

**THE HUMAN RESOURCE PERSPECTIVE  
TOWARDS ACHIEVING VISION 2020**

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# EDUCATION AND TRAINING TOWARDS ACHIEVING VISION 2020

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## INTRODUCTION

Vision 2020 is a goal which the country has set for itself - to join the ranks of industrialised countries by the year 2020. The Vision incorporates 9 challenges that the country must face in our quest to attain that status. Time would not permit me to discuss all the 9 challenges. This paper will therefore discuss the basic issues of economy and the role of education.

Vision 2020, amongst other things, is about industrialisation to put the Malaysian economy on a firm footing so that it is capable of competing with the best in the world and is dynamic and resilient enough to stand up to the test of time and situation. Education and manpower training will have to play a pivotal role in this ambition.

Aside from the materialistic sense so to speak, Vision 2020 takes a step further. The Vision lays out the country's aim to create a balanced development ie. the materialistic versus the social, ethical and moral development. We do not want to be respected only for our economic prowess, but also for our high moral and ethical standards. Education, undoubtedly plays an integral part in the pursuit of these objectives.

## ACHIEVEMENTS SO FAR

In the field of education, Malaysia has achieved much more than most developing countries. Nearly everyone of our young who is of primary school going age is in school. Basic education is no longer a problem in the country. Table 1 shows, enrolment rate has increased from 80 percent at independence to 88.2 percent by 1970. It further increased from just over 93 percent in 1980 to nearly 97 percent in 1986 and to 99.5 percent in 1991, indicating that universal education is accessible to all.

The transition rate between primary and lower secondary levels in government and government-aided schools is about 84 percent. This figure, however, does not mean that only 8 out of every 10 primary school students actually proceed on to secondary schools. Some enrolled themselves in private schools and others joined the religious secondary schools either managed by state governments or private individuals and organisations.

In fact, because of the extensive out-reach of primary and secondary education, a larger proportion of the people is seeking places in local institutions of higher learning. This increasing demand has put a great strain on efforts to provide more places in local institutions. Clearly, the government alone cannot cope with this demand and opening up the education industry to the private sector is an answer to alleviating the problem. Table 2 will give us an indication of the average rejection rate of eligible candidates applying for places in local institutions of higher learning each year.

**TABLE 1**  
**ENROLMENT RATE IN PRIMARY SCHOOLS, 1980-91**

YEAR	ENROLMENT RATE (%)
1957	80.00
1970	88.20
1980	93.61
1981	93.34
1982	93.39
1983	94.12
1984	94.39
1985	95.43
1986	96.59
1987	97.12
1988	99.03
1989	98.99
1990	99.00
1991	99.50

Source : Sixth Malaysia Plan  
Ministry of Education

**TABLE 2**  
**QUALIFIED APPLICANTS AND UNIVERSITY INTAKE, 1981-90**

YEAR	NO. OF APPLICANTS	INTAKE	% ADMITTED
1981	16,698	5,847	35.0
1982	19,522	6,127	31.4
1983	28,858	6,870	23.9
1984	32,168	7,192	22.4
1985	32,209	7,388	19.4
1986	30,973	9,800	31.6
1987	27,658	9,586	34.6
1988	24,155	8,599	35.6
1989	23,331	10,159	43.5
1990	24,081	10,652	44.2

Source : Ministry of Education

Note : Qualified applicants refer to applicants who possess the minimum qualifications for entry into university.

Total enrolment in local institutions of higher learning increased from 9,000 in 1970 to 29,000 in 1981 and 55,000 in 1990 (refer to Table 3). Despite the setting up of two new universities - Universiti Utara Malaysia and the International Islamic University - the demand for places far outstrips supply. Over the period 1981 and 1990, an average of only 1 in every 3 or 4 qualified candidates can be accepted into the 7 universities. If such a situation is allowed to go on unabated, it will be an obvious loss in the fulfilment of the potential of Malaysian youths, particularly in enabling these youths to contribute towards national development.

