タイ中等教育の普遍化と進路選択の多様化への政策的対応に関する研究

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Universal Secondary Education and Policy Implications for Diversifying Occupational/ Educational Choices in Thailand

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要　　約

本論文の目的は，現在の日本の教育援助政策が当面する問題点を明らかにすることである。まず結論から述べるならば，日本の教育援助額はいまや世界全体のなかで，かなり大きなシェアをしめるまでになってきていること，その日本が今後いかなる教育援助政策を展開するかは，今後の発展途上国の教育開発に大きな影響を与える可能性があること，現在強く求められていることは，従来高等教育，職業教育中心に行われてきた教育援助政策を，基礎教育中心の援助へと方向転換することであり，そのためにはこれまでとは異なった方針のもとでの教育援助政策を展開する必要性があること，これまで日本の援助政策に対しては，さまざまな種類の批判が向けられてきたが，近年，これまでとは異なった種類の批判が提起されるようになっており，とくに「社会開発」分野での立ち後れ，「人間開発優先事項」へのコミットメントの低さを指摘する国際世論が高まっており，今後日本の教育援助政策はこれら国際世論を考慮に入れながら展開する必要性があること，などである。

日本の援助政策に対する国際評価

教育援助政策の検討に入る前に，現在日本の援助政策一般に対して，いかなる国際評価が下されているのか，その点の検証から始めることにしたい。UNDP は 1994 年版の「人間開発報告」のなかで，「人間開発優先事項」（原名は Human Development Priority Concerns。以下この訳語を使用する）を定義し，人類社会が共同して解決に当たるべき課題として，次の 7 つの課題を提示した。つまり，(1)男女すべての児童に初等教育を普及させること，(2)成人非識字率を現在水準の半分以下に引き下げること，(3)すべての人々に基礎医療を普及させること，とくにすべての児童に予防接種を施すこと，(4)極度の栄養不良を除去すること，(5)希望するすべてのカップルに家族計画のサービスを提供すること，(6)すべての人々に安全な飲み水を提供すること，(7)すべての人々に経済的な自立，もしくは持続可能な生活を確保できるクレジットを提供すること，以上 7 つの課題である。

問題はこれらの目標達成のために，何がなされないければならないのか，それを明らか

にすることである。「人間開発報告」1994年版は，そのための具体策として，「20：20規約」の締結を提案し，1995年3月，コペンハーゲンで開催された社会開発サミットでは，この提案をめぐる討議が行われ，多くの国々がこの規約に調印をした。日本もまた，この「20：20規約」に調印し，この社会開発サミットに出席した当時の村山首相は，今回のサミットは「貧困，失業，社会的な疎外」といった社会問題に総合的に取り組むところに意義があることを強調し，「日本としては既に二国間ODA全体の20%を超えている『社会開発分野』への『重点配分』を今後も継続すること」を明らかにしたと報道された(1995年3月13日，朝日新聞)。

それではこの「20：20規約」とはいかなる内容をもった規約なのであろうか。UNDPは，これら7つの「人間開発優先事項」を達成するには，先進国，発展途上国がともに以下の「2つの20%」を達成する必要があるとしている。その「2つの20%」とは何か。

まず「第一の20%」とは，発展途上国自らがその国家予算の20%を上記の目標のために投じる必要性がある，というものである。これまで発展途上国は，これら人間開発優先事項に，国家予算の13%（年間570億ドル）しか投じてこなかった。これをさらに7ポイント増加させ，年間880億ドルの水準にまで引き上げる必要性がある。これが「第一の20%」である。

これに対して「第二の20%」は，開発途上国ではなく，先進国側に課せられた課題である。これまで先進諸国は政府開発援助(ODA)のわずか7%しか，これら人間開発優先事項に振り向けてこなかった。しかしこの比率を20%に引き上げ，これまでの年間40億ドルという水準を120億ドルに引き上げる必要性がある。つまりここでも20%という目標値が達成させる必要がある。

もう少し詳細に立ち入って述べるならば，UNDPの推計によれば，西暦2005年までに人間開発優先事項を達成するために必要となる追加経費は，年間300億ドルから400億ドルと見込まれている。それぞれの事項に要する追加経費は，第1表に示されているが，これからも明らかなように，もっとも経費を要するのは「すべての人々に安全な飲み水を提供する」という水・衛生面での優先事項であ

第1表　人間開発優先事項に要する経費（1995年から2005年まで）

分野	具体的な目標	年間追加経費
教育	すべての人々に基礎教育を提供。成人の非識字率を半減。女性の非識字率を男性と同水準にまで引き下げる。	50～60億ドル
健康	すべての人々に基礎医療を提供。すべての児童に予防接種。5歳未満幼児死亡率の50%から70%削減。極度の栄養不足の解消，中程度の栄養不足の50%削減。	50～70億ドル
人口	希望するすべてのカップルに対する家族計画パッケージの提供。	100～120億ドル
水・衛生	すべての人々に対する安全な飲み水の提供。	100～150億ドル
合計		300～400億ドル

り(100～150億ドル)，それと並んで経費を要するのは,「希望するすべてのカップルに対する家族計画パッケージの提供」という人口分野での経費で（100～120億ドル）ある。

今，途上国自身が現在，人間開発優先事項に投じている国家予算の13%という水準を20%に引き上げれば，年間約310億ドルほどの年間増額が見込まれることになる。また先進国はこれまでODAの7%しかこの分野に投じてこなかったが，それを20%にまで引き上げれば,そこからは約80億ドルの調達が可能になるものと見込んでいる。

このようにして，開発途上国側は必要経費の4分の3を分担し，先進国側はその4分の1を分担するという協力体制を組むことができれば,人類は21世紀の初頭までに人間開発優先事項を充足させることができる。これがUNDPの提唱する「人間開発のための20：20規約」の概略である。

このようにUNDPは先進国側に対しては，ODAの20%を人間開発優先事項に振り向けることを提案しているが，果たして先進

第2表　2国間援助における人間開発優先分野への援助の占める比率
（UNDP編「人間開発報告書」。1992年版）

国名	ODA総額(100万ドル)	ODAの対GNP比（%）	社会分野の比率（%）	社会優先分野比率（%）	人間開発経費比率（%）	全ODAに対する人間開発分野の比率（%）
	1990	1990	1988/89	1988/89	1988/89	1988/89
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ノルウェー	1,207	1.17	27.2	72.3	0.230	19.7
フィンランド	846	0.64	38.0	41.4	0.100	15.7
デンマーク	1,171	0.93	19.2	55.4	0.099	10.6
オランダ	2,580	0.93	21.1	44.5	0.087	9.4
スウェーデン	2,007	0.90	17.0	41.5	0.064	7.1
スイス	750	0.31	35.8	50.6	0.056	18.1
カナダ	2,470	0.44	23.8	45.9	0.048	10.9
イタリア	3,395	0.32	18.0	47.3	0.027	8.5
イギリス	2,639	0.27	13.4	65.8	0.024	8.8
フランス	6,277	0.52	11.0	35.9	0.021	4.0
オーストリア	389	0.25	13.4	60.6	0.020	8.1
アメリカ	10,166	0.19	16.4	50.4	0.016	8.3
ドイツ	6,320	0.42	8.9	21.4	0.008	1.9
日本	9,054	0.31	10.7	25.5	0.008	2.7
オーストラリア	955	0.34	6.4	31.4	0.007	2.0
DAC 15カ国合計	50,226	0.35	14.8	43.7	0.023	6.5

国の対外援助はこの基準を満たしているのであろうか。この点で注目されるのは，同じく「人間開発報告書」の1992年版に発表された一つの分析結果である。この報告書の43ページには，第2表のようなデータが掲載されている。これはDAC加盟国がそのODAの何パーセントを，「社会開発分野」に投じているのか，さらにはODAの何パーセントを「人間開発優先事項」に割いているか，各国間の比較を行った結果である。

この表が示すように，1988/89年時点でみるならば，ODAの20%を社会開発分野に割いているのは，ノルウエー，フィンランド，オランダ，スイス，カナダ，の5ケ国だけである。とくに日本の場合，社会開発分野の占める割合は10.7%にすぎず，15カ国中13位，いいかえるならば下から数えて3位という低い地位にある（ちなみに最下位はオーストラリアで6.4%，その次に低いのはドイツの8.9%）。さらにまた，ODAの20%を「人間開発優先事項」に割くとするUNDPの基準に照らしてみるならば，この基準に達している国は一つも存在しない。

要するに日本，ドイツ，オーストラリアの3カ国は，社会開発分野に対するコミットメントがもっとも低く，なかでも「人間開発優先事項」に対する援助が際立った低い国というのが，人間開発報告書1992年版の分析結果であった。この「人間開発報告書」は公表とともに，努力不足を名指しで指摘された国々の反発を招いた。日本政府は直ちに，このデータに対して異議をとなえ，修正を求めたという。

確かにこの表は，いったいいかなるデータに依拠したのか，疑わせる部分が多数ある。たとえば，DACデータによると，オーストラリアの社会開発分野のシェア（1988/89年平均）は29.8%となっているのに対して，UNDPのデータでは6.4%にしかなっていない。またドイツの場合には，DACのデータでは29.6%となっているのに対して，UNDPによると8.9%にしかなっていない。とくにオーストラリアは，かねてからODAのなかで教育援助の割合が，もっとも高い国として，多くの人々によって注目されてきた。事実，DACのデータを参照する限り，オーストラリアは1989年にはODAの26.8%を，そして1990年にはODA全体の36.2%を教育分野に投じたことになっている。こうしたDACのデータと比較すると，このUNDPの発表したデータはあまりにも開きが大きく，多くの疑問を抱かせるに十分な根拠を持っていた。（こうしたデータ上の技術的な問題についての検討は，すでに別のところで行っているので，詳細はそこに譲り，ここでは繰り返さない。）

結局のところ，各国からの批判，異議申し立てを受けて，UNDPは「この表はUNDP自身によって作成されたものではなく，ある民間コンサルタント会社によって作成されたものである。この会社はすでに解散しており，今では実在していない。この表はこの企業が独自に設定した分類基準によって作成されたもので，その妥当性については日本を含めて数カ国から強い疑義が提起された。その結果，この表は現在では国連の正式なデータとしては認定されていない。近いうちに公表される人間開発報告書1994年版のなかで，以上のような経緯について，何らかの注記がなされる予定である」という回答を行ったとされている。

それでは1994年版ではいかなる報告がな

第3表　2国間援助における人間開発優先分野への援助の占める比率
（UNDP編「人間開発報告書」。1994年版）

国名	ODA総額（100万ドル）	ODAの対GNP比（%）	社会分野の比率	社会優先分野比率（%）	人間開発経費比率（%）	全ODAに対する人間開発分野の比率（%）
	1992	1992	1989/91	1989/91	1989/92	1989/91
①	②	③	④	⑤	⑥	⑦
デンマーク	1,392	1.02	38.7	64.6	0.255	25.0
ノルウェー	1,226	1.12	22.9	78.2	0.200	17.9
スイス	1,139	0.46	29.3	50.7	0.068	14.9
オランダ	2,741	0.86	25.9	53.2	0.118	13.8
アメリカ	10,815	0.18	19.5	58.2	0.020	11.3
オーストラリア	969	0.36	32	32.9	0.038	10.5
カナダ	2,515	0.46	20.3	44.4	0.042	9.0
イタリー	4,122	0.34	21.9	38.6	0.029	8.5
フィンランド	644	0.62	26.2	32.2	0.052	8.4
オーストリア	530	0.29	24.3	28.4	0.020	6.9
イギリス	3,126	0.30	15.4	42.8	0.020	6.6
フランス	7,823	0.59	13.1	27.4	0.021	3.6
日本	11,128	0.30	9.7	35.4	0.010	3.4
スウェーデン	2,452	1.03	5.7	51.2	0.030	2.9
ドイツ	6,952	0.36	7.9	42.5	0.012	2.1
DAC 15カ国合計	57,574	0.32	16.1	43.8	0.023	7.0

されたのであろうか。第3表は人間開発報告書1994年版に公表された各国の社会開発分野と，人間開発優先事項へのコミットメントを見たものである。1992年版が1988, 89年のデータを用いているのに対して，1994年版では主として1989年から91年にかけてのデータが使われている。

まず社会開発分野のODAに占める割合をみると，1992年版にくらべてかなり多くの国の比率が上昇している。たとえば，1992年版ではODAの20%以上を社会開発分野に投じている国は，ノルウェー(27.2%)，フィンランド（38.0%），オランダ（21.1%），スイス(35.8%)，カナダ(23.8%)の5カ国であったが，1994年版ではデンマーク(38.7%)，ノルウェー（22.9），スイス（29.3%），オランダ（25.9%），オーストラリア（32.0%），カナダ（20.3%），イタリア（21.9%），フィンランド（26.2%），オーストリア（24.3%）という具合に，DAC 15カ国のうち，9カ国が20%以上を社会開発分野に割いていると報告されている。しかしながら，こうした全体的

な傾向のなかにあって目立っているのが，日本，スウェーデン，ドイツの3カ国である。この3カ国は社会開発分野のシェアが極端に低く，10%以下にしかならない。

さらにまたUNDPの提案するODAの20%を「人間開発優先事項」に割くべきだとする基準に照らしてみるならば，その基準に達しているのは，DAC 15カ国中デンマーク一国（25.0%）だけである。またその基準線を引き下げて，10%以上を「人間開発優先事項」に割いている国を拾い出してみると，前記のデンマーク(25.0%)のほか，ノルウェー（17.9%），スイス（14.9%），オランダ（13.8%），アメリカ(11.3%)，オーストラリア(10.5%)の6カ国に限られている。問題は日本の位置であるが，日本の「人間開発優先事項」がODAのなかで占める割合は3.4%に過ぎず，DAC 15カ国中13位，下から3番目にくる。ちなみに最下位はドイツの2.1%，その次に少ないのがスウェーデンの2.9%とされている。

このように最下位3カ国が，1992年版では日本，ドイツ，オーストラリアであったのが，1994年版では日本，ドイツ，スウェーデンとなり，オーストラリアとスウェーデンが入れ替わっただけで，それ以外は大きな変化はない。このように，1994年版においても日本は，ドイツともに「人間開発優先事項」への努力が低い国，という評価は変わっていない。ここで我々にとって必要なことは，ここで再びデータ論争を起こすことではなかろう。ここで検討が必要なのは，DAC加盟国それぞれがもっている援助政策の特徴を明らかにし，そのなかで日本の援助政策がいかなる特徴を備えているかを検討することであろう。

問題の焦点は，人間開発優先事項に対する軽視は，ひとり日本だけの傾向なのであろうかという点である。より一般的な形で問題を設定するならば，そもそも他の先進諸国は，そのODAをどのような分野に配分しているのであろうか。先進諸国全体の傾向のなかで眺めた時，ひとり日本だけが極度に偏った傾向をもっているのであろうか，という点である。

援助政策にみられる各国の特徴

もともと，国によってそのODAをどの分野に振り向けるかには，かなりの差，というべきかそれぞれの国の特徴がある。第4表は1990年度のいくつかの国の二国間ODAの分野別の構成比を示したものであるが，DAC全体としてみるならば，もっともシェアの高いのは「債務救済」の23.3%である。ただしこれはもっぱらアメリカがODAの57.1%をこの「債務救済」に当てていることから生じる結果で，この例外的なアメリカを除外すれば，このシェアはもっと低くなる。それに次いで多いのは「社会インフラ」の22.0%であり，「経済インフラ」の14.6%，「生産セクター」の12.2%が続き，以上の4分野が主要部分を占めている。

ただ各国の数値を個別に見てゆくと分かるように，ある国は「社会インフラ」を重視しており，またある国では「経済インフラ」のシェアが高いという具合に，それぞれの国による特徴が見られる。たとえばオーストラリアはODAの49%を「社会インフラ」に割いているのに対して，日本は32%を「経済インフラ」に割いており，好対照となっている。

それでは先進諸国をそのODAの分野別構成からみた場合，なんらかの類型が見いださ

第4表　1990年のODAの分野別構成
（オーストラリア・日本・アメリカ・DAC全体の比較）

オーストラリア	日本	アメリカ	DAC全体	
社会インフラ	48.7	20.1	12.0	22.0
経済インフラ	9.2	32.0	2.8	14.6
生産援助	18.4	17.4	4.5	12.2
マルチセクター	0.8	0.7	0.4	3.2
プログラム援助	7.1	17.7	12.3	10.9
債務救済	0.0	4.3	57.1	23.3
食糧援助	5.8	0.4	6.3	3.3
緊急援助	1.5	2.4	0.6	2.0
行政経費	5.7	3.0	2.8	3.3
不特定	2.9	2.1	1.2	5.3
合計	100.0	100.0	100.0	100.0

れるのだろうか。そこでここでは，各国のODAの分野別構成を基準として，DAC諸国をいくつかにタイプに分類してみた。分類の手法として用いたのは，クラスター分析である。その結果によると，第1図と第5表がえられる。まず第1図に示したように，クラスター分析の結果によると，DAC加盟国は大きく3つのグループに分類できることになる。

まず第一のグループはフィンランド，イタリー，イギリス，日本の4カ国からなるグループで，このグループの特徴は，第5表に示されているように，「経済インフラ，生産セクター」への配分がもっとも大きいという点である。なかでも日本のこの分野への投入は目立って高い。このグループは簡単にいえば「経済開発重視型」ということができよう。これに対して第二のグループはベルギー，フランス，オーストリア，アイルランド，デンマークの5カ国からなり，このグループの特徴は第一のグループとは反対に，「社会インフラ」への配分が高い点にある。つまり，ODAの約4割程度が「社会インフラ」の分野に投じられているので，その点に着目して，「社会開発重視型」と名付けることができよう。さらに第三のグループとしては，ノルウェー，スウェーデン，ドイツ，オランダ，スイス，カナダの6カ国からなる，いわば中間型を取り出すことができる。このグループの特徴は，社会開発分野，経済開発分野ともに，まんべんなく配分されており，社会開発重視型と経済開発重視型の中間形態となっている点である。

それ以外の国々は，それぞれ独自の配分を行っており，なにかのグループをなしてはいない。たとえば，オーストリア，アメリカ，ポルトガルは「債務救済」のシェアが高いという共通性を持っているが，それ以外の分野へのシェアは相互に異なっており，一つのグループを構成しているとは言い難い。またルクセンブルクは食糧援助，緊急援助の割合が高く，これだけで孤立したクラスターとなっている。またニュージーランドは「その他」

第5表　各国のODAの分野構成比率

	社会インフラ	経済インフラ＋生産セクター	マルチセクター＋プログラム援助	債務救済	食糧援助＋緊急援助	その他
Finland	16.6	42.9	11.8	5.9	14.8	3.7
Italy	18.3	42.5	9.8	10.3	12.4	1.8
United Kingdom	23.8	44.8	7.8	5.1	5.5	8.5
Japan	16.4	54.3	16.9	4.4	1.7	2.9
Norway	17.8	35.5	14.6	0.5	14.9	9.9
Sweden	25.4	31.3	13.9	1.0	14.6	8.3
Germany	24.4	32.8	9.7	12.2	8.9	8.6
Netherlands	28.7	24.2	14.6	8.9	13.7	7.0
Switzerland	20.7	23.6	22.5	5.0	20.1	7.3
Canada	16.6	27.7	11.4	0.1	13.6	21.7
Belguim	33.9	23.9	28.7	2.1	4.4	1.4
France	36.0	26.8	20.0	6.6	0.7	6.8
Australia	43.7	25.4	13.7	0.1	8.6	2.5
Ireland	42.0	18.7	8.5	0.0	18.8	4.0
Denmark	41.5	22.5	7.0	0.3	7.5	14.7
New Zealand	32.3	13.3	13.0	0.0	3.0	31.8
Luxembourg	28.5	27.1	0.0	0.0	39.8	4.6
Spain	17.4	64.5	1.5	0.0	1.3	12.4
Austria	25.5	25.4	4.5	26.1	15.7	1.0
United States	14.1	8.6	14.9	39.0	9.8	12.7
Portugal	21.2	6.1	1.2	63.9	0.0	7.6

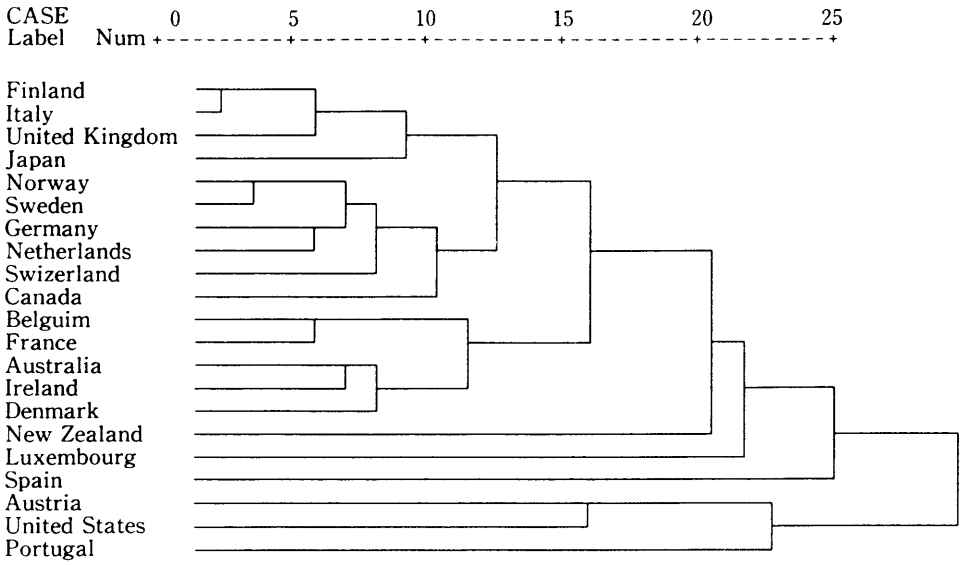
注：1990年から1992年までの各国のODA分野構成比率をODA実績でウェイトづけした平均値を用いた。アイルランドとスペインは1991年と1992年の値から，ルクセンブルグとポルトガルは1992年の値から算出した。
出所：DAC, *Development Cooperation*, Paris： OECD. の各年度版より作成。

つまり，「民間ヴォランティアへの援助」の比率が高いという特徴をもっており，一国だけで孤立したクラスターとなっている。

このようにここで分析の対象となった22カ国のうち，最大のグループを形成しているのは，経済開発・社会開発の両者に一定のバランスをもって援助を行っている「中間型」であり（6カ国），残りのうち4カ国までが「経済開発重視型」に属し，5カ国が「社会開発重視型」ということになる。またDAC全体での援助規模からみると，「経済援助重視型」のシェアが31.4%，「社会開発重視型」のシェアが19%，「中間型」のシェアが28.8%となっている。（その他の孤立した国のシェアは23.9%）

以上がクラスター分析の概要であるが，こうした全体的な傾向のなかで日本を位置づけてみるならば，次のように結論づけることができよう。日本のODAは経済インフラと生産セクターに全体の54%が割かれており，

第1図　ODAの分野別構成比による各国のクラスター分析の結果



フィンランド，イタリア，イギリスとともに，明らかに「経済開発重視型」に属している。それに対して，社会インフラのシェアは16.4%と，同じくフィンランドに次いでもっとも少ない。つまり，日本は「経済開発重視型」のグループに属しているが，同じグループのなかでも，一段と強く「経済開発重視型」の特徴を示していることになる。

このように日本の援助はこれまで経済開発分野を中心に行われてきたことは，まぎれもない事実である。問題はなぜこのような「経済開発重視型」の援助政策が形成されたのか，そのことが日本にとっていかなる意味を与えてきているのか，さらには援助受取国にとっていかなる意味をもっているのか，これらの点が吟味される必要があるのであろう。しかしながらこの点に関してはすでに多数の論考，考察が展開されてきており，それをここで繰り返す必要はあるまい。むしろこうした「経済開発重視型」の援助政策になかにあって，社会開発分野，そのなかでも教育援助政策がいかなる課題に当面しているのか，その点を検討することとしたい。

世界全体の教育援助のなかで日本のシェア

本論文での議論の焦点は，こうした援助政策のなかでの教育援助のあり方である。同じDAC加盟国といっても，どの分野を重視するかに，大きな相違があったように，教育援助にどれだけの比重をかけるかにも，大きな差が見られる。すでにみてきたように，日本は社会開発分野への投入が低く，初等教育，識字水準の向上などを含んだ「人間開発優先事項」へのコミットメントが低い援助供与国として，その国際的評価はけっして高くはない。しかしこれらの事実をもって，世界全体の教育援助のなかで日本の持つ意味が低いとみることは正しくはない。むしろ日本は，フランス，ドイツと並んで大きな教育援助供与国であり，いまや教育援助大国となっている。日本がいかなる教育援助政策を展開するかは，世界全体の教育発展に対して大きな意味を

持っている。それではいかなる意味で日本は教育援助大国なのか，その点を検証することとしよう。まず検証されなければならない点は，日本の教育援助はDAC加盟国のなかでいかなる位置を占め，いかなる特色をもっているのか，それを確かめる必要がある。

まずDAC加盟国全体として，どれほどの規模の教育援助を提供しているのであろうか。1990年度では総額530億ドルのODAのうち9.8%（52億ドル）を教育分野に投入している。1991年度ではこれが567億ドルのうちの8.8%（50億ドル）となり，92年度の場合には総額609億ドルのうちの8.4%（51億ドル）となっている。つまり教育援助の比率はODA全体の約9%前後であり，その年額は50億ドル近辺のところにある。

第6表は，1987年から92年までの期間を対象に，DAC加盟国がODAの何%を教育分野に割いているのかをみたものである。もっとも高い比率を示すのはニュージーランドで，ODAのうち31%を教育分野に割いている。今20%以上を教育分野に割り当てている国を拾い出すと，オーストラリア（23.7%），オーストリア（21.8%），ベルギー（20.8%），

第6表　ODAに占める教育援助の割合（%）

ODAに占める教育援助の割合（%）							
	1987	1988	1989	1990	1991	1992	平均
オーストラリア	19.8	15.8	26.8	36.2	30.1	13.6	23.7
オーストリア	38.4	28.8	11.2	21.5	22.3	8.3	21.8
ベルギー	28.6	23.7	25.1	17.1	14.9	15.1	20.8
カナダ	8.1	6.7	13.3	11.2	7.1	6.3	8.8
デンマーク	3.6	3.4	1.5	1.3	9.4	6.8	4.3
フィンランド	7.7	3.8	4.5	1.6	4.9	2.1	4.1
フランス	26.5	24.3	24.6	28.1	22.5	24.8	25.1
ドイツ	19.0	19.0	16.4	14.2	12.9	13.0	15.8
アイルランド	22.0	18.7	21.6		21.3	27.9	22.3
イタリア	3.9		5.0	6.9	6.6	3.7	5.2
日本	8.1	6.2	5.8	6.9	6.3	6.3	6.6
オランダ	5.0	5.0	7.8	12.7	12.3	6.1	8.2
ニュージーランド	29.4	52.6		1.6	41.3	30.3	31.0
ナオルウェー	10.8	10.1	8.3	4.6	5.0	4.6	7.2
スペイン					5.0	4.8	4.9
スエーデン	6.7	6.6	3.6	5.6	9.1	4.2	6.0
スイス	7.9	7.5	10.4	9.2	6.4	9.0	8.4
イギリス	12.8	10.3	12.6	11.6	12.6	12.6	12.1
アメリカ	3.8	4.9	5.8	2.2	2.8	2.8	3.7
DAC加盟国全体	10.6	11.0	11.5	22.0	8.7	8.4	12.0

フランス(25.1%), アイルランド(22.3%), ニュージーランド(31.0%)となる。またその逆にデンマーク(4.3%), フィンランド(4.1%), スペイン(4.9%), アメリカ(3.7%)のように, 6%にも達しない国がいくつか見られる。

問題は日本の位置であるが, 日本の教育援助の対ODA比率は6.5%であり, けっして高い方ではない。そのことは社会インフラの比率が低いことから容易に想像のつく点である。しかしながら, 次のような事実は見落とすべきではあるまい。つまり, 日本の場合にはたとえODAのなかでのシェアは低くとも, 母数となるODAの規模が大きいため, 教育援助の規模は見かけ以上に大きくなる, という事実である。

第7表は, 1990年, 91年, 92年の3年間を対象に, 各国の教育援助額を取り出してみたものである。この表からも明らかなように, 最大の教育援助国はフランスで, 3年間で総額57億ドル(年平均19億ドル)を教育分野に投じている。フランスの教育援助額がDAC加盟国全体の教育援助額のなかで占める比率は37%に達している。それに次いではドイツで, 3年間で総額28億ドル(年平均9億ドル)を教育援助に投じており, DAC加盟国全体の教育援助額のなかでドイツは18.1%を占めている。それに次いで第三位にくるのは日本で, 日本の教育援助額は3年間で20億ドル(年平均7億ドル)に達し, DAC全体の教育援助総額のなかでは13.2%に達している。

つまりドイツ, 日本の場合, それぞれの国のODAのなかでの教育援助の占める比率は13.3%, 6.5%と, それほど多くはないが, 両国とも母数となるODAの規模そのものが大きいため, 教育援助の規模そのものも大きくなる。いまフランス, ドイツ, 日本の3カ国の教育援助額をまとめると, 世界全体の教育援助の約7割に達する。そのことはいいかえれば, この3カ国がいかなる教育援助政策を展開するかによって, 世界全体の教育援助の流れは変わってくる。とくに日本がいかなる教育援助政策を展開するかは, 単に日本だけの問題にとどまらず, 世界全体の教育援助の

第7表　教育援助額の規模
(1990, 91, 92年度の合計。
単位は100万ドル)

教育援助の規模(1990, 91,92年度の合計)(単位100万ドル)		
	教育援助額	比率
フランス	5725.6	37.4
ドイツ	2772.0	18.1
日本	2018.3	13.2
イギリス	1118.0	7.3
アメリカ	893.9	5.8
オランダ	799.9	5.2
オーストラリア	799.8	5.2
カナダ	620.0	4.1
イタリア	607.7	4.0
スウェーデン	408.3	2.7
ベルギー	407.2	2.7
オーストリア	252.8	1.7
スイス	226.7	1.5
デンマーク	222.7	1.5
ノルッウェー	172.9	1.1
スペイン	136.0	0.9
フィンランド	72.6	0.5
ニュージーランド	72.2	0.5
ポルトガル	49.5	0.3
アイルランド	34.9	0.2
ルクセンブルグ	2.2	0.0
DAC全体	15289.2	100.0

あり方に大きな影響力を及ぼすことになる。

援助対象分野としての基礎教育

すでに周知のように，国連は1990年をもって「国際識字年」と定め，また同年にはタイのジョムティアンで「万人のための教育」会議を開催し，西暦2000年までにすべての児童に基礎教育を普及させるという決議が採択された。それとともに，議論の焦点は，この目標実現のための具体的な施策の検討に移ることとなった。つまり今や明らかにしなければならないのは，世界全体でみた時，基礎教育を受けていない児童がどれほどいるのか，彼等のすべてに基礎教育を与えるとしたら，どれほどの小学校を造り，どれだけの教員を採用しなければならなくなるのか，彼等に必要とされるカリキュラムとはどのようなものなのか，そのカリキュラム開発はいかなる方法と組織をもって行うべきなのか，それらのために必要となる経費はどれほどの規模に達するのか，それだけの経費はいったいいかなる方法で調達することができるのか，こういった具体的な問題である。

この問題を先進諸国の立場からみるならば，この遠大なプロジェクトは果たして開発途上国の自己努力だけで達成可能なのか，もしそれが困難だとすれば，どれほどの規模の外部援助が必要となるのか，はたして先進諸国にはそれだけの援助を提供する用意ができているのかどうか，これらの問題が避けがたい重要課題として浮上することとなった。さらにその上，DAC諸国にとっては初等教育を対象とする援助は，ほとんど未知の領域に属するテーマである。これまでDAC諸国は高等教育もしくは職業教育に対しては積極的な援助政策を展開してきたが，初等教育はほとんど無視してきた。しかもこの初等教育に対する無視はけっして偶然の結果ではなく，それなりの理由なり背景があってのことであった。だからその事実を考えるならば，問題は単純に従来，高等教育分野・職業教育分野に振り向けてきた援助を，今後は初等教育に切り換えればすむといった単純な性格のものではない。なぜこれまで教育分野の援助のなかで，高等教育ないしは職業教育の優先順位が高かったのか，なぜ初等教育はその優先順位を高めることができなかったのか，その原因にまで立ち返り，援助政策一般の基本原則のあり方，教育援助政策のあり方にまで立ち返って再吟味する必要性がでてくるからである。

問題の焦点は，ジョムティアン会議で採択された行動目標を達成するには，どれほどの規模の経費が必要となるのか，もしそのすべてを開発途上国自身の自己努力でまかなうことはできないとすれば，先進諸国はどれほどの教育援助を開発途上国に振り向ける必要性があるのか，という点である。この点についてはすでにいくつかの経費予測が行われているが（Lassibille and Gomez 1990），そのなかでもっとも網羅的な分析をおこなったものとして国際的な関心の的となっているのは，イギリスのサセックス大学のカルクロウ達の行ったシミュレイション結果であろう。彼らの用いたシミュレイション・モデルは後述することにして，結論だけをあげるならば，次の2点に要約することができる。

(1) 1990年から2005年までの15年間に総額1,460億ドル（1986年価格で）の経費が新たに必要となること，

(2) そのうち300億ドルが開発途上国自身

の自己努力では調達できない部分であり，先進諸国からの教育援助に依存せざるをえない部分であること，

という2点である（Colclough. pp. 1-38）。つまり今後15年間にわたって毎年，1986年価格で20億ドル，1990年価格では25億ドルの教育援助が継続的に必要だというのが，その結論である。

ここでカルクロウ達の分析について，若干の解説が必要であろう。まず出発点となる事実は，1990年時点で小学校に在籍していない児童数が，世界全体で1億3千万人いるという事実である。しかもその場合注意を要する点は，その多くが初等教育段階の粗就学率（Gross enrollment ratio）がすでに100%を越えた国に住んでいるという点である。たとえば，コロンビアとレソトはともに初等教育の粗就学率はすでに115%に達しているが，初等教育段階に該当する年齢人口のうち，初等教育に在籍している者は70%でしかない。つまり残りの30%の児童は初等教育には就学していない。つまり粗就学率ではすでに115%に達しているのに，純就学率ではまだ70%にしか達していない。粗就学率と純就学率との間には，45ポイントもの大きな差がある。

ややテクニカルな説明になるが，粗就学率という指標は，初等教育段階の該当年齢人口を分母とし，それでもって小学校在籍者（そのなかにはすでに該当年齢を過ぎてしまっている者，あるいはその該当年齢以前の者も含まれている）を割った指数として定義されている。だからこの指標は繰り返し在学者（リピータ）や過年齢在学者，学齢以前の在学者等が多くなればなるほど高くなる。したがって粗就学率が100%に達したとしても，学齢人口のすべてが小学校に就学しているわけではない。学齢人口のうち，現実問題としてどれほどの者が就学しているかを測定するためには，純就学率の方が有効である。ただし，統計技術上，純就学率は把握が困難なため（在籍者のうち，該当年齢に属する者とそうでない者とを，一人一人チェックしなければならない。このような実態把握が困難な場合は多い），その近似値として粗就学率が用いられることが多い。

このような例はコロンビアやレソトだけに限らない。粗就学率と純就学率との格差が20ポイントを越えるような国は，このほかにも多数存在する。このことを考えると，該当年齢人口のすべてに初等教育を普及させるという政策目標の実現の程度を測定する指標としては，粗就学率は不十分で，むしろ純就学率の方を指標を選択する必要性がある。ただ粗就学率はそれなりの意味を持っている。それは該当年齢人口のうち，どれほどを吸収できる収容力が準備されているかを示している。初等教育の完全普及を目指すとすれば，該当年齢人口の児童すべてを収容できるだけの収容力を用意することが必要である（Universal Provision）。しかしこれはあくまでも必要条件であって，十分条件ではない。実際問題として該当年齢人口のすべてが小学校教育を受けているか否かは（Universal Attendance），純就学率で測定されなければならない。

そこでカルクロウ達は該当年齢人口すべてを収容できる小学校施設を用意することを，UPE（Universal Primary Education）と呼び，該当年齢人口の児童すべてが小学校に就学する状態をSFA（Schooling for All）と呼んで，両者を区別している。まず2000年までにUPEを達成するためには，現状よりもさ

らに1.14億人分の小学校収容力を追加整備させる必要がある。さらにその上にSFAを達成するためには1.56億人分が新たに必要となる。これは1990年水準との比較でみるならば30%増に当たることになる。さらにまた2005年までの期間でみるならば，その間の人口増加を見込む必要があるため，必要となる収容力の増加分は2.12億人分ということになる。

しかし，これだけの増加が必要となる地域は，世界全体のなかでは，かなり限定されている。もっとも深刻なのはサブ・サハラとパキスタンとバングラデシュで，サブ・サハラでは今世紀末までに小学校児童数は2倍となることは見込まれている。このサブ・サハラ地域の小学校児童数は，1990年時点では発展途上国全体の11%だが，将来は40%にまで拡大することになるとされている。

外部援助の必要額

それではすべての子供に初等教育を与えるとすると，それに必要となる経費はどれほどの規模に達するのであろうか。カルクロウ達の推計によると，UPEを達成するにのに必要な経常経費の増加分は，既存の教育制度に改革を加えなければ，1986年価格で1,460億ドルに達するという。ちなみに1990年時点での開発途上国全体の初等教育に要する経常経費は，約1,000億ドルといわれている。これだけの年間経常経費の上にさらに1,460億ドルが新規の経費として必要というのが，彼等の計算結果である。

それではこれだけの資金を確保するには，いかなる方法があるのか。カルクロウ達は，もし人口増加率と同じ比率で初等教育費を増額することができるならば，また初等教育の効率改善のための諸施策が行われれば，これはけっして不可能な規模ではないとみている。しかし開発途上国の現状をみれば，今後15年間にわたって初等教育費を，人口増加率と同じテンポで増額することは不可能であることは明白である。しかしたとえもしそれが可能であっても，40カ国で資金不足が生じ，それは総額440億ドルに達するという。また，1980年代に教育に配分された経常経費の比率を2パーセント・ポイント増加させ，それを2005年まで継続したとしても，それでも不足が生じる国は35ケ国に及び，その不足額は総額200億ドルに達するという。このようにこの分析では，1986年価格で20億ドル，1990年価格で25億ドルの教育援助が必要になるという結論を導きだしている。

問題はこの年間25億ドルという援助額の重みであるが，これはこれまでの教育援助の動向からみて，どれほどの重みを持った額なのであろうか。1986年時点で世界全体での教育援助の現状をみると，その規模は42億ドルに達している。したがってこの新規追加経費，年間20億ドル（1986年価格）を確保するためには，これまでの教育援助額を50%ほど増加させる必要があるということを意味している。

しかし，一つの事業に対する予算を一挙に1.5倍に拡大させることが，いかに困難なことかは，多くの事例が物語っている。カルクロウ達がいうように，確かに70年代の教育援助の占める比率は，現在よりも高く17%程度の水準にあったのだから，その水準への復帰を目指せばよいという議論は，一つの見方としてはあるだろう。しかしすべての鍵は援助供与国の政策にかかっている。実際問題とし

ては今後のDAC加盟国の動向のなかで確かめられなければならない問題である。ちなみに1991年度当時の日本のODAは，総額109.52億ドルであった。したがって1990年価格での25億ドルという必要教育援助額は，その約23%ということになる。

基礎教育援助の特殊性

このように現在の教育援助政策の課題は，まず地域的にいえば，サブサハラ・アフリカと，パキスタン，バングラデシュといった南アジアに限定されてきており，対象分野としては，高等教育，職業教育ではなく，基礎教育の整備に焦点が合わされてきている。このことは日本からみれば，いままでの東南アジアを重点対象としてきた援助政策を，いかにして対アフリカ，あるいは対南アジアへと路線変更をはかるかが課題となり，さらにいえば，これまで高等教育，職業教育中心に展開されてきた教育援助をいかにして初等教育中心へと方向転換させるかが課題となってきている。なかでも後者の問題は複雑な要素を含んでいる。

複雑な要素とは具体的にいえば，初等教育分野で強く求められているのは，高等教育，職業教育とは異なって，校舎の建築，実験装置，実験機材の供与といった資本的投資ではないという事実である。むしろボトル・ネックとなっているのは教員給与であり，サブサハラ・アフリカ，南アジア諸国での基礎教育の普及定着を妨げているのは，必要な数の教員を採用するだけの予算を欠いているという点にある。ここに資本的経費中心の従来型援助から，リカレント・コスト重視型援助へといかにしてシフトさせるかという課題が生じることになる。

しかしながら，一国の教員給与のなにがしかの部分を，他国からの援助によってまかなうことは，それらの国の国家主権とどうかかわるのであろうか。発展途上国の初等教員は多くの場合，国家公務員である。そもそもたとえ一部とはいえ，一国の公務員給与が他国からの援助で支払われるという事態は，一国の独立性，自立性と矛盾することはないのであろうか。さらにはまた，たしかに援助が行われている期間だけは，教員給与を確保することができるかもしれない。しかし，援助期間が終了してしまった後は，今度はだれがそれを負担するのか。つまり，校舎の建設，教育機材の提供といった，一定期間内に完結する資本的経費に対する援助と異なって，教員給与といった経常経費を対象とする援助は，一旦開始したら，場合によっては，際限のないものになる危険性をもっている。むしろそれは被援助国の自己努力に対する意欲を削ぎ，かえって外部援助に対する依存性を高めるだけの結果となって終わるかもしれない。従来，初等教育が援助対象になりにくかったのは，まさにここに原因があった。

すでに別のところで検討したように，目下のところ，この問題に対する援助供与国側の態度は明確ではない。確かにたとえ初等教育費の9割が教員給与からなり，その不足をいかにして克服するかが発展途上国の初等教育整備の最大課題だとしても，直接教員給与を他国が肩代わりすることに慎重になるのは，それなりの合理性をもっている。しかし初等教育はその周辺に多くの教育インフラがあって，はじめて成立するシステムである。教員養成制度，教科書編纂・出版・配布システム，僻地教育システム，教育計画システム，教育

情報収集システム，もろもろの教育インフラが存在している。もしかりに教員給与への直接援助が困難だとするならば，基礎教育を取り巻くこれらの教育インフラへの援助を通じて，間接的な援助方式が重視されるべきであろう。

参考文献

Gabriel Carceles 1990. Is Literacy for all by the year 2000 a feasible Target ? in *Prospects*. Vol. XX, No. 4. pp. 449-459.

