Malaysia. This is important factor to know in preparation with new world order such as AFTA and WTO. The specific objectives of this study are as follows:

a) To carry out the feasibility study for all types of tobacco farming groups.
b) To compute the tobacco price competitiveness in the market.

This study hopefully will be able to furnish us the valuable information, which is required in the near future.

METHODOLOGY

i) Financial Analysis

This study will estimate costs and revenue associated with tobacco farming to develop several cash flows for Kelantan and Terengganu. These study in the latter stage will workout the feasibility for all the options given.

In the normal practice, this feasibility analysis will employ four main economics tools; the net present value, benefit cost ratio, internal rate of return and the pay back period of all the possible cropping system.

a) Net present value (NPV)

The term net present value is usually computed by finding the difference between the present worth of the benefit stream minus the present worth of the cost stream. In other words, the net present value is the present value of income generation by the investment (Gittenger, 1980). In evaluation a single project, the project could be carried out if the net present value is positive. It is not worth to implement if otherwise. In the case where evaluation of more than one project is involved, selection should be made for the highest internal rate of return as well as net present with high benefit cost ratio. The formula use for calculating the net present value is as below;

$$NPV = \Sigma (B_t - C_t)/(1 + i)^t$$

Where:

NPV = Net present value
B = Benefits/revenue
C = Costs
t = Time frame

b) Benefit cost ratio (B/C)

Net present value only tells us how much the expected present profit could be earned from the investment but it does not reveal the proportion of total benefits against the total costs invested. To do this, benefit cost ratio analysis is the right financial tool to be employed. The project should be carried out if the benefit costs ratio is more than one. In a situation where they are more than one project, then the highest benefit cost ratio is preferable.

$$B/C = \Sigma \{B_t /(1 + i)^t\}/\Sigma \{ C_t/(1 + i)^t\}$$

Where:

NPV = Net present value
B = Benefits/revenue
C = Costs
t = Time frame

c) Internal rate of return (IRR)

Apart from the net present value and benefit cost ratio analysis, internal rate of return is another financial tool that could be used to judge the farm plan. Internal rate of return is measured when the discounted total benefits minus discounted total cost is equal to zero. The investment should only be carried out if the internal rate of return is more than capital cost interest rate (i.e. bank loan interest rate charged). The mathematical formula for the above financial tools can be summarized as follow;

$$IRR = \Sigma\{ (B_t - C_t)/(1 + i)^t\} = 0$$

Where:

NPV = Net present value
B = Benefits/revenue
C = Costs
t = Time frame

d) Payback period (PBP)

Payback period is another very important element that people used to ignore, which is important to include in the financial analysis. This element is very important for the bankers to know how fast the project will generate income. The earlier the money generated from the project the more comfortable the bankers in accessing the project. The cash flow could determine the payback period when the accumulated net farm income is equal to zero. The payback period formula could be written as follows;

$$PBP = \{\Sigma (B_t - C_t)\} = 0$$

Where:

NPV = Net present value
B = Benefits/revenue
C = Costs
t = Time frame

ii) Competitiveness Analysis

The calculation of tobacco price competitiveness had been used the same cash flow for financial analysis. All others factors of productions were fixed, but only the price of tobacco had been reduced to a level where the Net Present Value is equal to zero and the Internal Rate of Return value is equal to discount factor applied in the analysis. At this point, the farmers are operating at break-even but if at the price below at this level the farmers are expecting running at lost.

It is worth to mentioned here, this study had used primary data, which was collected from the study sites, however other data will be used from Department of Forestry for the standard and Department of Agriculture.

BASIC CHARACTERISTICS AND ASSUMPTIONS OF THE STUDY

Farm Characteristics

Most of the soil for both of the study areas is Bris soil, which is poor in retaining of water and it requires good drainage to avoids flooding (Wong, 1986).
The total farm areas are important under this study because it will affect the type of farming activities. Basically, the study has managed to collect the average farm size according to type of crops for both study areas. It has been found that the fruit tree has the highest average farm size i.e. 1.21 hectares. Tobacco average farm size is 0.99 hectares, which is the second highest farm size after fruit trees. This was followed by average farm size of short-term crop (cash crop) 0.93 hectares, padi 0.92 hectares and vegetables 0.34 hectares.

As mentioned before, the average farm size according to crops and states, which could be further sub-divide into under and outside project. It does not tell us the actual average area planted by the farmers and the average quantity of cured tobacco leaves by the curers. The study had managed to collect the information as in Table 2.