To prevent this potential loss, the private sector has been encouraged to take on a bigger role in the field of tertiary education. Government incentives and programmes in this area have been translated into an emergence of private colleges and institutions offering linkage or twinning programmes. This development has not only opened up more opportunities to those seeking a higher education, but has also lower the cost of overseas education by offering the 2 years of courses locally. This has made overseas education affordable to a larger segment of the population. The twinning concept has become so popular among Malaysians that the word "twinning" has become a household name in the country. Twinning programmes are not limited to private students alone. Government students are also enrolled in such programmes eg. the MARA - UK consortium programme.

**TABLE 3**  
**TOTAL ENROLMENT IN LOCAL UNIVERSITIES**

YEAR	ENROLMENT
1970	9,517
1981	29,000
1986	44,228
1987	48,082
1988	51,077
1989	53,476
1990	55,000

Source : Ministry of Education

The inability of local institutions to absorb the increasing number of Malaysians wanting to pursue higher studies has also resulted in a substantial outflow in foreign exchange. It has been estimated that there are more than 73,000 Malaysians studying overseas in 1990. If we take a very conservative average per capita cost of 35,000 Ringgit a year, the total annual cost of supporting Malaysian students overseas works out to be about 3.2 billion Ringgit! The country's current account deficit is expected to widen further from a deficit of 11.8 billion Ringgit last year to 13.6 billion Ringgit in 1992. The outflow incurred in supporting our students overseas therefore amounted to about 10 percent of our deficit in the current account. If we can cut down on the outflow of foreign exchange resulting from the number of students studying overseas, we will be able to cut back on this deficit.

## IMMEDIATE PROBLEMS

The evolution of the local education system has placed emphasis and stress on the academic achievers vis-a-vis the technical and vocational achievers. Until lately, little attention was given to the proper training of drop-outs from the academic line to turn them into productive and skilled workers. However, current demand for such trained workers are slowly but surely changing the society's perceptions of this group. With time, it is hoped that these workers will command the same respect from the employers as we see in developed countries today.

Due to this misconception, we find that only a small percentage of the secondary enrolment are in the vocational stream. In 1990, only 7 percent of the total upper secondary enrolment are in the vocational field. The immediate target is to raise this to 8 percent in 1995. This will be made possible with the construction of 8 new vocational schools and the setting up of vocational annexes to normal secondary schools. Ultimately, we would want at least 30 percent of our upper secondary school students enrolled in vocational and technical courses. Table 4 shows, the percentage of students in the technical field is still comparatively low. Malaysia's 1.7 percent secondary school students (including lower secondary) enrolled in vocational and technical schools is much lower than Thailand's 9.1 percent, Hong Kong's 10.0 percent and Indonesia's 10.6 percent.

At the degree level, local universities are still lagging in areas of high technology. More emphasis will have to be given to so called "new areas" like information sciences and high technology sectors. Fast changing technologies in the world requires a corresponding sensitive adjustment to keep pace with these changes or the knowledge we acquire today may become obsolete tomorrow. The urgent need is therefore for local universities to continuously restructure their courses and upgrade their technologies appropriately to meet current needs.

TABLE 4  
EDUCATION PROFILE OF SELECTED COUNTRIES

COUNTRY	SECONDARY TECHNICAL ENROLMENT (% of secondary total)
Hong Kong	10.0
South Korea	15.9
Argentina	34.0
Mexico	12.6
Malaysia	1.7
Thailand	9.1
China	7.9
Indonesia	10.6

Source: UNDP (1991) Human Development Report 1991

Note: Figures are for the period 1986 - 88

Table 5 shows the occupational structure up to the year 2000. The fastest growing occupations are expected to come from the administrative and managerial (5 percent), sales (5 percent) and the professional and technical (4.5 percent) sectors.

The professional and technical category is expected to create 320,000 new jobs from now until 2000. In line with the country's importance on automation and higher technology, the country is projected to need about 153,000 engineers and engineering assistants between 1991 and 2000. (See Table 6). In contrast to this demand, the output of engineers and engineering assistants from both the local public and private institutions is only about 125,970. Thus even under this optimistic scenario, the country is projected to face a shortage of about 26,000 engineers and engineering students over the coming decade.