Christopher Colclough with Keith M. Lewin 1985, *Educating All the Children*, Clarendon Press.

Philip H. Coombs 1985, *The World Crisis in Education*. Oxford University Press.

Wadi D. Haddad 1990, Education for All, the Role of international aid. in *Prospects*, Vol. XX, No. 4. pp. 525-535.

Inter-Agancy Commission, WCEFA (UNDP, UNESCO, UNICEF, World Bank) 1990, Final Report, World Conference on Education for All ; Meeting Basic Learning Needs.

外務省経済協力局編「我が国の政府開発援助」各年度版。

国際協力事業団　1994『開発と教育分野別援助研究会報告書』

国立教育研究所内・国際教育協力・援助研究会編 1990　『アジア・太平洋諸国の国際教育協力・援助の実態と課題』

国連経済社会局編　1989『世界人口予測データ 1950～2025』

草野厚　1993『ODA　1兆2千億円のゆくえ』東洋経済新報社。

Gerard Lassibille and Maia Lucia Navarro Gomez 1990, Forecasts of primary-education expenditure in developing countries in the year 2000. in *Prospects*, Vol. XX, No. 4. pp. 513-524.

Marlaine F. Lockheed, Adriaan M. Verspoor and associates 1991, *Improving Primary Education in Developing Countries*. Oxford University Press.

Jens Naumann 1984. "The Volume and Structure of External Aid to Education" Paper presented at the International Institute for Educational Planning, Paris, November.

OECD/DAC : *Development Cooperation*, 各年度版。

鷲見一夫　1989『ODA　援助の現実』岩波書店。

豊田俊雄　1992。「『基礎教育』への援助」。『国際協力研究』第8巻第1号。国際協力総合研修所編。

UNDP : *Human Development Report*, 各年度版。

UNESCO 1990, Basic Education and Literacy. *World Statistical Indicators*.

UNESCO : *Statistical Yearbook*, 各年度版。

UNESCO : *World Education Report*, 1993, 1995.

潮木守一「国際援助政策の動向と日本の地位」(1997)。平成6年度－8年度科研費研究成果報告書『経済停滞期における開発途上国に対する教育援助政策の動向分析』1997年3月（研究代表者　潮木守一)。

潮木守一「転換期を迎える教育援助政策－リカレント・コスト重視型援助への移行をめぐる諸問題」日本教育社会学会編『教育社会学研究』第55集（1994年)。

内海成治　1993『教育メディア開発論』北泉社。

渡辺利夫・草野厚　1991『日本のODAをどうするか』NHKブックス。日本放送出版協会。

The World Bank, *World Development Report*, 各年度版。

Changes in Thailand Labour Force Structure and Government Policy Responses

Sumalee PITAYANON

I. INTRODUCTION

Rapid growth of the Thai economy during the past three and a half decades was mainly contributed by the fast expansion of the industrial sector particularly the manufacturings that produced low-skilled labour intensive goods for exports. The comparative advantage that Thailand had over her competitors in the world market of such products came from her relatively large supply of low waged labour and ample natural resources.

However, from the beginning of the 1990's, there has been a trend indicating that Thailand is gradually losing her comparative advantage of her traditional low-skilled labour intensive export products to the newly industrializing countries from the former socialist block such as China and Vietnam.

Owing to their vast supply of low waged labour and other natural resources, compared to a rising wage trend, a tighter labour supply situation and a rapid depletion of natural resources in Thailand, these newly emerging and industrializing countries therefore attracted not only foreign investors to move to their countries but also buyers of their goods in the world market.

On the other hand, there is also a new development indicating that Thailand is able to penetrate in the world market of her higher-skilled and technological based industrial products. Growth of exports of these products has been very high and rising in recent years. The development of higher skilled and technological based products is now viewed as a new and important strategy for Thailand if she is to maintain her international competitiveness and sustain her economic growth in the coming decade.

Yet, one important condition for the success of such a strategy in Thailand lies in the quality of her workforce. The higher-skilled and technological based industries require an educated pool of workers who can be trained to operate and work with expensive machines and equipments in modern factories.

The current labour force in Thailand is generally criticized as unfit for the strategy to develop the higher skilled and technological based industries due to the low level of their educational attainment. Furthermore the supply of highly trained manpower such as scientists and engineers is also considered insufficient due to the inability of the higher educational

institutions to expand and adjust to this newly changing trend. Massive programs to develop the Thai workforce are therefore required if Thailand is to progress along this path of further industrialization and economic growth.

The purpose of this paper is to analyse the labour force structure of Thailand and its changing trend in the past few years in the light of the above context and discuss the government policy responses to these changes.

The paper is presented in 5 sections. Section 1 briefly reviews the economic growth and the changing pattern of production and exports of Thailand in the past few years. Section 2 discusses the employment trend of the Thai workforce to be followed by an analysis of the workforce supply trend in section 3. Gaps between the labour requirement and its availability are then analysed in section 4. Finally in section 5, government policy responses to these gaps are explored.

II. ECONOMIC GROWTH AND STRUCTURAL CHANGE

Over the past three and a half decades, the Thai economy expanded rapidly with an average real GDP growth rate of 7% per year during 1960-1996. Per capita income of the Thai population also rose substantially by 37 times from an average of 2,102 baht in 1961 to 77,500 baht which ranked Thailand the 65th country among the 127 middle level income group countries in 1996. The Thai economy has also developed to be more open to the international market in recent years with the share of international trade to GDP rising from 37.3% in 1961 to 54% in 1981 and rapidly increased to 89.4% in 1996 with the industrial sector playing a dominant role in the export market replacing the agricultural sector after the mid 1980's.

Table 1 Growth Rate of GDP by Sector : 1960-1996

	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	Avg. 1960-95	1995-96[e]
GDP Growth	7.20%	8.60%	5.60%	7.90%	5.60%	9.90%	8.27%	7.57%	6.70%
Agriculture	4.80%	6.00%	3.80%	4.00%	4.90%	2.92%	3.29%	4.24%	3.30%
Industry	11.50%	10.40%	7.30%	10.60%	5.00%	13.93%	11.17%	9.95%	7.70%
Services	7.20%	9.50%	5.60%	8.20%	6.30%	9.74%	7.15%	7.66%	6.60%
Real Per Capita GDP	4.20%	5.60%	3.00%	5.50%	3.60%	8.20%	6.99%	5.29%	—
Population	3.00%	3.00%	2.60%	2.40%	2.00%	1.70%	1.28%	2.28%	—

Source : Between 1960-90, NESDB National Accounts and Population of Thailand. For 1990-95, TDRI projections.

During this high growth period, the production structure of the Thai economy has also

Table 2 Shares of Real GDP by Economic Sector (%)

Sector	1961	1971	1981	1992	1996[e]
Agriculture	39.4	26.8	20.0	12.3	10.4
Industry	12.4	16.9	32.2	29.1	32.6
Services	48.2	56.3	57.2	58.6	57.0

Source : NESDB

Table 3 Structure of Industrial Production 1980-1994

Industry	Growth Rate (%)		Share in Industry (%)		
	1980-1986	1986-1994	1980	1986	1994
Textile Leather and Footwear	7.4	11.9	21.7	24.0	21.2
Food Beverage and Tobacco	4.8	8.5	26.2	24.8	17.2
Non-metal and Petroleum	5.3	12.5	14.2	13.9	12.9
Metal and Machinery	8.0	21.8	4.7	5.4	9.4
Machinery and Electrical	10.8	25.3	3.2	4.3	9.3
Vehicles	−1.7	20.9	8.6	5.6	9.2
Chemicals Rubber and Plastics	6.5	12.7	5.5	5.7	5.4
Wood products and Furniture	4.6	4.0	6.1	5.7	2.8
Paper and Printing Products	4.8	11.2	3.3	3.2	2.7
Base Metals	−0.2	11.3	2.8	2.0	1.7
Others	13.5	20.0	3.7	5.6	8.4
Industry Production	5.7	13.6	100.0	100.0	100.0

Source : TDRI

changed considerably. The agricultural sector which had a dominant role for a long period of time has been surpassed by the industrial sector from the early 1980's as a result of the export-led industrial promotion policies. The industries that played a dominant role in the earlier period of industrialization were the relatively labour intensive industries such as food, beverages, tobacco, textiles, leather, footwear, wood products and furniture respectively. This coincides with the structure of manufacturing product exports of Thailand whereby the labour intensive products which Thailand still had comparative advantage took the largest share of more than half of the total manufacturing exports until 1989. After 1989, this share of labour intensive product exports of Thailand declined sharply to 40.45% in 1991 and

Table 4 International Trade

	1961	1971	1981	1996
Share of International Trade to GDP (%)	37.3	38	54	89.4
Share of Exports by sector (%)				
Agriculture	86.4	67.9	52.1	12.3
Industry	2.4	10.5	35.8	83.2

Source : BOT

Table 5 Thai Manufactured Exports (Million Baht)

	1989	1991	1993	1996*
Labour Intensive Products				
- Textiles	105,181	119,351	129,568	
- Footwear	13,524	23,798	27,936	
- Furniture and Parts	9,746	13,626	16,738	
- Rubber Products	5,464	7,116	11,373	
- Travel Goods	5,464	7,116	11,373	
- Sport Equipment and Related	1,222	4,102	6,801	
- Leather Products	1,448	2,678	4,257	
- Artificial Flower and Related	2,867	2,271	2,598	
- Precious Stones and Jewellery	28,393	35,903	41,030	
- Toys and Games	4,218	7,800	7,928	
Total Labour Intensive Products	177,527	223,761	259,602	324,409
Average Growth		12.27%	7.71%	7.71%
Medium-High Technology Products				
- Machineries and Mechanical Appliances	31,154	57,455	90,802	
- Electrical Appliances	18,851	47,875	62,634	
- Electrical Circuits Apparatus	26,521	44,209	75,622	
- Electric Cable	3,545	4,821	10,365	
- Transformers, Generators and Motors	2,073	4,947	10,382	
- Clocks, Watches and Parts	2,484	7,556	7,266	
- Optical Appliances	1,123	2,566	7,838	
- Vehicles, Parts and Accessories	4,431	6,885	16,532	
Total Medium-High Technology Products	90,182	176,314	281,441	567,595
Average Growth		39.82%	26.34%	26.34%
Other Manufactured Products				
- Process Products	43,345	36,086	52,332	
- Others	43,100	117,027	159,182	
Total Other Manufactured Products	86,445	153,113	211,514	343,423
Average Growth		33.09%	17.53%	17.53%
Total All Manufactured Products	354,154	553,188	752,557	1,235,427
Average Growth		24.98%	16.64%	17.97%
Shares				
Labour Intensive Products	50.13%	40.45%	34.50%	26.26%
Medium-High Technology Products	25.46%	31.87%	37.40%	45.94%
Other Products	24.41%	27.68%	28.11%	27.80%
Total	100.00%	100.00%	100.00%	100.00%

Source : Bank of Thailand for 1989-93. 1996 estimates based on 1991-93 average growth rates.

dropped to 26.26% in 1996. The average growth rate of this category of exports from Thailand also decreased from 12.27% during 1989-1991 to only 7.71% during 1991-93 and 1993-1996. This declining trend of labour intensive exports of Thailand can be explained by the relatively decline in comparative advantage of these products of Thailand in the world market compared to other newly industrializing countries such as China, Vietnam and

Table 6 Share of Employed Persons by Industry (%)

Employed Persons	1960	1980	1986	1991	1996[e]
Agriculture	82.3	70.8	63.7	60.6	54.1
Industry	3.6	8.1	9.3	11.0	13.5
Construction	0.5	1.9	2.6	3.8	5.6
Commerce	5.7	8.5	10.6	10.9	11.5
Services & Others	7.9	10.6	13.8	13.7	15.3
Total	100.0	100.0	100.0	100.0	100.0

Source : NSO Labour Force Survey

Indonesia owing to their large surplus of labour and relatively much lower wages.

On the other hand, the medium and high technology products of Thailand such as machineries, mechanical, electrical and electronic products including vehicles, parts and accessories displayed a substantial rate of growth in their exports and in their share in the total manufacturing exports of Thailand. In 1989 this share was only 25.46% then rising to 31.87% in 1991 and increased sharply to 45.94% by 1996. Average growth rate of this category of exports was also very high i. e. 39.82% between 1989-1991 and dropped slightly to 26.34% during 1991-1996 owing to a slowdown in the world market of the electronic and electrical goods due to an oversupply in the previous years.

This changing structure of manufacturing exports of Thailand in the early 1990's came as a result of a rapid inflow of foreign direct investment into these industries especially from Japan, Korea, Taiwan and HongKong during 1987-1989. These industries came with modern technology which required a higher level of skill from workers in their production than the traditional export industries of Thailand. Most of these new foreign invested firms produced mainly for exports. Table 5 shows that these industries enjoyed a marked increase in their average growth rate during 1986-1994 compared to a much smaller rise of other traditional export industries of thailand. A rising share of the metal and machinery industry, the machinery and electrical industry and the vehicles industry during 1986-1994 was also noted while other industries' share show a declining trend.

III. EMPLOYMENT TREND

High economic growth and changing economic structure in the past three and a half decades have also changed the pattern of labour demand in Thailand. Employment of the Thai workforce expanded rapidly from 13.7 million persons in 1960 to 33.1 million persons in 1996, an increase of 19.4 millions persons or an average of 550,000 persons per year.

Agriculture still absorbs the largest proportion of the Thai workforce although a declining

trend is clearly observed. The percentage share of agricultural employment in 1996 is only 54.1%, a significant drop from 82.3% in 1960, 70.8% in 1970 and 60.6% in 1990. However, when one considers that the share of agriculture in real GDP is only 10.4% in 1996, the size of agricultural employment of 54.1% is still too large. As a result, average income per head of agricultural worker is quite low, hence poverty in the rural sector of Thailand persists.

Non-agricultural employment also increased substantially from 17.7% in 1960 to 45.9% in 1996. They are mainly absorbed by the manufacturing, commerce and service sectors. Employment in construction, public utilities, transportation and communication also grew notably during this period. Nonetheless, non-agricultural employment expansion is still considered insufficient judging from its share in GDP which accounts for 89.6% of the total. In particular, the manufacturing sector whose share in GDP is around 32% of the total in 1996 with a high GDP growth rate throughout this period can absorb only 13.5% of total employment in 1996. This reflects on average high capital content in the industrialization process of Thailand.

Table 7 Growth Rate of Employment by Economic Sector

(Unit : %)

Economic Sector	1978-1986		1987-1991		1992-1995		Total
	Male	Female	Male	Female	Male	Female	
Agriculture	2.29	1.29	1.21	1.15	−4.80	−4.90	−4.90
Industry	2.98	4.32	7.53	11.49	6.90	8.90	7.90
Construction	6.45	8.78	15.97	16.51	17.10	18.90	17.30
Commerce	5.37	5.41	3.90	2.71	7.00	7.80	7.40
Transportation	4.60	9.51	6.33	11.49	10.10	−0.90	8.70
Services	4.37	6.28	1.34	2.55	9.40	6.90	7.90
All Sectors	3.04	2.48	2.93	2.78	7.50	−0.20	1.90

Source : Calculated from NSO Labour Force Survey Round 2 and Round 3 Various years.

In the manufacturing sector whereby employment growth has been the largest the majority of workers were absorbed in food processing and other traditional light industries such as textiles, garments, wood products, furniture and others.

However, a declining trend in the traditional light industries employment can be noted from 1984 onward while the share of employment in the higher skill-intensive industries such as metal products, mechanical, electrical and others, have been steadily increasing. This changing pattern of employment coincides with the changing production and export structure of Thailand during the same period.

Table 8 Share of Employment by Industry

(Unit : %)

Industry	Male				Female				Total			
	Average 1980, 1984	Average 1984, 1987	Average 1987, 1988	Average 1988, 1990	Average 1980, 1984	Average 1984, 1987	Average 1987, 1988	Average 1988, 1990	Average 1980, 1984	Average 1984, 1987	Average 1987, 1988	Average 1988, 1990
Heavy Industry	34.73	35.81	35.08	34.20	14.71	12.32	11.72	12.94	26.79	24.99	24.03	23.98
Basic Metal	7.11	7.86	6.28	5.06	0.98	0.45	0.39	0.78	4.68	4.45	3.50	3.00
Ceramics and Glass	7.50	8.09	8.51	9.23	6.00	4.62	4.56	6.25	6.90	6.49	6.64	7.80
Chemicals	5.24	4.90	5.10	5.86	6.70	5.87	5.11	4.54	5.82	5.35	5.10	5.23
Petroleum and Coal	0.11	0.05	0.08	0.08	0.01	0.10	0.07	0.00	0.07	0.08	0.08	0.04
Transportation	14.77	14.90	15.11	13.97	1.03	1.28	1.58	1.37	9.32	8.63	8.71	7.91
High Skill Intensive Industry	14.15	15.55	17.39	19.40	9.14	14.09	15.50	15.24	12.17	14.88	16.50	17.40
Metal Products	4.63	4.68	5.56	6.24	2.17	2.39	2.67	2.25	3.66	3.63	4.19	4.32
Machineries	1.08	1.15	1.68	1.88	0.08	0.13	0.59	0.93	0.68	0.68	1.17	1.42
Electrical	4.40	5.50	5.05	5.51	3.10	5.46	4.80	4.59	3.89	5.49	4.93	5.07
Others	4.04	4.21	5.10	5.77	3.79	6.11	7.44	7.48	3.94	5.09	6.21	6.59
Traditional Light Industries	30.12	32.53	30.73	27.75	57.63	52.11	48.65	47.19	41.02	41.55	39.20	37.10
Paper	1.52	1.89	1.76	1.37	1.35	1.02	1.19	1.25	1.45	1.49	1.49	1.31
Printing	2.85	2.53	2.19	2.17	1.75	1.17	1.07	1.08	2.42	1.91	1.66	1.65
Textile	5.38	5.60	5.49	5.16	23.27	17.42	14.50	12.76	12.47	11.05	9.75	8.81
Garments	4.05	4.69	4.96	4.85	23.32	24.49	22.62	22.34	11.69	13.81	13.31	13.26
Leather	0.35	0.31	0.09	0.57	0.38	0.34	0.28	0.47	0.36	0.32	0.18	0.52
Wood	9.44	10.18	9.36	7.50	5.08	4.94	5.53	5.51	7.71	7.77	7.55	6.54
Furniture	4.57	5.99	5.09	4.32	0.88	1.59	1.86	1.75	3.11	3.96	3.56	3.08
Rubber	1.96	1.32	1.80	1.81	1.61	1.14	1.59	2.04	1.82	1.24	1.70	1.92
Food	21.00	16.11	16.79	18.66	18.52	21.48	24.13	24.63	20.02	18.58	20.26	21.53
Food	18.31	14.24	14.14	15.11	16.18	19.76	22.12	22.69	17.46	16.78	17.91	18.76
Beverages	2.37	1.79	1.99	2.93	1.61	1.15	0.73	0.86	2.07	1.50	1.39	1.94
Tobacco	0.32	0.08	0.66	0.62	0.73	0.57	1.28	1.07	0.48	0.30	0.95	0.84
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source : NSO Labour Force Survey cited in Poapongsakorn and Susuki 1992

When differentiating by sex, women are mainly employed in these traditional export oriented industries of Thailand i. e. food, garments and textiles while men concentrate their employment mainly in the heavy industry.

In terms of education attainment of the employed workforce the demand for those with primary or lower level of education has been steadily declining while the demand for workers with secondary education or higher has been rising rapidly. This changing labour demand pattern also reflects the response of the Thai labour market to the changing production and export structure of the country during this period.

Table 9 Share of Employed Person by Education (%)

	1982	1992	1995
Primary or Lower	94.0	87.2	75.9
Secondary	4.4	8.2	14.4
Higher Education	0.5	1.7	4.1
Others	1.1	2.9	5.6
Tolal	100.0	100.0	100.0

Source : NSO Labour Force Survey
(Other=teachers & Vocational)

Table 10 Growth Rate of Employment by Education

Education	1989-1990	1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1989-1995
Total	0.74	0.96	4.00	−0.72	−0.18	1.49	1.05
None	5.89	−10.99	2.57	−8.71	−4.65	2.72	−2.19
Less than Primary 4	−5.28	−11.66	8.19	−9.20	−5.11	1.83	−3.54
Lower Primary	−3.11	3.59	1.59	−5.01	−1.39	2.87	−0.24
Upper Primary	6.22	−3.37	4.96	4.21	−2.27	−5.21	0.76
Lower Secondary	4.08	4.72	11.66	8.10	12.98	8.68	8.36
Upper Secondary	1.44	6.19	8.67	14.51	2.11	9.28	7.04
Vocational	8.15	7.39	0.38	4.96	5.54	0.02	4.08
University	5.18	12.50	12.63	19.98	−2.94	5.27	8.77
Technical	15.80	−4.07	18.93	8.89	8.31	8.58	9.41
Teachers Training	4.08	9.05	5.58	−11.19	10.94	−0.76	2.95
Short Course Training	−26.51	11.48	−44.12	63.16	−54.03	19.29	−5.12
Others	—	—	—	—	—	—	6.93
Unknown	—	—	—	—	—	—	8.57

Source : Calculated from NSO Labour Force Survey.

IV. LABOUR SUPPLY TREND

POPULATION TREND

One of the major determinants of labour supply in a country is population. In Thailand, the size of population has been growing at a declining growth rate since the early 1970's as a result of the national family planning program which was launched for the first time in Thailand in 1973. As fertility rate which was as high as 6.3% in 1964-65 started to drop continuingly to as low as 2.6% in 1990 (NESDB 1991), the population growth rate in Thailand thus declined rapidly from 3% during 1960-70 to 1.8% during 1980-90. Currently in 1995-96 the population growth rate is merely 1.2% and the total population in 1996 is estimated at 60.2 million persons.

Table 11 Population of Thailand 1960-1996

	1960	1970	1980	1990	1995	1996[e]
Total Population (mill.)	26.3	36.4	47.3	56.4	59.4	60.2
Average Annual Growth (%)		3.0	2.5	1.8	1.3	1.2

Source : Labour Force Survey 1995 Round 2
Population Census 1960-1990
1996e : estimated

The age structure of the Thai population has also changed as a result of this family planning program. The proportion of children population aged 0-14 years which increased markedly during 1960-1970 started to decline continuingly from the 1970's onward. Currently, the share of this age group of population is estimated at 28.19% of the total, a substantial

drop from 45.08% in 1970. It is forecasted further that this share will decrease to a mere 21.78% by the end of the coming two decades in 2017. This suggests that the size of the new economically active population flowing into the labour market will be continuingly decreasing.

Table 12 Number and proportion of population according to age group, 1960-1990

Age group	1960	1970	1980	1990
0-14 years	11,319.7	15,506.3	17,165.7	18,325.0
	(43.12)	(45.08)	(38.30)	(32.67)
15-59 years	14,157.5	17,791.6	26,067.4	35,578.0
	(53.93)	(51.72)	(58.15)	(63.44)
60 years and over	734.6	1,056.0	1,591.4	2,179.0
	(2.80)	(3.07)	(3.55)	(3.89)
all age group	26,251.9	34,397.4	44,824.5	56,082.0
	(100.0)	(100.0)	(100.0)	(100.0)

Note : Figures in bracker is in percentage
Source : 1960-1990, Population Census, NSO

Table 13 Population projection, 1992-2015

(Unit : thousand)

Age group and sex	1993	1997	2002	2007	2012	2017
0-14 years	18,069	17,420	16,916	16,625	16,360	16,108
Male	7,179	8,862	8,620	8,480	8,351	8,225
Female	8,890	8,558	8,296	8,145	8,009	7,883
15-59 years	35,952	38,865	43,411	46,397	48,580	49,489
Male	18,062	20,057	21,853	23,360	24,476	24,950
Female	17,890	19,808	21,558	23,037	24,104	24,539
60 years and over	3,739	4,509	5,297	6,157	7,397	8,354
Male	1,707	2,049	2,049	2,817	3,406	3,858
Female	2,032	2,460	2,888	3,340	3,991	4,496
					(Unit : Percent)	
0-14	31.28	28.19	25.78	24.03	22.62	21.78
15-59	62.24	64.51	66.15	67.07	67.16	66.92
60 and over	6.47	7.30	8.07	8.90	10.23	11.30

Source : Kiranandana, 1995.

On the other hand, the 15-59 years age group population who are mainly those already participating in the labour market, their share in the total population shows a growing trend throughout the period 1970-1997. This trend will continue until the year 2012 when it will start to drop. It is also noted that this age group population which accounted for half of the total population in 1970 has now taken about two thirds of the total share. Futhermore, the

elderly population aged 60 years and over, whose share was merely 3.07% in 1970, has now accounted for 7.30% of the total population in 1997, and will increase its share to 11.30% in the next twenty years as a result of better health and medical care. This changing population age structure suggests that in the future the labour supply of the country will comprise mostly with an older age group population rather than a younger one.

LABOUR FORCE TREND

The labour force of Thailand also grew rapidly during 1970-1980 as a result of high population growth rate in the 1960's. The national family planning program introduced in the early 1970's which resulted in declining population growth rate from the mid 1970's influenced the labour force growth rate to drop continuingly in the subsequent years after 1980 onward. However, in terms of absolute number, it is not until after 1990 when the labour force size of the younger age group (11-24 years) started to drop suggesting that the number of new entrants to the labour force in Thailand is now slowing down.

Table 14 Labour Force of Thailand

(Unit : million)

Year	Labour Force	(% per annum)	Labour Force By Age		
		Growth Rate	(11-24)	(25-34)	(13+)
1960	13.8	5.21	3.48	4.50	
1970	16.8	2.2	6.82	3.80	6.23
1980	22.7	4.4	7.36	5.98	8.18
1985	26.5	3.1	8.25	7.49	9.55
1990	30.5	2.8	8.77	8.85	11.33
1995	34.4	2.4	8.73	10.22	13.57
2000	38.1	2.0	8.62	11.08	16.17

Source : NSO Labour Force Survey
Poapongsakorn and Susuki (1992 : 11)

Table 15 Labour Force Share by Education Level

(Unit : %)

Education Level	1981	1986	1988	1990	1995	2000
Primary and Below	88.0	85.1	83.9	83.0	79.5	72.8
Lower Secondary	4.0	5.2	5.9	6.4	7.9	11.4
Upper Secondary	0.9	1.6	2.2	2.5	3.2	4.2
Vocational	1.5	2.3	2.7	2.8	3.1	3.9
Technical	0.4	1.1	1.5	1.3	1.6	2.2
University	0.9	1.6	1.9	4.1	4.6	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Labour Force Survey
TDRI Projection

Table 16 Real Monthly Wage for Private Employees by Area (1978 price)

	All Workers			Primary and Below		
	Urban	Rural	Total	Urban	Rural	Total
1978	1,267	839	990	972	798	850
1984	1,508	948	1,116	1,129	899	953
1992	2,192	1,036	1,578	1,315	891	1,049
1993	2,302	1,181	—	—	—	—
1994	2,316	1,235	—	—	—	—
1995	2,473	1,309	—	—	—	—
Average Growth						
1978-84	2.20%	1.54%	1.51%	1.88%	1.50%	1.44%
1984-92	4.79%	1.11%	4.42%	1.93%	−0.11%	1.21%
1993-95	3.68%	5.30%	—	—	—	—
Male	Urban	Rural	Total	Urban	Rural	Total
1978	1,450	955	1,133	1,161	905	983
1984	1,738	1,085	1,281	1,374	1,029	1,108
1992	2,486	1,156	1,768	1,518	1,011	1,192
1993	2,660	1,322	—	—	—	—
1994	2,604	1,375	—	—	—	—
1995	2,773	1,443	—	—	—	—
Average Growth						
1978-84	2.29%	1.61%	1.54%	2.12%	1.61%	1.51%
1984-92	4.58%	0.80%	4.11%	1.26%	−0.22%	0.92%
1993-95	2.20%	4.45%	—	—	—	—
Female	Urban	Rural	Total	Urban	Rural	Total
1978	975	669	774	678	648	656
1984	1,182	752	882	798	716	736
1992	1,810	866	1,322	1,069	725	860
1993	1,855	987-	—	—	—	
1994	1,966	1,043	—	—	—	—
1995	2,094	1,124	—	—	—	—
Average Growth						
1978-84	2.44%	1.48%	1.65%	2.06%	1.26%	1.45%
1984-92	5.47%	1.77%	5.18%	3.72%	0.14%	1.97%
1993-95	6.20%	6.75%	—	—	—	—

Source : 1978-1992 Chalongphop Susangkorn OECD
1993-1995 Calculated from Labour Force Survey 1993-1995 (July-September), CPI series from Bank of Thailand Monthly Bulletin
(—) means not available

In terms of labour force quality as indicated by their educational attainment, Table 15 reveals that the majority of the Thai workforce have very little education. This is due to the fact that in the past, compulsory education in Thailand was only 4 years of primary school for a long time until the early 1970's when it was increased to 7 years and changed to 6 years from 1978 onward. It was not until 1987 when a nation wide program was launched to

promote lower secondary school enrollment among primary school graduates. With large government subsidies and free lower secondary education for the rural poor, the continuing rate of children completing primary school going on to lower secondary school has been rapidly growing. Nevertheless, the impact of this higher level of education attainment of the young new entrants to the labour force is still very slow, and it is projected that by the year 2000, 72.8% of the Thai labour force will still have low level of education.

For those with education higher than the primary level, although their number are constantly increasing, their proportion in the total workforce is still considered very small. By the year 2000, the share of labour force with secondary education is forecasted at only 11.4% and for other higher levels, a much less proportion.

V. WAGE TREND

Real monthly wage for private employees in Thailand rose slightly at an average of 1.51% per year during the period 1978-84. This rate jumped very markedly to an average of 4.42% during 1984-92. Although the actual figure for the period 1993-95 could not be obtained for total wage, judging from the available wage data for urban and rural workers, it would be expected that average annual wage increase for workers during this period would be as high as the rate for 1984-1992 if not higher.

This rapid growth of real wage for all workers during the period 1984-1995 can be explained by investment expansion in Thailand during the period from 1987 onward. Employment of Thai workers expanded rapidly during this period particularly among those with secondary education and higher. This group of workers enjoyed a rapid rise in their money and real wages while those with primary education or lower benefited from this increase rather slightly. This is due to the fact that new investment during this period especially foreign investment came with modern technology that required workers with better education than before.

Since investment expansion during this period occurred in the urban area, urban workers' gain in the wage increase was therefore higher than their rural counterparts during 1984-1992. However, during 1993-95, the rural wage increase was at a faster rate than the urban rate due to a tight rural labour supply situation as a result of out migration of rural workers to the urban areas as well as the policy of industrial deconcentration as many labour intensive industries are shifting out to the provinces in search of cheap base of production, leading to increasing labour demand in rural area.

Comparing male and female wage differentials, although on the average, female workers earned much less than their male counterparts, their wage increase was much faster than the

male's rate particularly during 1993-95. This is explained by a faster expansion of female employment during this period particularly in the export-oriented industries.

Sectoral wise, it can be noted that the manufacturing and the service sectors demontrated a larger increase in their average money and real wage than other sectors during the period between 1977-1991. A larger gain for most sectors occurred during the period from 1987 onward due to rapid investment both foreign and domestic in Thailand.

Table 17 Growth Rate of Money and Real Wage 1977-1991

(Unit : %)

	1978-1986		1987-1991		1977-1991		
	Male	Female	Male	Female	Male	Female	Total
(a) Money Wage							
Agriculture	5.53	5.74	8.66	9.86	5.64	5.72	5.70
Manufacturing	9.80	10.18	7.22	8.42	7.56	8.01	7.42
Construction	7.96	6.59	6.68	0.57	5.79	6.26	5.83
Commerce	7.86	5.60	10.14	10.63	6.42	5.93	6.05
Transportation	8.83		9.67	4.84	6.04	6.46	7.07 6.62
Services	10.35	8.35	11.46	13.99	8.49	7.31	7.54
Average(1)	8.01	7.69	9.47	10.96	6.76	7.29	6.78
(b) Real Wage							
Agriculture	−0.98	−0.78	3.50	4.69	0.35	2.27	0.41
Manufacturing	3.28	3.66	2.06	3.25	2.27	2.72	2.13
Construction	1.45	0.08	1.51	−4.60	0.50	0.97	0.54
Commerce	1.35	−0.91	4.97	5.47	1.44	0.75	0.76
Transportation	2.32	3.15	−0.33	0.88	1.17	1.78	1.32
Services	3.84	1.84	6.30	8.82	3.19	2.02	2.25
Average(1)	1.50	1.17	4.31	5.80	1.47	2.00	1.49

Source : Calculated from NSO Labor Force Round 3 cited in Poapongsakorn and Susuki 1992, Table 1

Note : (1) average all sectors including mining and public utilities.

Table 18 Growth Rate of Money Wage by Sex and Education

(Unit : % per annum)

Education Level	1980-1987			1987-1990		
	Male	Female	Total	Male	Female	Total
No Education	0.52	2.24	0.99	6.65	12.20	9.40
Lower than Primary	4.33	3.01	3.01	4.67	11.42	7.80
Lower Primary	4.40	4.60	4.13	10.62	10.38	10.95
Upper Primary	1.49	0.17	−1.66	12.33	15.44	13.61
Lower Secondary	3.65	0.76	2.71	7.11	9.68	7.39
Upper Secondary	−0.75	−1.03	−1.00	7.23	10.88	8.02
Vocational	0.13	2.20	1.64	10.68	12.14	11.58
University	5.03	1.71	3.64	5.98	7.88	6.67
Teachers'Training	4.35	3.41	3.59	19.09	19.98	20.27

Source : Calculated from NSO Labour Force Survey Round 3 cited in Poapongsakorn and Susuki 1992 Table 17.

Table 19 Indices of Employment, Real Wage, Labour Cost and Labour Productivity 1990 (1980=100)

Sector	Employment Index	Real Wage Index	Money Wage Index	Labour Cost Index	Labour Productivity Index
Agriculture	126.6	103.7	159.4	156.8	101.7
Manufacturing	174.7	116.7	179.5	121.8	147.4
Construction	236.2	105.4	162.1	192.1	84.4
Commerce	154.7	116.3	178.8	125.2	142.8
Transportation	160.7	122.9	189.1	126.9	148.9
Services	162.4	138.1	212.4	133.5	159.2

Source : Nipon Poapongsakorn and Susuki 1992 Table 13

Table 20 Index of Employment, Wages, Labour Cost and Labour Productivity by Industries Average of 1989, 1990

(1980, 1984=100)

Industries	Employment Index	Wage Index	Labour Productivity Index	Labour Cost Index
Heavy Industry	168	148	88	168
Base Metal	120	121	205	60
Ceramic & Glass	212	122	71	172
Chemicals	169	193	59	327
Petroleum & Coal	114	62	147	42
Transportation	159	156	109	143
Higher Skill Industry	268	155	169	92
Metal Products	222	137	169	81
Machineries	391	150	106	142
Electrical	245	183	140	131
Others	314	134	191	70
Traditional Light Industry	170	132	124	106
Papers	169	107	116	92
Printing	128	137	75	183
Textiles	133	126	141	89
Garments	213	168	105	160
Leather	274	89	378	24
Wood	159	124	82	151
Furniture	186	158	189	84
Rubber	199	108	115	94
Food Industry	202	139	86	162
Food	202	142	91	156
Beverages	176	133	114	117
Tobacco	325	162	34	476
Total	188	143	107	134

Source : Nikon Poapongsakorn and Susuki 1992 Table 18

Note : (1) Labour Productivity Index = Real Value Added Index ÷ Employment Index

(2) Labour Cost Index = Wage Index ÷ Labour Productivity Index

Due to this rising trend in both money and real wage for all sectors, labour cost of production show an increasing trend. Table 19 indicates that in all sectors money wages grew faster than their labour productivity resulting in a rise in their labour cost. This is notable in the construction sector whereby productivity was falling owing to the largest employment increase in this sector together with a large increase in money wage. For the manufacturing sector as a whole, although labor cost of production grew only slightly from the 1980 base year period, since labour productivity still lagged behind their money wage increase, it will certainly cost the manufacturing sector their competitiveness relative to their rivals in other countries.

