

CHAPTER 7 - NON-PROFIT ORGANIZATION R&D ACTIVITIES

7.1 Structure of Sector

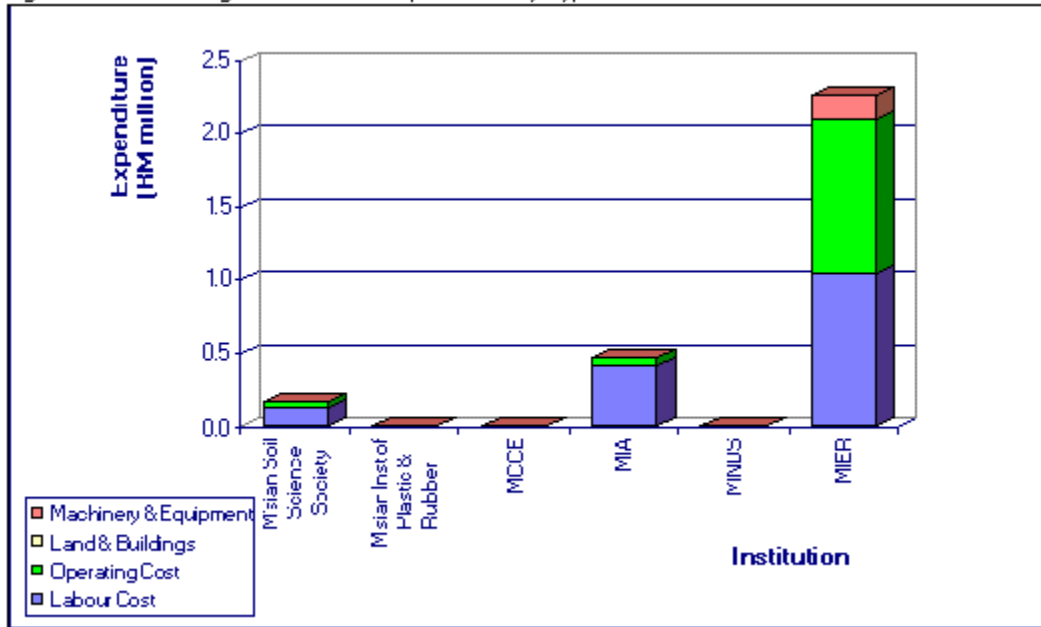
This time the survey took into consideration an additional sector called non-profit organisations (NPO) which was not included in 1992. The sector constitutes of all non-governmental organisations (NGO) plus MIER and ISIS that are not government agencies nor are they profit making institutions, but they might be involved in performing substantial R&D activities.

7.2 R&D Expenditure by the Non-Profit Organisations

Non-profit organisations spent RM 2.9 million on R&D in 1994 which accounted for less than 1% of national R&D expenditure. MIER was the most significant organisation accounting for 77% of the amount spent by them, followed by the Malaysian Institute of Architects. 'Labour costs' form the biggest portion of their expenditure (see Fig. 7.1).

Fig 7.1 Non-Profit Organisation R&D Expenditure by Types of Cost
Source : Table 7.1

Fig 7.1 Non-Profit Organisation R&D Expenditure by Types of Cost



Source Table 7.1

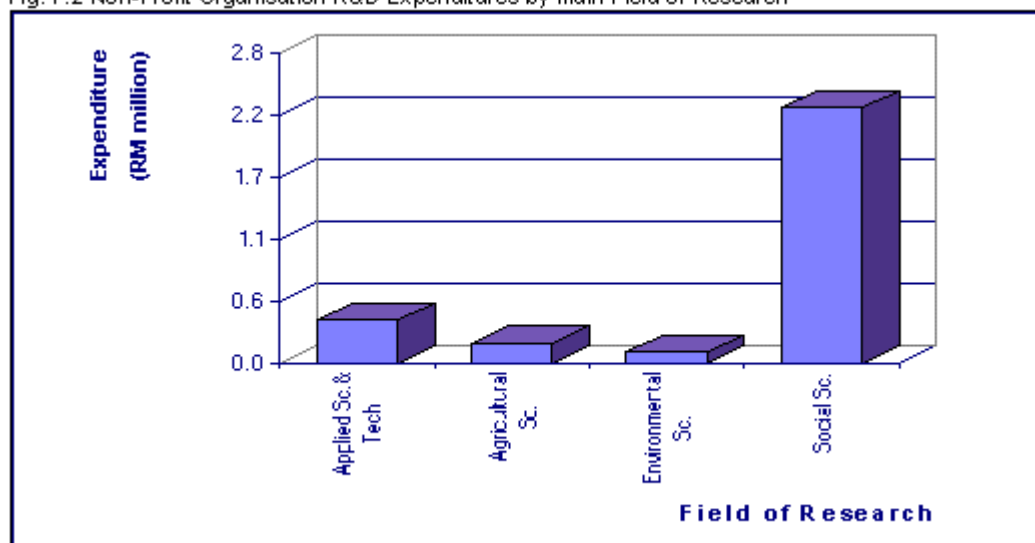
Table 7.1 Non-Profit Organisation R&D Expenditure (RM) by Type of Cost