Table 2: Average Tobacco Planting Area and Production/ Farmer/Year (CHE)

Session	Kelantan				Terengganu			
	Under Project	Outside project			Under Project	Outside project		
	PPI	Grower	Curer	PPI	PPI	Grower	Curer	PPI
	Hectare	Hectare	Kg.	Hectare	Hectare	Hectare	Kg.	Hectare
Session 1	1.43	0.93	10,766.67	1.55	0.87	0.95	8,016.67	1.11
Session 2	0.76	0.68	23,242.17	0.97	0.79	0.89	7,761.75	1.00
Overall	2.1927	1.61	34,008.83	2.5179	1.656	1.840	15,778.42	2.1102

CHE – crop hectares equivalent.

Crop hectare equivalent (CHE) is the actual area of land being planted with tobacco within one year. The study has found that, the average of land being planted with tobacco by PPI farmers under the project in Kelantan was 2.1927 hectares (1.43 hectares session 1 and 0.76 hectares session 2). However, the average land being planted with tobacco by the PPI farmers outside the project in the same state was 2.5179 hectares (1.55 hectares session 1 and 0.97 hectares session 2). In the case of Terengganu, the land being planted by PPI farmers under the project was 1.656 hectares (0.87 hectares session 1 and 0.79 hectares session 2), whereas the land being planted by PPI outside project was 2.1102 hectares (1.11 hectares session 1 and 1.00 hectares session 2). It implies that, the PPI farmers outside project have utilized larger area per farmers per year as compared with PPI farmers under the project.

PRODUCTION OF CROP

Based on the previous and discussion with farmers, tobacco yield in the first session harvest on Bris soil is usually higher as compared with the second session harvest (wong, 1986). However it requires fertilizer to maintain the yield. The average number of plants planted by PPI farmers under project in the first session for Kelantan and Terengganu were 25,057 and 27,152 plants respectively as compared to 13,314 plants and 13,783 plants respectively in the second session. It seem to be in line with the farmers experienced, where by the crops for the first session are much better as compared with the second session.

The study has found out that, only 70% of the farmers are planting tobacco in the second session in Kelantan and about 84.71% of the farmers in Terengganu are interested in planting tobacco in the second session. Other than soil factor, uncertainty about climate also contributes to low yield in the second session crop.

The dry leaves yield for the first session produced by PPI farmers ander project in Kelantan and Terengganu are 856.76 kg and 933.61 kg respectively as compared 832.68 kg and 945.44 kg respectivley in the second session. Other than that, the price fetched by Terengganu PPI farmers is higher i.e. RM14.48/kg first session and RM14.46/kg for the second session RM15.11/kg first session and RM15.12/kg in the second session as compared to Kelantan PPI farmers. From this information, we colud predict that Terengganu PPI tobacco hfarmers undder project are expected to earn higher income using indicator of high yield and price. In the case of PPI farmers outside project have higher number of tobacco planted but the dry leaves yield are

low. Nevertheless, the dry leaves yield for Terengganu is higher as compared to Kelantan.

The wet yield first session outside project for Kelantan and Terengganu are 5,221.83 kg and 3,449.87 kg respectively. In the case of wet yield for the second session for Kelantan and Terengganu are 5,728.59 kg and 2,881.96 kg respectively. It has shown that, the individual growers in Kelantan produced higher yield as compared to Terengganu individual growers. On the other hand, there is very marginal difference in price of wet leaves for Kelantan and Terengganu for both sessions. The wet leaves price ranges from RM0.79/kg to RM0.80/kg.

The production of dry leaves by the curers in Kelantan is higher as compared to Terengganu. The average production of dry leaves first session per farmer for Kelantan is 10.8 ton as compared to only 8.0 ton for Terengganu. Second session production for dry leaves per farmers for Kelantan is 23.2 ton as compared 7.8 ton for Terengganu. The price is almost the same for both session and for both states.

COST OF PRODUCTION

The study has found that, the cost of production for the Kelantan PPI tobacco farmers' was a bit higher as compared with Terengganu. Table 4 shows the average production cost in Kelantan and Terengganu are RM5,143.95/ha and RM4,867.33/ha respectively. Nevertheless, the average cost of production of PPI farmers under project for Kelantan and Terengganu are RM5,010.94/ha and RM6,142.80/ha respectively. On the other hand, the cost of production PPI farmers outside project for Kelantan and Terengganu are RM5,212.38/ha and RM3,604.64/ha respectively. It is clear that, under the project, cost of production of PPI for Terengganu is higher but it is lower for the outside project. Nevertheless, the overall tobacco cost of production for PPI/ha is low in Terengganu (Table 3).