When classifying the manufacturing sector in more detail, it can be noted that several of Thailand traditional major export industries have been experiencing larger wage increase than their labor productivity causing a rising trend in their labour cost in production. These industries are for instances : garments, wood, food and tobacco. On the other hand, higher-skill intensive industries which expanded their employment greatly during 1980-1990 and have recently grown in their export share have shown a declining trend in their labour cost of production owing to labour productivity trend was rising faster than their wage trend. This is also explained by the fact that these industries utilized a higher level of production technology and higher skilled labour than Thailand traditional export industries.

Table 21 Migration Stream in Thailand 1965-1970, 1975-1980, 1985-1990

Migration Stream	1965-1970		1975-1980		1985-1990	
	Number	%	Number	%	Number	%
Urban-Urban	297,000	8.9	506,000	17.2	545,100	13.5
Rural-Urban	348,000	10.5	420,600	14.3	738,400	18.4
Unknown-Urban	118,400	3.6	98,300	3.3	165,200	4.1
Total to Urban	763,400	23.0	1,024,900	34.8	1,448,700	36.0
Rural-Rural	2,086,700	62.6	1,532,900	52.0	1,645,100	40.9
Urban-Rural	180,400	5.4	278,300	9.4	508,900	12.6
Unknown-Rural	300,600	9.0	111,600	3.8	423,400	10.5
Total to Rural	2,567,700	77.0	1,922,800	65.2	2,677,400	64.0

Source : NSO, Population Censuses 1970, 1980, 1990

VI. UNEMPLOYMENT AND UNDEREMPLOYMENT

As expected, throughout the past three and a half decades of rapid economic expansion of Thailand, unemployment can be considered not a serious problem. Total unemployment rates for most years were lower than 2% with an exception of a short period in the mid 1980's when Thailand's economy was slowing down as a result of exchange rates problem that led

to the baht devaluation in 1984. Total unemployment rates shot up to 3.7% in 1985, 3.5% in 1986 and highest to 5.86% in 1987 and started to decline to 3.06% in 1988 then dropped sharply to 1.39% in 1989 and stayed very low after that as a result of another economic boom in Thailand caused by a rising flow of foreign direct investment to Thailand particularly from Japan, Taiwan and Korea.

Table 22 Open Unemployment Rates of Those Looking for Work in Survey Week by Education

(Unit : %)

Year	Primary or Less	Secondary	Vocational	Teacher	Univ.	Total
1980	0.43	3.57	8.74	3.43	2.65	0.77
1986	0.57	3.53	10.84	3.94	4.55	1.29
1992	0.20	1.22	2.50	1.45	1.65	0.45
1995	1.17	1.65	2.10	1.10	1.50	1.10

Source : NSO, Labour Force Survey (July-September)
Open unemployment means those unemployed and seeking work

Table 23 Unemployment Rates in Thailand

	1960	1970	1980	1990	1993	1995	1996
Total Unemployment Rate	0.6	0.4	0.9	2.2	1.5	1.1	1.1
Open Unemployment Rate	–	–	–	0.6	0.4	0.3	0.34
Discouraged UE Rate	–	–	–	1.6	1.1	0.8	0.75

Source : Calculated from NSO, Labour Force Survey (July-September)

By August 1996, the total unemployment rate was measured at 1.09% and open unemployment rate was only 0.34%

With the current short term economic difficulties in Thailand, it is forecasted that the total unemployed persons in the country in 1997 and 1998 will double the number of the unemployed in 1996. This will raise the total unemployed persons in 1997 to 1,107,000 persons and in 1998 to 1,127,000 persons. (NESDB estimate). Open unemployment rate will also increase from 0.34% in 1996 to 0.89% in 1997 and 1.00% in 1998. If the number of those unemployed not seeking work but ready for work are included, the unemployment rate for 1997 and 1998 will go up to 2.73% and 2.78% respectively. (NESDB projection).

Judging from the standard of western industrialized countries where the natural rate of unemployment is generally measured at 3%, these open unemployment rates in Thailand can be considered rather low. The very low rate of unemployment in Thailand can be explained by the fact that in Thailand there is still no unemployment insurance system for the unemployed workers like the western industrialized countries. Therefore most workers

cannot afford being unemployed unless their family are well to do enough to support them. Since a large proportion of families in Thailand are still engaged in agriculture (50% of the employed in 1996) and are mostly own-account workers (30.9% in 1996) or family workers (28.9% in 1996), those who would have been unemployed were therefore absorbed in this line of employment. The problem with them were therefore not unemployment but rather underemployment and low income.

Classified by education attainment, open unemployment among workers with vocational education was the most prevalent. This is reflected in their open unemployment rate being the highest not only in bad years but also during prosperous years. Adding those unemployed not seeking work but ready to work to the open unemployed, those with vocational and technical education displayed the highest unemployment rate, the rate much higher than the average total unemployment rate for the country. This can be explained by a rapid expansion of vocational and technical schools in Thailand, both public and private, These schools produced a rapidly rising number of graduates each year for the labour market but quality of some proportion of these graduates are not up to the market expectation causing problems in their placement for jobs.

Table 24 Total Unemployment Rates by Education

	Total	Primary or Less	Lower Secondary	Upper Secondary	Vocational	Technical	University
1985	3.70	3.10	6.56	9.72	9.24	5.12	10.97
1986	3.50	2.65	6.78	8.48	11.53	5.73	10.86
1987	5.86	0.60	6.96	9.68	9.84	3.14	11.00
1988	3.06	2.43	4.46	7.87	8.74	5.29	7.30
1989	1.39	0.95	2.76	3.61	6.78	1.17	4.36
1990	2.25	2.01	2.94	4.47	4.23	1.87	3.84
1991	2.72	2.62	3.19	3.70	4.81	1.94	0.22
1996	1.09	0.88	1.16	2.16	2.82	3.62	1.45

Source : NSO, Labour Force Survey (July-September)
Total unemployment means those seeking work and not seeking work.

Underemployment of Thai workers as measured in terms of hours of work less than 20 hours per week displayed a rising trend from 1984 to 1995. Comparing to the open unemployment rate in the same year, it can be noted that the underemployment rate was much higher than the open unemployment rate i. e. 1.63% v. s. 0.45% in 1992 and 2% v. s. 1.10% in 1995. This confirms the earlier statement that a large proportion of Thai workers fall back to their agricultural root or their family and own account work in time of employment hardship instead of being openly unemployed.

Table 25 Percent of Employed Working Less Than 20 Hours Per Week (July-September)

	1984	1992	1995
North			
Urban	0.65%	1.16%	1.17%
Rural	1.55%	1.01%	1.21%
Northeast			
Urban	1.57%	1.68%	1.04%
Rural	0.65%	1.90%	2.47%
South			
Urban	0.94%	2.11%	1.61%
Rural	3.49%	4.29%	5.15%
Central			
Urban	0.96%	0.74%	0.72%
Rural	1.22%	1.14%	1.20%
Bangkok	0.76%	0.62%	0.65%
Whole Kingdom	1.27%	1.63%	2.00%

Source : NSO, Labour Force Surveys, 1984, 1992 and 1995 (July-September)

Table 26 Share of Agricultural GDP (at Current Prices) and Agricultural Employment

	1971	1975	1980	1985	1990*	1995
Share of GDP (at Current Prices)	28.20%	31.48%	25.38%	16.75%	12.41%	10.60%
Share of Employment	78.90%	72.99%	70.95%	68.40%	63.50%	52.00%
Ratio of Share of GDP to Share of Employment	0.357	0.431	0.358	0.245	0.195	0.204

Source : NESDB, National Income of Thailand and NSO, Labour Force Surveys (July-September)
*Note : From 1989, the Labour Force Survey (LFS) changed the definition of the active workforce to include only those 13 years or older (as opposed to 11 years or older in earlier surveys). Thus, direct comparisons of the absolute employment figures from the LFS since 1989 with earlier years are not possible without adjustments. Broad employment shares are, however, probably less affected by the change. The shares in the Table are for the wet season. Dry season shares are slightly lower.

VII. SHORTAGE OF WORKERS

SHORTAGE OF HIGHLY TRAINED PROFESSIONALS

Shortage of well qualified middle and high level skilled workers in Thailand was widely documented since the period of the third through the fifth five year development plans. (1972-1976 to 1982-1986). While unemployment and underemployment of educated manpower was the issue of much concern during those periods, shortage of certain categories of educated manpower such as scientists, engineers, accountants and several types of skilled workers was also noted. The shortage at that time was more of a quality problem rather than a quantity one. This was due mainly to a lack of close linkage between the producers and the users of

these skilled manpower. Educational institutions were often criticized as being too big and too slow to adjust to changes in the labour market.

With rapid surge of foreign direct investment that came with modern technology to Thailand during 1987 to 1990 and rapid expansion of domestic investment in the industrial sector in subsequent years, well qualified engineers, accountants, and skilled manpower at the supervisory level were in short supply. This situation was partly caused by a small number of these manpower were produced by the educational institutions each year owing to the goverment policy to freeze the number of students admitted to these educational institutions in previous years because of their high unemployment problem. Although this policy was relaxed during the tight labour market situation, it was not easy for the educational institutions to expand their production in short notice. Consequently, a large number of firms suffered from this lack of labour supply leading to the situation where firms tried to snatch workers from one another by bidding up their wages and salaries. During 1987-1991 the salary of new engineering and accounting graduates almost doubled (Poapongsakorn and Susuki, 1992). Apart from adjusting their workers' salaries upward, these firms also tried to recruit their required workers by lowering their hiring standards or recruiting them directly

Table 27 Shortage and Surplus of Sciences and Technology Manpower

(Unit : persons)

Education Level	1989	1990	1991	1996
Higher than Bachelor's Degree				
Civil-Industrial-Chemical Engineers	−315	−283	−293	−452
Mechanical, Metalurgical-Electrical Engineers	−206	−197	−206	−255
Basic Sciences	−141	−149	−161	−166
Agriculture-Food-Pharmacy-Bio Sciences	11	14	17	128
Bachelor's Degree				
Civil Engineers	−156	+131	+365	+1,386
Industrial-Chemical Engineers	−675	−638	−647	−711
Electrical-Computer Sciences	−622	−489	−366	+482
Mechanical-Metalurgical Engineers	−1,864	−1,217	−1,195	−1,032*
Basic Sciences	−59	−136	−131	−377
Agriculture-Food-Pharmacy Bio Sciences	+1,175	+1,258	+1,299	+1,725
Vocational School				
Civil-Industrial-Chemical	+2,580	+2,419	+2,566	+1,651
Mechanical-Metalurgical-Electrical	+6,216	+6,012	+6,043	+4,637
Higher Vocational-Technical School				
Civil-Industrial-Chemical	+7,980	+7,899	+10,375	+11,252
Mechanical-Metalurgical-Electrical	+8,342	+8,353	+11,523	+11,737

Source : TDRI (1989)
Note : + means surplus
− means shortage
* production of metalurgical engineers was higher than requirement every year, in 1996 there will be a surplus of 245 persons.

at the educational institutions. Despite all these measures, several firms still found it difficult to fill up their vacancies. Some had to wait for 12 months for their required workers. (Poapongsakorn and Susuki, 1992).

Statiscally it was estimated that in 1990 alone the demand for all categories of engineers was as high as 4,958 persons while their production was merely at 2,744 persons. It was projected further that if growth continues at the same average rate, by the year 2001 shortage of engineers, scientists and technicians will total 5,266, 3,310and 16,689 persons respectively.

Table 28 Shortage of Technological Manpower

(Unit : Person)

	1996	2001
Engineers	3,546	5,266
Scientists	5,129	3,310
Technicians		16,689

Source : TDRI projection

SHORTAGE OF VOCATIONAL SCHOOL GRADUATES

As for vocational school graduates, shortage occurred only in some skills. In total, their supply was still ample due to a great number of graduates being produced and a high number of unemployment among vocational graduates before the rapid economic expansion in 1987. Fast economic growth brought down the unemployment rate of vocational school graduates from 9% in 1985 to 4.8% in 1991.

Shortage of vocational school workers during the high growth period was mainly characterized by well experienced technicians and factory supervisors being bought out to help in setting up the factory system. However, firm that lost their workers tried to adjust by training and substituting them with existing workers in the factory. This costed them money and time and sometime those who left could not be completely substituted. This problem was somewhat relaxed after 1992 when investment was slowing down.

Before the current economic crisis in Thailand, it was estimated that if Thailand could continue her high growth further until the next decade, shortage of mechanical, chemical, industrial engineers will continue. For other professions such as computer, electrical and civil engineers, due to high growth rate of their production from the educational institutions, the shortage problem will be much reduced. Sufficient supply of metalurgical, agricultural, and food scientists was also forecasted.

As for vocational school graduates, it was projected that a surplus will occur in the next decade owing to rapid expansion of vocational schools particularly in the private sector. The shortage of vocational school graduates will be more of a quality problem rather than the quantity one.

SHORTAGE OF SECONDARY SCHOOL GRADUATES

Another labour supply shortage that recently appeared in the Thai economy was among the secondary school graduates. Due to their wide base of knowledge which is important for skill training and skill development to work in modern style factories, together with their proficiency in the English language to understand and regulate the machines and equipments imported from overseas with an English language instruction manual, the demand for secondary school graduates was rapidly rising. However, shortage seemed to occur in certain areas where modern factories were heavily situated. Furthermore, their kind of shortage did not pose a serious problem to these firms owing to an ample reserve of secondary school graduates in the informal and agricultural sectors throughout the whole country who are ready to move to the industrial sector where demand for secondary school graduates has been rapidly rising (Poapongsakorn and Susuki 1992).

Table 29 Growth Rates of Employment by Eduction and Economic Sector 1977-1991

Education/Industry	Agriculture	Manufacturing	Construction	Commerce	Transport	Services
Primary and lower	1.4	5.5	8.3	3.6	4.2	3.3
Lower Secondary	9.0	10.8	13.5	6.7	4.6	3.8
Upper Secondary	22.1	18.2	18.4	11.9	15.0	12.8
Vocational	18.6	14.6	16.6	7.9	8.9	6.7
University	22.2	18.3	17.5	14.4	18.7	12.7

Source : Calculated from NSO Labour Force Survey

SHORTAGE OF UNSKILLED WORKERS IN THE CASUAL LABOUR MARKET

Rapid expansion of the Thai economy from 1987 to the first half of 1996 also led to a shortage of unskilled workers in the casual labour market especially in the fishing, sugar cane cutting and construction industries. Wages of workers with primary or below education surged at a higher growth rate than those with secondary education or higher during 1987 -1990 indicating a rapid rise in their demand which was different from the earlier period in 1980-1986.

Difficulties in obtaining casual labour in these industries were attributed to a rapid growth of the Thai economy as a whole during that period which provided these workers more opportunities to switch to work in the formal sector whereby wages and other working conditions are better.

VIII. GOVERNMENT POLICY RESPONSES

Our analysis in the previous sections indicates that in recent years, the employment trend of the Thai workforce has been moving towards the higher educated group as a result of the

changing production and export structure of the country. On the other hand, the labour force availability, although changing, still consists mainly of the lowly educated group even until the next decade. The shortage of highly trained professionals and skilled workers experienced by manufacturing firms in the past decade suggests that if economic expansion continues in Thailand, this shortage problem will become a major bottleneck to Thailand future economic development. Although the current economic crisis put the brake on this problem; the process of improving the quality of the Thai workforce must continue as preparation for the new economic take off again after the difficult period of 2-3 years ahead.

This section gives an overview of the existing government policy responses to the changing trend of the employment pattern in Thailand and the gaps that occurred as a result of the slow adjustment on the side of the workforce supply. The discussion will concentrate mainly on the education and training policies.

FORMAL EDUCATION POLICY

(1) Raising the General Level of Education of the Population.

Owing to a very low continuing rate from primary education to secondary education of the Thai population which is viewed as one of the major bottlenecks for Thailand future development and industrialization strategies, the Ministry of Education therefore launched a project of increasing educational opportunity to lower secondary education for primary school graduates in 1987 concentrating mainly in the areas where this continuing rate was very low and in the rural poverty areas throughout the country. Fees and tuitions were waived for all students under this program and subsidies for books and other educational materials were also provided. For students whose homes were very far from schools, free accommdation was also provided in school. Flexibility in terms of studying time and work time for students who had to assist their parents in farm work could also be arranged to suit students in rural areas. Scholarships for good students were also provided and school uniform wearing was also relaxed for rural poor students.

The program was viewed as very successful and the number of primary school graduates going on to lower secondary school increased by 34% within the first 2 years of operation. (Ajana Karnpisit 1989). In 1993 the continuing rate of primary school graduates to lower secondary school all over the country increased to 78.54% and rose rapidly to 90.16% in 1996. The proportion of population aged 12-14 years all over the country in lower secondary school also increased from 41.04% in 1986 (NEC 1986) to 71.50% in 1996. (NEC 1997b)

Although this program by the Ministry of Education can be viewed very successful, quality of education provided to these students particularly in the rural areas is often criticized and questioned owing to lack of qualified teachers and educational materials and

equipments neccessary for good quality education. These are the areas that need further consideration by policy makers in the future.

Apart from the policy to raise the general education level of the Thai population up to lower secondary school, the Thai government has also included in its plan to have at least 70% of the population aged 15-17 years enroll in upper secondary schools by the year 2001 and in the next development plan (2001-2006), expansion of universal education to 12 years for all Thais. The package of programs to implement this policy is currently in the development stage. It is hoped that such programs will not be seriously obstructed by the current economic crisis in Thailand.

(2) Development of Highly Trained Manpower in Sciences and Technology

Due to a serious shortage of scientists and engineers during the economic expansion period, several government measures have been implemented to not only reduce the existing shortage but also as the preparation for future industrialization strategies of Thailand. These policy measures as stated in the 7th National Plan are:

(a) expansion of the production of scientists and engineers in state universities by hiring qualified personnel from the private sector or from overseas to be temporary instructors to reduce the problems of lack of teachers.

(b) promote the private sector to participate in the production of the shortaged manpower.

(c) maintain the quality of such manpower from falling by this accelerated production program by increasing the compulsory basic education to secondary school to attract more students into sciences and technology fields.

From the above stated policy, several programs to increase the number of science and technology graduates by universities have been implemented. For instances, the regular engineering production programs in all state universities have increased their enrollments by 3,900 persons per year between 1991-1996. The new accelerated production program in engineering and petrochemistry in 8 state universities was expected to increase their graduates to 600 persons per year on average between 1991-1996. Private universities were encouraged to increase their engineering enrollments by 400 person per year during the same period.

Existing state universities previously without sciences and technology departments have been encouraged to open these new fields of study if they feel capable and ready in terms of personnel and facilities. Two universities were in this category and started to admit new students in 1990 and expected to produce 200 new graduates in engineering per year between 1992-1996.

Furthermore five new universities in other regions outside Bangkok were allowed to open and expected to produce 30 new graduates per year from 1996 onward.

Altogether, the number of new graduates in engineering to be produced by these universities were expected to increase from 3,931 persons in 1991 to 6,273 persons in 1993 and 7,230 person in 1996.

While pursuing this accelerated production program of sciences and technology manpower in university, it was found that the shortage of teachers became very serious owing to the salary gap between the public and private sector employment of these personnel. A large number of engineering teachers were drawn into the private sector and the above production programs were seriously obstructed. To lessen this problem the following measures have been implemented.

(a) Scholarships to continue study at the master's and doctorate's degree level with commitment to become university instructors have been arranged for 90 graduates per year from 1990 onward.

(b) Extension to continue working as university instructors in shortaged fields for highly trained professionals in universities after retirement.

(c) Special teaching fees have been granted for instructors in shortaged fields to keep them in universities.

(d) Increase the teaching fee for outside instructors from the private sector to attract them to become part time instructors in universities.

(3) Increasing the Private Sector Role in Education.

Due to the inability of the state to provide education to the population at all levels, the private sector role as another provider of education has become necessary. In the past, too many restrictions were imposed on the private sector, thus discouraging their expansion. In recent years, several promotion measures have been developed to increase the private sector role in education particularly in the areas they have the expertise. These measures are for instances:

(a) reduce the control on the fees and tuition charged by private educational institutions so as to attract the establishment of more high quality educational institutions in the private sector.

(b) encourage the private higher educational institutions to expand their student enrollment with government assistance in terms of instructors, educational equipments and scholarships. In addition, a revolving fund to develop private higher education institutions has been set up to provide low interest loans to private higher education institutions to expand their operation and to improve their education quality. An amount of not more than 500 million baht has been allocated to this fund by the government for 10 years beginning in 1992. Utilization of the loans must be for construction or expansion of education buildings, the purchase of education equipments or for other learning activ-

ities. As of April 1996, an amount of 338.55 million baht have been approved as loans to 13 private higher education institutions.

In addition, another revolving fund of an amount 1,000 million baht for 5 years to develop and upgrade instructors in the private higher education institutions has also been planned for the year 1997 so these institutions can borrow to send their instructors to study at the master's and doctorate's level overseas to solve their shortage of instructors problem in some areas.

Furthermore, to expand this educational opportunity to the population in other areas outside the Bangkok Metropolitan, a low interest loan has also been provided to the private sector interested to set up a new educational institution in these areas. Funding will come from the Bank of Thailand and the Government Savings Bank.

(c) With fees and tuitions becoming less controlled, to provide educational opportunities for those with less income, the number of student scholarships have been increased and the government fund has also been set up to provide cheap loans for students from low income families. These loans must be utilized to pursue education from upper secondary level up to the bachelor's degree level within the country including the non formal education. This student loan fund has been implemented since 1996.

LINKING EDUCATION TO THE LABOUR MARKET

To improve the quality of graduates in line with the labour market requirement, especially among vocational school students where the greatest problem lies, several mechanisms to link schooling and work have been developed. They are for instances:

(1) The partnership system of schooling and training whereby students attend school as well as join the training and work session in an enterprise. Although the duration these students have to study before graduating will be longer than the normal time, they will benefit from schooling, training and work at the same time to compensate the additional years in school.

(2) The dual system of education whereby students study theories in school then go for practice in an enterprise.

This cooperation between schools and workplace has been launched as a pilot project since 1988 by the Vocational Education Department and the King Mongkut Technology Institute with assistance from the German Government. The project was very successful as students can practice their skills on the real job and can adjust their skills to the changing technology and the labour market requirement. Furthermore, students can cultivate good work habits before graduation.

These projects have drawn a wide interest among vocational schools and work enter-

prises. By 1993 the number of schools that joined this cooperative program increased to 12 with 15 fields of study included. The number of students under this program total 500 students with 143 enterprises involved in their work training. (Vocational School Department Annual Report 1992)

(3) Encourage and promote schools to include a work project as part of their teaching and learning. Some of these work projects are for instances : a students' store to practice students' skills on marketing, sales and management, a car service garage, a subcontracting work to produce goods for sales etc. Apart from giving the opportunity to practice on the job, this kind of work project also promote income earning among the students while in school.

TRAINING FOR NON-SCHOOL POPULATION

(1) Expansion of Government Training Centers

Government funds have been allocated for the Ministry of Labour and Social Welfare to set up a skill development centre in every province throughout the country within the year 1997. The aim is to train and develop skills for not less than 300,000 workers per year. This aim is a big improvement from 31,399 workers that the Institute of Skill Development previously attached to the Ministry of Interiors was able to train in 1990.

(2) Development of the Apprenticeship System.

The Ministry of Labour and Social Welfare has recently developed the apprenticeship system whereby recent graduates from schools who enter the labour market without any skills can work as an apprentice in an enterprise and acquire a certain work skill particularly in the manufacturing and service sectors whereby apprenticeship is important.

To encourage work enterprises to join in this training system, a deduction of 1.5 times the training expenses will be granted to these firms for tax exemption. Currently this Apprenticeship Bill is awaiting approval from the government and the Ministry of Finance is to set up the procedure for this special benefit given to firms.

(3) Establishment of A Skill Development Fund

In 1996 a skill development fund has been set up in the Ministry of Labour and Social Welfare with an initial amount of 200 million baht and the government commitment to allocate a greater amount in the following year. The fund will allow a worker to borrow for skill training purpose an amount of not more than 30,000 baht with a 1% interest rate to be paid back within 15 years and a grace period of the first two years after completing the training will also be granted to the worker. Workers can use this fund to finance the skill training provided by any organization as they see appropriate especially from the private

sector institutions where they have to pay charges for training. This approch of the funding is to help solving the mismatch problem between the skills required by the market and the skills trained by government training institutions which are often viewed as not flexible to the labour market demand. Since the fund is still very new, it is our task to wait and see if the approach is effective. It is expected that if this approch is proved fruitful, the private sector will have to make contribution to this fund since they will benefit greatly from this training scheme. Furthermore, firms that want to have a skill training program of their own can also borrow from this fund.

(4) Loan to Set Up Technical Skill Training Institute by the Private Sector

In the previous section we have already mentioned a low interest loan for the private sector to set up new schools so as to help reducing the burden of the government sector to provide formal education to the population at all levels. This loan system is also extended to the private sector wishing to set up a training system for certain skills or professions that they have the expertise. Furthermore, a tax incentive provided to these firms to promote their participation in training include tax exemption on net profits, on dividends or on shareholders' profit share as well as on imported equipments and materials used for training.

IX. FINAL REMARKS

The Thai economy has advanced to the point that she has to rapidly developed her human resource quality in order to keep her stand in the more competitively global economy. The export-led industrialization policy basing on the production of low skilled labour intensive export products adopted by Thailand and became the driving force of Thailand growth during the past three and a half decades can no longer be pursued as Thailand approaches the 21st century. The opening up of the new industrializing countries from the former socialist block such as China and Vietnam with a vast supply of low skilled cheap labour and abundant natural resources has eroded Thailand competitiveness of her traditional labour intensive exports in the world market. With rising wages and the declining labour force growth trend as a result of population trend, Thailand has no choice but move up to a higher ladder of the industrializing process. That means a more intensive use of skill and knowledge in the production process with the aid of modern technology to increase the value added of her products. To follow such a strategy, an educated workforce is required. As already analysed, the workforce quality is currently the major bottleneck for Thailand to walk on the path of industrialization basing on the skill intensive and technological based production.

The adoption of human resource development as a key strategy for Thailand to develop her economy and society in the present 8th Plan is viewed most appropriate and timely

although slightly too slow. Several important measures have been implemented to upgrade Thailand human resource during the past few years. Some have been proved very satisfactorily such as the universal secondary education policy that quickly raised the continuing rate of primary school graduates to secondary school, while others have taken a long time to get started e. g. the enterprise based training policy. This was mainly caused by the cost burden to be shared by the business sector. With the current economic situation in Thailand, the enterprise based training policy may be slowing down but should not be allowed to stop. With the first initial fund already set up by the government for workers to borrow to pay for this training, it is hoped that this should lead to an uplift of the worker's skill for current and future development strategy of Thailand.

Since human resource development is a long term process that requires coordination and cooperation from many parties involved, evaluation of the success of several of the policy measures recently implemented may not yet be possible. Nevertheless, their performance need to be followed closely so that appropriate adjustment can be made along the way to make these policy measures effective and efficient.

REFERENCES

Kanoksak Kaewthep and Voravidh Charoenloet (1996), "Thai Wage-Labour Relations : A Historical Approach" *Chulalongkorn Journal of Economics* Vol. 8 No. 2 May. " Bangkok. pp. 173-229

Kiranandana, Thienchay. (1995) Human Resource Development Through Health Care in *Human Resource Development in Thailand* Sumalee Pitayanon et. al. Faculty of Economics, Chulalongkorn University. (in Thai)

NEC (1997a) *Summary of the 8th Educational Development Plan (1997-2001)* Bangkok.

NEC (1997b) *National Education Data Academic Year 1994-1996* March, Bangkok.

Pitayanon, Sumalee (1995) *Human Resource Development Through Education and Training* Faculty of Economics, Chulalongkorn University. (in Thai)

Poapongsakorn, Nipon, and Pattamawadee Susuki. (1992) *Change in Labour Market to Labour Shortage.* Bangkok : Thailand Development Research Institute. (in Thai)

Prasong Veerakarnjanapong, and Karnjana Uttamaburana (1996) "Economic Development and Education in Thailand" *Bank of Thailand Monthly Report* December. (in Thai)

Universal Secondary Education in Thailand : Policies and Implementation

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Introduction

As stated by the National Scheme of Education 1992, education in Thailand is viewed as a process to enable human beings to develop their quality of life, lead a peaceful social life and make proper contribution to the national development in accordance with contextual changes. Due to rapid and drastic changes resulted from globalization and advancement in modern technology, human development has been enhanced as the core of the national development strategy during 1997-2001 and education is expected to assume the function as the major means of human development.

However, it becomes evident that current compulsory education which requires only primary level of education cannot help the primary school graduates cope with the rapid and unpredictable changes. These changes cause a demand for universal secondary education to enable people to further their education, pursue a career and improve their quality of life. Moreover, in the present state of socio-economic conditions when education cannot entirely guarantee employment, educational institutions that provide secondary education are then forced to be accountable not only for quantitative expansion but also for quality. Secondary school graduates are expected to be able to pursue to a higher level of education if they want to. At the same time, they must be capable of being self-employed or competing for a job.

This paper attempts to investigate the implementation of policy on universal secondary education in terms of achievement both quantitative and qualitative aspects as well as problems or difficulties that hinder its success. In order to understand the phenomena, basic understanding of the Thai education system and system of secondary education is needed.

Thailand Education in Brief

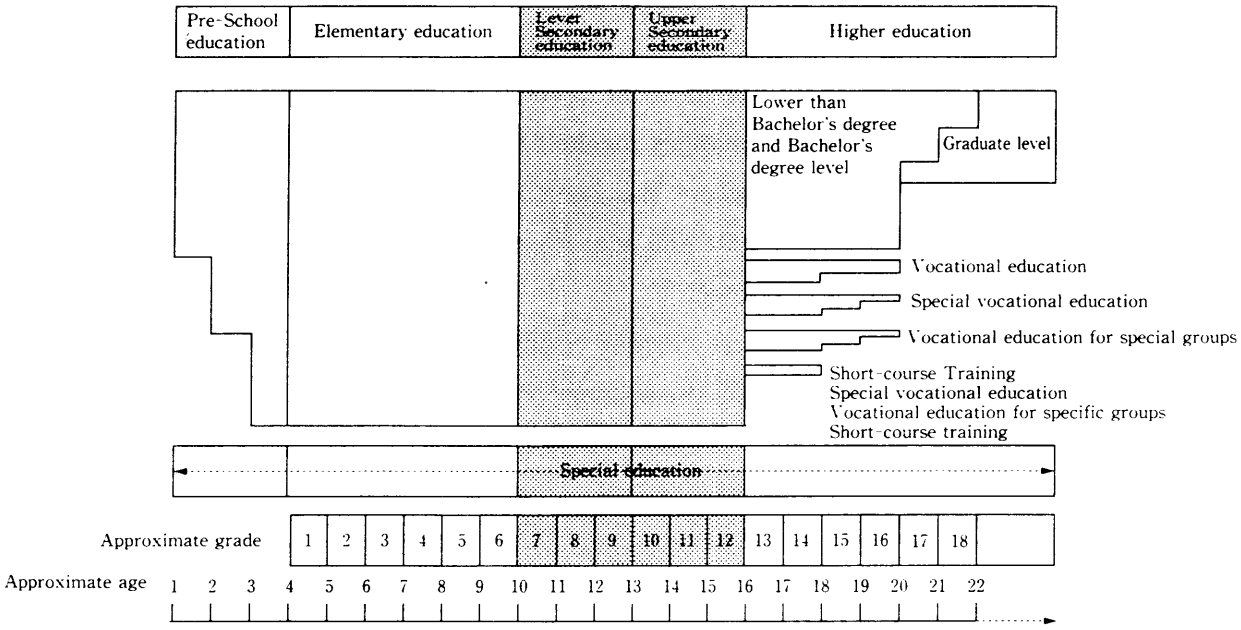
The goals of education as specified by the National Scheme of Education 1992 emphasize balanced and harmonious development of the individuals in four aspects : wisdom, spiritual development, physical development and social development.

The educational system provides opportunity for continuous and life - long learning through various forms of education both in a school - related system and through the way of

life. Education in a school - related system is provided by educational institutions, characterized by a class grading system and the use of curriculum specified for each level and type of education while education from way - of - life learning process is self - learning from various sources of knowledge and environment.

Education in a school - related system is divided into four levels : pre - school education, primary education, secondary education and higher education. Level and type of education and approximate age in a school - related system are shown in Chart 1.

Chart 1 Education in the School - Related System



Source : The National Scheme of Education 1992(Office of the National Education Commission, 1992)

Secondary School System : An Overview

1. Aims of Secondary Education

Secondary education is divided into lower and upper levels. According to the National Scheme of Education 1992, lower secondary education aims to promote learners' morality, knowledge, ability and skills beyond the primary level ; to enable them to identify their needs and interest and to be aware of their aptitude both in general and vocational education ; and to develop their ability for work and occupation practices relevant to their age. Upper secondary education is divided into two streams : general and vocational. It aims to enable learners to progress according to their aptitude and interests ; to obtain the basis knowledge for furthering their education or for working both as entrepreneurs and paid workers ; to promote their morality, ethics, and social skills necessary for entering their career paths including for leading a peaceful social life.

2. Types of Secondary Schools

Secondary education in the general stream is organized in four types of school : 1) schools providing pre - primary or primary through upper secondary levels, 2) schools providing lower and upper secondary levels, 3) schools providing only lower secondary level, and 4) schools providing only upper secondary level. In order to serve the policy of expanding basic education, secondary classes have been provided in some elementary schools under the jurisdiction of the Office of the National Primary Education Commission (ONPEC), Bangkok Metropolitan Administration (BMA), municipalities, and Border Petrol Police General Headquarters. The total number of public and private lower secondary schools increased from 6,220 in 1993 to 8,456 in 1996 while the upper secondary schools increased from 1,787 in 1993 to 2,817 in 1996 (Office of the National Education Commission, 1997).

3. Organizations Responsible for Secondary Education

Table 1 presents the number of students under three major organizations that provide secondary education : Ministry of Education, Ministry of University Affairs and Ministry of

Table 1 : Number of Lower Secondary and Upper Secondary Students by Jurisdiction and Type of Education, Academic Year 1996

Jurisdiction	Lower Secondary	Upper Secondary			Grand Total
		General	Vocational	Total	
Total	2,445,856	814,410	664,826	1,479,236	3,925,092
Ministry of Education	2,406,791	809,228	663,968	1,473,196	3,879,987
ONPEC	494,942	-	-	-	494,942
DGE	1,749,501	769,741	11,255	780,996	2,530,497
Department of Physical Education	486	252	6,109	6,361	6,847
The Fine Arts Department	2,909	-	3,659	3,659	6,568
Department of Teacher Education (Demonstration School)	2,318	1,384	-	1,384	3,702
Office of the Private Education Commission	156,635	37,851	297,533	335,384	492,019
Department of Vocational Education	-	-	327,417	327,417	327,417
Rajamangkala Institute of Technology	-	-	17,995	17,995	17,995
Ministry of University Affairs	7,167	5,182	858	6,040	13,207
Demonstration School	7,167	5,182	-	5,182	12,349
King Mongkut's Institute of Technology, North Bangkok	-	-	858	858	858
Ministry of Interior	31,898	-	-	-	31,898
Bureau of Local Education Administration	23,416	-	-	-	23,416
BMA	8,423	-	-	-	8,423
Border Petrol Police General Headquarters	59	-	-	-	59

Source : Office of the National Education Commission, (ONEC), 1996
Note : Excludes non-formal students and ecclesiastical personnel

Interior. ONPEC under the Ministry of Education ; Bureau of Local Educational Administration, BMA, and Border Petrol Police General Headquarters under the Ministry of Interior provide only lower secondary education in the general stream. The institutions that provide only upper secondary education in the vocational stream are Department of Vocational Education (DOVE) under the Ministry of Education and Rajamangala Institute of Technology, North Bangkok under the Ministry of University Affairs. Department of General Education (DGE) which provides lower and upper secondary education in general and vocational stream also provide special and welfare education.

In 1996, The total enrollment in the secondary education was 3,925,092. DGE under the Ministry of Education shared the highest proportion which is 64 percent of the total secondary school enrollment. When compared by level and type, DGE was responsible for 72 percent of the enrollment at the lower secondary level and 95 percent in the general stream of the upper secondary level while DOVE covered 49 percent, the highest proportion, in the vocational stream of the upper secondary level. Private schools under the supervision of the Office of the Private Education Commission shared 3 percent of the total enrollment. When compared by level and type, the proportion shared by private schools were 6 percent in lower secondary education, 5 percent in general upper secondary education and 45 percent in vocational upper secondary education.

It should be noted that while educational statistics often illustrate only students in formal education, non - formal education contributes a high proportion in different levels and types of education including secondary education. As reported by 44 changwats in 1996, there were 2,185,054 secondary students under Department of Non - Formal Education (ONEC, 1996).

4. Secondary School Curricula

Secondary School Curricula have gone through considerable changes since 1975 when the credit or unit system was introduced. As a result, coursework could be given credit and accomplished in one semester. A credit system gave more flexibility and efficiency to learning, more freedom of choice, and had an effect in abolishing an annual grade repetition. The terminal grade examination centrally administered by the Ministry of Education was also abolished. Other drastic changes were the curriculum reform and change of schooling system from 1977 in which the new curricula were launched : the Lower Secondary School Curriculum in 1978 and the Upper Secondary School Curriculum in 1981.

The follow - up and evaluation of the Lower (1978) and Upper (1981) Secondary School Curricula revealed that there were no relevance between these two curricula and the existing or the future of Thai socio-economic. The 1990 Revised Curricula were then designed to be more flexible and responsive to the changing needs.

The structure of the current Lower Secondary School Curriculum (Revised Version 1990) is comprised of 39 units of core compulsory courses, 18 units of elective compulsory courses, 33 units of free elective courses and non - credit activities.

The Upper Secondary School Curriculum (Revised Version 1990) is comparatively more flexible and vocationalized in term of units of free elective. It contains only 15 units of core compulsory courses, 15 units of elective compulsory courses but requires no less than 45 units of free elective courses and non - credit activities.

5. Admission to Public Secondary Schools under Department of General Education

In academic year 1997, Department of General Education announced a guideline for admission to Grade 7 and 10 which allowed two patterns of admission. The first pattern admitted 100 percent of students in the catchment areas. The general admission was allowed if vacant places were available. Lottery practice was employed if the number of applicants in catchment areas exceeded available places. The second pattern, an integrated approach, consisted of 3 sub-patterns of admission as shown in Table 2.

Table 2 An Integrated Admission Pattern of DGE Grade 7 and 10 Students, Academic Year 1997 (Pattern II)

Pattern	Approaches				
	1. Entrance Exam.	2. Students in Catchment Area	3. Lottery*	4. Quota for School Supporters	5. Special Admission
1	10	50	20	10	10
2	20	40	20	10	10
3	30	30	20	10	10

Source : Department of General Education, Ministry of Education
*students in catchment area only

It is expected that by the end of the Eighth National Education Development Plan (1997 -2001), Thailand will achieve the objective of basic education for all. The expectation implies that there will be no entrance examination to secondary schools by the year 2001 and the admission will be based on student catchment area or school zoning.

Major Policies Related to Universal Secondary Education

1. Policies on Basic Education

Attempts have been made for a few decades to extend compulsory education up to secondary level in Thailand. However, concrete and cooperative efforts were evident during the World Conference on Education for All in 1990 in which the expansion of basic education

was one of the major issues of concern. The concept of enforcing nine-year compulsory education was replaced by the idea of expanding basic education which is meant to cover pre-primary and secondary education. Contrary to compulsory education, participation in basic education is voluntary and positive measures have been employed to encourage participation.

