



UNIVERSITI PUTRA MALAYSIA

**THE PARTICIPATION OF WOOD BASED SECTOR IN
THE MALAYSIAN RESEARCH AND DEVELOPMENT
GRANT SCHEME**

ABDUL HALIM BIN AHMAD

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BY

ABDUL HALIM BIN AHMAD

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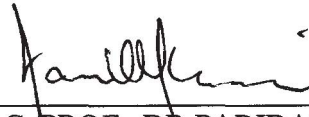


APPROVAL SHEET

NAME OF CANDIDATE : ABDUL HALIM BIN AHMAD

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SCHEME

APPROVED BY :



ASSOC. PROF. DR. PARIDAH MD. TAHIR
(SUPERVISOR)



ASSOC. PROF. DR. SHUKRI MOHAMED
(EXAMINER)



PROF. DR. MOHD. HAMAMI BIN SAHRI
(DEAN, FACULTY OF FORESTRY)

DATE OF EXAMINATION : MAY 2003

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LIST OF ABBREVIATION

MRD	Malaysian Research and Development Grant Scheme
IGS (R&D)	Malaysian Industrial Research and Development Grant Scheme
TAF	Technology Acquisition Fund
EDG	Engineering Design Grant
R&D	Research and Development
S&T	Science and Technology
MGS	Multimedia Grant Scheme
8MP	Eighth Malaysian Plan
7MP	Seventh Malaysian Plan
8MP	Eighth Malaysian Plan



ABSTRACT

Wood based sector has been identified as a major industry contributing towards technological development and advancement in Malaysia with respect to the value of the products made and number of people employed. It plays an important role in increasing Malaysia's exports earnings. However, Malaysian wood based industry is now encountering several problems namely shortage of labour, excess capacity in certain sectors, low level of technology, low recovery rates, low quality products and many more. In 1990, Malaysia has set up a clear vision i.e. to transform itself into a fully developed nation by the year 2020. The process requires the support of the whole Government machinery, and the private sector is expected to play a bigger role especially in R&D. In meeting the goals of Vision 2020, Malaysia has embarked several policy guidelines such as the Second Industrial Master Plan (1995 – 2005) and established supporting institutional framework for promoting R&D such as research grant schemes and incentives, especially for resource based industry. There are three main research grant schemes related to wood based industry provided by the Government, namely the Industrial Grant Schemes (IGS), the Industrial Technology Acquisition Fund (TAF) and the Engineering Design Grant. This study attempts to determine the participation of private wood-based organisations in the three main grant schemes provided by the Government. A survey involving 70 private companies in wood-based industry has been conducted to evaluate their participation in R&D activity and identify the major constraints hampering them in conducting R&D. The survey shows that only 17 % of the companies are actively carrying out R&D whereas 57.3 % are not engaged in R&D activity and 25.7 % of the companies did not submit any feedback. The survey also indicates that the major factor limiting the participation of private organizations in conducting R&D is lack of R&D personnel.

CHAPTER 1

INTRODUCTION

1.1 Background

The development of wood based sector in Malaysia begins with the establishment of 8 sawmills in the year 1920. In 1931, there were 12 sawmills and the number expanded to 65 sawmills in 1940. During the years spanning World War II, many of these mills were either destroyed or dismantled. All forest-based activities were severely restricted (Lew, 1977). But after that period up to independence in 1957, the wood based sector has become an important industry for Malaysia's economic development.

The ratio of Malaysian exports to gross national product (GNP) has risen from 48 per cent in 1965 to 100 per cent in 1996. The trade dependence of the Malaysian economy is manifested as the total value of exports and imports is twice as large the country national income. Structural changes in the economy since political independence in 1957 have rendered the Malaysian economy increasingly outward-looking (Ariff 1998).

The forestry and timber sectors are important contributors to the Malaysian economy as the industry remained a major exchange earner for the country, exporting about RM13.61 billion worth of timber and wood-based products in 2001 constituting about 4.07% of total export and increased to RM14.43 billion (4.07%) in 2002. The industry also provides employment for about 245,000 persons which represent some 3% of the country's labour force in 2001 (MTIB, 2002).