Institution	Current Expenditure (RM)			Capital Expenditure (RM)			Total Expenditure (RM)	% of Total
	Labour Cost	Operating Cost	Total	Land & Building	Machinery & Equipment	Total		
Malaysian Society of Soil Science	136,200	40,000	176,200	-	-	-	176,200	6.05
The Plastic & Rubber Institute of Malaysia	-	-	-	-	-	-	-	-
Malaysian Council for Computers in Education (MCCE)	-	-	-	-	-	-	-	-
Malaysian Institute of Architects (MIA)	418,175	50,000	468,175	-	-	-	468,175	16.09
Malaysian Invention and Design Society (MINDS)	-	-	-	-	-	-	-	-
Malaysian Institute of Economic Research (MIER)	1,044,764	1,049,079	2,093,843	-	172,350	172,350	2,266,193	77.86
Total	1,599,139	1,139,079	2,738,218	-	172,350	172,350	2,910,568	100.00

Non-profit organisations focused their R&D effort mostly in the field of social sciences (encompassing Economics, Geography and Management studies among others). About 78% of their expenditure was spent in this field in 1994 (see Fig. 7.2).

Fig. 7.2 Non-Profit Organisation R&D Expenditures by main Field of Research
Source : Table 7.4

Fig. 7.2 Non-Profit Organisation R&D Expenditures by main Field of Research



Source: Table 7.4

Table 7.4 Non-Profit Organisation R & D Personnel (FTE) and Expenditure(RM) by Field of Research (FOR)

FOR Code	Field of Research	Personnel (FTE)							Expenditure (RM)						
		Researchers		Technicians		Others		Total	%	Labour Cost	Operating Cost	Land & Building	Machinery & Equipment	Total	%
		M'sian	Foreign	M'sian	Foreign	M'sian	Foreign								
F10600	Applied Sciences & Technologies														
F10699	Other applied sciences and technologies	2.12	2.50	-	-	-	-	4.62		334,540	40,000	-	-	374,540	
	Subtotal	2.12	2.50	-	-	-	-	4.62	20.1	334,540	40,000	-	-	374,540	12.9
F10900	Agricultural Sciences														
F10901	Soil and water sciences	2.40	-	-	-	1.00	-	3.40		108,960	32,000	-	-	140,960	
F10902	Crop and pasture production (including rice)	0.60	-	-	-	0.25	-	0.85		27,240	8,000	-	-	35,240	
	Subtotal	3.00	-	-	-	1.25	-	4.25	18.5	136,200	40,000	-	-	176,200	6.1
F11100	Environmental Sciences														
F11102	Environmental technology / industry	0.53	0.63	-	-	-	-	1.16		83,635	10,000	-	-	93,635	
	Subtotal	0.53	0.63	-	-	-	-	1.16	5.0	83,635	10,000	-	-	93,635	3.2
F20100	Social Sciences														
F20102	Economics	2.50	-	0.25	-	0.50	-	3.25		261,191	262,270	-	43,088	566,548	
F20103	Management studies	2.50	-	0.25	-	0.50	-	3.25		261,191	262,270	-	43,088	566,548	
F20108	Geography	2.50	-	0.25	-	0.50	-	3.25		261,191	262,270	-	43,088	566,548	
F20114	Finance	2.50	-	0.25	-	0.50	-	3.25		261,191	262,270	-	43,088	566,548	
	Subtotal	10.00	-	1.00	-	2.00	-	13.00	56.5	1,044,764	1,049,079	-	172,350	2,266,193	77.9
	Grand Total	15.65	3.13	1.00	-	3.25	-	23.03	100.0	1,599,139	1,139,079	-	172,350	2,910,568	100.0

The labour cost incurred per researcher was about RM 47,000 with the majority expended by MIER (see Table 7.8).