To operationalize the concept, it is stated in the National Scheme of Education 1992 that the State should accelerate and expand a comprehensive basic education for all so as to upgrade quality of life. Also, secondary education is designated as the basic education for all in policy directives.

In the Seventh National Education Development Plan (1992-1996), the policy directly involved universal secondary education is the policy on basic education which states : "To accelerate the improvement of the quality of lower secondary education as basic education and to expand the service to provide opportunity for those completing primary education". Meanwhile, there are other related policies, for example, policy on distribution of educational opportunities which aims to accelerate a wide and equitable distribution of educational opportunities at all levels and for all types to the economically, socially and culturally disadvantaged ; and to provide education for the gifted.

The Eighth National Education Development Plan (1997-2001) continues to emphasize universal secondary education. This plan was regarded as a proactive and participative plan since it employed popular participation in the planning process. In developing the plan, vision, objectives and major programs for educational development were identified. The first objective directly related to secondary education aims to expand an extensive and equal provision of basic education for all ; and to extend basic education to secondary education level. The policy that serves the objective emphasizes the acceleration of an extensive and equal expansion, and further extension of high quality basic education services, for all.

The major program relevant to this policy is Major Program 1 : Promotion of Basic Education for All. Its objective is to provide equal educational opportunity and high quality basic education services to all Thai people ; to improve access to education services to those currently disadvantaged ; and to strengthen the learning potential of communities and individuals. To achieve the program objective, eight targets were established. Two of them directly related to secondary education had quantified expected outcomes : 1) Expansion of both lower secondary education and upper secondary education in order to increase the enrollment ratio of the age group 12-14 and 15-17 to not less than 95 percent and 70 percent respectively in the year 2001, and extension of 9 year basic education to 12 year basic education for all in the upcoming plan ; and 2) Promotion of lower secondary education or equivalent to a minimum of 50 percent of workforce who are equipped with primary

education, particularly those at the age of 20-45, in the year 2001. While the former target involves formal secondary education, the latter applies to non - formal education.

2. Policy on Education Reform

ONEC is the principal organization whose main tasks include initiating and proposing recommendations on education reform of both the entire system and on special issues. Three major areas having been conducted since the promulgation of the 1992 National Scheme of Education include teacher reform, higher education reform and reform of teaching and learning system.

Another significant event for the Thai education in 1996 was the establishment of a non-governmental commission, the Commission on Thailand's Education in the Era of Globalization, in 1996. This commission was supported by the Thai Farmers Bank Public Company Limited. The reform of the entire system has been recommended in the report of the commission. Principles of the reform follow a holistic view of lifelong educational process : lifelong education, education for all, and all for education. The proposed educational system employs the concept of learning network and the reform required two major strategic components : the reform of learning and the reform of management. The first covers basic child development, diversified basic education provision, enhancing international competitiveness, and lifelong learning. The latter includes the management by local commissions, cooperation with private sector, higher education reform, quality assurance, and resource mobilization (ONEC, 1997).

Ministry of Education is another organization that has initiated education reform. It is expected that education excellence will be achieved by the year 2007. The education reform has been conducted in four areas : school reform, teacher reform, curriculum reform, and administrative reform (MOI, 1996).

In summary, policies related to universal secondary education emphasize both quantitative and qualitative aspects. The former concentrates on the access and equity while the latter aims at the total development of human being both for self - development and society development.

Policy Implementation : Achievement and Problems

Success in the implementation of the policies on universal secondary education can be considered from different factors and indicators. As was mentioned before, the stated policies emphasize two aspects of development ; quantitative and qualitative. Quantitative success in universal secondary education can be measured from the ability of the system to

Table 3 Enrollment Ratio at Secondary Level, Year 1992-1996

Level and Type	Age	1992			1993			1994			1995			1996		
		Population	Student	%	Population	Student	%	Population	Student	%	Population	Student	%	Population	Student	%
Total	12-17	7,007,000	2,716,987	38.78	6,993,000	3,044,069	43.53	6,973,000	3,383,830	48.53	6,941,000	3,692,001	53.19	6,901,000	3,925,092	56.88
Lower Secondary	12-14	3,503,000	1,773,270	50.62	3,487,000	1,990,808	57.09	3,468,000	2,200,323	63.45	3,447,000	2,363,447	68.57	3,421,000	2,445,856	71.50
Upper Secondary	15-17	3,504,000	943,296	26.92	3,506,000	1,053,261	30.04	3,505,000	1,183,507	33.77	3,494,000	1,328,554	38.02	3,480,000	1,479,236	42.51
General Education	15-17	3,504,000	495,942	14.15	3,506,000	558,093	15.92	3,505,000	639,811	18.25	3,494,000	725,247	20.76	3,480,000	814,410	23.40
Vocational Education	15-17	3,504,000	447,354	12.77	3,056,000	495,168	14.12	3,505,000	543,696	15.51	3,494,000	603,307	17.27	3,480,000	664,826	19.10

Source : ONEC
Remark : *Population data : Projections were based on Medium Fertility Rate including Deaths by AIDS from the Office of the National Economic and Social Development Board.

provide access to educational services and equity of education while qualitative success can be viewed from academic achievement and other aspects of student development. Also, resource allocation and support measures can be used to explain the phenomena either success or difficulties.

1. Quantitative Achievement : Access and Equity.

Continuing increase in enrollment ratio is found both in total and each level and type of secondary education. Table 3 illustrates the increase in total enrollment ratio from 39 percent in 1992 to 57 percent in 1996 with the average increase of more than 4 percent each year. When considered by level and type of education, enrollment ratio at the lower secondary level increased from 51 percent in 1992 to 72 percent in 1996 while total upper secondary level increased from 27 percent in 1992 to 43 percent in 1996. The enrollment increase in general stream of upper secondary education was from 14 percent in 1992 to 23 percent in 1996. Enrollment ratio in vocational upper secondary level increased from 13 percent in 1992 to 19 percent in 1996. Comparatively, the increase in upper secondary level is less than lower secondary level. The difference is explainable because the projects for expanding educational opportunities were concentrated on lower secondary level. To compare the actual enrollment rate at lower secondary level (72 percent in 1996) with the expected target, i. e. 95 percent in 2001 or approximately 5 percent annual increase from 1997 to 2001, the figure looks mathematically possible. However, the actual success depends upon the nature of the problems that hinder access to secondary education and the ability of the educational system to solve the problems.

While total enrollment partly demonstrates the ability of the system to provide education for the target group, equity can be considered from enrollment by gender and geographical region.

In Table 4, percentage of female students admitted into lower secondary and upper secondary education (general stream) is higher than male students both in total and by geographical region except in central region where the percentage of female admitted to

Table 4 Enrollment Ratio by Geographical Region and Gender, Academic Year 1996

Geographical Region	Gender	Lower Secondary	Upper Secondary		
			Total	General	Vocational
Grand Total	M	70.07	40.43	20.86	19.57
	F	73.12	43.80	26.02	17.78
	Total	71.57	42.09	23.40	18.69
North	M	72.09	42.38	22.22	20.16
	F	77.06	44.44	28.22	16.21
	Total	74.53	43.39	25.16	18.23
Northeast	M	67.05	32.66	21.15	11.51
	F	71.39	34.23	26.03	8.20
	Total	69.18	33.42	23.52	9.91
Central	M	75.82	53.53	22.65	30.88
	F	75.52	58.69	27.02	31.67
	Total	75.67	56.13	24.85	31.28
West	M	74.21	38.87	18.23	20.64
	F	75.27	43.62	23.37	20.26
	Total	74.73	41.23	20.78	20.45
East	M	79.16	41.36	18.17	23.19
	F	82.40	47.94	25.59	22.35
	Total	80.74	44.55	21.77	22.78
South	M	62.90	42.28	18.46	23.82
	F	65.04	46.07	23.42	22.65
	Total	63.95	44.16	20.92	23.24

Source : ONEC

lower secondary level is lower than male students. In contrary, the percentage of male students admitted into upper secondary education, vocational stream, is higher than female in total and by geographical region except in the central region where the percentage of female students admitted is higher.

The success in enrollment increase depends partly on student readiness which can be considered from their willingness to pursue to secondary level and their ability to meet the selection criteria. A follow-up report of the Office of the Permanent Secretary, Ministry of Education in Academic Year 1996 (as shown in Table 5) revealed that out of 810,190 G 6 students in 12 educational regions, 763,003 or 94 percent wanted to further their education. The first two reasons with highest and subsequent frequencies given by the rest for being unwilling to pursue their education were poverty and their need to work. The region with highest percent (9 percent) of unwilling students was Educational Region 10 in the northeast while Educational Region 6 in the central region had the lowest percent (3 percent) of unwilling students. However, discrepancies were found among different changwats in the

Table 5 Willingness of G 6 Students to Pursue Study and Causes of Unwillingness, Educational Region 1-12

Educational Region	G 6 Students	Willing to Pursue Study					Causes of Unwillingness						
		Public	Private	Non Formal	Total	%	Poverty	Distance from School	Need to Work	Cripple	Others	Total	%
1	48,846	41,266	5,083	499	46,848	95.91	1,747	25	151	11	64	1,998	4.09
2	32,104	15,943	14,363	283	30,589	95.28	793	136	375	1	210	1,515	4.72
3	80,172	69,341	5,446	2,352	77,139	96.22	1,340	136	1,392	16	145	3,029	3.78
4	26,179	23,554	568	455	24,577	93.88	946	16	403	7	230	1,602	6.12
5	39,767	34,384	2,319	1,063	37,766	94.97	690	120	1,132	10	49	2,001	5.03
6	40,094	35,851	2,175	906	38,932	97.10	279	16	279	13	575	1,162	2.90
7	82,350	72,114	2,942	2,264	77,320	93.89	2,880	116	1,367	26	641	5,030	6.11
8	77,859	66,621	5,528	2,964	75,113	96.48	841	242	1,459	13	182	2,737	3.52
9	96,353	82,039	870	5,460	88,369	91.71	4,001	645	2,588	57	693	7,984	8.29
10	105,026	90,614	726	3,848	95,188	90.63	3,694	934	3,623	48	1,539	9,838	9.37
11	129,483	117,479	1,912	2,516	121,907	94.15	4,909	394	1,826	44	403	7,576	5.85
12	51,966	44,926	3,376	953	49,255	94.78	1,487	70	879	25	250	2,711	5.22
Total	810,190	694,132	45,308	23,563	763,003	94.18	23,607	2,850	15,474	271	4,981	47,183	5.82

Source : Office of the Permanent Secretary, Ministry of Education
Note : Report by 30/3/97

same region. In Educational Region 6, the range was between 1 percent in Saraburi and 9 percent in Chai Nat while the range in Educational Region 10 was even wider, i. e. 1 percent in Amnat Charoen and 23 percent in Kalasin. Also, among those who wanted to pursue their studies, the majority (91 percent) chose to enter public schools. This suggests that the extending of secondary education both formal and nonformal will be mainly the responsibility of the government. Statistics on the number of secondary schools also demonstrated the decrease of private lower secondary schools from 559 schools in 1993 to 545 schools in 1996 while the number of upper secondary schools in the general stream decreased from 147 schools in 1993 to 144 schools in 1996.

At upper secondary level, Table 6 demonstrates the same pattern as lower secondary

Table 6 Willingness of G 9 Students to Pursue Study and Causes of Unwillingness, Educational Region 1-12

Educational Region	G 9 Students	Willing to Pursue Study						Causes of Unwillingness						
		G 10	Voc. Cert. & Equivalent	Non Formal	Agriculture for Life	Total	%	Poverty	Distance from School	Need to Work	Cripple	Others	Total	%
1	39,937	20,622	13,267	719	809	35,417	88.68	3,270	147	1,019	-	84	4,520	11.32
2	19,191	12,184	4,971	441	482	18,078	94.20	209	-	323	1	580	1,113	5.80
3	63,337	29,501	26,879	2,059	2,642	61,081	96.44	668	142	1,169	31	242	2,252	3.56
4	19,636	10,266	6,735	401	1,449	18,851	96.00	438	8	232	1	107	786	4.00
5	37,589	18,521	13,735	1,686	1,390	35,332	94.00	596	163	1,187	1	310	2,257	6.00
6	33,803	13,271	16,779	847	885	31,782	94.02	197	23	1,202	50	549	2,021	5.98
7	65,606	31,771	22,484	2,437	2,964	59,656	90.93	1,918	122	2,735	2	1,173	5,950	9.07
8	61,601	28,576	23,013	2,877	2,684	57,150	92.77	844	76	2,505	22	1,004	4,451	7.23
9	85,516	49,270	16,541	5,047	3,636	74,494	87.11	3,946	656	5,679	7	734	11,022	12.89
10	81,055	57,020	10,028	4,033	1,875	72,956	90.01	1,911	761	4,079	14	1,329	8,094	9.99
11	106,574	59,153	20,797	4,154	5,709	89,813	84.27	8,803	763	6,650	48	497	16,761	15.73
12	39,107	16,390	17,923	1,074	743	36,130	92.39	748	87	1,592	1	547	2,975	7.61
Total	652,952	346,545	193,152	25,775	25,268	590,740	90.47	23,548	2,948	28,372	178	7,156	62,202	9.53

Source : Office of the Permanent Secretary, Ministry of Education

level. Out of 652,952 G 9 students under study, 590,740 or 90 percent are willing to pursue study. When compared between students who want to enter G 10 and others, those who want to continue to general stream in formal education is only 346,545 or 59 percent. The rest want to go to vocational stream, i. e. Vocational Certificate and equivalent and Agriculture for Life, a special program for lower certificate and vocational education (37 percent) ; and non-formal education (4 percent). This may imply that if private institutions are willing and capable of providing quality vocational education which is more expensive, the government should encourage them to expand vocational education to serve student needs. Anyhow, attempts must be made to cover the expense of needy children either in the form of voucher or long-term loan.

When compared causes of unwillingness, need to work is the reason with the highest percent followed by poverty. Among the 12 regions, percentage of unwillingness to pursue study is highest in Region 11 in the northeast and the cause with highest frequency is poverty followed by need to work. Region 3 in the south, mostly famous for tourism, has the lowest percentage of unwillingness (less than 4 percent). This finding is in line with research findings on youth's self - employed work (Sukontasap et. al, 1996) in which youths in tourist areas recognized the value of secondary education as it helped them to get better jobs. When considered within the region, discrepancies in the upper secondary level is not as high as in the lower secondary level. It ranges from 1 to 5 percent in region 3 and 13 to 18 percent in Region 11.

Since willingness to pursue study does not guarantee actual entrance to secondary education, data on application and admission will help reflect access, equity as well as government effort to provide universal secondary education. Table 7 presents findings from

Table 7 Follow-up Report of Application for Lower Secndary Education, Educational Region 1-12

Educational Region	G 6 Graduates	Applicants for Lower Sec. Ed.					Non Applicants	%	Expected Increase through Campaign				
		Public	Private	Non Formal	Total	%			Public	Private	Non Formal	Total	%
1*	50,635	44,650	4,519	737	49,906	98.56	729	1.44	386	48	204	638	1.26
2	32,711	16,533	10,742	458	27,733	84.78	4,978	15.22	771	2,341	540	3,652	11.16
3	81,172	68,137	6,108	2,267	76,512	94.26	4,660	5.74	1,792	279	1,349	3,420	4.21
4	27,571	24,243	1,164	568	25,975	94.21	1,596	5.79	603	34	438	1,075	3.90
5	53,285	43,555	5,186	1,740	50,481	94.74	2,804	5.26	301	84	1,341	1,726	3.24
6	41,908	36,602	2,483	969	40,054	95.58	1,854	4.42	260	16	474	750	1.79
7	83,311	69,357	2,395	2,947	74,699	89.66	8,612	10.34	4,091	25	2,372	6,488	7.79
8	77,850	67,020	5,618	2,907	75,545	97.04	2,305	2.96	1,110	525	670	2,305	2.96
9	109,287	90,276	1,403	7,047	98,726	90.34	10,561	9.66	2,835	93	4,085	7,013	6.42
10	116,257	99,272	1,870	6,026	107,168	92.18	9,089	7.82	3,327	58	3,408	6,793	5.84
11	129,085	104,309	2,021	3,722	110,052	85.26	19,033	14.74	11,047	79	2,906	14,032	10.87
12	59,256	50,725	3,528	1,327	55,580	93.80	3,676	6.20	1,010	25	1,725	2,760	4.66
Total	862,328	714,679	47,037	30,715	792,431	91.89	69,897	8.11	27,533	3,607	19,512	50,652	5.87

Source : Office of the Permanent Secretary, Ministry of Education
*Exclude Bangkok Metropolis

follow - ups of application to lower secondary schools conducted by Office of the Permanent Secretary, Ministry of Education. It was found that 92 percent of G 6 graduates applied for lower secondary schools in the Academic Year 1991. Out of 8 percent of non applicants, 6 percent were expected to apply through government campaign effort. Among 12 regions, the number of non applicants is highest in Educational Region 2 in the south and lowest in Educational Region 1 in the central region. However, the percentage of non applicants in Educational Region 2 is very close to Educational Region 11 (15.22 and 14.74 percent). While cultural factors can be used to explain the phenomenon in the former, economic deprivation partly reflected by the reasons for unwillingness to pursue study can be a major contributing factor for both regions.

To further analyses within region, in Educational Region 1, the region with lowest percentage of non applicants, the range of non applicant percentage is from less than 1 to 3 ; while the range in Educational Region 2 varies from 2 in Satun to 31 in Pattani. It is even more interesting to find that the percentage increase of applicants as a result of government campaign is set at 31 percent for Patani which looks very unrealistic taken into account the nature and seriousness of the problems existing in the province (e. g. difference in language, religion and political view).

In upper secondary level, Table 8 illustrates follow - up findings of application in Educational Region 1-12. In total, the percentage of applicants is 88 percent. Applicants in vocational track are almost 40 percent of the total applicants. Out of 12 percent of non applicants, 8 percent is expected to be increased through the campaign. When compared among regions, Educational 8 in the north shows the lowest non applicant percentage (5 percent) ; while Educational Region 11 in the northeast has the highest non applicant

Table 8 Follow-up Report of Application for Upper Secondary Education, Educational Region 1-12, Academic Year 1996

Educational Region	G 9 Graduates	Applicants for Upper Sec. Ed.						Non Applicants		Expected Increase through Campaign					
		G 10	Voc. Cert.	Non Formal	Agriculture for Life	Total	%	Number	%	G 10	Voc. Cert.	Non Formal	Agriculture for Life	Total	%
1*	43,313	17,401	20,210	1,186	216	39,013	90.07	4,300	9.93	559	813	1,347	11	2,730	6.30
2	20,178	12,270	4,718	393	455	17,836	88.39	2,342	11.61	1,490	5	394	41	1,930	9.56
3	64,024	28,471	26,669	1,923	2,669	59,732	93.30	4,292	6.70	760	695	1,256	321	3,032	4.74
4	20,624	10,577	6,966	862	1,029	19,434	94.23	1,190	5.77	32	27	318	298	675	3.27
5	36,291	14,592	16,460	1,133	1,277	33,462	92.20	2,829	7.80	292	128	648	172	1,240	3.42
6	31,388	12,019	14,035	1,243	833	28,130	89.62	3,258	10.38	293	201	868	148	1,510	4.81
7	66,380	30,071	21,749	2,449	2,262	56,531	85.16	9,849	14.84	1,714	1,039	3,404	638	6,795	10.24
8	61,601	29,132	23,634	2,949	3,103	58,818	95.48	2,783	4.52	1,304	825	458	196	2,783	4.52
9	87,904	42,630	17,567	10,028	4,137	74,362	84.59	13,542	15.41	2,129	1,068	6,152	385	9,734	11.07
10	91,258	54,088	14,282	7,941	2,746	79,057	86.63	12,201	13.37	3,016	617	2,551	529	6,713	7.36
11	105,256	53,057	23,036	2,967	3,778	82,838	78.70	22,418	21.30	2,716	1,615	5,051	1,626	11,008	10.46
12	40,801	16,221	17,497	1,870	1,085	36,673	89.88	4,128	10.12	444	198	2,633	74	3,349	8.21
Total	669,018	320,529	206,823	34,944	23,590	585,886	87.57	83,132	12.43	14,749	7,231	25,080	4,439	51,499	7.70

Source : Office of the Permanent Secretary, Ministry of Education
*Excludes Bangkok Metropolis

Table 9 Applicants* and Admission to Secondary Schools by Level and Gender, Academic Year 1996.

Educational Region	Level	Male			Female			Total		
		Applicants	Admitted	%	Applicants	Admitted	%	Applicants	Admitted	%
Grand Total	G7	348,364	290,538	83.40	363,790	294,248	80.88	712,154	584,786	82.12
	G10	164,887	137,135	83.17	206,370	169,463	82.12	371,257	306,598	82.58
	Voc.Cert	2,039	1,577	77.34	3,286	2,886	87.83	5,325	4,463	83.81
Bangkok	G7	44,770	30,909	69.04	45,069	28,835	63.98	89,839	59,744	66.50
Metropolis	G10	24,128	16,490	68.34	27,040	19,338	71.52	51,168	35,828	70.02
	Voc. Cert	-	-	-	-	-	-	-	-	-
Educational	G7	303,594	259,629	85.52	318,721	265,413	83.27	622,315	525,042	84.37
Region1-12	G10	140,759	120,645	85.71	179,330	150,125	83.71	320,089	270,770	84.59
	Voc. Cert	2,039	1,577	77.34	3,286	2,886	87.83	5,325	4,463	83.81

Source : Department of General Education, Ministry of Education, 1996.

*Include : 1) 5% of primary or lower secondary graduates in the catchment area with outstanding achievement and good conduct (admitted without entrance examination)

2) general candidates ; and

3) 30% of primary or lower secondary school graduates in the catchment area (admitted by drawing lottery with no entrance examination)

percentage (21 percent). When compared within region, the range of non applicant percentage in Educational Region 8 is from 2 in Phrae and Phayao to 10 in Lampang ; while in Educational Region 11, the range is from 15 in Si Sa Ket to 34 percent in Surin which is very high.

Since the admission to secondary schools under DGE requires entrance examination except for those with special selection, total admitted percentage of students and proportion of male and female students may be regarded as indicators for access and equity.

Table 9 illustrates percentage of applicants accepted into secondary schools. In academic year 1996, applicants were accepted according to three criteria : 1) five percent of primary or lower secondary graduates in the catchment area with outstanding achievement and good conduct (admitted without entrance examination), 2) general candidates, and 3) thirty percent of primary or lower secondary school graduates in the catchment area (admitted by drawing lottery with no entrance examination). According to DGE guidelines, schools could also recruit students from school supporters without entrance examination. In total, the percentage of admission into the lower secondary schools, upper secondary schools in general stream, and upper secondary schools in vocational stream were 82, 83, and 84, percent respectively.

At lower secondary level, some of those who did not go to DGE schools could go to other public schools under the project on expanding access to lower secondary schools : ONPEC, municipal, and BMA schools. The rest entered private schools only if they could afford. As for those rejected from upper secondary schools, they had to go to private institutions which were comparatively expensive. What should be concerned by the government is that many

students who want to go to vocational stream come from low income families, going to private institutions without government support either financially or through special programs (e. g. income generating program) is not easy, perhaps impossible. It should also be noted that the abolishment of the entrance examination in the year 2001 may not be possible, taken into account the capacity of the educational system to accommodate all the applicants in the existing and future economie conditions.

Transition rate is another significant indicator for quantitative achievement, Table 10 demonstrates transition rate from 1992-1996. In total, transition rate increased from 67 percent in 1992 to 90 percent in 1996 at lower secondary level but decreased from 90 percent in 1992 to 88 percent in 1996 at upper secondary level. However, share by Department of

Table 10 Transition Rate to G 7 and G 10, Academic Year 1992-1996

Level	Academic year									
	1992		1993		1994		1995		1996	
	DGE	Total (Govt. & Private)	DGE	Total (Govt. & Private)	DGE	Total (Govt. & Private)	DGE	Total (Govt. & Private)	DGE	Total (Govt. & Private)
Lower Secondary Education	52.41	67.47	57.20	76.46	60.16	84.77	62.83	88.65	61.55	90.45
Bangkok Metropolis	80.85	103.58	76.91	99.19	79.32	99.71	78.73	103.06	79.47	103.59
Other Provinces	49.81	64.18	55.34	74.31	58.43	83.42	61.39	87.34	60.01	89.09
Upper Secondary Education	44.03	90.34	46.18	90.98	45.47	90.04	45.42	87.53	46.59	88.29
Bangkok Metropolis	41.37	118.10	42.83	120.48	46.26	126.68	46.26	124.98	49.16	128.75
Other Provinces	44.60	84.46	46.81	85.45	45.34	84.23	45.50	82.33	46.28	83.35

Source : Department of General Education, Ministry of Education

Table 11 Transition Rate to G 7 and G 10, Classified by Location, Level and Type, Academic Year 1996

Educational Region	Lower Secondary			Upper Secondary						
	G6 Graduates	G7	%	G9 Graduates	G10 General	G10 Vocational	G10 Total	% General	% Vocational	% Total
Bangkok Metropolis	75,562	80,339	106.32	73,086	42,027	52,069	94,096	57.50	71.24	128.75
Region 1 - 12	881,206	785,072	89.09	597,550	298,340	199,697	498,037	49.93	33.42	83.35
Educational Region 1	53,172	49,268	92.66	40,957	17,673	10,886	28,559	43.15	26.58	69.73
Educational Region 2	30,925	14,573	47.12	14,609	6,085	4,061	10,146	41.65	27.80	69.45
Educational Region 3	79,349	71,293	89.85	59,904	24,768	29,537	54,305	41.35	49.31	90.65
Educational Region 4	27,368	23,694	86.58	18,440	8,936	9,396	18,332	48.46	50.95	99.41
Educational Region 5	56,262	49,089	87.25	34,847	16,386	16,816	33,202	47.02	48.26	95.28
Educational Region 6	46,625	44,749	95.98	36,128	12,932	18,039	30,971	35.79	49.93	85.73
Educational Region 7	87,087	77,230	88.68	58,042	29,903	18,457	48,360	51.52	31.80	83.32
Educational Region 8	80,350	78,596	97.82	57,814	32,543	25,153	57,696	56.29	43.51	99.80
Educational Region 9	108,559	96,976	89.33	68,363	36,613	19,111	55,724	53.56	27.96	81.51
Educational Region 10	116,834	103,885	88.92	77,949	45,908	14,682	60,590	58.89	18.84	77.73
Educational Region 11	129,922	118,515	91.22	86,955	47,406	16,690	64,096	54.52	19.19	73.71
Educational Region 12	64,753	57,204	88.34	43,542	19,187	16,869	36,056	44.07	38.74	82.81
Total	956,768	865,411	90.45	670,636	340,367	251,766	592,133	50.75	37.54	88.29

Source : Department of General Education , Ministry of Education.

General Education increased in both levels.

Table 11 illustrates transition rate in Academic Year 1996 by location, level and type of education. In total, transition rate at lower secondary level ; upper secondary level in general stream ; and upper secondary level in vocational stream in Bangkok Metropolis were 106, 58, and 71 compared with 89, 50 and 33 in Education 1-12. When excluding Bangkok Metropolis, the percentage at lower secondary level was highest in Education Region 8 in the north (98 percent) and lowest in Educational Region 2 (47 percent) in the south. At upper secondary level, total percentage was also highest in Educational Region 8 (almost reached 100 percent) while the lowest was Educational Region 2 (69 percent). When compared the proportion between general and vocational streams, one - third of the regions, Educational Region 3-6, had higher percentage of vocational students than those in general stream.

2. Qualitative Achievement

Various indicators can be used to measure qualitative achievement of secondary education. Those frequently employed are retention rate, dropout rate and level of student achievement.

Table 12 shows retention rate of secondary students from 1994-1996. At lower secondary level, retention rate eventually decreased slightly from 94 in 1994 to 93 in 1996. In upper secondary level, retention rate fluctuated between 81 to 82 percent in total and in general stream. The figure only suggests crude idea of how well the system can assist students to graduate within the designated period. At lower secondary level, 7 percent of students could not finish Grade 9 within 3 years while the percentage of those who could not finish grade 12 was close to 20 percent in the 1996.

Since aggregated statistics on drop-out were not available at the national level, Table 13 illustrates number and percentage of drop-out of secondary students of the Department of General Education in Academic Year 1992-1995. In total, drop-out percentage varied from 3-4 percent with minimal variation (3.31-3.50). When compared between Bangkok Metropolis and other regions, percentage of drop-out in Bangkok Metropolis was slightly higher than

Table 12 Retention Rate of Secondary Students, Academic Year 1994-1996

Level	1994	1995	1996
Lower Secondary	93.63	93.46	93.26
Upper Secondary	82.07	80.75	81.00
- General	82.48	81.22	80.97
- Vocational	81.62	80.21	81.04

Source : ONEC, 1996

Table13 Number and Percentage of Dropouts of Secondary Students of the Department of General Education : Academic Year 1992-1995

Academic Year/ Location	Number of Students	Number of Drop-outs	%
1992 Total	1,906,816	64,669	3.39
Bangkok Metropolis	268,525	11,422	4.25
Other Provinces	1,638,291	53,247	3.25
1993 Total	2,072,204	68,491	3.31
Bangkok Metropolis	274,775	10,812	3.93
Other Provinces	1,797,429	57,679	3.21
1994 Total	2,251,185	75,936	3.37
Bangkok Metropolis	275,722	10,714	3.89
Other Provinces	1,975,463	65,222	3.30
1995 Total	2,420,356	84,799	3.50
Bangkok Metropolis	272,840	8,218	3.01
Other Provinces	2,147,516	76,581	3.57

Source : Department of General Education, Ministry of Education, 1996

other regions every year except 1995.

As shown in Table 14, approximately half of the students under the Department of General Education dropped out by unidentified causes. Out of the rest, 35 percent went to work while poverty was the cause of drop-out for 13 percent of total secondary students. When considered by level, excluding those with unidentified causes, pursuing a career and poverty were also the main causes for student drop-out at both levels. Taking into account parent occupation, it is reasonable to regard economic deprivation as a contributing factor for drop-out since parents of 66 percent of G 7 students in 1996 were farmers and labourers.

Table 14 Causes of Dropout of DGE Students, Academic Year 1995

Level	Financial Shortage		Employed		No need for education		Others		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
G7	987	14.45	2,112	30.92	4	0.06	3,728	54.57	6,831	100
G8	1,022	14.90	2,132	31.08	19	0.28	3,686	53.74	6,859	100
G9	1,960	14.71	4,975	37.33	-	-	6,393	47.97	13,328	100
Total	3,969	14.69	9,219	34.12	23	0.09	13,807	51.10	27,018	100
G10	513	9.28	2,072	37.47	286	5.17	2,659	48.08	5,530	100
G11	312	8.36	1,148	30.76	576	15.43	1,696	45.44	3,732	100
G12	293	9.16	1,261	39.44	7	0.22	1,636	51.17	3,197	100
Total	1,118	8.97	4,481	35.97	869	6.97	5,991	48.09	12,459	100
Grand Total	5,087	12.89	13,700	34.70	892	2.26	19,798	50.15	39,477	100

Source : Department of General Education, Ministry of Education, 1996

As for ONPEC lower secondary students, it was reported that only 1.39 percent of students dropped out (ONPEC, 1996) ; while the percentage of drop-out was 4 percent for BMA students in 1995. Major causes were migration, transfer to other schools and need to pursue a career.

Student achievement is another indicator of educational quality. Evaluation and research reports from various sources presented problems in quality of education including at secondary level. It was reported in the synopsis of the Eighth National Education Development Plan (1997-2001) that :

> The quality of education is considered to be a rather critical problem in Thai education system as evidenced by unsatisfactory achievement levels both in analytically thinking, analyzing and synthesizing processes, creativity, initiative-taking and problem solving and in students' academic knowledge in science, mathematics, and Thai language. There was a downward trend in students' desirable characteristics in pursuing knowledge, ethics, morality, discipline, and team spirit (ONEC).

An evaluation of educational quality of G 9 and G 12 students conducted by Department of Curriculum and Instruction in Academic Year 1995 confirmed the above analysis. In the process, students were evaluated in 9 areas : Thai, English, mathematics, science, work and vocation, social studies, physical education, thinking and problem solving, and ethics and values. Tests in areas 1-8 were employed to evaluate cognitive competencies : knowledge and thinking. Only the test in the ninth area evaluated affective competencies, i. e. student feelings or opinions toward certain ethics and values. Based on the scores, students in twelve educational regions and Bangkok Metropolis were classified into 3 groups : high, medium, and low.competency level of students.

In total, the majority of them ware in medium group in all the 9 areas. When compared among regions, Bangkok Metropolis was classified in high group in every area ; while, on the contrary, Educational Region 2 was assigned into low group in all areas. At upper secondary level, Bangkok Metropolis was also classified in high group in all the areas while Educational region 7 was in low group in every area.

Table 15 reports findings from quality evaluation of G 9 students by jurisdiction. It was found that Bureau of Local Education Administration, Office of the Private Education, ONPEC and Bangkok Metropolitan Administration were rated satisfactory in every area of cognitive competencies. Department of General Education was rated satisfactory in every subject except English which needed improvement. Demonstration schools under the Ministry of University Affairs was rated good in English but the rest were at satisfactory level. Also, demonstration schools under Council of Rajabhat Institutes were rated good in Thai but all other subjects were at satisfactory level. As for the evaluation of student ethics

and values, schools under Ministry of University Affairs, Council of Rajabhat Institutes and Bangkok Metropolitan Administration were at the level of commitment while the rest were at the level of valuing.

Table 16 illustrates the level of competencies of upper secondary students. In cognitive

Table 15 Average Percentage and Average Level of Competencies of Lower Secondary Students by Jurisdiction, Academic Year 1995

Jurisdiction	Students	Average percentage/Level of Cognitive Competencies								Average Level Ethics and Values
		Thai	English	Mathematics	Science	Work and Vocation	Social Studies	Physical Education	Thinking & Problem Solving	
DGE	58,313	58.97(2)	31.69(1)	31.53(2)	44.61(2)	39.53(2)	44.98(2)	59.21(2)	39.51(2)	3.25(3)
Bureau of Local Education Administration	3,719	53.05(2)	35.75(2)	32.80(2)	44.13(2)	40.73(2)	45.70(2)	60.02(2)	39.56(2)	3.26(3)
Office of the Private Education Commission	15,715	57.10(2)	38.80(2)	36.15(2)	45.73(2)	41.97(2)	46.32(2)	61.20(2)	40.24(2)	3.28(3)
Ministry of University Affairs	2,114	66.37(2)	58.50(3)	57.21(2)	56.90(2)	50.88(2)	54.81(2)	68.06(2)	43.70(2)	3.33(4)
Council of Rajabhat Institutes	565	67.76(3)	52.97(2)	53.96(2)	57.62(2)	54.58(2)	56.25(2)	69.56(2)	44.00(2)	3.43(4)
ONPEC	15,202	54.46(2)	38.33(2)	35.68(2)	46.23(2)	42.82(2)	47.07(2)	61.79(2)	40.38(2)	3.26(3)
BMA	1,247	56.44(2)	36.49(2)	32.29(2)	45.41(2)	42.77(2)	45.51(2)	59.33(2)	39.88(2)	3.29(4)

Source : Department of Curriculum and Instruction, Ministry of Education

Note : Level of Competencies (Knowledge and Thinking)
(1)= Need Improvement
(2)= Satisfactory
(3)= Good

Ethics and Values
(1)= Receiving
(2)= Responding
(3)= Valuing
(4)= Commitment

Table 16 Average Percentage and Average Level of Competencies of Upper Secondary Students by Jurisdiction, Academic Year 1995

Jurisdiction	Students	Average Percentage/Level of Cognitive Competencies								Average Level Ethics and Values
		Thai	English	Mathematics	Science	Work and Vocation	Social Studies	Physical Education	Thinking & Problem solving	
DGE	55,424	48.14(2)	35.29(2)	29.60(1)	48.12(2)	63.02(2)	53.58(2)	56.64(2)	40.89(2)	3.09(3)
Office of the Private Education Commission	5,813	47.30(2)	39.73(2)	29.81(1)	46.39(2)	58.80(2)	52.24(2)	53.46(2)	39.29(2)	3.07(3)
Ministry of University Affairs	1,068	57.75(2)	58.07(3)	47.79(2)	60.36(2)	65.59 (3)	61.43(2)	59.78(2)	43.04(2)	3.06(3)
Council of Rajabhat Institutes	323	57.90(2)	58.84(3)	44.62(2)	64.53(2)	71.20(3)	63.84(2)	63.82(2)	45.11(2)	3.16(3)

Source : Department of Curriculum and Instruction, Ministry of Education

Note : Level of Competencies (Knowledge and Thinking)
(1) = Need Improvement
(2) = Satisfactory
(3) = Good

Ethics and Values
(1) = Receiving
(2) = Responding
(3) = Valuing
(4) = Commitment

areas, schools under Ministry of University Affairs and Council of Rajabhat Institutes were rated good in English and work and vocation while schools under DGE and Office of the Private Education Commission needed improvement on mathematics. The rest were rated satisfactory. As for ethics and values, every jurisdiction was at the level of valuing.

Problems of Universal Secondary Education

Major problems in providing universal secondary education summarized from research, follow-up and evaluation findings can be classified into 3 groups : 1) problems related to students and families ; 2) problems related to schools ; and 3) problems related to support from the government, individuals and other agencies concerned.

The main problems related to students and families include lack of student readiness (e. g. lack of interest to study, need to pursue a career, disability) ; need for student labour by the families ; poverty and distance from home to school.

Major problems related to school are : inappropriate curricula (inflexible, irresponsive to student needs), lack of qualified teachers especially in some specialized areas such as mathematics and science, inefficient teaching, inadequate supplies of budget, textbooks, materials, equipment and buildings, poor school plant planning, inappropriate procedures for measurement, evaluation and entrance examination, and inefficient school management.

Principal problems related to support for secondary education include lack of appropriate and genuine integrated planning among agencies concerned ; frequent changes in policies related to education ; lack of commitment in policy implementation ; discontinuing of successful policies, programs and activities ; shortage of resources both in quantity and quality ; lack of efficient system for admission, monitoring, follow-up and evaluation ; inadequate use of school mapping ; and insufficient participation from local community, business and other agencies within and outside education.

Conclusion and Policy Implications

A review of the effort to expand universal secondary education indicates that the expansion of secondary education opportunity needs to be improved both in quantity and quality. Analysis results reveal some crucial issues as well as suggest policy implications. Some of them are :

1. Local planning which has been suggested in many studies in the area of expanding basic education should be seriously implemented to increase the possibility of universal secondary education. As presented in Table 3, discrepancy between percentage of enrollment in 1996

and the expected target in the year 2001 is 23 percent for lower secondary level and 27 percent for upper secondary level. Also, discrepancies in transition rate among educational regions and within the region are very high. Elaborated plan at local level should help the corrective measures more responsive to local problems and needs. When considered the government support for secondary education and causes for unwillingness to study, it is evident that normal practice by the central government is unlikely to yield the expected outcomes. During the Seventh National Education Plan (1992-1996), government support for secondary education decreased from 27.5 percent of the total educational expenditures in 1992 to 27.3 percent in 1996 (ONEC, 1996) which implies that the increase in financial support from the government cannot be expected especially under the present economic condition. Moreover, socio-economic status of students puts more burden on the government. As indicated in Table 5 and 6, reasons given by the majority of students who would not further their study were "need to work" and "poverty". To enable them to go to school, support programs must be provided. There is in a research on factors affecting needs to enter lower secondary education showing that if the government policies are to exempt tuition fees and provide more schools near home, it will help increase the enrollment (ONEC, 1996). It should also be noted that universal secondary education must include the disabled. In 1996, only 7,014 students were provided with special education in D 6 E and private schools. To include all the target groups demands drastic increase in educational budget.