**TABLE 5**  
**OCCUPATIONAL STRUCTURE, 1990-2000**

Occupational Groups	1990		2000		Net Increase (1991-2000)		Average Annual Growth Rate (%)
	'000	%	'000	%	'000	%	
Professional & technical	580.8	8.8	900.8	10.0	320.0	13.5	4.5
Administrative & managerial	162.4	2.4	263.7	2.9	101.3	4.3	5.0
Clerical	645.9	9.8	891.3	10.0	245.4	10.4	3.3
Sales	761.3	11.5	1243.3	13.8	481.9	20.4	5.0
Services	770.3	11.6	1131.5	12.6	361.2	15.3	3.9
Agricultural	1872.5	28.3	1818.2	20.2	-54.3	-2.3	-0.3
Production	1827.8	27.6	2737.6	30.5	909.8	38.4	4.1
<b>Total</b>	<b>6,621.0</b>	<b>100.0</b>	<b>8,986.3</b>	<b>100.0</b>	<b>2,365.3</b>	<b>100.0</b>	<b>3.1</b>

Source: Sixth Malaysia Plan, 1991-95  
Second Outline Perspective Plan, 1991-2000

TABLE 6

**CAPACITY OF LOCAL INSTITUTIONS TO MEET THE DEMAND FOR ENGINEERS AND ENGINEERING ASSISTANTS, 1991-2000**

Occupations	Net Increase	Output (1991 - 2000)	
		Local Public	Local Private
Engineers	30,100	21,000	-
Engineering Assistants	122,900	84,070	20,900

Source: Second Outline Perspective Plan, 1991-2000

**WHERE DO WE GO?**

In tandem with the current and future importance to be given to blue collar professions or so-called "critical jobs", the syllabus of schools will have to be reviewed from time to time. Under the Penilaian Menengah Rendah (PMR) or Lower Secondary Assessment which will replace the Sijil Rendah Pelajaran examination from next year, students would be given a wider choice in the selection of subjects in accordance with their acumen and interest. The Living Skills subject has already been introduced in a step to make education and training more integrated with the skills that are needed in the country. The subject exposes students to aspects of technology, commerce and entrepreneurship. We would also encourage greater "vocationalisation" of our schools through the vocational wings concept in normal schools and the building of more vocational schools. The PMR concept of accessing courses based on school work and final examination also encourages more creativity and flexibility in choice of studies. This will go a long way in "vocationalising" our secondary school programme.

Over and above all these programmes, what is more important is a total cultural change with respect to vocational and technical training. As it is, today the vocational student is regarded as inferior to his academic friends. Vocational training is regarded as a second choice for second stringers. Everything about this line is second to academic. Unless and until we can induce a change in such an attitude, we will have to be satisfied with training second stringers in so called "critical areas" of the economy. You can forget about incorporating the cream of our human resources in this area.

But society's perception is slowly changing as we realise the importance of workers with technical and vocational skills to the national economy and how vital a part they play in the success or failure of the country's industrialisation plans and ambitions.

This manpower problem is accentuated by an outflow of skilled and semi-skilled workers to other countries like Taiwan, Singapore and Japan due to the lure of higher pay and incentives. Unless and until the local job market adjust appropriately, we will lose more of these workers to other countries. The absence of these skilled and semi-skilled workers would mean an increasing skills gap and would cause a hitch to development programmes. Clearly, we do not want this day to come. Correspondingly, we would have to act now to ensure that our ambitions outlined in Vision 2020 is not curtailed in any way.

Unemployment, a serious problem in the mid-1980s when Malaysia experienced her worst post-war recession, has now improved to the extent that the labour market can be considered very tight. The manufacturing sector and the service sector is finding it increasingly difficult to secure sufficient applicants for its large requirement of industrial managers, engineers, computer scientists and general industrial workers. As Malaysia's pace of industrialisation progresses further in pursuit of the objectives of Vision 2020, this manpower demand will become more acute.

Rapid development in Malaysia which resulted in increasing income and rising expectations of the populace is a major contributory factor to the large number of applications for tertiary education in the country. To support the seven local universities, the government is already spending an average of 500 million Ringgit annually - or about 43 percent of its total budget. Local university education has been offered with a tremendous subsidy. Though the government attaches great importance on university education, it realises that it could not go on incurring a larger proportion of its expenditure on university education.