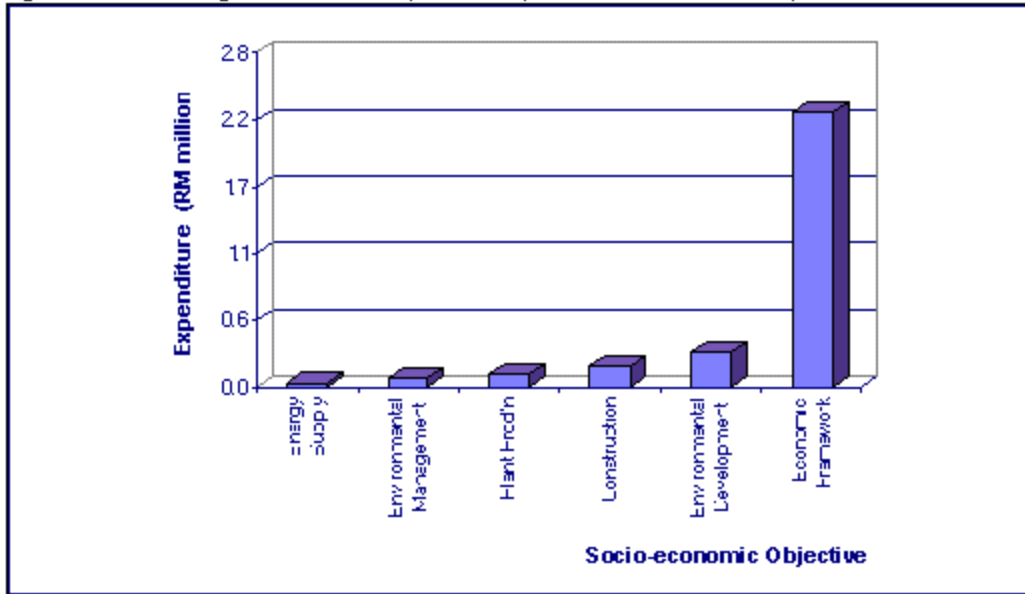
Table 7.8 Non-Profit Organisation R & D Expenditure (RM) Per Researcher by Institution

Institution	No. of researchers	Expenditure(RM)				Total Expenditure* (RM)	Cost per researcher	Labour cost per researcher
		Labour Cost	Operating Cost	Land & Building	Machinery & Equipment			
Malaysian Society of Soil Science	5	136,200	40,000	-	-	176,200	35,240	27,240
The Plastic & Rubber Institute of Malaysia	-	-	-	-	-	-	-	-
Malaysian Council for Computers in Education (MACE)	-	-	-	-	-	-	-	-
Malaysian Institute of Architects (MIA)	10	418,175	50,000	-	-	468,175	46,818	41,818
Malaysian Invention and Design Society (MINDS)	-	-	-	-	-	-	-	-
Malaysian Institute of Economic Research (MIER)	19	1,044,764	1,049,079	-	172,350	2,266,193	119,273	54,988
Total	34	1,599,139	1,139,079	-	172,350	2,910,568	4,221,997	47,034

* excluding land & building expenditure

Economic frameworks, a sub-branch of social science was their most important socio-economic objectives as far as R&D activities were concerned (78% of total) (see Fig. 7.3).
 Fig 7.3 Non-Profit Organisation R&D Expenditure by Main Socio-economic Objective
 Source : Table 7.6