Local planning will also help increase the capacity of the national educational system to expand resource base. Local-based plan will enable secondary education institutions to minimize duplication of activities and maximize resource utilization. In some localities where non-formal education and vocational education institutions can adequately serve the needs of clients, opening vocational classes should be avoided in secondary schools in general stream. There should be a change in educational management strategies from competitiveness to cooperation between secondary education institutions and other types of organization including local people. Credit - transferring system should be applied in secondary schools even between formal and non-formal schools. Support from business sector like giving an apprenticeship to students is needed. Applying the above mentioned should help increase the enrollment rate and at the same time decrease dropout rate. The focus in utilizing local resources is a must and it will certainly help Thailand to effectively expand her resource base.

2. Having a more flexible education system will help decrease the dropout rate. It is found that there is high percentage of migration between provinces in Thailand, this increases school dropouts since practically schools do not appreciate students entering school in the middle of semester. Students should be allowed to register in any schools that provide

equivalent courses or programs and earn school credits if they fulfill requirement regardless of time they stay in that particular school. This means that they do not have to be in one school for the whole school year in order to earn school credits. As for private institutions, if they can provide good education, the government should avoid investing in the same kind of services. Vouchers may be given to needy students to study in private institutions and appropriate level of control should be applied in term of tuition fees.

3. Changing in educational development strategies is needed. At present, more support from government is given to the low performance schools while the moderate and the high performance schools have less attention. This could consider as a corrective way of problem-treatment. Therefore, for those moderate and high performance schools, the chance to grow is limited. Only the low performance school get the benefit. The new educational development strategies should be preventive. Instead of applying corrective measures by allocating resources only to schools with problems, government should give more support to the high performance ones. Then, let the high performance schools be core schools to help other schools in the region. This way the core schools will be effective and reachable base or resources for the rest of the schools in the region. Since in the case of expanding universal secondary education, disparities were also found among educational regions and among different changwats in the same region, strengthening development core schools will make assistance relevant to local needs.

While assistance for needy children should be maintained, the constructive way of assisting should be introduced in order to encourage self-help. Assistance programs should be geared more toward self-help programs to avoid encouraging dependency. Income-generating programs should be extensively provided, involving community, business enterprise and other agencies. In some communities, active community groups are present, for examples housewives and youths organize themselves into groups and run income-generating programs in villages or sub-districts. In interviewing local people in Maha Sarakham and Khon Kaen and other provinces under study, they expressed willingness to allow secondary students to be part of the group and share the income.

4. Vocational secondary education should be expanded to meet the growing needs of students. In the past, vocational education was regarded as second to general education in Thailand. This phenomenon has been changed obviously in the past few years as a result of economic force and perceived value of education. According to ONPEC report, 28 percent of primary school graduates chose to work instead of applying for G 7 study (ONPEC, 1966). Also, a case study of school readiness in providing secondary education in one of the BMA schools, needs assessment survey was applied to G 6 students in Academic Year 1996. Among those who would like to continue their studies, 42 percent wanted to go to vocational stream.

When asked whether they needed support ; needs for free school lunch, textbooks and exercise books, learning materials, school uniforms and funding were reported at 74, 78, 53, 41 and 38 percent respectively (Julkhiri, 1996). These two cases imply that : 1) Campaign for secondary education will be successful only if school support can be provided to prevent dropout ; 2) Secondary education provided for those students should provide them with future career opportunities.

5. Development of curriculum implementation and teaching personnel is recommended. Table 15-16 demonstrates unsatisfactory academic achievement partly caused by rapid increase in the number of students due to the policy to accelerate the expansion of basic education. Various studies also show low achievement in the areas that will support future development : mathematics, science and English as well as thinking ability.

While many studies and evaluation suggested drastic curriculum change, it is evident that many changes can be immediately applied since flexibility is allowed by the structure of the current curriculum. As it is evident in the present situation that increase the number of teachers is rather difficult since student - teacher ratio is low while many teachers are unqualified to teach in some specialized subjects, retraining of teachers is desirable. However, with limited budget compared with the number of teachers who need training, innovation training method is required as well as other measures including effective supervision.

If the success of the idea of universal secondary education is to be true, major changes of the secondary education management must be done. Effectiveness depends on active support of the government as well as of local people. Lastly, it is also to remind that quantity and quality management must go together in the universal secondary education.

Reference

Bangkok Metropolitan Administration. *A Summary of An Evaluation Report of Project on Expanding Educational Access of BMA, Academic Year* 1995. (in Thai)

Bangkok Metropolitan Administration, Department of Education. *Educational Statistics : Academic year* 1996. (in Thai).

Bangkok Metropolitan Administration, Department of Education. *Statistical Report* 1992 *of Bangkok Metropolitan Schools.*

Chongsatityoo, Chuachan. *Education Development in Thailand :* 1987-1996. The document proposed for Thailand-Democratic People's Republic of Korea Seminar in Current Trend of Social Development : Tasks and Roles of Social Science, organized by the NRCT and the Association of Researchers in Social Sciences.

Department of Curriculum and Instruction. *Evaluation Results of Quality of Education, Academic Year* 1995 : *Summary of the Results at Lower and Upper Secondary Levels*. (in Thai)

Department of General Education. *An Analysis of Educational Statistics, Academic Year* 1996. (in Thai)

Department of General Education. *A Guideline for Admission of G 7 and G 10 Students, Academic Year* 1997. (in Thai)

Department of General Education. *Educational Statistics in Brief : Department of General Education, Academic Year* 1996. Bangkok : Kurusapha Ladprao, 1997.

Julkhiri, Vilairat. *A Study of School Readiness in Opening Secondary Classes in Pracha - Uthit School : A Case Study*. A paper presented in partial fulfillment of the requirements for a master's degree program in Educational Administration, Chulalongkorn University, 1996. (in Thai)

Ministry of Education, Office of the Permanent Secretary. *Education Reform at the Ministry of Education-Thailand, January* 1996.

Ministry of Education. *Overview of Primary and Lower Secondary School Curricula (*1978*) Revised Version* 1990 *and Upper Secondary School Curriculum (*1981*) Revised Version* 1990. Bangkok : Kurusapha Ladproa.

Ministry of Education, Office of the Permanent Secretary. *Report on the Follow-up and Acceleration of Critical Policies : Policy on* 12 *Year Continuing Education-Phase II*. (in Thai)

ONEC. *Education in Thailand* 1997. Bangkok : Seven Printing Group Co., Ltd.

ONEC. *Educational Statistics of Thailand Year* 1992-1994. Bangkok : Charoenpol Press and Binding. (in Thai).

ONEC. *Equity in Educational Management Among Geographical Region and Changwat, Academic Year* 1996. A paper submitted in a Commission meeting, 1996. (in Thai).

ONEC. *Major Operation Plan : Basic Education for All*. Bangkok : T. P. Print Ltd., 1995. (in Thai)

ONEC. *National Educational Statistics*. Academic Year 1994-1996. Bangkok : Kurusapha Ladprao, 1997. (in Thai)

ONEC. *Summary of A Research Report on Project on Expanding Basic Education : A Research on Factors Affecting Client Needs and Efficiency of Service Organizers in Lower Secondary Level*, 1996. (in Thai)

ONEC. *Synopsis of the Eighth National Education Development Plan*. (1997-2001) Bangkok, 1997.

ONEC. *The National Scheme of Education* 1992. Bangkok : Atthaphon Printing.

ONPEC. 1996 *Annual Report*, December 1996. (in Thai)

ONPEC. *Educational Statistics, Academic Year* 1996. Bangkok : ONPEC, 1996. (in Thai)

Sukontasap, Snanchit et al *A Research Report on A Study on Youth's Self-Employed Work*, 1997. (in Thai)

The Commission on Thailand's Education in the Era of Globalization : Towards National Progress and Security in the Next Century. *Thai Education in the Era of Globalization : Vision of a Learning Society. A Synopsis of the Report*

The Prospects of Twelve Year Education in Thailand : A Case Study of Nakhon Ratchasima Province

Phaisal LEKUTHAI

Abstract

The Thai export base economy has achieved a rapid growth since 1970s, but so far as income distribution and regional development are concerned it is an unbalanced growth. The Bangkok's environment cannot absorb the pollution any more due to the fact that 52% of the country industries or 76% in term of GDP are concentrated in Bangkok. Industries must be decentralized and at the same time there is an urgent need for Thailand to upgrade the level of technology in order to increase export and improve the competitiveness in the world market. The existing nine year education will be the obstruction for accepting new technological transfer. The objectives of this paper are to investigate the prospects of twelve year education in Thailand by surveying Nakhon Ratchasima which is commonly known as Korat as a case study. Korat is among the first choices for relocation of industries from Bangkok. The general field survey was conducted in Korat during December 1996 which was only few months before school graduation in March. Questionnaires were distributed to 457 grade 9 (G9) students of five different types of school to find out their background, transition rates, future plan, problems and solutions. It was found out that out of 457 students, 100 students or 22% have financial problem to the extent that 50 students or 10.9% have to dropout after G9. For students who have financial problem most of them were in Office of the National Primary Education (ONPEC) school and Department of General Education (DGE) branch school with their parents being agriculturists and general workers. The Loanable Fund for Education (LFE) started by the government in 1996 must be simplified and adjusted to be more effective. However, in the long-run agriculture and industries must be developed in regional especially rural areas. When rural people can earn higher income the prospects of twelve year education will be improved.

1. Introduction

The first national economic and social development plan of Thailand was initiated by World Bank's experts in 1959. During the last 36 years (1961-1996), 7 national plans have been implemented with the objectives of emphasizing economic growth, price stability, income distribution, rural development, natural resources preservation and environmental protection. In terms of economic growth and price stability, the Thai government has successfully

achieved the objectives. But with reference to other aspects Thailand has completely failed to reach the targets. Moreover, towards the end of the 7th plan (1992-1996) Thailand has to face a serious problem of current account deficit as the result of declining exports, increasing imports and outbound tourists. One of the main reasons for losing competitiveness in the world market and failing to move to a higher level of technology is that non of the 7 national plans emphasizes the importance of education. The existing 6 or 9 year education seem to be insufficient for accepting the transfer of new technology. Therefore, the country cannot improve the productive capability for export. In order to solve this problem the government sets human resources development as the main objective of the 8th plan (1997-2001).

According to the new constitution effective from 11 October 1997, 12 year free education will be provided by the government. The objective of this paper is to identify, investigate and analyse the prevailing problems which obstruct the prospects of 12 year education in Thailand by using Nakhon Ratchasima province as a case study. The analysis will be based on the general field survey conducted in Nakhon Ratchasima during December 1996 which was only few months before the end of the academic year. Five schools under different educational jurisdictions were selected by random sampling. Questionnaires were distributed to 457 grade 9 (G 9) students, collected and mailed back one week later by G 9 teachers of the five schools. The intentions of the questionnaires were to find out the general background of the G 9 students, their decision making process and future plans after completing G 9, expected problems and solutions.

2. General Background of Nakhon Ratchasima

Nakhon Ratchasima is the official name of the province, it is commonly known as Korat. This province is situated on the lower part of northeast plateau, 150-300 metres above the mean sea level, about 260 kilometres northeast of Bangkok. In term of area Korat is the biggest province in Thailand with the total area of 20,494 km^2 (2,049,396 hectares), out of which 67% are utilized for agricultural production. In term of population it is the second biggest next to Chiengmai, Korat's most important role is being the gateway to northeastern region of Thailand and also Indochina.

2.1 Population and Employment

Thailand is divided into four regions namely the northern, the central, the northeastern and the southern regions. The northeastern region is further divided into 19 provinces. Each province is administered by a governor who is appointed by the Department of Local Administration, Ministry of Interior. The province is further divided into Districts (Amphur),

Subdistricts (Tambon) and Villages.

According to Nakhon Ratchasima Provincial Office there are 557,691 households, 3,253 villages, 287 subdistricts and 27 districts in Nakhon Ratchasima. On December 1995 the total population of Korat was recorded as 2,467,831, with 1,230,635 or 49.9% male population and 1,237,196 or 50.1% female population (Table 1). The Population Institute of Chulalongkorn University estimates that by the end of 1997 Korat should have the total population of 2,583, 796 and by the end of 2007 the population will increase to 2,826,005 with the number of female population slightly higher than male population. Due to effective family planning and birth control the average household size was reduced from 5.13 in 1991 to 4.43 in 1995.

According to Nakhon Ratchasima Provincial Labor Office, by the end of 1995 the total labor force was recorded at 1,450,687. Out of the total labor force 1,378,878 or 95.05% were employed and the remaining 71,809 or 4.95% were unemployed. From the total labor force 655,240 or 45.17% were in non-agricultural sector as compared to 32.21% in 1991 and 723, 638 or 49.88% were in agricultural sector as compared to 65.90% in 1991. The statistics clearly show that more and more people are moving out of agricultural sector because they earn low and unstable income which affect their living condition and their children education (Table 2).

2.2 Investment Atmosphere

In comparison with other provinces in northeast Thailand, Nakhon Ratchasima is located near Bangkok as well as the deep sea harbor in eastern seaboard. As the result of special privilege provided by Board of Investment (BOI), many manufacturers relocate their plants to Korat especially supporting industries. During 1995 there were 88 projects with capital investment of 20,460 million baht approved by BOI to set up large and medium scale industries in Korat. The main industries are metal industries, automobile parts industries, paper and plastic industries, electronic industries, textile, clothing, artificial flowers, fishing net and food processing industries. In 1995 out of 151 projects receiving BOI privilege in northeast Thailand, 88 projects or 58% of the total projects decided to invest in Korat. Among the 88 projects invested in Korat there are 4 projects each of them having capital investment between 500-1,000 million baht and another 4 projects with capital investment exceeding 1,000 million baht each (Table 3). There are various forms of share holding under BOI privilege investment, out of 151 projects approved for northeast region 91 projects or 60% are purely owned by Thai citizens, 50 projects or 33% are purely foreign share holders and the remaining 10 projects or 7% are joint venture. Before sub-contracting business is promoted, the local government and investors are aware of the problem of improving the capability of the manpower of all levels which include training, development of management

skill, technology, production and marketing technics.

2.3 Education

The educational structure of Korat consists of 1,505 educational institutions, out of which 1,433 are government educational institutions which provide services from kindergarten level to master degree level and the remaining 72 are private educational institutions which provide services from kindergarten level to bachelor degree level (Table 4).

The educational services upto vocational school level in Korat are provided by both government and private sectors. By the end of 1995 the total number of classroom was 17, 875. Out of the total number of classroom, the schools under the Department of General Education (DGE), the Office of National Primary Education (ONPEC), the Office of Private Education Commission (OPEC), Municipal and Department of Vocational Education (DVE) provided 2,521 ; 13,556 ; 911 ; 258 ; and 629 classrooms respectively. The ONPEC schools provide the highest number of classrooms especially at the primary level. The total number of students was 457,778 out of which 305,320 were in ONPEC schools. The total number of teachers was 21,828 and again the highest number was 15,851 in ONPEC schools. The average number of student per classroom was 26 and the teacher-student ratio was 1 : 21 as compared to 26 students per classroom and 1 : 20 teacher-student ratio in 1991 (Table 5).

3. The Prospects of Twelve Year Education in Nakhon Ratchasima

3.1 Nakhon Ratchasima Investment Plan

According to Nakhon Ratchasima Investment Plan[1] this province has good potentials for industrial development. The followings are some of the comparative advantages of Nakhon Ratchasima:

(1) Location Korat is situated on a prime location where linkages of regions are possible through Korat highway networks. Upper northeast, lower northeast and eastern seaboard are connected by highways. Since 1994 a highway through Korat links Bangkok with Vientiane the capital city of Laos and in the near future Korat highways will link Bangkok with other parts of Laos and also Vietnam and Kampuchea.

(2) Size and Resources Korat is the largest province in term of area with abundant of natural resources and minerals, good and variety of soil qualities, 29 reserved forests and 3 national parks. Plenty of raw materials and agricultural output for agro-industries.

(3) Economic Structure and Labor Supply The shares of agricultural output, services and industrial output are 25.2%, 39.6% and 9.6% of GPP respectively. It means that this province has plenty of reserved labor supply in the agricultural sector which can be

transferred to match with increasing capital investment in industrial sector. But the labor quality must be able to meet the required standard for absorbing the technological transfer. Education and training will enable the Thai manufacturing sector to move to a higher level of technology.

(4) Industrial Decentralization Policy Industrial concentrations in Bangkok create a lot of problems, especially the environmental, income distribution and social problems. 52% of the country's industries or 76% in terms of GDP are located in Bangkok, in order to solve the above problems, the Thai government provides incentives for industries to move out of Bangkok and relocated in provincial areas. GATT also pressures the government to reduce or terminate subsidies for private sector. For manufacturing sector, more local content ratio will be emphasized, relocation of the factories out of Bangkok will reduce the production costs. Considering the public utilities, natural resources, labor supply, distance from Bangkok and Laem Chabang Port, Korat is among the first choices for relocation of industries or location for new plants.

(5) Public Utilities Development The local government is aware of the role of public utilities in the process of industrialization. Telephone service, electricity and water supplies, communication networks are developed in advance to support the current industrial development.

However, there are some comparative disadvantages of Nakhon Ratchasima. In industrial sector, investors complain that although there are plenty of labor supply, shortage of skilled labor still exist. So far as agricultural sector is concerned, technical advice and training are also needed. In order to upgrade the quality of human resources, formal education as well as non-formal education must be revised to support and facilitate industrial and agricultural development.

3.2 Nakhon Ratchasima's Industries, Agriculture, Demand for Labor and Future Trends

Out of 7,077 factories in Korat, 4,940 are rice mills and the remainings may be classified under 4 categories as follows:

(1) Agro-based Industry which needs agricultural supplies as inputs such as food processing industries, tapioca product industries.

(2) Labor Intensive Industry such as clothing industries, textile industries and handicraft industries.

(3) Supporting Industry such as plastic industries, fertilizer industries, synthetic rubber industries, machine and spare parts industries.

(4) High Technology Industry such as bus and truck assembly industries, computer harddisk industries.

The past experience shows that shortage of skilled and educated labor obstruct industrial as well as agricultural development of Korat. Moreover, in the future the population structure will lead to a more serious problem in economic development. The implementation of Nakhon Ratchasima Investment Plan affects both the quantity and quality of labor demanded in this province. The Investment Plan emphasizes industrial development as a key factor to increase the economic growth rate of Korat. The whole economic structure will be affected and the demand for labor both in term of quantity and quality will be affected as follows[2)] :

Table 6 shows the future changes of Korat economic structure, the growth rates in the shares of value added in agricultural sector will be declining, where as those of industrial and commercial sectors will be increasing.

The population growth will be increasing at a diminishing rates as shown in Table 7

The implementation of Nakhon Ratchasima Investment Plan with special emphasis on industrial development will affect the GPP and demand for labor. During the development periods 1992-1996, 1997-2001, 2002-2006, and 2007-2011 the GPP will increase from 7.40%, 6.57%, 6.18% and 5.42% to 8.10%, 7.24%, 6.93% and 6.26% respectively as shown in Table 8.

The strategic plan to increase the GPP requires more labor input for industrial sector. The demand for labor will increase during the development periods 1992-1996, 1997-2001, 2002-2006, and 2007-2011 from 9.60%, 8.29%, 7.33%, and 6.26% to 12.25%, 10.46%, 9.05%, and 7.19% respectively as shown in Table 9.

According to the Population Institute of Chulalongkorn University, there is a significant decline in the population growth rates as well as changes in the age structures of Korat population. During 1993-2007 the total population increase will be about 370,000 or in term of average population growth rate of 0.8% per annum. The percentages of population below 15 years of age keep on declining. The percentages of population in the labor force with ages between 15-60 are rather stable. On the other hand the percentages of the old age population are on the increasing trend (Table 10).

From the population projections and the demand for labor estimates during 1993-2011, it was found out that the number of students in Korat declines at 0.26% per annum, on the other hand the demand for labor increases 7.47% per annum. Therefore, the population constraint may obstruct economic development of Korat. Labor supply from other sectors or other provinces may be required to support industrial development. Moreover, in term of quality most of the existing labor supply are primary education graduates who are not qualified for becoming industrial workers. The number of primary school teachers and classrooms may be reduced as the result of declining number of child population. At the same time the demand

for secondary school teachers and classrooms increase due to nine year compulsory education and twelve year education opportunities proposed by government. From the students' point of view it is worth investigating the prospects of twelve year education in Korat. What are the educational plans of G9 students ? What are the percentages of students who cannot afford to continue upper secondary education ? Who influence the decision making of G9 students ? What are the reasons for dropout ? What kinds of work the students prefer to do after graduation ?

3.3 General Field Survey of Five Schools in Nakhon Ratchasima

A general field survey was conducted in Nakhon Ratchasima during December 1996, it was about two months before G9 students' graduation. At that time most of the students should have made the decision about their future plan. Five schools were selected on the basis of random sampling as follows:

1. Boon Wattana School (DGE Central School)
   159 Ratchasima - Chokchai Road
   Tambon Huathalay, Muang District
   Nakhon Ratchasima 30000

In Korat this school is one of the most well-known and famous schools under the jurisdiction of Department of General Education (DGE), Ministry of Education. It is located in urban area, each year the number of applicants always exceeds the number of seats available, only top students will be accepted after the screening process.

2. Paya Yen School (DGE Branch School)
   Ban Por Hu, Moo 4, Tambon Pongtalong
   Pak Chong District
   Nakhon Ratchasima

This kind of branch school is affiliated to the main central school but located in remote area. The branch schools are set up to provide secondary education for rural poor students in remote areas. Teachers from the central school must commute daily to the branch schools, the budget and facilities are limited and affect the quality of education provided by this type of edcational institutions.

3. Phi Mai Samukkee 1 (ONPEC School)
   Moo 6, Tambon Ranka Yai
   Phi Mai District
   Nakhon Ratchasima

This school is under the jurisdiction of Office of the National Primary Education, Ministry of Education, the service is extended to cover secondary education level. It is located in rural

area where most people are in the low income level.

4. Saint Mary's School (OPEC School)
   386 Mukkhamontri Road
   Nakhon Ratchasima

This is a private school under the jurisdiction of Office of the Private Education Commission. It is located in urban area and run by Missionary. High income people and businessmen prefer sending their children to this school. The school fees are comparatively much higher as compared to other private or government schools. It provides wide range of educational services, starting from kindergarten to upper secondary and vocational levels.

5. Burapa Wittayakorn (Municipal School)
   Chompol Road
   Muang District
   Nakhon Ratchasima

This school is under the jurisdiction of Nakhon Ratchasima Municipal, Ministry of Interior. It is located in the urban area and most urban poor people send their children to this school. This school is financed by local government taxes.

3.4 General Background of G 9 Students in Nakhon Ratchasima

During December 1996, the questionnaires were distributed to 457 G9 students in five different schools mentioned earlier, they were collected after one week and mailed back by the G9 teachers.

Table 11 shows that out of 457 surveyed students, 189 students or 41% are male, 268 students or 59% are female. From total sample of 457 students, 148 or 33%, 45 or 10%, 56 or 12%, 149 or 33% and 59 or 12% are from DGE central school, DGE branch school, ONPEC school, OPEC school and Municipal school respectively. At G9 level the number of female students are higher than that of male students.

3.5 Dropout and Transition Rates to Vocational and Upper Secondary Schools

From the survey of 457 students in G9, 50 students or 10.9% plan to dropout after G9. The percentages of dropout in rural poor areas tend to be higher as in the cases of ONPEC school and DGE branch school, they are as high as 46.4% and 33.3% of the total number of students in each school respectively. In case of DGE central school and Municipal school which are located in urban area, the dropout rates are as low as 3.4% and 6.8%. For OPEC school the dropout rate is 0% because the students are from well-to-do families. Among all the surveyed schools, the transition rate for OPEC school is the highest that is 100% and the lowest transition rate is the ONPEC school that is only 53.6%(Table 12).

Out of 407 students continue their study at higher levels, 246 or 60.4% are female students and 161 or 39.6% are male students. The percentages of male students in DGE central school and Municipal school are higher than those of female. In case of ONPEC school and OPEC school the percentages of female students are more than male students. In the DGE branch school male and female students are equal in number (Table 13)

Out of 407 students 135 or 33.2% plan to join vocational schools. It is quite clear that students from low income families tend to start working as soon as possible, vocational schools will take only 3 years. The highest percentages joining vocational school are students from ONPEC school, Municipal school and DGE branch school respectively. The remaining 272 students or 66.8% plan to go to G10 with the ultimate objective of joining university level. With the parents' financial support 80.5% of the G9 students in OPEC school plan to continue upper secondary school for 3 years and another 4 or 5 years in university if they can pass entrance university examination. Due to high quality of students in DGE central school, 69.2% of them aim at university level, but some of them expect to face financial problem in the future (Table 14).

Out of 135 students who plan to join vocational school, 41.5% are male students who prefer to major in mechanical engineer and electrical engineer, the remaining 58.5% are female students who plan to major in commerce, business administration, accounting and computer (Table 15).

For those G9 students who plan to continue upper secondary school and the ultimate goal is university level, 38.6% are male students and 61.4% are female students. Most of the students have not yet made the decision about their majors at the university level. Few of them mentioned their choices for engineer, business administration and communication arts (Table 16).

3.6 General Background of G9 Students' Parents

The occupational and educational backgrounds of the parents have significant influence on the current and future education of their children. The future educational opportunities and decision making are also affected by the parents' background.

Out of 407 students who plan to continue higher education after G9, 136 students or 33.4% having their fathers working as government employees, 86 students or 21.1%, 83 students or 20.4%, 48 students or 11.8% and 47 students or 11.6% having their fathers working as private sector employees, general workers, self-employees and agriculturists respectively (Tables 17-18).

Out of 407 G9 students who plan to continue higher education in vocational schools and G10, 129 students or 31.7% having their mothers working as house-wives, 112 students or 27.5% with their mothers are being self-employed, 59 students or 14.5%, 57 students or 14% and

39 students or 9.6% having their mothers working as government employees, general workers and agriculturists respectively (Tables 19-20).

From occupational point of view, being government employees seem to be popular among the people because it is very secured with a lot of fringe benefits and it can generate stable income to the family. In case of DGE central school and OPEC school located in urban areas, more than 40% of the students are from families which the heads of families work in the government sector. Where as in DGE branch school located in rural poor areas, more than 70% of the students having heads of the families involve in the agricultural sector. For ONPEC school located in rural areas and Municipal school for urban poor, more than 40% of the students having heads of the families earn their income being general workers (Tables 17-18).

In case of 50 dropout students, the majority of them have the heads of the families earn the living as general workers or involve in agricultural sector, very few of them come from families having their parents working as private sector and government sector employees (Tables 21-22).

Educated or high income parents tend to support their children for higher education. The parents of DGE central school and OPEC school students are comparatively more educated as compared to the students' parents of DGE branch school, ONPEC school and Municipal school.

Out of 407 students who plan to continue vocational schools or G10, 157 students or 38.6% having fathers with primary education background, 9.6%, 15.5% 9.6%, 9.8%, 16.7% have completed lower secondary, upper secondary, certificate, diploma, bachelor and above levels respectively. The percentages of parents completed bachelor degree or above are 21% in DGE central school and 23.5% in OPEC school (Tables 23-24).

Tables 25-26 show that out of 407 students 211 or 51.8% have their mothers with primary education background, 48 or 11.8% have completed bachelor degree or above. It is interesting to note that up to the level of primary school graduates the number of female parents is more, on the other hand from the level of lower secondary graduates up to bachelor degree graduates or higher, the number of male parents is higher, in other words the male parents are more educated than female parents (Table 27).

3.7 The Reasons for Dropout After G 9

From Table 12 out of 457 students 10.9% or 50 students are expected to dropout after completing G9 and the majority of them are the students of ONPEC school and DGE branch school.

The most serious problem that causes students to dropout is "financial problem", 26

students out of 50 or 52% of the dropouts realize definitely that it is impossible for their parents to provide financial support for their higher study. The financial problem is quite common in DGE branch school which located in rural poor area and also in the case of ONPEC school located in rural area. The other reasons for dropout are incapability of study, no support from parents and no willingness to continue study (Table 28).

3.8 G 9 Students and Families' Financial Problem

Out of 50 dropout students 26 or 52% have financial problem to the extent that they cannot continue their study. In fact the number of students who have financial problem is much higher than 26, but some of them already have solutions for their problem before deciding to go for higher study, some still do not know how to solve their problem but they are determined to continue their study.

Table 29 shows that out of the total surveyed 457 students including 50 students who already have definite plan to dropout, 100 students or 22% have financial problem, 2 families out of 4 or 50%have financial problem due to the dead fathers. Agriculture generates low and unstable income which causes 28 out of 59 or 47% of agricultural families having financial problem. Due to legal minimum wage rates general workers can earn higher income as compared to agriculturists, but the income of general workers is rather seasonal and unstable, the result is 37 out of 109 or 34%of the general worker families having financial problem. For self-employed, private sector employees and government employees 14%, 12% and 9% having financial problem respectively. In case of public enterprises which provide better pay-scale, fringe benefits and security for their employees, therefore, they do not suffer from financial problem.

3.9 Solutions for Solving Financial Problem

Out of 457 G9 students, 100 students expect to face financial problem in their higher study. 49% still have no answer for their problem and most of them plan to dropout, 27% plan to borrow from Government Educational Fund, 13% hope to get scholarship, 9% plan to borrow from relatives and 2% expect to borrow from financial institutions (Table 30).

3.10 Influential Persons on Students' Decision Making Process

The students' decision making process is influenced by many people they involve with. Besides their own judgement about the future plan and education, the fathers, the mothers, the teachers, relatives and friends also have some influence on the decision making. Moreover, each student can reach the conclusion under the advice and influence of many people simultaneously. From Table 11, out of 457 students in G9, 59% are female students

and 41% are male students, naturally basing on the frequencies of answer the most influential person on the students' decision making process is "the mother" then the father, own judgement, relatives, teachers respectively and the least influential person is "friends". From the frequencies on "own judgement" it may be concluded that students in DGE central school and OPEC school are more mature and independent (Table 31).

3.11 Students' Preference Type of Work After Graduation

The G9 students with an average age of 15 years old are too young and too soon to choose their occupation. However, the level of income, fringe benefits, security and independence are also taken into cosideration while choosing the future occupations. Moreover, the people around the students also have a lot of influence on the students' decision making process. Out of 457 students in G9, 170 students or 37% still have no idea yet. 107 students or 23% prefer self-employed work, they plan to set up their own small business. 90 students or 20% plan to become government employees. 76 students or 17% wish to work as private sector's employees. Out of 59 agricultural families (Table 29) only 5 students or 1% plan to continue working in the farm. Similarly out of 109 families (Table 29) earning their living as general workers only 9 students or 2% will remain as general workers after graduation. Students in different types of school have different attitudes toward the future occupations. In case of DGE central school and Municipal school government employee is the most popular occupation among the students due to urban environmental atmosphere. For OPEC school 115 out of 457 or 25% of students come from self-employed families, naturally the students will follow their parents in doing business and some students will shift from other occupations to start their own small business, so 61 students or 41% of OPEC school students wish to be self-employed after graduation (Tables 32-33).

4. Recommendations

Thailand emphasizes human resources development during the Eighth National Plan, the objective is to upgrade the quality of the labor force in order to increase the productivity of agricultural, industrial as well as service sectors. The ultimate goal is to move the country up to a higher level of technology and to be more competitive in the world market. Twelve year of basic education seems to be needed for absorbing new technology. From the general field survey in Korat during December 1996 several problems were identified. Most of the problems are caused by limited government financial resources which the final effect is people's low income level and low quality of life. Under the government financial constraint, certain measures or adjustment can be implemented to improve the efficiency of the existing

measures.

4.1 Improvement of the Existing Loanable Fund for Education

From the general field survey in Korat during December 1996, 22% of the students have financial problem. The government is aware of this problem and tries to solve the problem by setting up Government Educational Fund or Loanable Fund for Education (LFE) in 1996. The total budget of 3,000 million baht was allocated to provide educational loans, the Ministry of Education supervises 1,800 million baht and the remaining 1,200 million baht are under the supervision of Ministry of University Affairs. The aim of LFE is to improve the life quality through education.

Students who are eligible to apply for loans from LFE must have the following qualifications :

1. The family annual income must be less than 120,000 baht.
2. Never complete Bachelor Degree level in any field.
3. Not a permanent employee during study.
4. Never have bankrupt record.
5. Not in prison during applying.
6. Outstanding educational records and pass the evaluation process.
7. Must study between G10 and Bachelor Degree level in Thailand.

While applying for loan from LFE, the students' parents must act as guarantors and the actual annual income must be certified either by government official (PC5 or higher), school administrator or local leader (village headman). The Ministry of Finance will allocate the budget for LFE each year through Krung Thai Bank. The Ministry of Education and Ministry of University Affairs in cooperation with Krung Thai Bank will handle the operational function. If loan is approved, 3 sets of agreement between the educational institution and the students' parents will be prepared. Ministry of Finance, Krung Thai Bank and the student each party will keep one copy of the agreement. The school will act on behalf of Ministry of Finance and keep one duplicated copy. For upper secondary school student in Bangkok, the annual loan will be 10,440 baht, in case of outside Bangkok areas the annual loan will be 8,600 baht. At university level the amount of loan will vary according to the field of specialization. Once loan is approved, it will be provided continuously until the student graduates at Bachelor Degree level. Loan consists of two parts, for tuition fees will be transferred from Krung Thai Bank directly to the school's account, as for housing and living expenses monthly transfer from Krung Thai Bank to the student's account will be arranged. The student performance must be reported to Ministry of Finance every academic year and any changes in the student status must be informed to Ministry of Finance within 15 days.

The repayment of debt starts right after graduation or 2 years after losing the student status. The student must pay back all the debt, including 1% interest per annum, within 15 years (Table 34).

The whole process of applying for loan at LFE is too complicated and takes too long for approval. Moreover, the family annual income limit 120,000 baht is too low. The result is very few students in each school are qualified for educational loans. According to the New Constitution effective from 11 October 1997, the government is suppose to provide 12 year free education. The students need not pay the tuition fees but they still need to bear other expenses such as transport, books, stationary, uniforms, lunch, etc. which most of the parents cannot afford to pay. Therefore, the process of applying for loan should be simplified and shortened. The family annual income limit should be increased to 180,000 Baht to be more practical and realistic. The repayment period should be shortened to 10 years, which will generate more revolving fund to provide more loans for new applicants.

4.2 Special Emphasis on Agricultural an Industrial Development

Families involve in agricultural sector normally earn low income due to scarcity of water for agriculture, low productivity, old method of production, small surplus, low bargaining power, inefficient agricultural cooperatives and low prices of output. Similarly general workers also earn unstable and low income. Therefore, the government should control the agricultural production in irrigated areas and adopt price guarantee scheme for main economic crops. Industries should be decentralized from Bangkok by providing government incentives and appropriate skill training. In the long-run if the agriculturists and general workers can earn higher income, financial problem should not occur while sending their children for higher education.

4.3 Improvement of the Quality of Non-Formal Education

Under the current system those who cannot attend formal education they can join non-formal education classes during the weekend and can obtain G12 certificate after passing the examination. The problem is the standard of such examination is so low that even G9 students can easily pass. Those who graduate and hold the high school certificates issued by the Department of Non-Formal Education do not possess the standard quality of normal high school graduates, educational or training process later on may lead to a high degree of failure. The Department of Non-Formal Education must improve the standard by making the curriculum more intensive.

4.4 Participation of Private Sector in Skill Development and Training Process

There are quite a number of private and government Vocational Training Institutes, still Thailand is facing critical shortage of skilled labor. With JICA support the Thai government has set up Skill Development Centers in provincial areas, originally all expenses were born by the government. Each center can produce limited number of skilled labors for private sector. Now the private sector must participate in the training process and play more role in financing the training cost. Private sector can involve directly in the training process or indirectly by bearing part of the training cost or providing fund for skill development training.

4.5 Private and Government Educational Institutions Support

Besides tuition exemption, both private and government educational institutions can support students who have financial problem by providing scholarship or free lunch. Due to government regulations, it is difficult for private and government educational institutions to raise fund, but for the alumni association it is more flexible and can easily raise fund to support poor students. The educational institutions which own some income generating properties should set up the policy of providing scholarship for poor students with average academic performance, with the condition that after graduation they must not work in Bangkok. This policy of giving educational opportunities for poor students in rural areas can help the whole family and also the students' future generations.

5. Concluding Remarks

The main objective of the Eighth National Plan is to emphasize "human resources development". The reason behind the scene is that Thailand has to upgrade its level of technology and move to a higher level of technology to be ahead of the neighboring countries and also to be more competitive in the world economy. The new technological transfer will need a better quality of labor force. The old policies of six or nine year education seem to be insufficient to support the country to move up the technological ladder. According to the New Constitution effective from 11 October 1997, twelve year free education will be provided by the government. In reality, besides the tuition fees there are other expenses which the students have to bear the burden, such as transport cost, books and stationary, uniforms, lunch etc. .The twelve year free education concept will never become successful if the students' families have financial problem.

A general field survey was conducted in Nakhon Ratchasima on December 1996 to find out the prospects of twelve year education. Five different types of school were selected by

random sampling, they differ in terms of jurisdictions, locations, financial status, reputations and educational standard. Questionnaires were distributed to 457 G9 students of the five schools, questionnaires were collected and mailed back by the teachers after one week. Out of 457 students, 100 students or 22% have financial problem and 50 students or 10.9% the financial problem is so serious to the extent that they have to dropout of the schools after G9, the highest percentages of dropout will be students in ONPEC school 46.4% and 33.3% in DGE branch school. 47% and 34% of the students from agricultural sector and general worker families have financial problem respectively. Moreover, out of 100 students having financial problem, 49% still have no idea how to solve the problem, 27% plan to borrow from Loanable Fund for Education (LFE) set up by the government in 1996, 13% plan to solve the problem by applying for scholarship and 9% will get loans from relatives. For 407 transit students, 135 students or 33.2% plan to join vocational schools and the remaining 272 students or 66.8% plan to continue G10 with the ultimate goal of joining university level. The most influential persons on the students' decision making are "the mother" then the father, own judgement, relatives, teachers and the least influence is "friends". Out of 457 students, 170 students or 37% still have no idea about their future occupation and the highest percentage is the students in DGE branch school. 23% prefer to be self-employed, 20% plan to become government employees, 17% will work for private sector, 2% will become general workers and only 1% will remain as agriculturists.

In order to promote twelve year education, the process of applying for loans at LFE must be simplified. To be more practical, realistic and consistent with the cost of living the annual family income ceiling to be qualified for educational loans should be increased to 180,000 baht and the repayment period should be shortened to 10 years. At the same time the government must develop agriculture as well as decentralize industries to provincial areas, in the long-run it will improve the people living condition and reduce the financial problem that obstructs sending their children for higher education. The government must upgrade the standard of Non-Formal Education to the level that the graduates are able to absorb new technological transfer. Government and private sectors must cooperate and share the training costs. The government and private educational institutions should create opportunities for higher education and training for the rural poor.