Table 3: Cost of Production of PPI RM/ha[1]

Items	Under project	Outside project	Overall
Kelantan	5,010.94	5,212.38	5,143.95
Terengganu	6,142.80	3,604.64	4,867.33

The average cost of production for farmers growing tobacco only for both study areas is RM3,898.44/ha. The average total cost of production for farmers growing tobacco only for Kelantan and Terengganu are RM3,995.42/ha and RM3,521.43/ha respectively.

Unlike the unit for cost of production for PPI and grower farmers is RM/ha, the cost of production for curer is in unit kilogram of dry tobacco leaves. Based on the analysis, the average cost of curer production for both study sites is RM14.78/kg. The cost of production of curer for Kelantan and Terengganu are RM15.34/kg and RM13.14/kg respectively.

Only one PPI will be used in the analysis, the average figure for both in and out the LTN supervision will be used. The analysis will focus compare for all three options i.e. PPI, growers and curers between The State of Kelantan and Terengganu.

1 This the actual cost from the survey, which was excluding subsidies – water pump, sprinklers, curing bun and grading shade. In the cash flow analysis all these items has been incorporate in the analysis.

The financial analysis will be considered for only 10 years period because beyond this period the cropping pattern might change. The fix cost will be amortized according to this period at the rate of 8% per year.

RESULT AND DISCUSSION

i) Financial Analysis

Generally, the financial analyses for all the options of tobacco farmers produced have good results. All of the options have a positive Net Present Value and high Internal Rate of Return with a good benefit cost figure. Well, of course, the pay back period will be good as well. The detailed for farming activities are as follows:

a) PPI

The PPI financial analysis has shown that the NPV for Terengganu and Kelantan are RM 72,389 and RM 50,247 respectively. It implies that, the value of NPV for Terengganu is RM22,143 or 44% higher as compared with Kelantan. In fact, Terengganu's IRR is also higher compare with Kelantan. The value of IRR for Terengganu and Kelantan is 189% and 109% respectively. It is clear that, the value of IRR for Terengganu is 73% higher compare to Kelantan, which is expected to have the same pattern too. Both states B/C ratios are grater than one, which means that this cropping option is profitable. The B/C ratio for Terengganu and Kelantan are 2.10 and 1.75 respectively. It means that, every one dollar invested in by the Kelantan PPI farmers will get back RM2.10, whereas the every one dollar invested by Terengganu PPI farmers will get back RM1.75. It is also found out that, the Pay Back Period for Terengganu PPI is only twenty-five months as compared to thirty months for Kelantan PPI (Table 4). Using all these information, it implies the PPI tobacco growers are very viable enterprise.

Table 4: The Financial Analysis Results

Items	PPI		Growers		Curers	
	Kelantan	Terengganu	Kelantan	Terengganu	Kelantan	Terengganu
NPV (RM)	50,246.90	72,389.50	16,099.12	2,202.12	55,802.04	167,000.70
IRR	109.42%	189.59%	88.12%	22.48%	25.31%	194.30%
B/C ratio	1.75	2.0	1.61	1.10	1.02	1.15
PBP (Mths)	30	25	34	65	49	18

Note: Using 10 years period at 10% discount factor.

ii) Growers

Table 5 has shown that, the tobacco growers NPV are much lower as compared with PPI and Curers. The value of NPV for Kelantan and Terengganu tobacco growersare RM 16,099 and RM 2,202 respectively. The Kelantan NPV is more than seven times higher compared with Terengganu's growers NPV. In the case for IRR, Kelantan has produced four times higher with Terengganu.