Fig 7.3 Non-Profit Organisation R&D Expenditure by Main Socio-economic Objective

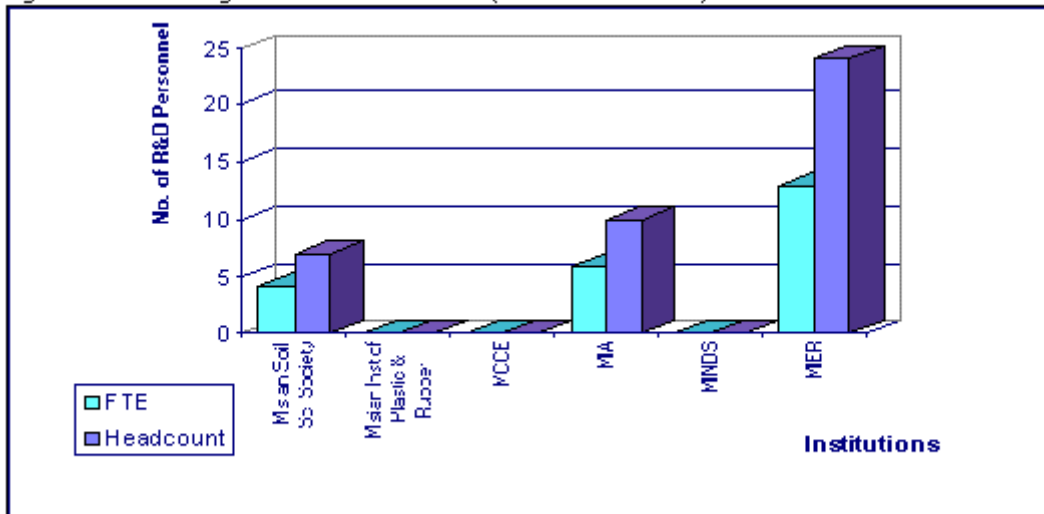


Source: Table 7.6

7.3 Human Resources for R&D in the Non-Profit Organisations

A total of 41 R&D personnels, with 34 researchers (headcount), performed R&D work in 1994 in the non-profit organisation sector. From these 41 individuals, the amount of effort (FTE) spent on R&D was about 56% only (see Fig. 7.4).
 Fig 7.4 Non-Profit Organisation R&D Personnel (FTE and Headcount)
 Source : Table 7.2

Fig 7.4 Non-Profit Organisation R&D Personnel (FTE and Headcount)



Source: Table 7.2

Table 7.2 Non-Profit Organisation R & D Personnel (FTE and Headcount) by Institution

Institution	FTE							Headcounts						
	Malaysians			Foreigners			Total	Malaysians			Foreigners			Total
	Rsch	Tech	Others	Rsch	Tech	Others		Rsch	Tech	Others	Rsch	Tech	Others	
Malaysian Society of Soil Science	3.00	-	1.25	-	-	-	4.25	5	-	2	-	-	-	7
The Plastic & Rubber Institute of Malaysia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Council for Computers in Education (MCC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Institute of Architects (MIA)	2.65	-	-	3.13	-	-	5.78	7	-	-	3	-	-	10
Malaysian Invention and Design Society (MINDS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Institute of Economic Research (MIER)	10.00	1.00	2.00	-	-	-	13.00	19	1	4	-	-	-	24
Total	15.65	1.00	3.25	3.13	-	-	23.03	31	1	6	3	-	-	41

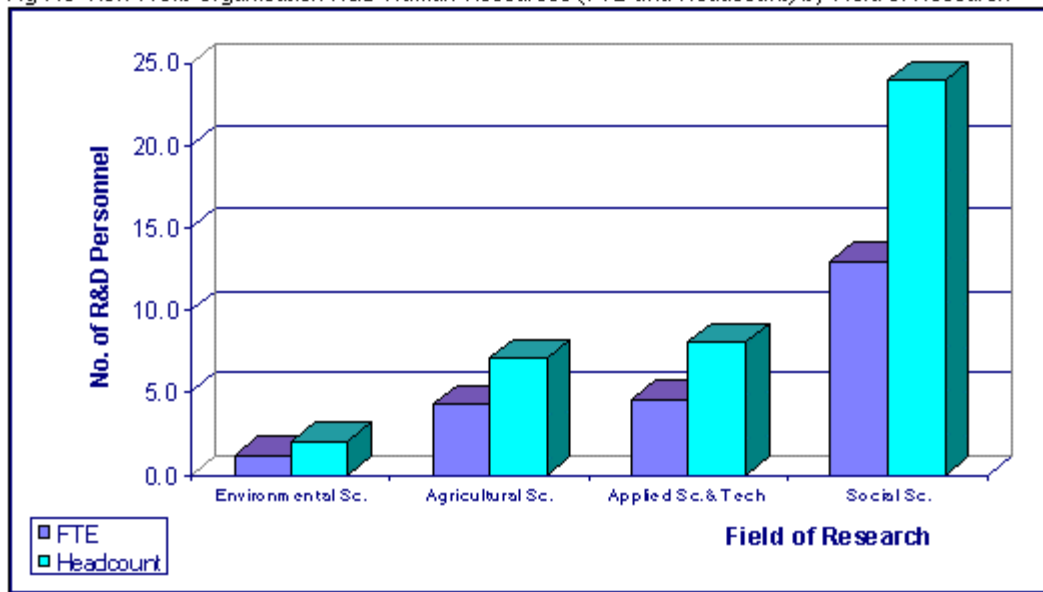
Female researchers put in about 41% of their effort in R&D work (see Table 7.3).