References

Chalongphob Sussangkarn, "Labour Markets," in Peter G. Warr, *The Thai Economy in Transition*, Cambridge University Press. 1993.

Kitti Limskul, "*Nakhon Ratchasima Investment Plan : Investment Potentials*" Report presented to Nakhon

Ratchasima Provincial Office, Ministry of Interior and The National Economic and Social Development Board (NESDB). 1994.

Phaisal Lekuthai, "Agricultural Marketing in Northeast Thailand," *Phase I Academic Report : The Joint Study Project for Integrated Small-scale Rural Development in Northeast Thailand*, JICA. 1981.

Phaisal Lekuthai, "Agricultural Production and Marketing in Northeast Thailand," *Interim Report : The Joint Study Project for Integrated Small-scale Rural Development in Northeast Thailand*, JICA. 1981.

Phaisal Lekuthai, "Agricultural Marketing : Causes of Low Agricultural Prices to Farmers in Northeast Thailand and Future Prospects," *Interim Report : The Joint Study Project for Integrated Small-scale Rural Development in Northeast Thailand : Analytical Consideration*, JICA. 1982.

Phaisal Lekuthai, "Agricultural Production and Marketing Data in Northeast Thailand : Paddy, Tapioca, Indebtness, Sources of Finance, Storage and Delivery Process," *Basic Socio-economic Statistics : The Joint Study Project for Integrated Small-scale Rural Development in Northeast Thailand*, JICA. 1983.

Phaisal Lekuthai, "*Existing States of Agricultural Production and Marketing in Northeast Thailand*", Report presented to the Third International Symposium on the Experience of Rural Development in Seto Inland Sea Region and the Model of Integrated Small-scale Rural Development in Northeast Thailand, Kyoto University. 1984.

Phaisal Lekuthai, "*Agricultural Production Plans for Pilot Village No. 1 in Khon Kaen Province*", Report presented to the International Symposium on Integrated Small-scale Rural Development in Northeast Thailand, JICA. 1985.

Phaisal Lekuthai, "*The Economic Feasibility Studies of Agave Production and Its Effects on Thai Farmers in Northeast Region*", Thai Government Project. 1989.

Phaisal Lekuthai, "*Improvement of Rice Productivity by Sesbania in Drought-Stricken Saline Areas*", Experimental Research supported by Thai Government. 1993.

Phaisal Lekuthai, "*Nakhon Ratchasima Investment Plan : Agricultural Production Plan and Handicraft*", Report presented to Nakhon Ratchasima Provincial Office, Ministry of Interior and The National Economic and Social Development Board (NESDB). 1994.

Phaisal Lekuthai, "*Rural Development Planning : A Case Study of Korat Province in Thailand*", Forum of International Development Studies, Graduate School of International Development, Nagoya University. 1996.

Prapant Svetanant, "*Nakhon Ratchasima Investment Plan : Water Resources Development Plan*", Report presented to Nakhon Ratchasima Provincial Office, Ministry of Interior and The National Economic and Social Development Board (NESDB). 1994.

Prapant Svetanant, "Rural Development in Northeast Thailand Toward the Year 2000" in *Thai Economy Towards the Year 2000*, Edited by Prapant Svetanant and Toshiaki Hayashi, Institute of Developing Economies (IDE), Tokyo. 1994.

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1) Nakhon Ratchasima Investment Plan, Faculty of Economics, Chulalongkorn University, 1994.

2) Kitti Limskul, Nakhon Ratchasima Investment Plan, Faculty of Economic, Chulalongkorn University, 1994.

Table 1 Nakhon Ratchasima Population Classified by District (December 1995)

District Name	Male Population	Female Population	Total Population	No. of Households	No. of Villages	No. of Subdistricts
1. Muang	120,069	111,285	231,354	58,481	213	24
2. Khon Buri	45,828	46,343	92,171	23,062	113	12
3. Soeng Sang	30,981	30,234	61,215	14,780	73	6
4. Khong	38,941	40,006	78,947	14,395	126	10
5. Ban Luam	10,915	10,980	21,895	4,098	34	4
6. Chakkrarat	47,796	48,224	96,020	19,928	158	13
7. Chok Chai	34,589	36,109	70,698	16,371	119	10
8. Dan Khun Thot	60,094	60,649	120,743	26,342	182	16
9. Non Thai	59,391	61,221	120,612	23,349	190	15
10. Non Sung	47,437	48,906	96,343	18,018	175	15
11. Kham Sakae Saeng	20,510	21,107	41,617	8,254	65	7
12. Bua Yai	57,712	58,414	116,126	21,366	211	19
13. Prathai	36,874	37,035	73,909	14,149	144	13
14. Pak Thong Chai	56,873	58,094	114,967	24,509	178	16
15. Phi Mai	63,586	64,421	128,007	25,795	165	12
16. Huai Thalaeng	38,752	38,179	76,931	13,770	114	10
17. Chum Phuang	54,298	54,863	109,161	22,155	164	13
18. Sung Noen	35,852	36,775	72,627	16,702	105	11
19. Kham Thale So	13,597	13,706	27,303	5,749	44	5
20. Sikhiu	58,498	57,882	116,380	28,277	155	12
21. Pak Chong	64,667	62,840	127,507	38,467	173	12
22. Nong Bun Nak	26,709	26,814	53,523	11,883	98	9
23. Kaeng Sanam Nang	19,280	19,491	38,771	7,557	49	5
24. Non Daeng	12,220	12,801	25,021	4,895	57	5
25. Wang Nam Khiew	19,695	18,910	38,605	11,728	61	5
26. Sum Nuk Takor	11,439	11,002	22,441	5,223	44	4
27. Muang Yang	13,737	13,676	27,413	5,365	43	4
Maka-Phol Song Karm	10,092	10,469	20,561	3,801	-	-
Non Sung Municipal	5,121	5,353	10,474	2,181	-	-
Bua Yai Municipal	8,197	8,392	16,589	4,222	-	-
Pak Chong Municipal	19,621	20,395	40,016	13,018	-	-
Korat Municipal	87,264	92,620	179,884	49,801	-	-
TOTAL	1,230,635	1,237,196	2,467,831	557,691	3,253	287

Source : Nakhon Ratchasima Provincial Office

Table 2 Comparison of Employment Status in Nakhon Ratchsima

Employment Status	1991		1995	
	Number	%	Number	%
Employed				
- Non-agricultural	430,175	32.21	655,240	45.17
- Agricultural	880,114	65.90	723,638	49.88
Sub-total	1,310,289	98.11	1,378,878	95.05
Unemployed	25,241	1.89	71,809	4.95
TOTAL Labor Force	1,335,530	100.00	1,450,687	100.00

Source : Nakhon Ratchasima Provincial Labor Office

Table 3 BOI Privilege Projects in Northeast Thailand Classified by Size of Investment

1995

Province	Sizes of Investment (unit : million baht)					Total No.
	<20	20-100	100-500	500-1,000	>1,000	Projects
1. Khon Kaen	2	9	4	-	-	15
2. Chai Yaphum	-	2	-	-	-	2
3. Nakhon Phanom	-	1	-	-	-	1
4. Nakhon Ratchasima	20	38	22	4	4	88
5. Buri Rum	2	2	1	-	-	5
6. Maha Sarakham	1	1	-	-	-	2
7. Mukdahan	2	1	1	-	-	4
8. Yasothon	1	-	1	-	-	2
9. Roi Et	2	3	1	-	-	6
10. Loei	2	1	-	-	-	3
11. Si Sa Ket	1	-	-	-	-	1
12. Sakhon Nakhon	-	-	2	-	-	2
13. Surin	2	-	-	-	-	2
14. Nong Khai	-	3	2	-	-	5
15. Nong Bua Lamphu	1	-	-	-	-	1
16. Udon Thani	1	3	1	2	-	7
17. Ubon Ratchathani	-	-	3	2	-	5
18. Kalasin	-	-	-	-	-	-
19. Amnat Charoen	-	-	-	-	-	-
Total	37	64	38	8	4	151

Source : Nakhon Ratchasima Provincial Investment Office

Table 4 Number of Educational Institutions Classified by Sector (1995)

School Level	Government	Private	Total
1. Kindergarten	1	34	35
2. Kindergarten - Primary	763	12	775
3. Kindergarten - Lower Secondary	202	12	214
4. Pre-primary - Primary	227	-	227
5. Pre-primary - Lower Secondary	47	-	47
6. Primary	82	-	82
7. Primary - Lower Secondary	1	-	1
8. Lower Secondary	28	1	29
9. Lower Secondary - Upper Secondary	71	-	71
10. Certificate - Diploma	7	12	19
11. Bachelor Degree	3	1	4
12. Master Degree	1	-	1
Total	1,433	72	1,505

Source : Nakhon Ratchasima Provincial Educational Office

Table 5 Number of Classrooms, Students and Teachers Classified by Level of Education

Department/Level	No. of Classroom	No. of Students	No. of Teachers
1. Department of General Education (DGE)			
- Kindergarten & Pre-primary	1	7	1
- Primary	14	147	11
- Lower Secondary	1,668	53,972	2,665
- Upper Secondary	838	31,098	1,374
- Administrative Teacher	-	-	227
Total	2,521	85,224	4,278
2. Office of the National Primary Education (ONPEC)			
- Kindergarten & Pre-primary	2,915	60,970	2,189
- Primary	9,767	220,689	11,980
- Lower Secondary	874	23,661	1,545
- Administrative Teacher	-	-	137
Total	13,556	305,320	15,851
3. Office of Private Education Commission (OPEC)			
- Kindergarten & Pre-primary	411	8,900	352
- Primary	370	14,144	360
- Lower Secondary	108	5,921	204
- Upper Secondary	22	8,412	43
- Administrative Teacher	-	-	63
Total	911	37,377	1,022
4. Municipal			
- Kindergarten & Pre-primary	32	944	34
- Primary	197	5,422	220
- Lower Secondary	29	866	38
- Administrative Teacher	-	-	12
Total	258	7,232	304
5. Department of Vocational Education (DVE)			
- Certificate & Diploma	629	22,625	373
Total	629	22,625	373
GRAND TOTAL	17,875	457,778	21,828
NO. OF STUDENT PER CLASSROOM	26		
TEACHER-STUDENT RATIO		1 : 21	

Source : Nakhon Ratchasima Provincial Educational Office

Table 6 Changes in Korat Economic Structure

(unit : per cent)

Development Periods	Changes in Sector Shares (% per year)		
	Industry	Commerce	Agriculture
1992-1996	7.65	5.50	−5.50
1997-2001	6.60	4.50	−5.75
2002-2006	4.43	3.50	−6.50
2007-2011	2.85	2.50	−7.50

Source : Nakhon Ratchasima Investment Plan

Table 7 Future Trend of Korat Population Growth

Development Periods	Average Growth Rate/Year
1992-1996	1.33%
1997-2001	0.87%
2002-2006	0.98%
2007-2011	0.57%

Source : Nakhon Ratchasima Investment Plan

Table 8 Korat's Comparative GPP Growth Rates

Development Periods	Normal Growth Rates	Strategic Plan Growth Rates
1992-1996	7.40%	8.10%
1997-2001	6.57%	7.24%
2002-2006	6.18%	6.93%
2007-2011	5.42%	6.26%

Source : Nakhon Ratchasima Investment Plan

Table 9 Korat's Comparative Demand for Labor Growth Rates

Development Periods	Normal Growth Rates	Strategic Plan Growth Rates
1992-1996	7.40%	8.10%
1992-1996	9.60%	12.25%
1997-2001	8.29%	10.46%
2002-2006	7.33%	9.05%
2007-2011	6.26%	7.19%

Source : Nakhon Ratchasima Investment Plan

Table 10 Korat Population and Projections Classified by Age Groups

(unit : per cent)

Age Group	1993	1997	2002	2007
below 15	29.84	27.68	25.90	25.69
15-60	62.54	64.14	64.98	64.46
above 60	7.62	8.18	9.12	9.85
TOTAL	100.00	100.00	100.00	100.00

Source : Population Institute, Chulalongkorn University

Table 11 Number of Students Classified by School and Sex

School	Total		Male		Female	
	Number	%	Number	%	Number	%
DGE Central School	148	33	86	19	62	14
DGE Branch School	45	10	24	5	21	5
ONPEC School	56	12	23	5	33	7
OPEC School	149	33	22	5	127	28
Municipal School	59	12	34	7	25	5
Total	457	100	189	41	268	59

Source : December 1996 Korat General Field Survey

Table 12 Dropout and Transition Rates

School	Total Student		Dropout		Transition	
	Number	%	Number	%	Number	%
DGE Central School	148	100.0	5	3.4	143	96.6
DGE Branch School	45	100.0	15	33.3	30	66.7
ONPEC School	56	100.0	26	46.4	30	53.6
OPEC School	149	100.0	0	0	149	100.0
Municipal School	59	100.0	4	6.8	55	93.2
Total	457	100.0	50	10.9	407	89.1

Source : December 1996 Korat General Field Survey

Table 13 Transit Students Classified by Sex

School	Total Transit		Male		Female	
	Number	%	Number	%	Number	%
DGE Central School	143	100.0	83	58.0	60	42.0
DGE Branch School	30	100.0	15	50.0	15	50.0
ONPEC School	30	100.0	11	36.7	19	63.3
OPEC School	149	100.0	22	14.8	127	85.2
Municipal School	55	100.0	30	54.5	25	45.5
Total	407	100.0	161	39.6	246	60.4

Source : December 1996 Korat General Field Survey

Table 14 Transit Students Classified by Type of Schools

School	Total Transit		Vocational Level		Uppem Secondary	
	Number	%	Number	%	Number	%
DGE Central School	143	100.0	44	30.8	99	69.2
DGE Branch School	30	100.0	15	50.0	15	50.0
ONPEC School	30	100.0	19	63.3	11	36.7
OPEC School	149	100.0	29	19.5	120	80.5
Municipal School	55	100.0	28	50.9	27	49.1
Total	407	100.0	135	33.2	272	66.8

Source : December 1996 Korat General Field Survey

Table 15 Vocational Students Classified by Sex

School	Vocational Students		Male		Female	
	Number	%	Number	%	Number	%
DGE Central School	44	100.0	23	52.3	21	47.7
DGE Branch School	15	100.0	8	53.3	7	46.7
ONPEC School	19	100.0	8	42.1	11	57.9
OPEC School	29	100.0	5	17.2	24	82.8
Municipal School	28	100.0	12	42.9	16	57.1
Total	135	100.0	56	41.5	79	58.5

Source : December 1996Korat General Field Survey

Table 16 Upper Secondary School Students Classified by Sex

School	Upper Secondary		Male		Female	
	Number	%	Number	%	Number	%
DGE Central School	99	100.0	60	60.6	39	39.4
DGE Branch School	15	100.0	7	46.7	8	53.3
ONPEC School	11	100.0	3	27.3	8	72.7
OPEC School	120	100.0	17	14.2	103	85.8
Municipal School	27	100.0	18	66.7	9	33.3
Total	272	100.0	105	38.6	167	61.4

Source : December 1996 Korat General Field Survey

Table 17 Number of Transit Students Classified by Fathers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	Other	Total
DGE Central	7	30	64	9	30	1	2	143
DGE Branch	23	7	0	0	0	0	0	30
ONPEC	6	14	1	5	4	0	0	30
OPEC	6	8	62	71	2	0	0	149
Municipal	5	24	9	1	12	2	2	55
Total	47	83	136	86	48	3	4	407

Source : December 1996 Korat General Field Survey

Table 18 Percentage of Transit Students Classified by Fathers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	Other	Total
DGE Central	4.9	21.0	44.7	6.3	21.0	0.7	1.4	100.0
DGE Branch	76.7	23.3	0	0	0	0	0	100.0
ONPEC	20.0	46.7	3.3	16.7	13.3	0	0	100.0
OPEC	4.0	5.4	41.6	47.7	1.3	0	0	100.0
Municipal	9.1	43.7	16.4	1.8	21.8	3.6	3.6	100.0
Total	11.6	20.4	33.4	21.1	11.8	0.7	1.0	100.0

Source : December 1996 Korat General Field Survey

Table 19 Number of Transit Students Classified by Mothers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	House Wife	Total
DGE Central	6	21	25	2	47	0	42	143
DGE Branch	22	7	0	0	0	0	1	30
ONPEC	6	10	0	1	1	1	11	30
OPEC	3	9	32	3	51	1	50	149
Municipal	2	10	2	2	13	1	25	55
Total	39	57	59	8	112	3	129	407

Source : December 1996 Korat General Field Survey

Table 20 Percentage of Transit Students Classified by Mothers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	House Wife	Total
DGE Central	4.2	14.7	17.5	1.4	32.9	0	29.3	100.0
DGE Branch	73.3	23.3	0	0	0	0	3.4	100.0
ONPEC	20.0	33.4	0	3.3	3.3	3.3	36.7	100.0
OPEC	2.0	6.0	21.5	2.0	34.2	0.7	33.6	100.0
Municipal	3.6	18.2	3.6	3.6	23.7	1.8	45.5	100.0
Total	9.6	14.0	14.5	2.0	27.5	0.7	31.7	100.0

Source : December 1996 Korat General Field Survey

Table 21 Dropout Students Classified by Fathers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	Other	Total
DGE Central	0	3	0	0	1	1	0	5
DGE Branch	6	7	0	1	0	0	1	15
ONPEC	6	15	0	3	2	0	0	26
OPEC	0	0	0	0	0	0	0	0
Municipal	0	1	2	1	0	0	0	4
Total Number	12	26	2	5	3	1	1	50
Percentage	24%	52%	4%	10%	6%	2%	2%	100%

Source : December 1996 Korat General Field Survey

Table 22 Dropout Students Classified by Mothers' Occupations

School	Agr	Gen. Work	Gov. Em	Pri. Em	Self Em	Dead	House Wife	Total
DGE Central	0	3	0	0	0	1	1	5
DGE Branch	7	5	0	0	0	0	3	15
ONPEC	5	15	0	1	2	0	3	26
OPEC	0	0	0	0	0	0	0	0
Municipal	0	0	0	1	1	0	2	4
Total Number	12	23	0	2	3	1	9	50
Percentage	24%	46%	0%	4%	6%	2%	18%	100%

Source : December 1996 Korat General Field Survey

Table 23 Number of Transit Students Classified by Fathers' Education

School	Never Attend School	Primary	Lower Secon dary	Upper Secon dary	Certific ate	Diplo ma	Bachelor & Above	Total
DGE Central	0	43	13	25	20	12	30	143
DGE Branch	1	27	2	0	0	0	0	30
ONPEC	0	25	0	2	1	0	2	30
OPEC	0	26	15	33	17	23	35	149
Municipal	0	36	9	3	1	5	1	55
Total	1	157	39	63	39	40	68	407

Source : December 1996 Korat General Field Survey

Table 24 Percentage of Transit Students Classified by Fathers' Education

School	Never Attend School	Primary	Lower Secon dary	Upper Secon dary	Certific ate	Diplo ma	Bachelor & Above	Total
DGE Central	0	30.0	9.1	17.5	14.0	8.4	21.0	100.0
DGE Branch	3.3	90.0	6.7	0	0	0	0	100.0
ONPEC	0	83.3	0	6.7	3.3	0	6.7	100.0
OPEC	0	17.5	10.1	22.1	11.4	15.4	23.5	100.0
Municipal	0	65.4	16.4	5.5	1.8	9.1	1.8	100.0
Total	0.2	38.6	9.6	15.5	9.6	9.8	16.7	100.0

Source : December 1996 Korat General Field Survey

Table 25 Number of Transit Students Classified by Mothers' Education

School	Never Attend School	Primary	Lower Secon dary	Upper Secon dary	Certific ate	Diplo ma	Bachelor & Above	Total
DGE Central	0	62	14	22	14	10	21	143
DGE Branch	5	23	0	2	0	0	0	30
ONPEC	0	26	2	0	1	1	0	30
OPEC	0	56	16	27	7	16	27	149
Municipal	1	44	5	0	1	4	0	55
Total	6	211	37	51	23	31	48	407

Source : December 1996 Korat General Field Survey

Table 27 Number of Parents Classified by Sex and Level of Education

School	Never Attend School	Primary	Lower Secon dary	Upper Secon dary	Certific ate	Diplo ma	Bachelor & Above	Total
Father	1	157	39	63	39	40	68	407
Mother	6	211	37	51	23	31	48	407

Source : December 1996 Korat General Field Survey

Table 28 Number of Dropout Students Classified by Reasons of Dropout

School	Incapable of Study	Not Willing to Continue Study	Having Financial Problem	No Support from Parents	Total
DGE Central	0	1	3	1	5
DGE Branch	2	1	11	1	15
ONPEC	5	1	10	10	26
OPEC	0	0	0	0	0
Municipal	1	1	2	0	4
Total	8	4	26	12	50
Percentage	16.0%	8.0%	52.0%	24.0%	100.0

Source : December 1996 Korat General Field Survey

Table 29 Number of Students Having Financial Problem Classified by Fathers' Occupation

School	Agr.	Gen. Work	Gov. Em	Pri. Em	Self Em	Pub. Ent Em	Dead	Other	Total
DGE Central	2	11	6	1	4	0	1	0	25
DGE Branch	20	8	0	1	0	0	0	0	29
ONPEC	3	7	1	1	1	0	0	0	13
OPEC	1	1	4	0	7	0	0	0	13
Municipal	2	10	2	0	4	0	1	1	20
Total Having Problem	28	37	13	3	16	0	2	1	100
Total Sample	59	109	138	25	115	4	4	3	457
Percentage	47%	34%	9%	12%	14%	0%	50%	33%	22%

Source : December 1996 Korat General Field Survey

Table 30 Number of Students Classified by Sources of Solving Financial Problem

School	Borrow From			Apply	No	Total
	Relatives	Financial Institution	Gov. Edu. Fund	Scholarship	Idea	
DGE Central	4	1	12	1	7	25
DGE Branch	2	0	4	2	21	29
ONPEC	1	0	7	2	3	13
OPEC	0	1	2	1	9	13
Municipal	2	0	2	7	9	20
Total	9	2	27	13	49	100
Percentage	9%	2%	27%	13%	49%	100%

Source : December 1996 Korat General Field Survey

Table 31 Frequencies of Influential Persons on Students' Decision Making Process

School	Father	Mother	Teacher	Relative	Friend	Own Judgement	Other
DGE Central	111	114	65	68	59	112	2
DGE Branch	20	24	18	15	10	14	0
ONPEC	24	27	13	13	14	20	0
OPEC	109	113	31	41	41	115	0
Municipal	43	41	23	30	17	37	0
Total	307	319	150	167	141	298	2

Source : December 1996 Korat General Field Survey

Table 32 Number of Students Classified by Preferred Type of Work

School	Self Em	Gov. Em	Pri. Em	Agr	Gen. Work	No Idea	Total
DGE Central	32	39	29	0	3	45	148
DGE Branch	1	4	8	0	0	32	45
ONPEC	5	5	19	4	4	19	56
OPEC	61	27	12	0	1	48	149
Municipal	8	15	8	1	1	26	59
Total	107	90	76	5	9	170	457

Source : December 1996 General Field Survey

Table 33 Percentage of Students Classified by Preferred Type of Work

School	Self Em	Gov. Em	Pri. Em	Agr	Gen. Work	No Idea	Total
DGE Central	22	26	20	0	2	30	100.0
DGE Branch	2	9	18	0	0	71	100.0
ONPEC	9	9	34	7	7	34	100.0
OPEC	41	18	8	0	1	32	100.0
Municipal	14	25	14	2	2	44	100.0
Total	23	20	17	1	2	37	100.0

Source : December 1996 General Field Survey

Table 34 Annual Repayment of Educational Debt

Year of Making Repayment	Annual Repayment as % of Total Debt
1	1.5%
2	2.5%
3	3.0%
4	3.5%
5	4.0%
6	4.5%
7	5.0%
8	6.0%
9	7.0%
10	8.0%
11	9.0%
12	10.0%
13	11.0%
14	12.0%
15	13.0%
TOTAL	100.0%

Source : Loanable Fund for Education Committee, Ministry of Finance

Universal Secondary Education and Diversifying Educational and Occupational Opportunities in Roi-Et Province, Thailand, 1992-1996

WAKABAYASHI Mitsuru

1. Introduction : Background of the Roi-Et Study

In October, 1992, the Graduate School of International Development (GSID), Nagoya University attempted its first Overseas Fieldwork (OFW) in Roi-Et Province the northeastern region of Thailand, with collaborations provided by offices in Roi-Et Province and Municipality, and faculties of Chulalongkorn University, Bangkok, Thailand. The OFW was designed for the purpose of exposing the GSID students to the field of social and economic development in the Third World nations as a part of the formal training programs of the graduate school (GSID, 1993). In 1992, Roi-Et, one of the poorest provinces in Thai, was chosen as a site for the first OFW attempt. This expedition also provided the present author with an opportunity to monitor the process of implementing the Thai's educational policy for universal secondary education, based on the observation in the rural northeastern Thai province. Follwing after the 1992 survey (Wakabayashi, 1993 ; Wakabayashi and Sukontasap, 1994), the follow-up studies were conducted in 1994 (Wakabayashi, 1994) and 1996. The present report is designed to provid a summary of the 1996 follow-up study on the process of implementing the policy of universal secondary education in Roi-Et Province.

In 1992, the National Economic and Social Development Board (NESDB) presented the basic framework for the Thai's national policies toward economic and social development during the nation's seventh five-year plan period from 1992 to 1996 (NESDB, 1992). In this plan, the extension of educational opportunities from the then six-year primary to nine-year lower secondary education by the end of the 7th Plan period (namely by 1996), was stated as one of the major policy agendas to be achieved by the 7th NESDP. Then, the Plan proposed that the transitional rate from primary to secondary education (from Grade 6 to Grade 7) be 73 percent by the end of 1996 as a target figure for the efforts to realize universal secondary education in Thailand (NESDP, 1992). This target figure was considered rather ambitious considering the fact that the transitional rate from G-6 to G-7 remained very low at 46.2 percent in 1991, relative to the much higher rates in neighboring ASEAN countries, especially in Philippines, Singapore and Malaysia (TDRI, 1991).

In response to this basic national plan, Ministry of Education, Thailand made public its

Seventh National Educational Development Plan (NEDPlan) and declared a more ambitious target saying that basic educational be extended up to nine years throughout the nation by holding the transitional rate from G-6 to G-7 at basically the 100 percent level (Ministry of Education Centenial 1982-1992, Ministry of Education, 1992). According to the Ministry of Education, Thailand, the formation of this policy of universal secondary education represented the Thai's initiative for educational development to follow the goals and missions stated in the "World Declaration on Education for All" proclaimed in Jomtien, Thailand in 1990 (Ministry of Education, 1990).

The present study was designed : (1) to summarize the achievement in Roi-Et efforts to meet the national goals of universal secondary education from 1992 to 1996, and (2) to explore the process of implementing the centrally designed educational policy for universal secondary education at the local level, by observing local activities and practices undertaken in Roi-Et Province, the least developed region located in northeastern Thailand (Lekuthai, 1992). Then, in conclusions, this study tries to identify problems and new challenges engendered as consequences of implementing the Seventh Educational NESDPlan (1992-1996), and (4) present new policy agendas to be tackled in the Eighth Plan from 1996 to 2001.

2. Universalizing Secondary Education in Thailand : 1992-1996

By the early 1980s, universal primary education has been accomplished in Thailand with 96% of corresponding school-aged population attending primary schools (Wheeler & Schwille, 1992). Since then, the Ministry of Education's policy priorities have shifted from the access to primary education to the quality of education as well as the expansion of basic education throughout the period of the Fifth and Sixth NEDPlan (1982-1991). During this period, efforts to improve the qualitative aspects of education included upgrading school curriculum and facilities, improving the quality of school administration, and training teachers and school administrators in delivering quality instructions at the classroom level (Ministry of Education, 1992).

The Seventh National Economic and Social Development Plan (1992-1996) has set a series of economic and social objectives to be achieved during the five-year term of this plan. It emphasized that through the successful attainment of these objectives, Thailand will emerge to the international scene as a newly industrialized country by the year 2000. The Plan expected 8.2 percent overall annual economic growth, 9 percent annual industrial growth, 7 percent real income growth per annum, and 14.7 percent per annum export growth among others as economic expansion targets to meet this national goal (NESDB, 1992). Along with these economic targets, the Plan also emphasized the need for increasing labor efficiency,

together with the promotion of science and technology for boosting productivity. For this purpose, specific targets were addressed covering these human resource development problems by stating among others that (1) basic education be extended and the transitional rate from primary to secondary education be increased to 73 percent, (2) overall employment be increased from 32.02 million jobs in 1991 to 34.85 million jobs in 1996 (of this increase, 20.2 million jobs (58%) will be in the agriculture sector and 14.65 million jobs (42%) in the non-agriculture sector), and (3) to develop the population quality by providing life-long education on both formal and non-formal bases to enable them to adapt properly to the changing economic and social conditions expected to take place for the coming decade.

The human resource requirements for accomplishing these goals set for the Seventh Plan suggested that toward the year 2000 the distribution of workforce would be shifted dramatically from the agricultural sector to the industrial and service sectors by the turn of this century. In other words, the share of workforce in the agriculture sector is expected to decrease from about 61 percent in 1991 to about 48 percent in 2001, while shares for industry and service sectors increase to a great extent, hence in 2001, over 50 percent of the Thai workforce are expected to find their jobs in non-agriculture sectors (TDRI, 1991).

Since industrial and service work requires specialized skills and knowledge compared with agricultural work, at least the lower secondary diploma will be required to be gainfully employed in these sectors. On the other hand, the TDRI report (1991) indicates that 83 percent of Thai's workforce remain at the primary level or less in their educational background, while these percentages are much lower in other Asian countries, even though the data were derived 11 years earlier (1980) in each country : namely, Taiwan 44.0%, South Korea 49.1%, Philippines 56.5%, Malaysia 58.4%, China 62.7% and Singapore 71.3%. In other words, the substantial portion of agricultural workforce whose educational background remain at the primary level or less need to be shifted to the industrial and service sectors with additional education or training given to them, so that skill requirements needed for employment in these sectors will be satisfied.

However, according to the TDRI report in 1991, only about 15 percent of farmers' children become enrolled in secondary education, while about 96 percent of those from the professional and business households, and 24 percent from the laborers' households continue their education to the secondary level (TDRI, 1991). This finding suggests that accelerated secondary enrollment must be implemented rigorously in rural and agricultural communities in Thailand.

3. Implementing Policies for Universal Secondary Education

One of the most important Ministry of Education's policy initiatives to match up with the economic targets set by the Seventh National Plan was to extend the basic education from present 6 years in the primary school to 9 years covering the lower secondary level. While the NESDB proposal sets the target transitional rate from the primary to secondary level as 73 percent to be accomplished by 1996, the Ministry of Education has declared that the transition rate will be 97.5 percent by 1996 (Ministry of Education Centennial 1882-1992) in order to make the extended basic education truly universal and compulsory.

For the purpose of implementing the policy of extending basic education from 6 to 9 years, the following three approaches are programmed at the central government level : (1) to provide secondary education in primary schools which are under the jurisdiction of the Office of the National Primary Education Commission (ONPEC), (2) to expand secondary schools and its branches under the General Education Department (GED), and (3) to increase the secondary enrollment in non-formal secondary schools under the Non-formal Education Department (NED). Based on this principle, each department and respective local office were asked to plan schedules for the extended basic education from 6 to 9 years within their respective administrative jurisdiction.

Implications of these policy decisions can be summarized as follows. First, existing resources can be best utilized for implementing policies on universal secondary education by : (1) utilizing the primary school (ONPEC) teachers and facilities for lower secondary education, in other words assigning primary school teaches to the secondary classes (G-7, G-8 and G-9) attached to the existing primary school program. (2) In the same manner, GED secondary schools are to expand their capacity to take more lower secondary students in their existing facilities or newly opened branch schools to which teachers and instruction materials are to be transferred from their home schools.

Second, at least three administrative organizations within the Ministry of Education, namely ONPEC, GED and NED, in addition to Ministry of Interior that is in charge of municipal primary schools, involve in the implementation of the national policy of universal secondary education. The diversified administrative structure like this may create difficulties in formulating an unified lower secondary education program. Third, relating to the second, differences in the quality of secondary education may result as a consequence of diversified implementing structure.

4. Organizations for Implementing the Universal Secondary Education Program

1) Organizations at the National Level : Ministry of Education

According to the Seventh National Educational Development Plan, three agencies within the Ministry of Education are primarily responsible for implementing extension of basic education from 6 to 9 years : (1) Office of the National Primary Education Commission (ONPEC), (2) General Education Department (GED) and (3) Non-formal Education Department (NED). At the national level, each agency initiated its own extension plan within its jurisdiction. For ONPEC which is in charge of pre-primary and primary education, an extension program was started in 1990 by offering lower secondary education to primary school graduates within its premises. In 1991, there were 1,366 ONPEC primary schools (4.35%) that offered lower secondary education covering Grade 7-9 classes. The number is expected to increase by about 1,000 lower secondary classes (40 pupils per class) every year within the Seventh Plan period (1992-1996). The latest statistics indicate that in 1993, the 69.88 percent graduates from the primary Grade-6 level made transition to the Grade-7 classes in various lower secondary programs (Ministry of Education, 1994).

On the other hand, GED which is responsible for lower and upper secondary education has been stepping up its project for the extended access to the lower secondary level by opening up about 100 secondary schools and 100 branch schools every year throughout the Seventh Plan. Whereas, NED has been working to extend lower secondary education to the out-of-school population who have only 6 years education or less. Non-formal programs offered three learning approaches which are functionally equivalent with formal education so that students in a variety of different circumstances can choose the one most suitable for themselves : (1)evening classes, (2)distance education and (3)self study. The flexible NED programs contributed greatly to achieve goals of universal secondary education in rural area. In addition, other agencies, the Office of Private Education Commission (OPEC). Fine Art Department(FAD) and Department of Religious Affairs within the Ministry of Education are also implementing a respective extension program (Ministry of Education, 1992).

2) Educational Organizations in Roi-Et Province

In Thailand, local educational administration is a reduced-size replica of the national model. Thus in Thailand, the local administration in implementing the national education policies is reported to be centralized, and jurisdictional boundaries between departments or offices remain rigid and are too narrowly defined (Schwille and Wheeler, 1992). Table 1 illustrates a list of educational organizations in Roi-Et Province that correspond exactly to the national organizations. According to Table 1, a large portion, namely 93.5% of primary

Table 1 Roi-Et Educational Institutions and Enrollment: Academic Year 1994

	Total	GED	ONPEC	OPEC	Muni-cipal	VED	FAD	Reli-g ious	NED
Primary Education									
G1	20,746	70	19,813	465	398	—	—	—	—
G2	21,168	71	20,391	337	369	—	—	—	—
G2	21,168	71	20,391	337	369	—	—	—	—
G3	21,687	70	20,910	298	409	—	—	—	—
G4	21,572	70	20,880	262	360	—	—	—	—
G5	22,328	72	21,645	119	412	—	—	—	—
G6	22,917	71	22,310	131	405	—	—	—	—
Total	130,418	424	121,949	1,692	2,353	—	—	—	—
Lower Secondary Education									
G7	19,906	13,786	4,237	55	45	30	36	489	1,228
G8	17,020	11,677	2,970	76	—	75	31	315	1,876
G9	14,531	10,060	2,107	64	—	46	50	327	1,887
Total	51,457	35,523	9,314	195	45	151	117	1,131	4,981
Upper Secondary Education									
G10	7,928	5,525	—	47	—	1,994	36	157	157
G11	5,930	3,205	—	52	—	1,319	34	85	85
G12	5,158	3,205	—	51	—	1,638	45	90	129
Total	19.016	13,095	—	150	—	4,459	115	332	371
Higher Education									
G13-up (Diploma)						2,566	37		

GED=Genral Education Department; ONPEC=Office of the National Primary Education Commission; OPEC=Office of the Private Education Commission; VED=Vocational Education Department; FAD=Fine Art Department; NED=Non-formal Education Department

students are attending schools under the Office of Primary Education Commission (ONPEC). This simply indicates that Roi-Et is a predominantly rural province where private schools (under OPEC) and municipal schools (under Ministry of Internal) are not popular yet unlike the more urbanized areas.

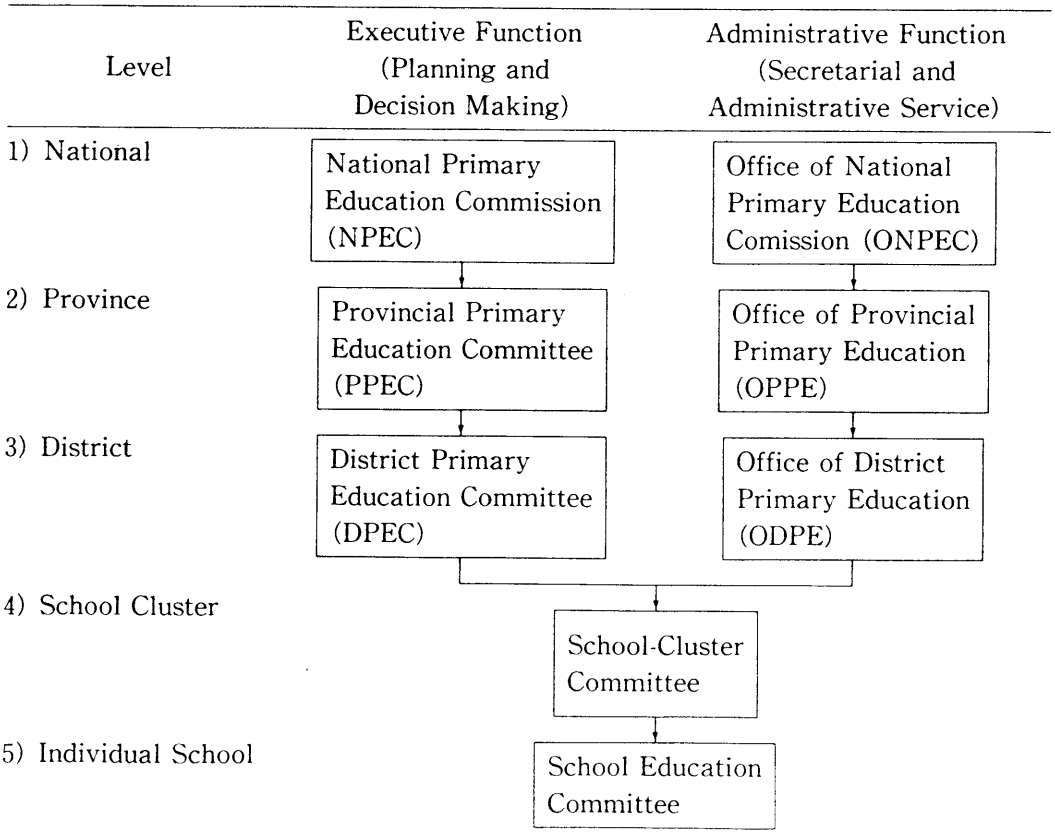
Table 1 indicates that in 1994, the 19,906 students were allowed to study in lower secondary classes (G-7) in Roi-Et, out of 22,917 graduates from the primary level (G-6), rendering the transitional rate from G-6 to G-7 being 86.9%. In Roi-Et, as mentioned earlier the three key secondary institutions remain responsible for universal secondary education as shown in Table 1 : GED by taking up 69.3% of total G-7 students, ONPEC (21.3%) and NED (6.2%). Other institutions contributed remaining 3.2% in total G-7 enrollment.