Recognising the important role of wood based industry in the country's industrialisation programme towards achieving the vision 2020, the government has instituted various measures to support its growth and development. The programme covers areas such as encouraging domestic investments, increasing productivity and quality, skills upgrading, enhancing industrial linkages, upgrading technology and adoption of Information and Communication Technology (ICT), expansion of markets and creating new markets, and financial support.

To support the growth of industry which includes the wood based industry, Malaysian government introduced several incentives as contained in the Promotion of Investments Act 1986, Income Tax Act 1967, Customs Act 1967 and the Sales Tax Act , 1972 are as follows:

1. Pioneer Status
2. Investment Tax Allowance (ITA)
3. Reinvestment Allowance (RA)
4. Double Deduction of Export Credit Insurance Premiums
5. Double Deduction of Promotion of Exports
6. Incentives Deduction of Promotion of Exports
7. Incentives for Research And Development
8. Incentives for Training
9. Incentives for Restructuring
10. Strategic Incentives for Forest Plantation Projects
11. Infrastructure Allowance
12. Double Deduction of Freight Charges
13. Drawback of Custom Duties
14. Exemption from Customs Duty on Machinery, Equipment and Raw Materials
15. Tax Exemption on the Value of Increased Exports

Rapid development is yet another issue the timber industry has to deal with. For developing countries like Malaysia, which depend mostly on imported technology especially from Germany, Japan and Taiwan, technology enhancement can be brought about through collaboration in joint ventures with counterparts in developed countries. This activity recognized as factors that made Malaysia as a manufacturing country and brought nation wealth but R&D activity to make own brand name doesn't tally with the achievement.

Wood based industry which is driven by furniture production is one of the most dynamic sectors in manufacturing and SMIs are predominant in this sector. Billions of ringgit has been allocated for SMI development through incentives funding and other measures as the government realizes that SMIs must advance to sharpen Malaysia's competitive edge. Among the financial assistance (Grant) provided by the Government for SMIs R&D are:

1. Malaysia Industry R&D Grant Scheme (IGS)
2. Technology Acquisition Fund (TAF)
3. Grant For Upgrading Engineering Design Capabilities
4. Grant For Business Planning and Development (ITAF 1)
5. Grant For Product and Process Improvement (ITAF 2)
6. Grant For Productivity and Quality Improvement and Certification (ITAF 3)
7. Grant For ICT Application
8. Technology Acquisition Fund For Women (TAF-W)
9. Commercialisation for R&D Fund (CRDF)
10. SMI Fund (Ministry Of Finance)
11. Multimedia Super Corridor R&D Grant Scheme (MGS)

1.2 Problem Statement

Manufacturing sector has played a key role in transforming the Malaysian economy. Significant industrial restructuring has taken place within the manufacturing sector. Industrialisation began in the late 1950s with import substitution. There was a radical shift from import substitution to export promotion in the late 1960s when it became obvious that the domestic market was too small for the industrialisation drive. The 1970s witnessed the establishment of many exports processing zones in which multinational corporations (MNCs) have played a pivotal role. In the 1980s, Malaysia opted for a second round of import substitution on account of its ambitious heavy industrialisation programme (FMM, 2003).

To be more competitive in the world market, Malaysia must have own brand technique and world-class product. The present scenario of Malaysian wood based sector is still far away from it. To achieve the competitive advantages, wood based industry must be complied with the research and development.

The main objective in this study is to determine the effectiveness of the Malaysian Government policy in attracting wood based industry to implement research and development. The study concentrated on the participation of private wood based companies in the R&D grant schemes namely the Industry Research and Development Grant Schemes (IGS), the Technology Acquisition Fund (TAF) and the Engineering Design Grant (EDG). Another key objective is to measure the level of R&D activity in the wood based sector.