More and more Malaysians would have to look to alternative sources for their university education. Table 7 shows the number of Malaysians studying in foreign universities. The figure shows that the number of these students have more than doubled since 1970; from 24,000 in 1970 to 52,000 in 1990. However, if we compare Tables 1 and 4, we will see that the ratio of local enrolment to foreign enrolment has improved steadily from 1:2.5 in 1970 to 1:1.4 in 1981 and 1:0.9 in 1990.<sup>1</sup> In absolute terms of course, the number of Malaysian students studying overseas was very large. In simple terms, in 1990, even if the government could double the size of the 7 existing universities or set up another 7 new universities, it would still not be able to cope with the demand for university education.

**TABLE 7**  
**ESTIMATES OF STUDENTS STUDYING ABROAD**

Year	Number
1970	24,000
1978	36,000
1980	39,908
1982	58,000
1985	63,000
1987	60,000
1990	72,440

Note: Number include diploma and university students

To overcome this, the government is seeking greater private-public sector collaboration in education. This would be done through establishing twinning programmes between local colleges and foreign institutions of higher learning, the setting up of an open university concept and encouraging foreign universities to set up branch campuses in Malaysia.

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<sup>1</sup>The number of students studying abroad has decreased since 1987 because of the popularity of twinning programmes in Malaysia where students can do their first two years in Malaysia before going abroad for their final year.



Malaysians should consider looking to non-traditional "markets" in twinning programmes. Table 8 shows the bulk of Malaysians studying in Western countries with the majority of them in the USA, Canada, Australia and the UK. Far Eastern countries like Singapore, Japan, Taiwan and Hong Kong account for less than 20 percent of the foreign students. Instead of relying too much on traditional countries like Australia, New Zealand, the United Kingdom, the United States of America and Canada, local institutions should be encouraged to explore the opportunities that the Far Eastern countries like Japan, Korea and Taiwan have to offer.

**TABLE 8**  
**DISTRIBUTION OF MALAYSIA UNIVERSITY STUDENTS OVERSEAS BY COUNTRIES**

<b>COUNTRY</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>	<b>1990</b>
USA	4,500	7,500	12,000	13,000	15,040	17,100	19,300
UK	16,323	15,980	14,500	12,350	13,293	14,000	5,300
Australia	4,878	5,383	6,040	5,769	6,337	7,212	9,000
India	5,583	6,000	6,000	6,300	6,853	7,202	2,800
New Zealand	1,837	1,885	1,527	1,263	1,510	2,000	940
Canada	3,232	4,750	7,846	8,294	8,849	9,100	2,200
Singapore	843	834	830	1,322	1,439	1,000	3,300
Hong Kong	109	109	14	19	32	32	39
Taiwan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3,200
Japan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,400
<b>Total</b>	<b>37,305</b>	<b>42,441</b>	<b>48,757</b>	<b>48,317</b>	<b>53,353</b>	<b>57,646</b>	<b>47,479</b>

Source: Ministry of Education

Note: The total figure of 47,479 does not tally with the total number of students studying overseas as indicated by Table 7 because certain countries are not included in Table 8.

Though there is nothing wrong in encouraging Malaysians to study in the West, as a country looking for new sources of knowledge, expertise and technology, we must diversify and encourage more of our students to go to Far Eastern countries for their tertiary education. The plus points in such a move are there. This is more important since the Far Eastern countries are increasingly emerging to be sources of new knowledge and technology. Japan, for instance, has long been respected as a power house of the world for its technology.

Together with the four Asian NIEs, Japan is a major producer of technology related products and services. Further, Japan and the four Asian NIEs are increasingly becoming important markets for Malaysian agricultural and manufactured products. There is thus much to be gained by students studying in quality institutions in these countries.