However, it must be noted that while GED schools could expand existing facilities to accommodate increasing number of G-7 students, ONPEC had to start its lower secondary education all anew since inception of the Seventh Plan in 1992. This posed a major challenge for ONPEC that had been responsible only for primary education in rural areas. For them,

the Seventh Plan meant universal secondary education for rural children. For the effective implementation of universal secondary education policies in rural areas, it is imperative for ONPEC to have well-organized administrative structure for executing required projects at a local level. Figure 1 displays structure of the administrative organization in primary education in Thailand. This is the organization governing the first 6-year education, but since 1992 this became a principal structure to expand the elementary education to cover the lower secondary educational stream, namely Grade 7, 8 and 9 classes.

According to Figure 1, at the national level the National Primary Education Commission (NPEC) sets basic primary education policies. Namely, it formulates primary education development plans, decides on budget allocation, sets academic standards, appoints directors of Provincial and Bangkok Metropolitan Education Office, supervises and approves actions taken by the provincial level committees, renders an advice to Education Minister, and so forth. On the other hand, ONPEC serves as secretariat to the NPEC headed by Secretary General for providing clerical and administrative work to facilitate the NPEC's executive functions (Ministry of Education, 1991).

Figure 1 Local Planning and Administration in Primary Education



Note : Figure 1 was drawn based on Primary Education in Thailand. (Office of the National Primary Education Commission, Ministry of Education, 1991).

At the Provincial Primary Education Committee (PPEC) level, basically the same functions as those played by the national level are executed for provincial primary education involving issues such as : policies, budget allocation, appointment of Heads of District Primary Education Office and principals of primary schools, annual promotion of teachers, supervising and approving actions taken at the district level, and so forth. Likewise, at the district level, the District Primary Education Committee (DPEC) is entrusted to deal with issues relating to : coordinating all administrative activities in primary schools under DPEC, proposing appointment of Directors and principals to PPEC, proposing annual promotion of teachers, and so forth. On the other hand, the school cluster composed of 5 to 6 primary schools with regional proximity is responsible for undertaking administrative and management issues in each cluster in line with policies of NPEC, PPEC and DPEC as follows : (1) formulating school improvement plans and conducting activities required by the higher level committees, (2) approving plans and projects for schools in the cluster, (3) facilitating various activities among schools, and between schools and community, (4) monitoring school teachers' performance and conducts, (5) recommending school budgets and teacher promotions to DPEC, (6) setting work plans and conducting surveys and activities to achieve universal primary education in accordance with the Primary Education Act, (7) evaluating school performance in the cluster, and so forth.

Unlike the above-listed committees governed by the Ministry's rules and regulations, the School Education Committee at the individual school level is organized based on voluntary commitment by teachers, administrators and members of the community in each school. Major functions that the committee plays are : (1) rendering an advice for educational development activities in line with needs of the local community, (2) seeking assistance and cooperation from the general public, government agencies and other institutions for facilitating school development, (3) coordinating activities between the school and community, and government agencies or other institutions for enabling the school to participate in local development activities, and (4) appointing a working group for executing activities assigned by the committee.

According to the Ministry of Education (1991), committees at the national, provincial, district and cluster levels are considered to play supportive mechanisms to individual schools aimed at providing guidance, technical support and supervision for improving school's performance, particularly efficiency in teaching-learning activities at the school level. This is particularly true for the school-cluster committee where all principals and elected teachers from schools in the cluster join to discuss for performing various functions designed to help member schools. Wheeler and his associates (1992) pointed out that school clusters in Thailand represent a management strategy for improving primary school quality measured

in terms of student's performance on the national tests. According to their study, the cluster influence was found to vary by school, depending upon the degree of receptivity to change exhibited by its principal. This finding indicates that if and when decentralization of school administration is to be operationalized successfully at the school cluster level by inviting individual schools for pursuing the more autonomous and efficient utilization of local educational resources, the individual school will be asked to acquire more accountability in the achievement of academic goals and more capacity-building functions in adapting to the environmental changes (Wheeler, et. al., 1992). Otherwise, the centralized command and supervision always remain presiding over the school level decisions and activities.

The above argument on the administrative process of educational policies suggests that decentralized administration for project implementation and resource utilization at local (i. e., cluster and school) levels constitute one of the critical conditions for the successful accomplishment of the national policies for universal secondary education. Because, centralized structure has a weakness when it comes to deal with various needs and problems specific to the local conditions. These local problems must be solved by the initiatives of the community people concerned with the appropriate means of problem solving being provided for the local discretion.

In Roi-Et Province, one of the most difficult problems for implementing the national policy of extension of basic education is the shortage of budget. Many problems that demand extra budget expenditure were found on the way to bring rural primary school graduates to the lower secondary school. Especially, rural students without sufficient funds to continue their education needed to be encouraged to come to the secondary school through the provision of : in-school accommodations, free school uniforms, free school lunches, textbook lending, scholarships, exemptions from supplementary school fees, bicycle lending for commuting, and so forth. Those are the problems that confront school clusters and individual schools in their efforts to open secondary classes within their community.

5. Universal Secondary Education in Roi-Et : Achievement in 1992-1996

1) Transitional Rate from G-6 to G-7

Faced with the lower secondary enrollment rate far lagged behind the national average in 1992, an accelerated program for opening the Grade 7 classes was initiated by the Roi-Et Educational Office. According to their prediction, students graduating from the primary school reached the peak in 1992 (24,875 students). However, the number of graduates are expected to decrease gradually toward the end of the Seventh Plan (22,170 students). Being helped by this declining trend of school age population, not only in Roi-Et but also across

Thailand, the capacity of enrollment for lower secondary education was allowed to expand in a accelerated manner year by year by opening new Grade 7 classes in formal (ONPEC, GED, Municipal and OPEC schools) as well as non-formal educational systems in Roi-Et. According to their plan, if this accelerated enrollment plan is to be implemented successfully, the transitional rate from Grade 6 to Grade 7 would reach 98.0 percent by the end of the Seventh Plan (Wakabayashi and Sukontasap, 1994).

Table 2 displays that in 1991 there were 11,323 students enrolled in Grade 7 in Roi-Et under the five different jurisdictions in the Ministry of Education. On the other hand, the number of students who finished the primary school (Grade 6 graduates) reached 24,830 in the same year. As a result, the transitional rate from G-6 to G-7 remained at the low level, 45.5 percent in Roi-Et. This transitional rate is roughly ten percent lower than the 1991 national average(54.78%), suggesting that Roi-Et had a long way to go to accomplish the Seventh Educational Plan target. However, Table 2 indicates that the accelerated openings of new G-7 classes has surpassed the original plan, and thus transitional rates outperformed the initially set target figures up to 1994.

Clearly, some policy change intervened in the process in 1995 to decelerate the universal-

Table 2 Transitional Rate and Increases in G-7 Enrollment in Two Major Secondary Tracks : ONPEC and GED Schools from 1991 to 1996 in Roi-Et Province

Secondary Tracks	1991	1992	1993	1994	1995*	1996*	1991 = 100
(1) G-6 Graduates							
	24,830	24,885	23,960	23,046	22,875	22,170	89
(2) G-7 Enrollment							
Total	11,323	16,593	18,145	19,876	19,741	19,443	172
ONPEC	1,155	2,290	3,005	4,237	4,322	4,854	420
GED	9,273	10,251	11,705	13,786	13,886	13,018	140
Others	895	4,052	3,435	1,853	1,533	1,571	175
(3) Not in Schools after G-6							
	13,507	8,282	6,343	3,170	3,134	2,727	20
(4) Transitional Rate (%) to G-7 : (2)/(1)							
	45.5	66.7	75.7	86.2	86.3	87.7	—
(5) Transitional Rate (%) Planned in 1992 as Target							
	45.5	56.0	68.0	79.5	90.0	98.0	—

ONPEC : Office of National Primary Education Commission
GED : General Education Department
Others include: Municipal, Private, Religiou, Art and Non-formal lower secondary schools in Roi-Et Province.
* : Figures may subject to minor changes after adjustments in official statistics.

Table 3 Transitional Rate (%) from G-6 to G-7 in Roi-Et Municipal Schools (1993-1995)

Schools	1993			1994			1995		
	G-6	G-7	%	G-6	G-7	%	G-6	G-7	%
A*	151	15	100.0	132	132	100.0	171	169	98.8
B	58	49	84.5	79	68	86.1	51	49	96.1
C	55	46	83.6	68	50	73.5	38	29	76.3
D	58	47	81.0	43	42	97.7	50	42	84.0
E*	45	40	88.9	48	47	97.9	38	38	100.0
F	56	45	80.4	61	60	98.4	48	46	95.8
G	18	12	66.7	17	12	70,6	19	16	84.2
Total	441	390	88.4	431	401	93.0	415	394	94.9

* : Schools started their own lower-secondary (G-7) classes.
Source : Roi-Et Municipal School Office (1996)

ization to keep it remaining basically at the 1994 level in Roi-Et. Educational officers in Roi-Et mentioned that Roi-Et achievement in universalizing secondary education reached above the expected level in 1994 already that the intermediate adjustment was necessary, especially with the slower pace of universalization at the national level. Thus the apparent stagnation in the process of accelerated opening of G-7 classes in Roi-Et as shown in Table 2 can be attributable to the central control to attenuate and equalize the processes of universal secondary education across provinces in Thailand. This interpretation, however, will need further scrutiny. Anyway, by 1996 approximately 90 percent children who could complete the Grade 6 education proceeded to the secondary level education in Roi-Et. This result should be considered to be the great achievement.

Table 2 indicates that out of total G-7 enrollment in Roi-Et, GED schools captured 61,8%, 64.5%, 69.4%, 70.3% and 67.0% students in 1992, 1993, 1994, 1995 and 1996 respectively. On the other hand, ONPEC schools admitted 13.8%, 16.6%, 21.3%, 21.9% and 25.0% students for the corresponding year. Other schools in which the Non-formal Education Department played a dominant role, enrolled 24.4% G-7 students in 1992, then gradually reducing the number of new enrollment toward the end of the Seventh Plan, e. g., 12.3% in 1996. These results indicate that throughout the Seventh Plan period from 1992 to 1996, the existing secondary (GED) schools could absorb up to 70 percent G-6 graduates by expanding given facilities or by newly opening branch schools, but approximately 20 percent G-6 graduates had to be taken care of by ONPEC schools, and the remaining 10 percent by non-formal education and others. An interesting question can be raised whether this division of burden for universalizing secondary education could be maintained through the next five-year plan period (1996-2001), or ONPEC secondary schools would be absorbed by the GED system

eventually or vice versa. Since the two systems, GED and ONPEC, are so different that the dual secondary education system might result, if the present structure is allowed to exist ; One is an academically oriented general education system, while the other a non-academic middle school system for vocational orientation students.

According to Table 2, not-in-school population out of G-6 graduates have dramatically reduced since the start of universal secondary education programs : namely 54,4%, 33,3%, 26.5%, 13,8%, 13.7% and 12.3% respectively for the year between 1991 to 1996, By 1996, those who cannot attend the Grade-7 classes have reduced to the 20 percent level of the 1991 figure. This is a great achievement. According to the Roi-Et statistics, out of this 12.3 percent non-attending youths in 1996, 7.1% are those helping parents, 4.0% employed and 1.2% self-employed (Roi-Et Educational Office, 1996). Although universal secondary education steadily prevails in the rural Roi-Et, more than 10 percent children coming out of G-6 classes still remain out of the school as helping hands in the household or on the farm field.

Table 3 displays a pattern of transitional rate changes from 1993 to 1995 in seven municipal schools in Roi-Et. Municipal school students constitute only 1.8 percent in primary school population in Roi-Et Province (see Table 1). Like ONPEC schools, municipal schools have primary programs only, thus they had been asked by their super ordinate office, Ministry of Interior, to open secondary classes within each school. Table 3 indicates that only two schools out of 7 started secondary education in Roi-Et Municipality, but by 1995 approximately 95 percent G-6 graduates from municipal schools could find secondary education (G-7) elsewhere, mostly in nearby GED schools. Teachers in school A and E said that graduates of municipal schools are generally performing better and have no problem in passing the entrance examination to GED schools, but they started their own secondary classes to establish higher academic standards for secondary education in municipality.

In summary, the transition from primary (G-6) to secondary (G-7) education has been accomplished rather successfully in Roi-Et Province throughout the 1992-1996 period as Table 2 and 3 indicate. Tentatively, it seems that about 88 percent G-6 students could find G-7 classes in GED, ONPEC, Non-formal or other schools to continue their study at the lower secondary level. The transitional rate from G-6 to G-7 is much higher than that proposed by the NESDB at the start of Seventh Five Year Plan, but lower than what was envisaged by Ministry of Education, Thailand in 1992. The present result may reflect a compromise between planning and implementing capabilities, or an equality consideration among provinces across Thailand, but for Roi-Et Province constitutes a great success.

2) Quality of Education in Extended Schools

Results on transitional rates as shown in Table 2 only indicate quantitative achievement.

Table 4 Attendance and Drop-out Ratios at the Lower Secondary Level (G7-G9) in Roi-Et ONPEC Schools (1995)

Grade	Enrollment	Attendance	Drop-out
G-7	3,995(100%)	3,822(95.7)	133(4.3)
G-8	3,782(100%)	3,673(97.2)	109(2.8)
G-9	2,714(100%)	2,687(99.0)	30(1.0)
Total	10,451(100%)	10,179(97.4)	272(2.6)

Source : Roi-Et Educational Office (1996)

The quality of education in extended schools, especially in ONPEC secondary schools is a different story. As a matter of fact, concerns were pondered that hastened universal secondary education could jeopardize the quality of education in newly opened classes (Wakabayashi and Sukontasap, 1994).

First, Table 4 shows that the wastage in terms of drop-out seems minor in newly opened secondary classes in ONPEC schools. Although drop-outs are relatively large in number in the first year (7 th grade) of ONPEC secondary education (4.3%), the percentages decrease dramatically in 8 th and 9 th grades. This result may suggest that secondary schools have got public acceptance in rural Roi-Et and both parents and pupils appreciated the value of continued education beyond the primary level. It is true that the provincial education office and school teachers and principals in the community worked very hard to persuade parents to send their children to the secondary school when new classes were opened there, and this campaign contributed to achieving the high transitional rate from G-6 to G-7 (Wakabayashi, 1995). However. sustained attendance throughout the secondary program must depend on the value of education conceived by the students as well as their parents (Wakabayashi and Sukontasap, 1994).

Secondly, Table 5 displays enrollment and wastage in GED schools in Roi-Et. As was discussed already in Table 1, GED schools admitted G-7 students in large numbers since 1994, namely between 65 to 70 percent out of total G-6 graduates. Wastage percantages can be computed by comparing enrollment between successive years and grades : for example between the 1994 G-7 enrollment (13,786) and the 1995 G-8 enrollment (13,050), and between the 1995 G-8 (13,050) and 1996 G-9 (12,668), These comparisons revealed that the 1994-1995 wastage is 5.3 percent, and that of the 95-96 is 2.9 percent for G-8 and G-9 transition, and 2.7 percent for G-7 to G-8 transition. These statistics suggest that wastage due to dropouts in GED lower secondary schools is less than 5 percent (2 to 3 percent mostly), although a large number of G-7 students had to be admitted to meet the goals of universal secondary education in Roi-Et.

Table 5 Enrollment at the General Education Department (GED) Schools in Roi-Et (1995-1996)

Year	Lower Secondary			Upper Secondary			Secondary Total
	G-7	G-8	G-9	G-10	G-11	G-12	
1994	13,786	11,677	10,060	5,535	4,355	3,205	48,618
1995	13,886	13,050	11,305	6,995	5,119	4,221	54,576
1996	13,018	13,501	12,668	7,680	6,712	4,869	58,647

Source : Roi-Et General Education Department, 1996

Table 5 also provides figures to compute transitional rates from G-9 to G-10 in GED schools. Namely in 1995, the 6,995 students were enrolled in G-10 classes out of the 10,060 students enrolled in G-9 classes during the 1994 period, indicating that the G 9/G 10 transitional rate is 69.5 percent for this time period. Likewise, 1995/1996 transition was found to be 67.9 percent. These percentage figures suggest that in GED secondary schools, roughly 70 percent students continue education through the lower to upper secondary levels, thus making the entire six-year secondary education to be a continuous program within the GED secondary organization. However, more than 30 percent students stayed out of the upper secondary education, either to work or to study in vocational schools after completing the lower secondary level (G9) in GED schools.

3) Academic Performance in ONPEC Lower Secondary Schools

The quality concerns with the extended secondary schools were severer in ONPEC schools due to several important reasons as follows (Wakabayashi and Sukontasap, 1994). (1) ONPEC schools that have been specialized in primary education lack resources (qualified teachers and facilities) for secondary education. (2) Students were not quite prepared academically for the secondary education ; Most of them have been expected for the world of work, but not for the entrance examination to the secondary school. (3) Many parents in the rural area can barely afford necessary costs for children's education. (4) Since many children work as helping hands in the household or farm field, they may not be able to attend school for full length. (5) In ONPEC secondary schools, curriculum structure incorporated more aspects of vocational rather than academic education.

Table 6 presents academic achievement of the ONPEC G-9 students in Roi-Et registered during the 1995 academic year. Although no comparable data is available, the average academic performance among ONPEC G-9 students is very low : namely the "C" average except for the vocational subject. Particularly, Math and Science are worse off indicating the shortage of qualified teachers, textbooks, materials and equipment needed for good education

Table 6 Academic Achievement of the ONPEC G-9 Students in Roi-Et Province (1995)

Test Score	Math		Science		Thai		Social		Vocational	
0- 49 (F)	151	(5.7)	40	(1.4)	20	(0.7)	31	(1.1)	9	(0.3)
50- 59 (D)	991	(37.4)	815	(29.3)	587	(20.9)	580	(20.3)	89	(3.1)
60- 69 (C)	925	(34.9)	1134	(40.8)	1159	(41.4)	1148	(40.2)	461	(16.1)
70- 79 (B)	460	(17.4)	650	(23.4)	796	(28.4)	790	(27.7)	1069	(37.5)
80-100(A)	123	(4.6)	142	(5.1)	240	(8.6)	308	(10.7)	1228	(43.0)
Total	2650(100%)		2781(100%)		2802(100%)		2857(100%)		2856(100%)	
Average Score	61.4		64.6		67.1		67.6		78.8	

Note : Average scores were computed based on the weighted mid-scale points.
Source : Roi-Et Educational Office, 1996

in these subjects. On the contrary, the vocational subject has reached almost the "A" level, which suggests that lower secondary education under the ONPEC jurisdiction is vocationally oriented basically. This fact further leads us to question how good and diversified the possible opportunities are going to be after G-9 for ONPEC school students either in the world of work or in continuing education, given these low achievement levels.

Table 7 indicates educational and occupational choices made available for ONPEC graduates after completing the G-9 level in Roi-Et. According to Table 7, 2,749 students (96.8%) completed the G-9 classes out of 2,840 enrolled in 1995. Again, only 3.2 percent wastage is recorded even in the final year of the lower secondary education. Then, out of the

Table 7 Educational and Occupational Choices after Graduating from the ONPEC Lower Secondary Education (G-9) in Roi-Et in 1995

A) G-9 Enrolled	2,840	(B/A=96.8%)
B) G-9 Graduated	2,749	100%
Continued Education(G-10)	2,673	97.2
GE Schools	1,350	49.1
Vocational Schools	1,016	37.0
Non-formal	183	6.7
Others	124	4.6
Work	213	7.7
Self-employed	73	2.7
Employed	137	4.9
Government	3	0.1
None	153	5.6

Note : Percentages added exceed 100% due to the overlapping subjects between the Education and Work categories.
Source : Roi-Et Educational Office, 1996

successful graduates, almost everybody (97.2%) was found to be continuing education at the upper level (G-10) in one form or another. Namely, about a half (49.1%) could make transitions to the GED upper secondary schools, while the majority of others (37.0%) continued in vocational schools, and the rest in non-formal or other schools. The high transitional rate to the GED schools can be a surprise, given the relatively low academic achievement of ONPEC G-9 students as shown in Table 6, since enrollment to the GED schools requires to pass the entrance examination that includes math and science subjects. Mostly, these ONPEC students might be accepted by GED schools as candidates for the vocational track newly opened within their general education program recently.

Those who remained out of schools, namely those in categories of Work and None (mostly working for the family) in Table 7, constitute only 13.3% of total G-9 graduates. However, many of those youths attend vocational or non-formal schools to get more qualifications in the upper secondary (G-10 and beyond) level. Table 7 indicates that if those overlapping students are to be included in the "Continued Education" category, the overoall transitional rate from G-9 to G-10 for ONPEC school graduates reaches 97.2 percent, a percentage high enough to suggests that lower and upper secondary education are practically unified into a continuous stream. In other words, Thai's efforts to universalize lower secondary education by building a broad bridge connecting G-6 to G-7 are eventually producing, perhaps unwittingly, universal secondary education throughout the 6-year education program, from G-7 to G-9, then from G-10 to G-12.

On the other hand, from Table 5, it is evident that in GED schools the transitional rate from G-9 to G-10 is far from perfect. For example, out of 10,060 students who were at G-9 in 1994, 6,995 (or 69.5%) moved to G-10 classes in 1995. Likewise, only 67.9 percent students made transition from G-9 to G-10 between 1995 and 1996. However, according to the teachers in GED schools in Roi-Et, most of the students who could not make it to G-10 in GED schools found vocational classes elsewhere to continue their education through the G-10 level and beyond. Again, this fact indicates that entire secondary education, not just the lower secondary, is going to be universalized as a result of implementing the Seventh Educational Development Plan from 1992 to 1996. This is what is happening in Roi-Et, one of the poorest provinces in Thailand, where more than 90 percent households engage in farming.

6. Implementing Efforts by Roi-Et Province and Schools

As reported in Table 2, by 1996 in Roi-Et the transitional rate from G-6 to G-7 researched 87.7 percent which is considered high enough relative to the one targeted by the Seventh

NESDP, but lower than the original idea of "universal (almost 100%) secondary education" set by the Ministry of Education, Thailand in the outset of the Seventh Plan in 1992. Now, it is important to see what problems were there in the way, and what efforts were made to solve them, for achieving this high transitional rate.

1) Implementing Practices at the Province Level

(1) Free Lower Secondary Education

The fundamental policy issue in implementing the extension of basic education from 9 to 12 years is to accomplish the extension as free education. This meant that lower secondary education in newly opened ONPEC schools and GED branch schools is all free, while traditional nine-year secondary education under the General Education Department (GED) incurs costs. In the extended program, students are exempted from tuition fees and textbook costs, while lunch, uniforms, shoes, etc. must be covered by individual students. It is said that because of this basically free education program, lower secondary education could only be made possible for pupils in poor rural areas where poverty has long been identifies as one of the major reasons for not attending the lower secondary school (Wakabayashi and Sukontasap, 1994 ; Roi-Et Educational Office, 1992). Interviews with farmers and school teachers in the rural area also revealed that high cost in secondary education under the conventional GED program have prevented the rural G-6 pupils from proceeding to the G-7 classes in secondary schools. Thus, this national policy of making extended lower secondary education free, seems to be the single most important factor that enabled the transitional rate from G-6 to G-7 to reach the very high level in Roi Et Province where farmers dominate the provincial population.

However, it must be recognized that as already discussed in Table 6 and 7, the G-9 students in extended schools, especially those in ONPEC schools, were found to be poor in academic achievement and to have vocational orientations mostly. These results indicate that the two tracks in secondary education, one is a free vocational track and the other is an academic track that asks private investment, might be developing as a result of Thai's efforts to accelerate the development of universal secondary education throughout the country. Also, the problem of integrating the extended part of the lower secondary program (particularly ONPEC schools) with the traditional secondary education system (namely GED schools) may create a further challenge in Thai's educational reform efforts to come.

(2) Decentralized Decision Making for Implementing the Plan

Budget necessary for implementing the universal secondary education program is provided through the Ministry of Education, although the size of budget is always far short from

what is needed to meet the given target. On the other hand, administration of the implementing process was found lying under the supervision and decision making by the provincial organization named the Educational, Religious and Cultural Committee of Roi-Et Province. This Committee headed by the governor is organized by inviting 20 leaders from all important offices in Roi-Et : namely Vice Governor, Directors from GED, ONPEC, VED, FAD. OPED and NFD (see Table 1 for abbreviations), representatives from five Ministries, five municipal representatives (Mayor, President of the Chamber of Commerce, etc.), and Director and Vice Director of the Roi-Et Educational Office. This committee meets four times a year and its sub-committees twice a month, mostly for discussing issues relating to the implementation of universal secondary education.

One of the most important functions of this committee has been to decide which schools under each jurisdictional body go to open G-7 classes to meet the target transitional rate set by the Roi-Et Education Office (see figures under (5) in Table 2) based on the school map of Roi-Et Province. The principle is that when no secondary school exists within the 5-kirometer range, then either an ONPEC or a GED branch school is to open to take the neighboring children into the secondary classes. When schools compete in winning the opening of secondary classes, the committee decides by considering (1) school's resources (size of the building, extra classrooms, number of teachers with BA degree, etc.), (2) support by the community (residents' signatures and a letter of agreement by the village head), and (3) a permission by the District Educational Office. A series of decisions under this process seems rather decentralized, but the final decision, and budget allocation and investment plans are all in the hands of offices in Bangkok, thus according to one of members, what the provincial committee can do is to submit recommendations for opening new schools ; After that everything is centrally administered with little local participation, especially at the community level.

(3) Campaign Efforts

Based on their survey efforts, the Educational, Religious and Cultural Committee of Roi-Et learned that reasons for not attending the secondary school are : por household (39%), no parents' permission (20%), helping hands for the family (15%), no pupil's desire (10%), migrating out for work (9%), and so forth. These facts facilitated the Education Office to move on to a series of campaign activities for enlightening the parents on the value of secondary education in the rural area. The campaign consisted of the following activities. (1) Sending a letter from Governor to each family with a G-6 child asking for sending him/her to the G-7 class, (2) Airing the Governor's message through the broadcasting tower in each village, (3) Distributing news letters and leaflets to each household, (4) Asking monks in each

community to persuade parents, (5) Departments involved in secondary education (ONPEC, GED and NED) send letters and explain their programs to the parents, (6) Distributing posters indicating the Roi-Et slogan that says "Let all 100% pupils complete the G-9 classes by 1995," (7) Expanding the availability of scholarship by Education Ministry and private funding agencies for poor students, and (8) Asking the Chamber of Commerce and local businesses not to hire children graduating from the G-6 classes.

These campaign efforts seem to have produced awareness among people in the rural area not only of the value of secondary education, but also of the parents' duties for providing additional education to their children to help them enhance vocational as well as educational opportunities in future. Moreover, it was known through interviews with parents and teachers in the community that the pressures and censorship exerted by the "authority" over and above the villagers' heads had been sensed in the community rather strongly that hiding children of the lower secondary age out of the school seemed to have been almost impossible for the parents. However, it must be realized it is this sense of duty among parents, combined with censorship mechanisms by the authority, to make basic education "compulsory" in its nature rather than simply making efforts for "extending" or "universalizing" it.

2) School Level Practices for Implementing the Plan

(1) Teacher's Roles for Opening G-7 Classes

Teachers, especially principals in ONPEC schools where lower secondary classes opened, played important roles in actually implementing the extended educational program. Firstly, given the limited budget allocation, they must create rooms for extended classes, typically one or two class rooms for G-7, G-8 and G-9 students in a progressive order. Next, many teachers will be asked to upgrade their qualifications up to the BA level to be qualified for the secondary school teachers. It is reported that the qualified math and science teachers are particularly in short, together with insufficient teaching materials and equipment in these schools.

Thirdly, teachers and a principal of the school where lower secondary education started, go on campaigning to G-6 pupils and their parents within the school map as follows. (1) Sending letters to all parents with G-6 pupils asking to send their children to the G-7 class. (2) Holding a session for G-6 pupils to meet their G-7 colleagues. (3) Holding a discussion session with parents on the school observation day. (4) Teacher's visits to the G-6 pupils' houses. (5) Dispatching a campaign car to each village. (6) Holding a village meeting by inviting a village head (kamnan) and parents to the village center. It is the school map that provides a basis for these school level campaign activities. Therefore, mapping the school area and identifying the head school within the mapped area are the critical task in order for

ensuring the access to the G-7 classes for all G-6 pupils living in the rural area.

(2) Attendance Support Projects

Each school where the lower secondary classes start seeks to operate a variety of projects to provide support for attendance to the newly established secondary school. (1) Lunch Project : Students either bring their lunch to school or buy at school through the lunch project with very low price (3 to 5 bahts). For the lunch project, students grow vegetables and mushroom, and feed the chicken and fish to obtain law materials for lunch making as a part of their vocational education. Students in need are given free lunch everyday, and all students get free lunch on particular day(s) of the week. The lunch project seems to work effectively to prevent the poor pupils from being absent because they have nothing to eat for lunch at school. (2) Scholarship Program : The school principal usually works very hard to obtain as much fund as possible for the provision of scholarship to students from extremely poor families. Fund is collected from the government, local businesses, temples, alumni, foreign donors and so forth. Then as a result, some 10 to 20 students who would never be able to attend otherwise, can get assistance with the financial support from this fund. (3) Support for Commuting : Bicycles are rented to students living away from the school or a room and board is made available to stay during weekdays. (4) Support with Uniforms : A school uniform set including shoes. socks and a school bag can be provided or rented free of charge for needy students who could not afford them and thus might have been absent from the school otherwise. (5) School Cooperatives : The school run the coop shop to earn income for supplementing the meager school budget. Students and their parents are encouraged to buy things at the school coop where extra school products, e. g., eggs, fish, vegetable, etc., are sold in addition to daily necessities. Students and their parents are part of share holders of the coop shop that they, as well as their school, can get dividends out of the purchases. The dividend to the school can be used to buy equipment needed for education.

7. Conclusions

Based on the findings of the present study, the following conclusions can be presented. These conclusions also include problems for the future research regarding the diversifying occupational and educational opportunities in Thailand.

1) Central Control Combined with Local Initiatives : A Thai Style

In Roi-Et Province, the transitional rate from G-6 to G-7 reached 87.7 percent in 1996. Moreover, drop-out ratios through G-7 to G-9 were found to be less than 5 percent in both

ONPEC and GED lower secondary schools. Interviews with provincial educational officials, school teachers and principals, and parents in the rural area revealed that all people concerned contributed greatly to achieve these remarkable results at the provincial and community levels. The process of implementing the centrally planned targets for universalizing lower secondary education at the local level seemed to have followed the top-down approach, but local initiatives taken by the province, communities and schools to achieve the set goals proved to be very serious and effective. Clearly, Roi-Et is one of the most successful provinces in implementing the national educational plan at the local level, but variations could exist among all Thai provinces regarding the degree of meeting the national target. This seems to be the Thai style for decision making and decision implementation. In other words, basic trust in central leadership exists, but with considerable local drifts in implementation. Because of this characteristics the local initiative create a major difference in final results.

2) Toward Universal Secondary Education : Beyond Transitional Rates

The initial target of educational development stated in the NESDB's Seventh Plan was to extend the period of basic education from 6 to 9 years and to increase the transitional rate from the primary to the secondary level up to 73 percent by 1996, the final year of the Seventh Plan. Although the Ministry of Education set the target figure to be much higher, i. e., 97.5 percent, the development plan was essentially for enhancing the transitional rate from G-6 to G-7, but not for universalizing the entire secondary education.

Nonetheless, what has happened as a result of implementing the original plan seems to be the burgeoning aspiration for the universal secondary education, not only for lower secondary (G-7 to G-9), but also for upper secondary (G-10 to G-12) education. As shown in Table 7, it is surprising to observe this trend happening even in Roi-Et, a small northeastern province of Thailand.

Universalizing the entire secondary education from G-7 to G-12 seems to be the new challenge that the Eighth Development Plan covering the 1997-2001 period needs to tackle as an outgrowth from the Seventh Plan. Actually, the Eighth National Economic and Social Development Plan (1996-2001) published recently by NESDB, Office of the Prime Minister, Thailand states as one of the Plan's targets that;

"Improve the quality of education at all levels ; extend basic education from six to nine years to all school-aged children ; provide continuous training for all school teachers ; and work towards the further extension of basic education to 12 years." (NESDP, 1997-2001, p. 3.)

It may be a little premature to talk about the possible target figures toward the universal 12-year education in Thailand, but the Plan clearly indicates that 9-year basic education

could be completed during the Eighth Plan period, accompanied by the pressing desires for further extending basic education to 12 years.

3) Quality of Education in Extended Schools

As shown in Table 6, academic achievement in the ONPEC secondary schools clearly falls behind the national average, especially in mathematics and science subjects. The reason for this outcome can be attributable to the low quality of education in these schools caused by : (1) shortage of qualified teachers with the BA degree, (2) lack of instructional equipment and materials, (3) low students' motivation to study, (4) vocational rather than academic emphasis by teachers and parents, and so forth. As the NESDP (1997-2001) suggests, providing continuous training for all school teachers is the first step to improve the qualification of teachers, together with policies to improve the social and economic conditions of the teaching profession.

4) An Emerging Two Track System

Related to the above seems to be an emerging two track system in secondary education : one is vocation-oriented free secondary education, the other academically oriented full-cost secondary education. The former is a track provided mainly under the ONPEC secondary education system and GED's branch schools, while the latter under the traditional secondary education supervised by GED. Free secondary schools seem to be a necessary option to universalize secondary education in poor rural areas, but eventually will lead to a creation of a two track educational system, vocational vs. academic, based mostly on parents' paying ability for education rather than on students' aptitude in learning.

5) Diversifying Occupational and Educational Opportunities

As a result of implementing policies for universal lower secondary education, career orientations after G-9 were found to be diversified, as Table 7 indicates. Probably, there will be 4 career alternatives opened for those who complete the G-9 classes as follows. (1) One is an academic career where students keep studying toward attaining the BA degree in higher education. (2) The second one is to choose vocational education to be qualified for employment with a vocational certificate (high school level) or a diploma (college level) in the specified skill area. Interviews with Roi-Et G-9 students revealed that majority of those studying at ONPEC secondary schools prefer the vocational track for specializing in areas like electric and electronics, car mechanics, machinery, accounting, business and so forth. (3) As indicated in Table 7, a considerable number of students may want to continue to study after G-9 in non-formal or informal environment while working for their living. This may

mean that non-formal upper secondary education could be a realistic choice for many of working youths. Finally, (4) work career after G-9 in industry and service sectors can be an attractive option, when demand for labor in the private sector starts choosing young, hard-working labor force with solid lower secondary education (rather than primary education) completed through the universal secondary education program. For this choice made available, each school is expected to work to bridge the students needs and employers' demands by utilizing formal as well as informal labor market information networks. Especially, each school may needs to have a committee for providing placement services to the out-going G-9 graduates, so that both students and their parents can get convinced in the value of extended education in finding better job opportunities.

As a final remark, it is suggested that both Ministry of Education and individual schools need to work to specify career options made available as a result of extended education, so that students can formulate their career choice strategies to take advantage of diversifying occupational and educational opportunities in Thailand. It is expected that Thai's labor force will be quickly replaced by the middle-level workers with secondary education background (TDRI, 1986, 1991) as a result of the extended secondary education. However, what is equally important is the quality of basic education which will constitute eventually the quality of labor force and productivity. Thus, Thai's educational development for the coming five years must be very challenging : expanding secondary education to cover all school-aged youths without sacrificing the quality of education to meet the demand for high quality labor.

Reference

General Education Department 1992, Project for Expanding Educational Opportunities, Secondary Level General Education Department, Ministry of Education, Thailand (in Thai).

Graduate School of International Development, Nagoya Univbersity, 1993, A Study on the Development Administration and Finance with View to the Possibility of Introducing Participatory Development Assistance —— Using Changwad Roi-Et in Northeast Thailand as Case. A Report submitted to FACID by Nagamine, H. (Team Leader), Wakabayashi, M. and Ezaki, M. (in Japanese).

Lekuthai, P. 1992, Roi-Et Province's Data. A paper submitted to the Graduate School of International Development, Nagoya University.

Ministry of Education, Thailand, 1992, Ministry of Education Thailand, Centennial 1892-1992.

Ministry of Education, Office of the Permanet Secretary, 1992, 1991 Educational Statistics in Brief.

Ministry of Education, Office of the National Primary Eduction Commission, 1991, Primary Education in Thailand.

Ministry of Education, Non-formal Education Department, 1992, Introduction to Non-formal Education Department.

National Economic and Social Development Board (NESDB), Thailand, 1992, Nationa Economic and Social Development Plan (1992-1996).

National Economic and Social Development Board (NESDB), Thailand, 1997, National Economic and Social Development Plan (1997-2001).

Office of the National Primary Education Commission (ONPEC) 1993, Introducing ONPEC, Ministry of Education, Thailand.

Roi-Et Education Office, 1992, Educational Statisticis in Roi-Et, A Paper Provided by the Roi-Et Education Office. (in Thai)

Roi-Et Education Office, 1996, Educational Statisticis in Roi-Et, Roi-Et Education Office. (in Thai)

Roi-Et Municipality, 1998, Roi-Et Progress Project, A Paper Provided by the Roi-Et Municipal Office. (in Thai)

Schwille, J. and Wheeler, C. 1992, Variable Role of the State in Education : The Thai Experience, International Journal of Educational Research, Vol. 17, 219-225.

Sukontasap, S. 1992, Educational Planning and Management for Human Resource Development. Discussion Paper No. 3 for GSID, Nagoya University.

Thailand Development Research Institute (TDRI), 1986, Proceedings of Workshop on Human Resource Problems and Policies.

Thailand Development Research Institute (TDRI), 1991, The 1991 Year-End Conference Synthesis Report on Human Resource Problems and Policies.

Wakabayashi, M. 1995 Roi-Et Revisited : A Follow-up Study on the Process of Implementing the National Educational Development Policies in Rural Thai Province. Forum in International Development, Graduate School of International Development, Nagoya University, 285-306

Wakabayashi, M. And Sukontasap, S. 1994 Implementation of the National Educational Policy on the Extension of Basic Education in Rural Thai : A Servey in the Northeastern Thai Province. Forum in International Development, Graduate School of International Development, Nagoya University, 203-226

Wheeler, C. and Schwille, J. 1992, Introduction to Primary Education in Thailand : An Integrated Approach to Policy Research, International Journal of Educational Research, Vol. 17, 125-127.

Wheeler, C., Chuaratanaphong, J., Bhumitat, C., Eamusukkawat, S., Shinatorakool, R., Sirijirakal, V., Pumusa-Ard. S., Sookpokakit, B., and Kunarak, P. 1992, School Clusters in Thailand : A Management Strategy for Improving Primary School Quality, International Journal of Educational Research, Vol. 17, 199-218.