1.3 Objectives

The objectives of this paper were:

- 1.3.1 To examine the participation of private wood-based organisations in Malaysian R&D grant schemes, namely the IGS, TAF and EDG.
- 1.3.2 To identify the obstacles hampering the wood based sector in applying for and receiving Malaysian R&D grant schemes.
- 1.3.3 To identify the constraints hindering the participation of private wood-based organizations in R&D activity.
- 1.3.4 To identify the requirement of wood based sector in implementing R&D activity towards enhancing the growth of company.

1.4 Limitation of the Study

The limitations in this study are:

- 1.4.1 Most of the participants were reluctant to give full information needed either through mail or personnel interview. Most given reason is the information required are confidential and classified.
- 1.4.2 Information obtained mostly from IGS, TAF and Engineering Design Grant cannot be fully disclosed because part of them is confidential. This is due to Government Secret Act 1972.

CHAPTER 2

LITERATURE REVIEW

2.1 Malaysian Wood Based Industry

The wood based industry contributes significantly to socio-economic development of country in terms of foreign exchange earnings. This is best reflected when wood manufacturers ranked third in 2001 behind manufacturing products and petroleum products for Malaysian exports (Bank Negara 2001).

The fast maturing Malaysian furniture industry expands vigorously every year. The government is convinced that vast potential exists for furniture in the export market and is keen to stimulate development in this direction. The Government encourages the establishment of projects to manufacture furniture for the export market and also induce existing manufacturers for overseas market. Table 1 indicates that wood furniture is the highest contributor Malaysia's wood based industry in 2001 followed by plywood and sawn timber. This indicate that sawn timber still represent large amount of export which known as low value added. In future, wood based industry should increase the sector with high value added fixture such as furniture. The table also shows that 10.79% share came from logs. This indicate that overall export for wood based sector in 2001 came from low value added sector.

Table 1 : Malaysia : Export Of Major Timber Products Year 2001

PRODUCTS			
	Vol (M ³)	FOB Value (RM)	%Share
LOGS	5,040,616	1,546,703,887	10.79
SAWN TIMBER	2,357,327	2,173,517,623	15.16
PLYWOOD*	3,517,109	3,517,489,522	24.54
VENEER	655,690	481,678,622	3.36
MOULDING**	n.a.	640,725,402	4.47
DRESSED TIMBER	205,090	315,085,454	2.20
WOODCHIPS	n.a.	25,251,545	0.18
CHIPBOARD/PARTICLEBOARD	280,109	134,017,322	0.93
FIBREBOARD	1,067,761	873,249,228	6.09
WOODEN FRAME	n.a.	82,082,951	0.57
BUILDERS CARPENTRY & JOINERY	n.a.	695,551,281	4.85
WOODEN FURNITURE	n.a.	3,778,648,972	26.36
RATTAN FURNITURE	n.a.	69,411,999	0.48
GRAND TOTAL	13,120,702	14,333,423,808	100.00

Source:- Peninsular Malaysia & Sabah - MTIB

2.2 Institutional Framework For Promoting R&D

Research and Development (R&D) has been identified as a critical factor contributing towards technological development and advancement. As Malaysia is striving to emerge as one of the competitive nations at least in the region if not the world, there is a need for Malaysia to create new markets by providing products and services through incorporating leading-edge technologies and trying to find new applications for existing technologies. These new or significantly advanced technologies, products, services, systems, devices, materials can be invented through R&D. R&D organisations in Malaysia should aim to be on par with other leading institutions in terms of R&D activities at the international level. The Government has introduced various incentives to promote R&D in the private sector.

2.2.1 Fiscal Incentives for Promoting R&D

Fiscal incentives for innovation in this country have only a seventeen-year history when the tax incentives for R&D were introduced in 1986. Subsequently, its scope was expanded to include research grants as well. Two types of incentives are provided by Malaysia in promoting R&D and innovation i.e. the Research Grants and the Tax Incentives. Figure 1 outlines the various incentives both with respect to Research Grants and Tax Incentives available to the industry in the country. Seven (7) schemes are incorporated under the Research Grants.