The actual IRR value for Kelantan and Terengganu are 88% and 22% respectively. The B/C ratio for Kelantan is 1.61, where as the B/C ratio for Terengganu tobacco growers is only 1.10. The PBP for tobacco grower for Kelantan is 34 months and the PBP for Terengganu tobacco growers is 65 months, which is about twice as long as the PBP period for Kelantan tobacco growers. Nevertheless, at this stage the grower tobacco farming activities are still viable but it is not guarantee if the tobacco selling reduce to a certain level.

ii) Curers

The tobacco curers business is quite impressive and profitable compared with the other two types of tobacco farmers. The NPV for Terengganu tobacco curers is about RM167,001 as compare with Kelantan tobacco curers, which is only RM55,802. It is clearly show that, NPV for Terengganu tobacco curers is about three times higher as compare as Kelantan tobacco curers. The IRR for Terengganu tobacco curers is 194%, while the IRR for Kelantan tobacco curers is only 25%. It implies that, the IRR for Terengganu tobacco curers is more than seven times greater as compare with Kelantan tobacco curers. In the case for B/C ratio, the Kelantan tobacco curers are slightly lower compare with Terengganu tobacco curers. The B/C ratio for Kelantan and Terengganu tobacco curers are 1.02 and 1.15 respectively. The PBP for Kelantan tobacco curer is 49 months whereas the PBP for Terengganu tobacco curers is only 18 months.

All results of the financial analysis have given a strong indication that, all these three types of tobacco farming options are viable. The NPVs are greater than zero, the IRRs are greater than discount factor (i.e.10%), the B/C ratios are greater than one and the PBPs are much lower than the time frame for analysis. These are the main key important factors that the tobacco farming industry is viable.

ii) The Level of Competitiveness Tobacco Industry

Under the new world order eventually will reduce the tariff for all imported goods including tobacco and tobacco products. To know this problem, further analysis has been carried out in relation with a few keys variables. The scenario has been made is that, what is the lowest tobacco selling price in order to make the farmers stay in the industry. Detailed of analysis has been made and the results of price analysis are shown in the Table 6. The analysis was made according to type of farming system. The detailed of analysis are as follows:

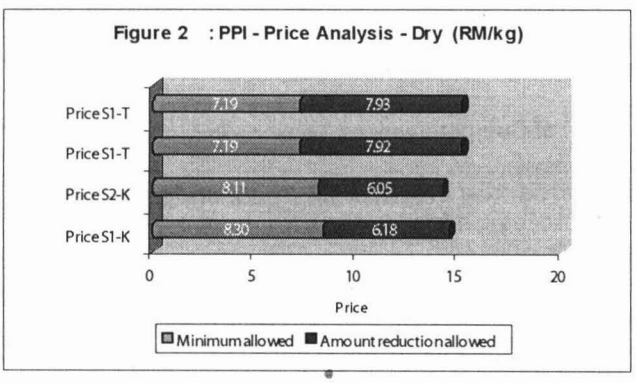
a) PPI

The result of analysis for tobacco growers under PPI could allow reducing their dry tobacco price up to 52.43% for Terengganu and 42.71% for Kelantan. It indicates that, the Terengganu PPI tobacco farmers can allowed the selling price of dry tobacco leaves to reduce from RM 15.12/kg to RM 7.19/kg and the Kelantan PPI tobacco farmers can allowed the selling of dry tobacco to reduce from RM 14.16/kg to RM 8.11/kg. On the other hand, the allowable selling price to reduced within the range from RM 6.05/kg to RM9.73/kg. At these prices level, the PPI tobacco farmers for Terengganu and Kelantan are still can survive in the market, but they are operating at the zero profit and no incurs losses (Figure 2). If the price level under this level, the PPI tobacco farmers are no longer competitive in the market under assumption that all others prices are unchanged.

Table 5: Price Analysis

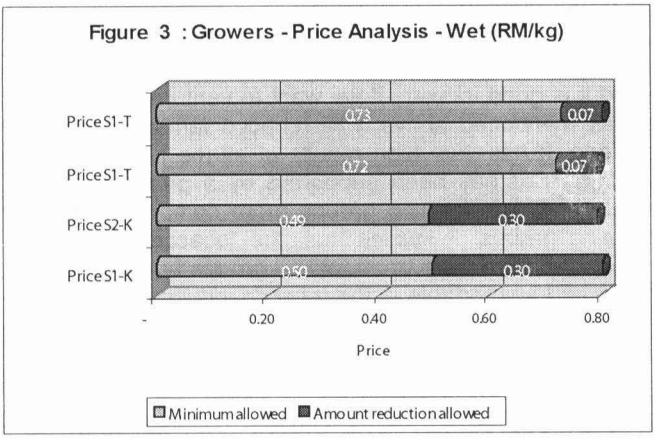
Items	Kelantan				Terengganu			
	Existing	Minimum allowed	Amount reduction allowed	%	Existing	Minimum allowed	Amount reduction allowed	%
PPI								
Price S1	14.48	8.30	6.18	42.71	15.11	7.19	7.92	52.43
S2	14.16	8.11	6.05	42.71	15.12	7.19	7.93	52.43
Growers								
Price S1	0.80	0.50	0.30	38.05	0.79	0.72	0.07	9.00
S2	0.79	0.49	0.30	38.05	0.80	0.73	0.07	9.00
Curers								
Price S1	13.79	13.51	0.28	2.02	13.45	11.66	1.79	13.30
S2	13.74	13.46	0.28	2.02	13.45	11.66	1.79	13.30