With the strong linkage between local and Asian entrepreneurs, encouraging Malaysians to study in institutions in the Far East will also greatly help to expedite the pace of technology transfer. The close cooperation between local firms and their Japanese, South Korean or Taiwanese counterparts would mean a better understanding of the technologies used by parent firms from these countries. Also, investments from the Far East are increasing in Malaysia, compared to Western countries.<sup>2</sup>

Further, the trend towards more interest being shown in the Japanese, Mandarin and Korean languages may be an impetus in encouraging more Malaysians to go to the Far East for further education. Language has been a major dampener in the 1960s and 1970s, but the shift in trend, encouraged by much greater inter-Far East travel and foreign investments in Malaysia may well be the launch pad for increased interest in Far Eastern countries for advanced education. In many ways, human resources programmes within the Far East region can be seen as being more appropriate and relevant to the needs of Malaysia. Japan, Korea and Taiwan are investing more and more in Malaysia. Their factories and service centres require personnel who can speak their languages and understand better their management style and working environment and ethics. Hence, they naturally would prefer to employ personnel who have experiences in their countries. Economic development in the Far East, in many ways, are interdependent and it will definitely be mutually beneficial for these countries to extend their cooperation to the educational field, by in turn encouraging and facilitating more Malaysians to study in their universities. The role and success of trade schools and polytechnics in these countries in churning out skilled and semi-skilled workers should also benefit students from Malaysia.

## CONCLUSION

The greatest challenge in the way of Malaysia maintaining and enhancing her momentum of growth is human resource development. The demand of trained manpower in certain "critical areas" is expected to surge as the country further increases her industrialisation drive to attain the goal set out in Vision 2020. The major challenge here is to harmonise a systematic policy with regard to education and manpower training in anticipation of the projected demand that the country will definitely have to face in the near future.

Unless and until we can achieve this, the lack of properly trained skilled and semi-skilled workers will stand out like a sore thumb in the country's quest to attain Vision 2020. If this is allowed to happen, it may very well negate whatever efforts we have toiled so long for and whatever clear advantages the country holds for foreign investors.

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<sup>2</sup>Japan has traditionally been the largest foreign investor in Malaysia. However, in 1990, the top position was taken over by Taiwan which invested a total of \$6.33 billion for the year alone, compared to \$4.21 billion from Japan. For the first 7 months of 1991 Taiwanese investment amounted to \$1.9 billion compared to \$2.8 billion from Japan.

## QUESTIONS AND ANSWERS

**Question:** If we limit ourselves to the education system, the semi-skilled and skilled labour required for the year 2020 will not be achieved. Is there any way whereby government agencies or the private sector can complement the training of skills like providing in-service training? What I mean to say is that we don't just depend on our education system as it does not seem to meet our requirements at all. In other words, do we want to leave it to the Ministry of Education as well as other relevant ministries or agencies?

**Answer:** The Ministry has channelled 40 or 42% of the total budget for higher education and we cannot in all fairness be expected to channel larger proportions. Therefore, for the immediate future, we still have to depend on foreign universities which is not a very bad idea. Firstly, it allows our young men and women to be exposed to new ideas and to know the world so that when they come back to the country, they know the perspective within which they operate. In the past, Korea and Taiwan have been very close but now they are liberalizing and they are also encouraging their students to go overseas because they realize the value in exposing their society to new ideas or new innovations.

We can take big steps to encourage other government agencies or institutions to provide training. The Ministry of Human Resource has this industrial training institute and we are examining ways and means to upgrade it to complement the efforts of training the skilled workers who are required. One aspect being looked into is the privatization of some of these institutions. In fact, we are now looking at the privatization of the industrial training institute which is being operated by the Ministry of Human Resource. We feel that privatization of some of these institutes would make these institutes more responsive to private sector demands. Another way in which we are being more responsive is to have an advisory board where people from the private sector are invited to attend. We listen to their advice and we respect their curriculum and their practical training. We also offer our vocational school facilities for the private sector so that they can run the kind of courses they want to. They can also make use of the facilities in the evening together with their own instructors to run classes for the young men and women that they want to hire. These are some of the policies and steps that we are taking.