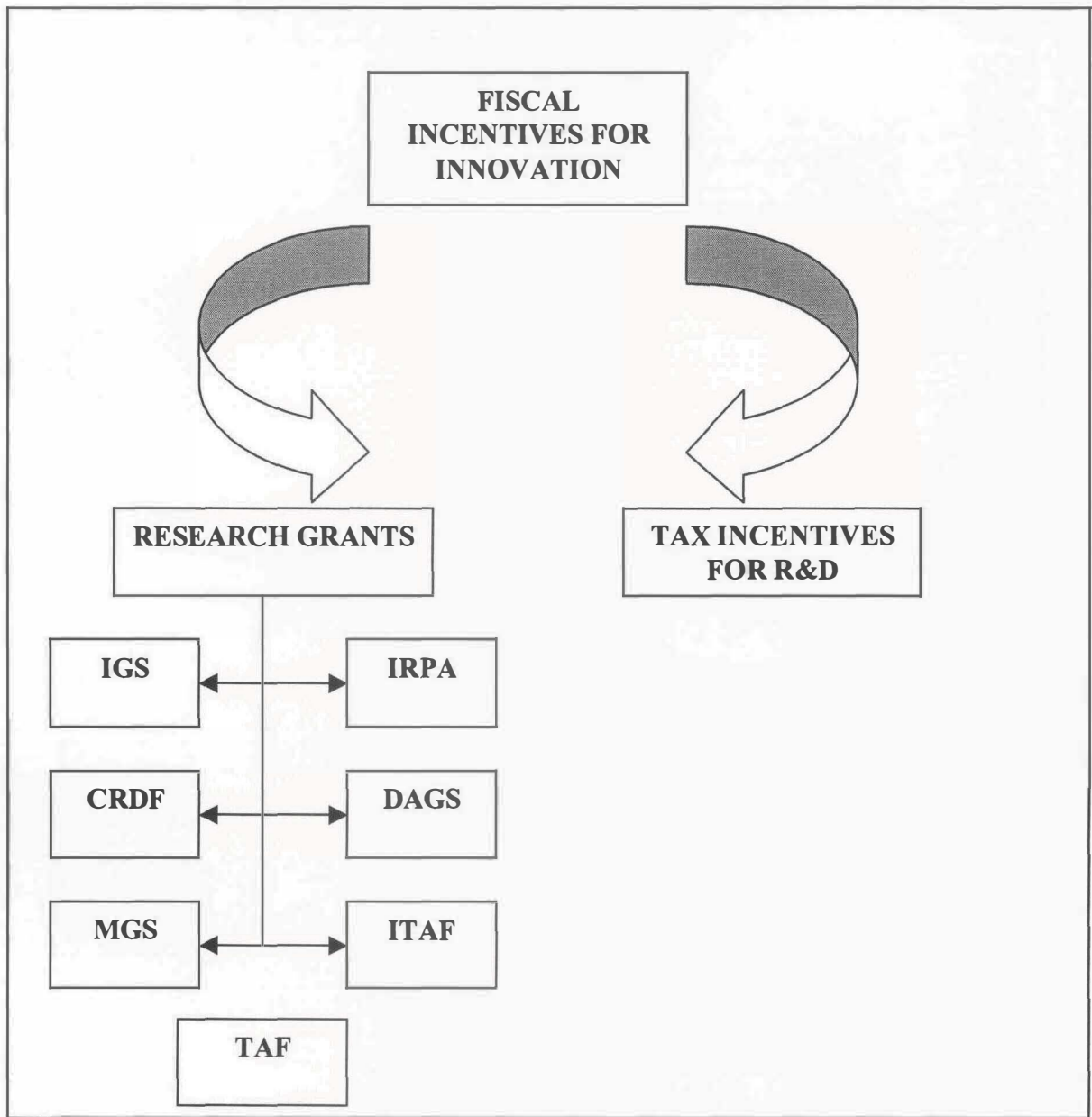


Figure 1 : Fiscal Incentives For Innovation In Malaysia

Source: Sunil (2000)