Note: S1 - First Season, S2 – Second Season



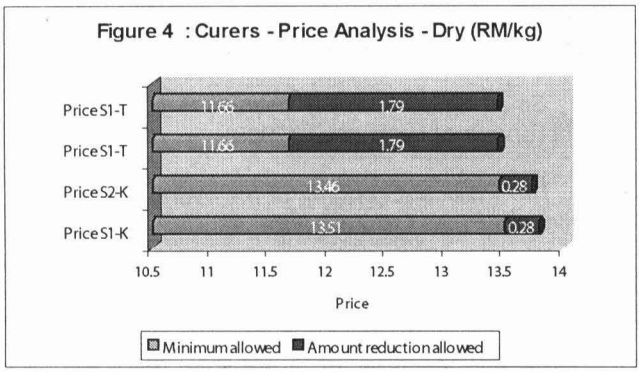
b) Growers

The tobacco growers have to sell dry leaves to the curers and their price is much lower as compared with the dry leaves. The analysis has found out that, the Terengganu tobacco growers could only allowed to reduce their wet tobacco selling price up to 9.0% only. While Kelantan tobacco growers could allow to reduce their wet tobacco selling price up to 38.05%. It implies that, the Terengganu tobacco growers could only allowed their wet selling price to reduce from RM0.79/kg to RM0.72/kg and in the case for Kelantan tobacco growers could allowed to reduce their wet selling price from RM 0.79/kg to RM0.49/kg. On the other hand, it allows the selling price to reduce between the ranges RM 0.07/kg to RM 0.30/kg (see Figure 3 for the detailed). If the selling price below these price, the tobacco growers could not survive in the tobacco farming business with assumption other prices remained the same.



c) Curers

The analysis have found out that, Kelantan curers are allow to reduce their dry tobacco selling price up to 2.02% or Rm0.28/kg, while the Terengganu curers are allow to reduced their dry tobacco selling price up to 13.30% or RM 1.79/kg.(Figure 4). This is clearly shown that, the Kelantan curers are less competitive as compare to Terengganu curers. The main reason this problem is that, the Kelantan curers' facilities are using old technology and the maintenance cost are very high and less efficient. Most of the owners are quite old and have no interest to replace the existing facilities with the new one. This has effect on the output quality, which is fetching low price. While the Terengganu curers are using new technology which is incur less cost of maintenance and more efficient. Their output quality is excellence and there are fetching a good price. This is indirectly creating a good profit margin.



The price analysis above has shown that the entire tobacco farming group is still earning certain percentage of profit margin. Nevertheless, the Kelantan tobacco curers and Terengganu tobacco growers have very thin profit margin, however they are still survive in the industry. On the other hand, PPI tobacco growers are really competitive as compared to the rest of the tobacco farming groups. PPI tobacco farmers are the most profitable and stable in this tobacco industry. The other two i.e. growers and curers are less profitable and stable.

CONCLUSION

The degree of viability of the tobacco industry is very important to be studied. To do this, feasibility needs to be carried out. It will guide us about the status of tobacco

industry from financial point of view. The four key factors such as NPV, IRR, B/C ratio and PBP will have us to understand the strength and weakness of the tobacco industry. The results from the study have shown that, the tobacco industry is very viable crop and it is good industry if we want to venture in a large scale. Among the three groups as mentioned above, PPI tobacco farming group is the most viable farming technique. It has very high results of all the financial indicators (NPV,IRR, B/C ratio and PBP). It has been supported by a good margin of profit, which is indirectly tell us that, this farming groups more competitive as compared with the other two farming groups. It implies that, the tobacco industry should be able to encourage the tobacco growers to adopt PPI groups farming techniques so that they are more stable and comfortable in the tobacco industry if the selling price drop due to the New Economic World Order.

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