Table 7.3 Non-Profit Organisation R&D Personnel (FTE) by Nationality, Category and Gender

Institution	Malaysians						Foreigners					
	Researchers		Technicians		Others		Researchers		Technicians		Others	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Malaysian Society of Soil Science	1.00	2.00	-	-	0.25	1.00	-	-	-	-	-	-
The Plastic & Rubber Institute of Malaysia	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Council for Computers in Education (MCC)	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Institute of Architects (MIA)	2.65	-	-	-	-	-	2.75	0.38	-	-	-	-
Malaysian Invention and Design Society (MINDS)	-	-	-	-	-	-	-	-	-	-	-	-
Malaysian Institute of Economic Research (MIER)	6.00	4.00	-	1.00	-	2.00	-	-	-	-	-	-
Total	9.65	6.00	-	1.00	0.25	3.00	2.75	0.38	-	-	-	-

In terms of the fields of research, 56% of the human effort (FTE) was spent in the field of social sciences (see Fig 7.5)
 Fig 7.5 Non-Profit Organisation R&D Human Resources (FTE and Headcount) by Field of Research
 Source : Table 7.4 and Table 7.5

Fig 7.5 Non-Profit Organisation R&D Human Resources (FTE and Headcount) by Field of Research



Source: Tables 7.4 and 7.5

Table 7.4 Non-Profit Organisation R & D Personnel (FTE) and Expenditure(RM) by Field of Research (FOR)

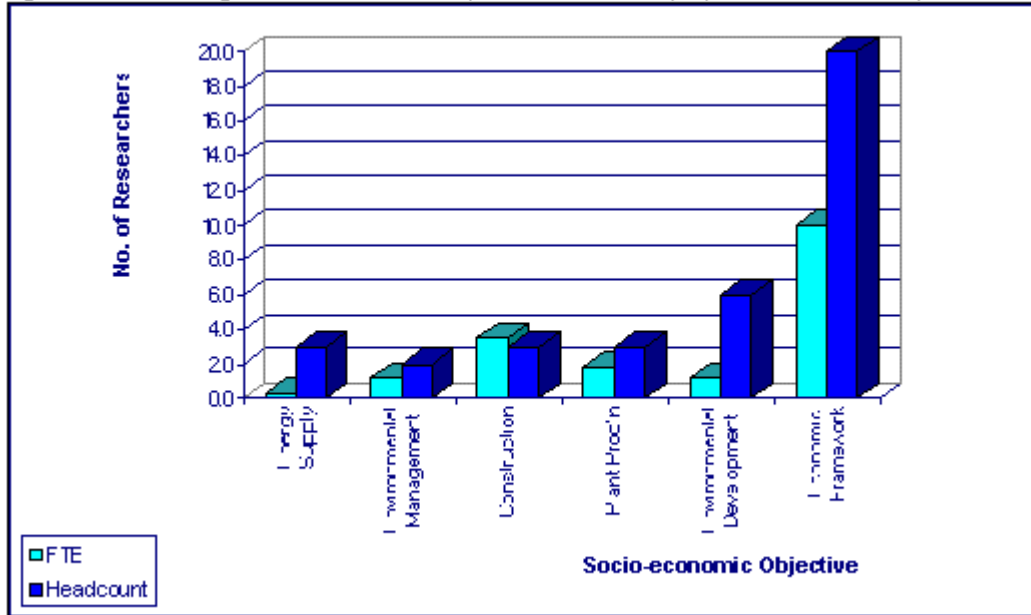
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Most of the researchers' effort (FTE) were for 'Economic Framework' (see Fig 7.6)

Fig 7.6 Non-Profit Organisation Researchers (FTE and headcount) by Socio-economic Objectives

Source : Table 7.6 and Table 7.7

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