**Question:** Artisans working overseas right now are enjoying a very lucrative kind of payment. What steps are being taken to make this attractive in our own country instead of brain drain to other countries? Why should these artisans work elsewhere when they are needed here? Is it a problem of the wage system that is very pronounced in our country whereby higher pay is given to white collar jobs? There has to be a total review connected with the pay system because normally the manpower will accept jobs of higher pay.

**Answer:** In the Far East, Japan is at the apex of the economic order. At the second level are the four Newly Industrialized Countries (NICs): Taiwan, South Korea, Hong Kong and Singapore. This is followed by the ASEAN countries with Malaysia at the top. In terms of salary, given the fact that we are all in free market economy, there would be free market mobility of human capital. Malaysian workers would now go to Japan, Taiwan or Hong Kong in search of greener pastures because the salaries there are better. Their workers and Filipino workers can come to our construction sector and so on in search of greener pastures. I mean, this is the economic order of things and there is no way in which we can impose restrictions

on the people of human expertise because human beings are human. We value our freedom and one of the lessons which Russia has taken so long to learn, is that you cannot suppress human initiative. If you suppress human initiative for too long, the whole country breaks out as exemplified by Eastern European countries like Soviet Union. Therefore the free movement of people has now been accepted as the natural order of things.

We have to look at our wage system to see how we can tailor it so that we can attract back some of the workers who are now working in other countries. Salary levels in Johore Bahru and Penang have increased substantially and we are seeing some inflow of engineers back from Singapore. A large number of Malaysian engineers have migrated to Australia and are not coming back because our salaries are not compatible with the salaries in Australia, if they can find a job there. Therefore, there are some developments in terms of preadjustment of the wage system.

We can see the day when the artisans, the carpenters or the bricklayers are paid salaries in accordance with their needs as this is what is happening. The bricklayers and construction workers in Kuala Lumpur are earning \$40 - \$50 per day which works out to be about \$1,200 per month. That kind of salary is certainly higher than many of the teaching professionals and non-executives. In short, if we maintain an open economic system in the short term between a period of 1 to 2 years, we can see that our market structure will respond. The government should not in any circumstances, try to interfere too much to suppress the transformation of the wage system especially in the private sector as this may result in the wage system getting distorted and a lot of people go overseas. Thus, as long as a relatively free market economy is maintained, the main mission of the government will be to continue to maintain an environment in which we can attract more investment within the country from outside the country. Once we can do that we can maintain a free market structure and the rest will slowly come into place.

**Question:** Now that the government has realized the importance of technical training, is there any plan to do away with Form 6 level of education, that is, STPM, as it is merely academic; and replace it with one that is more technically oriented?

**Answer:** STPM is very difficult in comparison with matriculation in Australia or A-levels in the United Kingdom. The Ministry of Education is looking into ways and means to reform the Sixth Form. The fact that 6 months is wasted before the students start Form 6 is not overlooked. One possible suggestion is to select one particular school in each district to specialize in Form 6 education. In other words, there will be no Form 6 classes in every school but one or two schools in each district would cater to the students who qualify for Form 6 and to provide comprehensive Form 6 education in all subjects. The range of subjects would be much more comprehensive ranging from technical science to arts so that the students would have more choices of subjects. At the moment, some schools have only Arts, some schools only Science and most schools don't have vocational courses. Therefore, if we can centralize it, have this kind of concept and start Form 6 classes from the day school opens, we can begin to streamline our STPM emphasis to offer a much wider range of subjects.

**Question:** Besides the building of the eighth university in Sarawak, I feel that the government should further increase distance learning programs to allow more regional officers in the government sector to get a degree. What is your comment?

**Answer:**

Due to the conservative kind of culture, it is difficult to get the universities to respond to the changing market needs especially when they know that the government will go on supporting them. The only way is to make the universities more dependent on market conditions, that is, the demands of the students or the fees of the students. There are a lot of changes in the educational field and some of the universities will be responsive. Distance learning is one of them. Universiti Sains Malaysia (USM) has launched distance learning education. Every year, a few thousand students enroll themselves for that. The university offers three years of home education where every weekend, they go to certain designated schools to get their instructions and exercises. At the end of the third year after they have passed their exam, they go to the university and finally they get their degree from the USM off-campus programme. The government hopes to expand the program.