2.2.2 Research Grants

There are several grant schemes available in Malaysia for promoting R&D activities. The research grant schemes provided by the Government to encourage R&D activities in local organisations are as follows:

1. Intensification of Research in Priority Areas (IRPA) Fund

The main purpose of this scheme is to focus R&D on areas, which have potential for “enhancing the national socioeconomic position”. Grants are allocated to R&D projects initiated by Universities and research institutes in collaboration with the private sector. In this way, it is very similar to the IGS scheme excepting the grants disbursed to researchers in universities and other research institutes in the first instance. The rationale behind the scheme is that once the projects result in commercialisable ideas, these should get funded by the next scheme (CRDF).

2. Commercialisation of Research and Development Fund (CRDF)

This scheme was introduced in 1997 and is administered by the MTDC and it is a complimentary to the IRPA scheme. It provides partial grants ranging from 50 % to 70 % to three types of activities, namely; (a) market survey and research (duration of this activity will have to be within 6 months) (b) Product/process design and development including development of designs, prototypes and pilot plant or trial production runs (duration of this activity should not exceed 18

months), (c) compliance of standards and standards and regulations and intellectual property protection in Malaysia.

3. Industry Research and Development Grant Scheme (IGS)

IGS aims to enhance R&D in the private sector and promote closer co-operation between the private sector and the public institutions and agencies through collaborative linkages. The IGS encourages Malaysian companies to be more innovative in using and adopting existing technologies in creating new technologies, products and processes which will benefit the national economy.

4. Multimedia Super Corridor Research and Development Grant Scheme (MGS)

MGS help innovative local companies (including those of joint-venture type) in developing relevant multimedia technologies and applications that will contribute to the overall development of MSC.

5. Demonstrator Application Grant Scheme (DAGS)

DAGS encourages Malaysians to adapt and customise existing IT and multimedia technologies in applications compatible with local culture and to promote the development of local software and content industries for enhanced competitiveness in the global market.

6. Industrial Technical Assistance Fund (ITAF)

ITAF was established in 1990 with the aim of providing financial assistance to Small and Medium-Scale Industries (SMIs) in the form of matching grants for consultancy studies, product development and design, quality and productivity improvement and market development.

7. Technology Acquisition Fund (TAF)

This scheme was introduced in 1997 and is administrated by the Malaysian Technology Development Corporation (MTDC). This fund provides partial grants ranging from 50 % to 70 % to majority Malaysian owned companies that undertake a variety of technology acquisition activities.

8. Engineering Design Grant (EDG)

The scheme provides assistance for Small and Medium Enterprise (SMEs) to enhance their engineering design capabilities . This would enable SMEs to carry out their own design in-house. Funding 50% matching grant with the remainder of the costs to be borne by the applicant and the maximum grant per company is RM300,000.00

2.3 Policy Guidelines for Resource-Based Industry Development

The major determinant of technological advancement is a conducive policy climate that can support the flow of scientific and technological knowledge. Research and Development policy may be defined as a formalized plan to systematically stimulate scientific and technical progress via enhancing skills, knowledge (the know-how), discoveries and applications of scientific and technical procedures and processes in the production of goods and services. Two immediate objectives of R&D Policy are to facilitate the adjustment of the industrial / economic sectors to (scientific and technological) structural change and to provide a framework for accelerating this (technological) structural change.

The Government's commitment in establishing a strong R&D base in the country is reflected in several policies and policy initiatives that have been developed. The various policy initiatives and guidelines pertaining to R&D development in the country are contained in the Vision 2020, the industrial master plans, the five-year development plans and the national science and technology policies formulated by the Government over time. These documents contained the various strategies towards enhancing technological advancement with the structural changes of the economy and the global positioning of Malaysia within the context of a continuously changing competitive world economy.

2.3.1 Vision 2020

In 1990, the Government of Malaysia set up a clear vision i.e. to transform itself into a fully developed nation by the year 2020. The Plan, **Vision 2020 (1990)**, is for Malaysia to be