Establishment of "Skills Development Fund" in ASEAN : Alternative Mechanisms for Financing Enterprise-Based Training*

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Abstract

In the Asian Pacific Rim economies, human resources development (HRD) stands at the forefront of government's policies on economic development. Among HRD issues, this paper exclusively examines a variety of "Skills Development Fund (SDF)" operations in ASEAN as alternative mechanisms of financing enterprise-based training. Especially, most small and medium enterprises (SMEs) face difficulties in providing necessary training to their workforce mainly because they may not have the expertise and resources to formulate and deliver their own training programs. The SDF is considered to be an innovative measure to accelerate the rate of, and provide direction to, human resources development and utilization on a large scale, and also a unique mechanism to create opportunities for cost-sharing in skills development among direct and indirect beneficiaries. In ASEAN, the SDF was set up in 1979 in Singapore and, most recently, other ASEAN member countries, including Thailand, Malaysia and Indonesia, have attempted to establish their own SDF mechanisms, looking up to the Singapore's SDF experience. Through a preliminary survey of SDF operations in these countries, this paper finds that each country has its own funding mechanism for skills development, while the underlying concept of cost-sharing among direct and indirect beneficiaries of training is almost identical. It is also noteworthy that all four countries have not accidentally established SDF mechanisms, but have made efforts to fulfill the required institutional and labor market conditions. Therefore, the SDF in one country may not be necessarily suitable and relevant to other industrial structures and stages of economic development.

I. Introduction

It is widely accepted that Asian Pacific Rim economies have been playing a proactive part of world economic growth. In less than half a century, these economies transformed themselves from poor agricultural economies to advanced and newly industrialized countries. Despite poor national resources, countries or economies such as Japan, Korea, Taiwan, Hong

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Kong, and Singapore have achieved remarkable economic and technological progress. They are largely market-led economies, while Korea and Singapore have strong government intervention roles. In these countries, human resources clearly stand out as a common factor underlying these successful stories, and HRD stands at the forefront of government's policies on economic development. Great attention has been paid to develop workforce skills in an effective and efficient way.

HRD in Asian Pacific Rim economies is based upon on the following principles as stated in the recent document issued by APEC (HRD Working Group 1995, pp. 2-3) : (i) the people are the most important resource in economic development ; (ii) the development and protection of human resources contribute to the attainment of such fundamental values as the alleviation of poverty, full employment, universal access to primary, secondary and vocational education, and the full participation of all groups in the process of economic development ; (iii) HRD requires cooperative action by public, and business/private sectors, educational and training institutions ; and (iv) in designing regional approaches to HRD, attention must be given to the diversity of experiences and situations in the region.

Among HRD issues, this paper exclusively examines a variety of SDF operations in ASEAN as alternative mechanisms of financing enterprise-based training, focusing on the question of who should pay for training. The SDF was first set up in 1979 in Singapore and, most recently, other ASEAN member countries including Thailand, Malaysia and Indonesia, have attempted to establish their own SDF mechanisms, looking up to the successful Singapore's experience in SDF operations[1]. The objectives and scope of the paper are : (i) to provide an overview of SDF operations, featuring its rationales, institutional and labor market conditions as prerequisites for the success of SDF ; (ii) describe possible financial sources for SDF ; (iii) to outline funding mechanisms of SDF in Singapore, Thailand, Malaysia and Indonesia, clarifying the roles of their respective governments, enterprises, employees, and foreign donors in SDF operations ; and (iv) to discuss, briefly, the effectiveness of SDF and its relevance to other countries, which would be willing to adopt a similar mechanism in their skills development efforts.

II. "Skills Development Fund" : An Overview

A. Rationales

The SDF is considered to be an innovative measure to accelerate the rate of, and provide direction to, human resources development and utilization on a large scale. The rationales for setting up SDF mechanisms can be summarized as follows (Hirosato 1992) :

(i) to share the costs of HRD between the government and the private sector even though

many training and skills development programs are firm specific.

(ii) to encourage firms to carry out these training and skills development programs by retaining their financial resources until they train their personnel. Otherwise, they will lose their financial resources to other firms that would therefore gain the free human resources ;

(iii) to make more equal distribution of training opportunities among the highly-paid and the lower-wage earners. This is, in turn, expected to generate more equal income distribution ; and

(iv) to upgrade productive market forces without suffering from the long time-lag effect of the educational process. This is because the better educated school-leavers each year are only a small portion compared to the pool of the total workforce ; and

(v) to let firms decide what sorts and contents of training and skills development programs they need so that industrial relevancy can be enhanced and ensured.

Adequate financing is a requirement to sustain any training programs. Especially, SMEs face difficulties in providing necessary training to their workforce on a sustainable basis mainly because they may not have the expertise and resources to formulate and deliver their own training programs. The cost of training should be borne by all concerned parties whether they are direct or indirect beneficiaries. Three types of beneficiaries are identified : the government ; employers ; and employees. The SDF is considered to be a unique mechanism to create an opportunity for cost-sharing in skills development among beneficiaries. It should be, however, noted that the SDF in one country is not necessarily suitable and relevant to other industrial structures and stages of economic development. Although a detailed investigation of the Singapore's SDF experience is useful, it is still necessary to examine the funding mechanisms in different countries to assess the feasibility to be implanted in other settings.

B. Institutional and Labor Market Conditions

This section suggests the institutional and labor market conditions which would be required for SDF to function properly. It is difficult to judge whether the establishment of SDF is appropriate and works effectively and efficiently for creating high-skilled workforce in the country unless the following conditions are met.

1. Institutional Conditions

(1) Development of Private Sector

Development of the private sector, in other words, establishing competitive industrial structures through effective economic development program, industrial policy and economic and legal infrastructure, is important for creating technology utilization and learning oppor-

tunities. Export-oriented economies in a few Asian economies like Singapore force many of the concerned industrial sectors to become competitive and hence induce a fast rate of technological absorption by the participating firms in order to be integrated into the world economy and to stay competitive. In addition to outward-oriented domestic industries, foreign direct investment in the country with a proper economic and legal foundation for investment also plays an important role to introduce technological know-how and provide learning opportunities. By bringing in their technologies in the form of capital equipment and production management know-how, foreign enterprises may provide technology transfer either through : (i) internal learning by local staff employed in the subsidiary operations ; or (ii) external transfer through diffusion to subcontractors/suppliers and imitation learning by local firms.

(2) Role of Government

Government's commitments to skills formation is necessary to achieve socially optimal level of training. In investing in human resources, subsidies from public funds are justified under following four reasons (Dougherty and Tan 1991). First, there is significant market failure relevant to training provision caused by : (i) failure of employers to respond to training incentives through inertia or other reasons ; (ii) failure of individuals to respond to training opportunities ; (iii) minimum wage legislation and other wage rigidities ; (iv) capital market imperfections to investment in education ; and (v) rigidities in the provision of in-service training. Second, externalities exist when the benefits of training to society exceed those that accrue to private firms and individuals[2]. Private firms and individuals do not necessarily to capture all the benefits ; therefore, they will underinvest in training. In order to invest in human resources at the socially optimal level, the government should give subsidies for training. Third, equity is considered to be one of the reasons justifying government's intervention. In equity concerns, the most important issue is whether the extension of subsidies to training is able to eliminate or reduce inequity or whether it in practice creates another small privileged section of society. Fourth, social concerns justify government's intervention because training may have social externalities, that is, social benefits which are not captured by individuals or their employers.

However, government's intervention in HRD does not solely lead to economic development when supply and demand mismatch exists. Ashton and Green (1996) argues that there must be a corresponding development of production system which is related to human resources utilization opportunities. Thus, government should both provide incentives to invest in training for employers and employees and develop production systems through the development of skill intensive industries. Moreover, recruiting highly qualified talent into key government sectors is an important factor, which enables government to implement

desired intervention (Wong and Ng ed. 1992). Such able personnel will contribute to raise government's policy making and implementing capacity.

(3) Basic Education for Further Skills Development

The importance of basic education is already recognized in many countries since it works as an essential factor to learn skills needed in the workplace and to acquire flexibility leading to productivity growth. Dougherty and Tan (1991) conclude that "the most effective financial intervention for training may be to upgrade the basic skills of the workforce, in terms of literacy, numeracy, cognitive ability, communication and interpersonal skills (p. 56)."

On the other hand, early specialization has high costs and competes with the acquisition of more general skills (World Bank 1994 ; 1996). Vocational and technical training should endeavor to cover most of the general aspects of the curriculum and leave the more occupation-specific aspects to employers. This will reduce costs and ensure that specialized skills are acquired when they are in demand. Therefore, occupation-specific training should be left to the very end of programs, and very specialized skills should be determined by employers' needs and acquired in-service.

2. Labor Market Conditions

(1) Commitment of Employers

Employers should be committed to the goals of high level skills formation[3]. This necessity arises from the fact that skills formation is unable to be divorced from the workplace. The costs of training, whether formal or informal, are normally lower when located at the workplace. If employers are able to provide training, they reduce the excess supply of skilled labor, contribute to increase workforce with needed skills and improve the relationships between demand for and supply of skilled workers. The dual system, for example, calls for the integration of the workplace into the nation's basic education system.

(2) Regulations : External Labor Market and Problem of Job-hopping

Technologies usually involve significant firm-specific elements and team-work. A higher technology absorption would be achieved if workers stayed with the same firm for long periods (Wong and Ng 1992, pp. 87-88). If the labor market is free to move and competitive, a skilled worker in one firm which provides training might shift to another which offers a higher wage than the previous firm but does not provides training. The main issue of such job-hopping is that there is "high leakage of learning and disruptive team-work which discourage firms from investing in generic training for fear that their staff would be poached by other firm (Wong and Ng 1992, p. 87)." As a result of job-hopping, firms which provide training fail to capture corresponding returns ; therefore, certain incentives are required to prevent firms from reducing training[4].

C. Sources of Financing

Three major funding entities can be identified as possible sources of financing skills development. They are governments, employers (enterprises) and employees, who would share costs and benefits of training[5]. In addition, donor funding, often from the multilateral development banks such as the World Bank and the Asian Development Bank, is available as initial sources of financing and necessary consulting services for setting up the SDF mechanism.

1. Government Funding

There is almost universal international consensus that regards governments as responsible for providing their citizens with basic education and technical skills needed for employment. They usually do so by supplying general education and entry-level vocational training. Governments have the coverage, resources and overall authority to implement large-scale territorial, sectoral, and technological changes, or to initiate overall employment schemes. Public provision is also widely perceived as having the power to create equal training opportunities for individuals and employers, and the ability to assist in situations of serious constraints, such as industries with special skills shortages. The main source of funding for public provision of training has been, and frequently continues to be, general tax revenues, both for the capital establishment and provision of facilities and equipment.

Some countries finance their public vocational training through a revenue generating levy which is imposed on firms' payrolls and occasionally on employees' incomes. The rationale is that employers eventually benefit from publicly-financed vocational training. Levies are compulsory ; they are collected by governments and used primarily for financing major public or private training institutions. Levy-financed institutions typically provide a mix of programs, including pre-employment training, upgrading, and training for disadvantaged groups. This kind of funding mechanism is particularly widespread in Latin America and the Caribbean region. The essential characteristic of the levy based revenue-generating principle is that the money collected by governments from enterprises as a tax can easily be isolated from employer's influence and control. Therefore, what differentiates various revenue-generating levy schemes is whether or not levy-paying employers receive any direct benefits from the vocational training institutions financed by them.

2. Enterprise Funding

Employers are the second major source of financing training. In some countries, their contribution exceeds that of the government. In theory, they receive benefits in the form of higher productivity and profits. The role of employers usually consists of providing job-specific training and upgrading programs that enable their existing workers to meet changing job requirements. Training may be available on-the-job or through in-plant courses, or it may

be purchased in the marketplace. In some cases, they may also provide full initial skills training programs for selected new employees.

Government interventions to increase employer training provision frequently focus on incentive schemes which involve payroll levy-grants, levy exemption, training cost reimbursement and/or taxation incentives. Through these mechanisms, governments establish levels of employer investment in training as a percentage of payroll and employers are legally obliged to meet the requirement. To gain exemption from, or a reduction of, their levy obligation, employers must provide training for employees.

3. Employee Funding

There is probably an increasingly common view, in many countries, that, as the major direct beneficiaries of training, trainees, themselves, should finance the cost of their training. Because of the increased post-training value of their skills, they can expect higher earnings. In other words, the principle of user charges should apply in the labor and training markets. Individuals can finance their own training by accepting reduced wages during training as in an apprenticeship system. They can also use family savings, or borrow from other sources to pay training fees. For various reasons, however, the cost of individual training is often subsidized by governments and/or employers. Such practices are justified by the external benefits argument, which holds that trainees do not reap all the benefits or their training, but rather that some accrue to society as a whole.

III. Funding Mechanisms

This section examines the funding mechanisms of SDF in light of a certain set of criteria in selected ASEAN countries : Singapore ; Thailand ; Malaysia ; and Indonesia. Through this section, it is shown that no uniform funding mechanism of SDF can be applied to all the countries.

A. Singapore

The Government of Singapore (GOS) has adopted a two-pronged approach in implementing HRD strategy (Wong and Ng ed. 1992, p. 22). The first and fundamental thrust was to establish and maintain a sound education system with an early bias towards vocational and technical training. The second thrust was to provide specific training programs mainly through the SDF mechanism. It is assumed that the GOS must be an active participant on skills development to achieve national goals. Great reliance is, however, placed on the inputs from the private sector in planning curricula and deciding on appropriate courses,while the government provides the necessary data and guidelines to develop training industry to meet

market demands, sets standards and conduct national examinations to ensure the quality of training. Training is a competitive service industry in Singapore and providers of training both public and private differentiate their services by offering unique features to attract customers.

1. Principles and Features

The levy-grant based SDF was established in October 1979 to provide employers wishing to train their workers with financial assistance. Since SDF policies are in harmony with the national policy, its focus has shifted periodically to address priority needs of the country. At its inception in 1979, the SDF provided financial incentives to employers to meet the objectives of the wage correction policy aimed at bringing wages to a level comparable with newly industrialized countries of the region through enhanced labor productivity by increasing skills of employees. In 1987, the SDF shifted its focus to planned training programs which are designed to create a more flexible and adaptable workforce to cope with new technology. The SDF has changed its focus again in 1992 to give priority to training undertaken by small local companies (SDF Working Group 1995, pp. 16-17). The main purposes of SDF are : (i) the promotion, development and upgrading of skills and expertise of persons in employment ; (ii) the retraining of retrenched persons ; and (iii) the provision of financial assistance by grants and loans for the purposes of the above mentioned objectives (Government of Singapore 1992, p. 31).

2. Sources of Financing

The proceeds of the SDF are generated through provisions of the Skills Development Levy Act (SDF Working Group 1995, p. 17). The levy used to be payable on workers earning S$750 and less, but now the threshold has been increased to S$1,000 on the basis that skills have been increased during the period that the SDF has existed. The levy was originally 4 percent and was reduced to 2 percent in April 1985 and further reduced to 1 percent in April 1986. However, the levy has risen to 3.6 percent in 1995, which is a marked improvement from 1 percent in 1986. This significant improvement has been the result of the SDF's sustained efforts in developing an employer-based training system in Singapore (Government of Singapore 1996). Table 1 shows the SDF's statement of receipts and payments for the year 1994/95 and 1995/96.

3. Mode of Training Programs

During FY 1995, the SDF recorded an overall grant commitment of S$67.62 million, which was comparable to the level of grants committed in FY 1994. The breakdown of the total grant commitment is shown in Table 2. Grant and training programs under the SDF consist of : (i) Training Grant Scheme ; (ii) BEST Program ; (iii) WISE Program ; and (iv) Curriculum and Infrastructure Development.

Table 1. Skills Development Fund : Statement of Receipts and Payments (March 31, 1996)

	Note	1994/95	1995/96
RECEIPTS		S$	S$
Skills Development Levy :	1/		
Private Sector		10,733,554	18,809,655
Statutory Boards		153,963	349,685
Government		290,762	749,531
Sub-total		11,178,279	19,908,871
Interest and Income			
Interest from Bank Deposits		6,105,054	2,672,756
Income from Investments		25,428,586	305,231
Sub-total		31,533640	2,977,987
Other Income		9,104	5,728
TOTAL RECEIPTS		42,721,023	22,892,586
PAYMENTS			
Grants		68,350,036	45,126,518
Less : Refund of Grants		2,533,459	2,164,242
Sub-total		65,816,577	42,962,276
Agency Fee to CPF Board	2/	214,159	229,008
Administrative Expenses of the Secretariat :			
Salaries, Allowances and Other Contribution		2,124,471	1,990,220
Skills Net		224,929	296,501
Office Rental and Support Services Provided by NPB		891,877	878,065
Miscellaneous		367,929	336,916
Sub-total		3,609,206	3,501,702
Performance Fees, Administrative and Other Expenses Paid to Fund Managers		3,877,622	
Total Payments		73,517,564	46,692,986
EXCESS OF PAYMENT OVER RECIEPTS		(30,796,541)	(23,800,400)

Source : Government of Singapore (1996), p. 40.

Notes : 1/The levy is based on 1 per cent of the monthly remuneration or S$2, whichever is greater, for employees earning S$1,000 or less per month.

2/The fee was paid to the Central Provident Fund Board for services rendered in the collection of skills development levy from employers in the private sector and statutory boards.

Remarks : CPF (Central Provident Fund)
NPB (National Productivity Board)

Table 2. Overall Grant Commitment and Training Programs

	FY 1994	FY 1995
Training Grant Scheme (Including Training Needs Analysis Consultancy Scheme)	S$62.28m	S$62.25m
BEST/WISE Programmes	S$5.38m	S$5.05m
Curriculum & Infrastructure Grants	Nil	S$0.32m
Total Grants Committed	S$67.66m	S$67.62m

Source : Government of Singapore (1996), p. 22.

(1) Training Grant Scheme

The Training Grant Scheme is the main funding mechanism of the SDF to encourage companies to train and upgrade the skills and knowledge of their workers. Within this framework, a series of incentive schemes was developed to address specific training gaps and issues.

Training Leave Scheme (TLS) : Launched in March 1990, the Training Leave Scheme aims to address the lack of training for adult workers who have little or no formal education. The Scheme allows employers to receive full funding of course fees for adult workers who attend training during normal working hours.

Training Voucher System (TVS) : The Training Voucher System (TVS) was introduced in April 1990 on a restricted basis for SMEs especially those companies with less than 50 workers. Working like a discount voucher, it allows companies to pay only 30 or 50 percent of training costs upfront while SDF supports the balance. Most recently, with the help of TVS, a total of 2,833 companies with less than 50 employees applied to the SDF for the first time in FY 1993, 2,612 companies in FY 1994, and 2,652 companies in FY 1995, though the SDF has successfully reached all companies with 50 employees and above. Table 3 presents the details.

Training Needs Analysis (TNA) Consultancy Grant Scheme : Under this scheme, SDF grants are extended to companies which engage external consultants to conduct company-wide TNA. Companies with at least 51 percent local ownership can apply for grants amounting to 70 percent of consultancy fee subject to a maximum norm of S$70 per consultancy hour.

(2) Basic Education for Skills Training (BEST)

BEST is a national program introduced since January 1983. It is designed to provide the equivalent of the primary level of functional literacy and numeracy to some 225,000 workers who do not have Primary School Leaving Examination qualification. The program will give them the basic foundation to continue in further education and training.

Table 3. Percentage of Companies Reached by Employment Size (as of 31 March 1996)

Employment Size	All Companies in Singapore	1st Timer			Cumulative Percentages of Companies Reached 1/		
		FY 1993	FY 1994	FY 1995	FY 1993	FY 1994	FY 1995
Below 10	71,854	1,822	1,704	1,691	20	22	25
10-49	14,786	1,011	908	961	85	92	85
50-99	1,776	119	109	109	100	100	100
100-199	876	38	46	47	100	100	100
200-499	426	17	19	24	100	100	100
500 & above	217	3	11	21	100	100	100
Total	89,935	3,010	2,797	2,853			

Source : Government of Singapore (1996), p. 18.
Note : 1/Definition of Companies Reached refers to those who have applied to the SDF. Cumulative percentage is computed based on companies reached since SDF's inception in FY 1979.

(3) Worker Improvement through Secondary Education (WISE)

WISE, a follow-up to the BEST program, was launched in September 1987. Designed to raise the literacy and numeracy level of those with primary education to GCE 'N' level, it is expected to impact some 122,000 workers.

(4) Curriculum and Infrastructure Grants

The SDF has invested and would continue to invest in national worker-level training programs including curriculum and infrastructure development. These national training programs and other resources provide better and more cost-effective training opportunities for the Singapore workforce since the expertise of leading private sector organizations are tapped.

4. Eligibility Criteria for SDF

The SDF offers financial assistance to employers on a cost-sharing basis for the following activities (SDF Working Group 1995, pp. 17-19) : formulation of Worker Training Plans (WTP) ; provision of worker training on-the-job and off-the-job ; provision of training for adult workers ; and establishing training centers to meet specific needs of industries. The WTP is a proposal for the training activities that an enterprise intends to carry out over a 12 month period. The WTP can be drawn up either by outside consultants or in-house experts. If a consultant is employed to do the WTP, perhaps the consultant may be able to do the implementation as well. The successful applicants will receive a grant of 70 per cent of the total consultancy fee subject to a maximum of S$70/per consultancy hour.

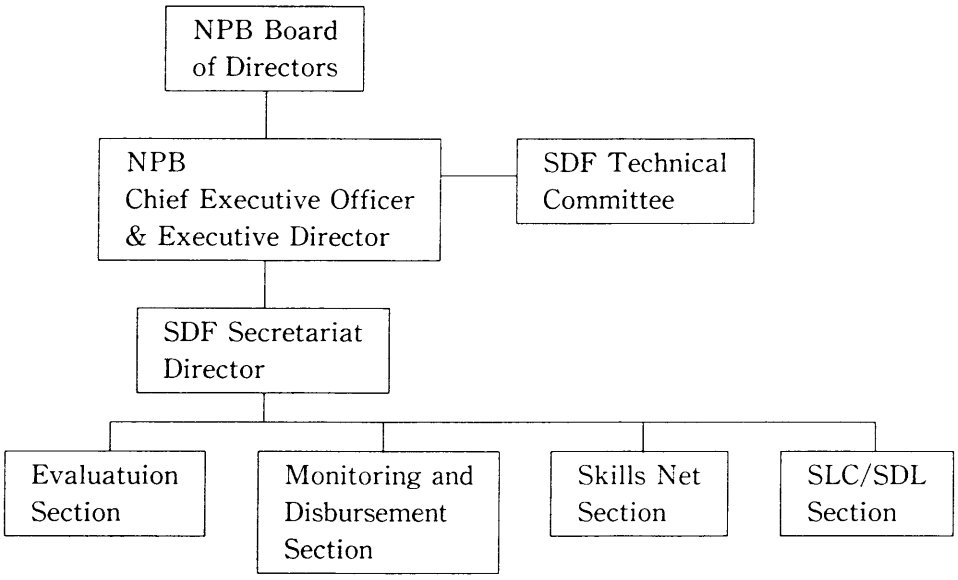
In addition, SDF has a scheme where financial assistance can be given to enterprises to set up training centers to conduct industry specific courses. SDF has already established 14

partnerships with multinational firms for developing industry specific training centers. It should also be noted that SDF grants are not available for the following : seminars and conferences which are not training programs ; programs to familiarize employees in their new work ; training programs for entry-level skills ; and programs which are targeted solely at professional and senior managerial levels. However, SDF provides financial assistance to : The National Trade Union Center (NTUC) Skill Development Secretariat to upgrade skills of union members ; and the Singapore Institute of Labor Studies (SILS) to upgrade skills of union leaders.

5. Organizational Structure

SDF was established under the National Productivity Board (NPB) and the NPB comes under the Ministry of Trade and Industry. The organization structure is shown in Figure 1.

Figure 1. Skills Development Fund : Organization Structure



Source : SDF Working Group (1995), Annex X.

6. Procedures

The accounts of SDF are audited by the Government Auditor. Revenue is collected by the Central Provident Fund along with provident fund payments. SDF pays a service fee and the money collected is invested. Where companies make claims to SDF, only actual costs are reimbursed and not opportunity costs such as absence from work. A program has to be approved by SDF and usually runs for 2 years before a claim could be made on that account. The funds are given to a Fund Management Agency so that the best possible return could be obtained. It appears that SDF is spending far in excess of what it collects and there is an

Table 4. Number of Applications Received/Approved by Employment Size for FY 1994 and FY 1995

Employment Size	FY 1994 Applications		FY 1995 Applications		FY 1995 Approved (%)
	Received	Approved	Received	Approved	
Below 10	5,558	4,925	5,618	4,616	(82.2)
	(11.8)	(11.8)	(10.7)	(10.5)	
10-49	10,896	9,724	11,394	9,499	(83.4)
	(23.1)	(23.3)	(21.7)	(21.7)	
50-99	5,594	4,899	6,031	5,066	(84.0)
	(11.9)	(11.8)	(11.5)	(11.6)	
100-199	6,233	5,484	7,129	5,948	(83.4)
	(13.2)	(13.2)	(13.6)	(13.6)	
200-499	7,377	6,475	8,551	6,970	(81.5)
	(15.7)	(15.5)	(16.3)	(15.8)	
500 & above	11,467	10,167	13,694	11,740	(85.7)
	(24.3)	(24.4)	(26.2)	(26.8)	
Total	47,125	41,674	52,417	43,839	(83.6)
	(100.0)	(100.0)	(100.0)	(100.0)	

Source : Government of Singapore (1996), p. 23.

expectation that by year 2001 the funds would be depleted and that the government would have to infuse fresh funding to keep SDF going.

The number of applications received by SDF went up 11 percent to 52,417 in FY 1995 from 47,125 in FY 1994 as shown in Table 4. Correspondingly, the number of applications approved grew by 5 percent from 41,674 in FY 1994 to 43,839 in FY 1995. The increase in applications received can be attributed to the convenience which companies enjoy in applying for grants under the TVS as explained earlier.

7. Monitoring and Evaluation

The Singapore system is built on the realization that quality of labor (skills) is related to a matrix of training inputs such as facilities, curricula, instructors, materials, on the job training experience and productivity of these inputs. The productivity is assumed to be higher when the process is organized within the private sector, or when linkages with the private sector employees are strong. While institutional arrangements are important, the key to success is the ability to interpret market signals effectively. Overall efficiency of the vocational education and training system depends on the flexibility of the system to adjust to those market signals. In the case of SDF, monitoring and evaluation is done against the stated goals and objectives of the fund. This process takes place at three levels such as macro, institutional, and micro levels of monitoring.

B. Thailand

In recent years, the country's economy grew so fast that it caused a shortage problem in quality human resources especially in industrial and service sectors to compete in the world market. On March 1992, the Department of Skill Development (DSD) was established under the Ministry of Interior (Department of Skill Development 1996, p. 5) and, on September 1993, it was legally transferred to the Ministry of Labor and Social Welfare (MOLSW) taking charge of only skill development functions. During 1993, the government and private sectors' Joint Committee for Solving the Economic Problem (JCSEP) proposed to study the possibility to set up a Thai version of SDF. The government finally decided to allocate B200 million on October 1995 to set up the SDF at DSD as a means to finance retraining of workers (Department of Skill Development 1996, p. 25). Although no disbursement was made until 30 September 1996, the SDF is expected to be disbursed in the fiscal year from 1 October 1996 to 30 September 1997, as DSD finalized a detailed plan, including policies and procedures of SDF operations being outlined below. The SDF provides low interest rate loans of 1 percent per annum to trainees enrolled at training institutes under DSD. The repayment period will be 17 years, including a 2-year grace period and repayment will be retained as a revolving fund (ADB 1996, p. 6).

1. Principles and Features

The purpose of the SDF is to provide loans for employment-related training of new entrants to the labor market, employed persons required for skill upgrading, and laid-off employees. The employer, making contributions to the SDF, can apply for the loan for in-plant training activities. The Thai SDF essentially contains two major components : (i) loans to private organizations wishing to establish private training institutes ; and (ii) the provision of loans with low interest rate to individuals wishing to take skill training programs to upgrade their existing skills (ADB 1997, p. 37).

2. Skills Development Fund Committee

The Skills Development Fund Committee has now been appointed under the authority of the MOLSW since November 1994 to collect and study information on methods of financing skills development, and needs for alternative funding procedures, and if so proposed, to draft preliminary recommended legislation (ADB 1995, Appendix 31, p. 25). Under the chairmanship of the Deputy Director-General DSD, committee members include senior representation from the National Economic and Social Development Board (NESDB), the Industry Council of Thailand, the Budget Bureau, the Social Security Office, the Controller-General's Department, the Social Service Commission, the Civil Service Commission, the Employer Council and the MOLSW.

3. Sources of Financing

There are a considerable number of alternatives regarding financing arrangements. Payroll taxes are the most prevalent form of financing under the levy/grant schemes. There is, however, a questionable logic in attempting to finance skills development in a way that may dampen the demand for skills in the first place. Some forms of general-revenue financing (sales or value-added taxes) would appear preferable. A common variant of such schemes is tax rebates (or deductions), up to 3 or 4 times of the direct cost of training expenses of the firm for firms which can substantiate training costs. Tax credits, however, tend to favor larger or more profitable firms. A superior performance-based alternative would be to permit tax deductions (of whatever amount) for firms whose employees reach certified competency-based standards. It might be noted that such a system would also allow for skills upgrading for higher-skilled or managerial personnel (ADB 1995, Appendix 31, p. 26).

There is nothing to preclude multiple sources of financing for such funds. For example, larger firms may wish to make special contributions to finance special projects in their industries. Funds may be augmented with the proceeds from fees for work permits for expatriate labor. Sales of products generated in training institutes or centers could be added to the SDF. Creativity in the use of alternative funding sources is just as important and just as feasible as is creativity in the use of skill funds itself[6].

4. Flexibility of SDF

The key factor of SDF is the flexibility. Since SDF is operated outside normal budgetary channels, funds can be accessed more readily and utilized more creatively than is generally possible within government programs. The selected financial structures for funding are important, but no matter whether the fund is financed through taxes or government subsidies (from general revenues), levies or special funds, the major issue is how the money is ultimately spent. Funds can be used to finance loans or grants to firms or individuals. When loans are involved, the term of revolving funds is used. The money revolves from the fund to creditors who then repay back into the fund. In more ambitious fund operations, money have been transferred to training institutes to upgrade equipment or to finance overseas training for private sector executives or supervisor. Funds can be used to pay for international technical assistance, such as training consultants or vocational educators. Similarly, funds could be used to encourage experienced employers to provide technical assistance to small or recently established firms.

5. Administration

Administration of the SDF introduces an entirely new concept and set of expectations from DSD staff. First, clear policy and operational procedures need to be developed to guide

DSD staff in the just and efficient administration of the program. The full implementation of the Vocational Training Promotion Act (VTPA) and SDF will eventually involve processing of thousands of applications for financial support to training opportunities. A second concern focuses on the expectation that DSD would be responsible for all components of the SDF loan process, including the approval of applications, issuing funds, monitoring use of the funds and receiving re-payment over an extended period of time. The majority of functions related to the SDF are comparable to the services provided by commercial banks. However, DSD does not have any experience or expertise in operating a personal loan service. DSD also lacks the computerized management information systems to support such an operation (ADB 1997, p. 37).

6. Monitoring and Evaluation

Therefore, the development of a process in which the DSD is responsible for processing loan approval and provides a guarantee to a commercial bank in turn lending the money to the trainee is recommended (ADB 1997, pp. 37-38)[7]. The bank would be responsible for monitoring re-payment of the loan. Commercial banks have extensive data information systems and expertise necessary to manage financial components of the money lending process. In addition, the negotiated fee payment for bank services would likely be far less than the cost of developing and operating a parallel system within the DSD and the speed of implementing a loan process with commercial banks would be much faster.

C. Malaysia

In the quest to attain the status of a developed country by the year 2020, greater emphasis must be given to the retraining and skills upgrading of the workforce (Majlis Pembangunan Sumber Manusia 1992a, p. 1). A HRD policy that focuses on companies and their workforce will also enable them to attain increases in worker productivity, efficiency, value-added operations and competitiveness both in the domestic and world market. The Human Resources Development Fund (HRDF) is, thus, expected to foster worker flexibility and job security through the process of retraining and skills upgrading.

1. Principles and Features

The Human Resources Development Act 1992, passed in Parliament at its May/June session 1992, provides for the establishment of the Human Resources Development (HRD) Council comprising of eight representatives of employers, four representatives of government agencies responsible for HRD and two independent members who, in the opinion of the Minister of Human Resources, will be able to contribute to the work of the Council.

The General Guidelines on the HRDF (Majlis Pembangunan Sumber Manusia 1992a) states that, for initial stage, the Act will only cover those employers with fifty employees and

above in the manufacturing sector. It is also mentioned that the scheme does not cover employers with less than fifty employees as it is feared that they will inevitably rely on the bigger companies due to their lack of ability and expertise to systematically identify training needs and formulate training programs and annual training plans. Nevertheless, as their workers too require training, the government has retained the Double Deduction Incentive (DDI) scheme for them[8].

2. Sources of Financing

The Human Resources Development Act 1992 imposes on every employer a HRDF levy in respect of each of his employees at the rate of one percent of the wages in any month of the employees. Under the Act, an employer who is liable to pay the HRD levy in respect of each of his employees shall pay those levies for the first and subsequent months wages commencing from the date the employer becomes liable. In 1992, the sum of M$48.9 million was projected to be collected for 1993. To demonstrate its commitment to HRD in the country, the government decided to contribute a matching grant of M$48.9 million, the amount expected to be collected in the Fund's first year operation. The government will contribute a sum of M$16.3 million per year for a period of three years with effect from 1993. The payment of the HRDF levy is the responsibility of employers. The wages of employees are not permitted to be deducted under any circumstances for the payment of the HRDF levy.

3. Training Programs

Three major training schemes of HRDF are : the Skim Bantuan Latihan (SBL) Scheme ; the Skim Program Latihanyang Diluluskan (PROLUS) Scheme ; and the Pelan Latihan Tahunan (PLT) Scheme.

(1) The Skim Bantuan Latihan (SBL) Scheme[9]

SBL scheme is the main funding program of HRDF in Malaysia. Under this scheme, financial assistance in the form of training grants can be considered for all types of training programs for the retraining and skills upgrading of employees relevant to the needs of employers registered with the HRD Council.

Principles of Operation : According to the SBL Scheme Act 1992, there are three principles of operation :

(i) The HRDF offers training grants as incentives for employers to undertake the retraining and skills upgrading of their employees that are relevant and specific to their corporate requirements. Training grants are not given as general subsidies for training ;

(ii) HRDF training grants are awarded only for employer-based training to ensure that training has the accountability of the workplace. Under the SBL scheme, employers must identify the training required to upgrade their employees and undertake to fully fund the training programs ; and

(ii) The prior approval of the HRD Council Secretariat is necessary under the SBL scheme. Reimbursement of the training costs based on the rate determined by the HRD Council from time to time on a claimed basis will only be allowed where prior approval for training programs have been obtained.

Skill Areas : The skill areas eligible for financial assistance are : computer-related skills ; craft skills ; technical skills ; management/administrative/supervisory training ; specialized skills training ; research and development skills ; company-wide productivity and quality improvement programs ; and basic education for skills training (BEST).

(2) The Skim Program Latihan Yang Diluluskan (PROLUS) Scheme[10)]

Principles of Operation : Under the PROLUS scheme, training providers must register with the HRD Council after they may submit their training programs which are relevant to employer's training needs for the award of the ATP (Approved Training Programs) status. Employers can select any training program with ATP status, sent their employees for training without the prior approval of the HRD Council Secretariat and claim for reimbursements, subject to terms and conditions imposed by the Council, upon completion of the training program.

Skill Areas : Following skill areas are considered eligible for financial assistance such as management/administrative skills, technical skills, quality/productivity-related skills, computer-related skills and full-time apprenticeship programs.

(3) The Pelan Latihan Tahunan (PLT) Scheme[11)]

Objective : The objective of this scheme is to enable employers to formulate annual training plans which are proposals for training activities that employers intend to carry out over a 12 month period, commencing from the beginning of the year.

Benefits of the PLT Scheme : The PLT scheme ensures that a firm's employees are developed systematically based on corporate needs. It also allows the firm to examine and plan for skills development of its employees. Moreover, effective control over the firm's training budget will be provided. The PLT helps the firm to select the most suitable programs and employers submit their application only once instead of applying for training grants every time they want to train.

4. Eligibility Criteria for HRDF

Employers have registered with the HRD Council and have contributed the HRD levy for a period of six months are eligible to apply for training grants (financial assistance) to defray part of the "allowable costs" of training their employees. However, training must be in areas of direct benefit to their business operations. Financial assistance is, therefore, not given to individuals who enroll and finance their own training programs, whether partially or fully, and later request their employers for sponsorship (Majlis Pemgbangunan Sumber Manusia

1992a, p. 4). Any employer who is eligible to receive any financial assistance provided under the Act shall be disqualified from receiving such financial assistance if he/she is in default of any payment of the levy and shall remain disqualified until such time that all outstanding payments are made. The payment of training grants will be subject to terms and conditions imposed by the HRD Council. Furthermore, to be eligible for training grants under the HRDF, trainees must be employees who are Malaysian citizens[12].

5. Procedures

Application : Employers undertaking the retraining and skills upgrading of their employees through any mode of training as explained below can apply for training grants under any of the training schemes established by the Council. The amount of financial assistance will bee as determined by the Council and subject to terms and conditions imposed, which may be amended by the Council from time to time.

Payment : The HRD Council at its meeting on December 1992 decided to adopt the system of payment of the HRD levy through the commercial banking system. In this regard, the Council appointed the Public Bank Berhad and the United Malayan Banking Corporation as collecting agents throughout the country.

6. Mode of Training

Five modes of training are observed, such as enterprise-based, institution-based, industry-managed, co-operative type and overseas training (Majlis Pemgbangunan Sumber Manusia 1992a, pp. 12-14).

(1) Enterprise-Based Training

The systematic development of enterprise-based training will not only produce a better-trained and efficient workforce, but also enhance productivity increases and ensure that the level of training can be fine-tuned to each enterprise's technological environment. This mode of training can combine formal classroom study with factory training, and can be provided either on-the-job and/or off-the-job. However, to qualify for training grants under the HRDF, training programs must be structured with specific training objectives and training contents/ lesson plans.

(2) Institution-Based Training

Training providers, irrespective of whether they are public sector training institutions, private sector training institutions, consultancy firms, trade or industry organizations that can offer cost-effective training programs and meet the training needs of employers will also be supported by the HRDF.

(3) Industry-Managed Training Center

As industry-managed training centers are expected to better achieve relevancy of training based on their knowledge on skill requirements of employers, training programs conducted

by them will be supported by the HRDF. Employers sending their employees for training in these training centers will be eligible for financial assistance.

(4) Co-operative Type Training

Large enterprises having excess training capacities are encouraged to offer training places to employees of other enterprises, particularly SMEs which may not have the expertise and resources to formulate and deliver their own training programs. This mode of training will be particularly effective in situations where SMEs have sub-contracting work for large enterprises. If employers send their employees for such training, they will be eligible for training grants under the HRDF.

(5) Overseas Training

Training for the skills upgrading should ideally be conducted locally as the costs involved in overseas training are high and only limited numbers can be sent. Only in cases where the training required is not available locally and is absolutely necessary, requests for overseas training will be considered on a case by case basis.

D. Indonesia

Indonesia has achieved economic growth mainly due to its comparative advantage of low-cost labor and labor intensive industries. However, with the emergence of China and India with much larger low-cost labor force, Indonesia has to face stiff competition to retain its comparative advantage by, among others, boosting industrial productivity (Diojonegoro 1992). The Skills Development Project in Indonesia, financed by the World Bank, has been implemented as a pilot project for a period of 3 years to link upgrading of its human resources base with industrial development.

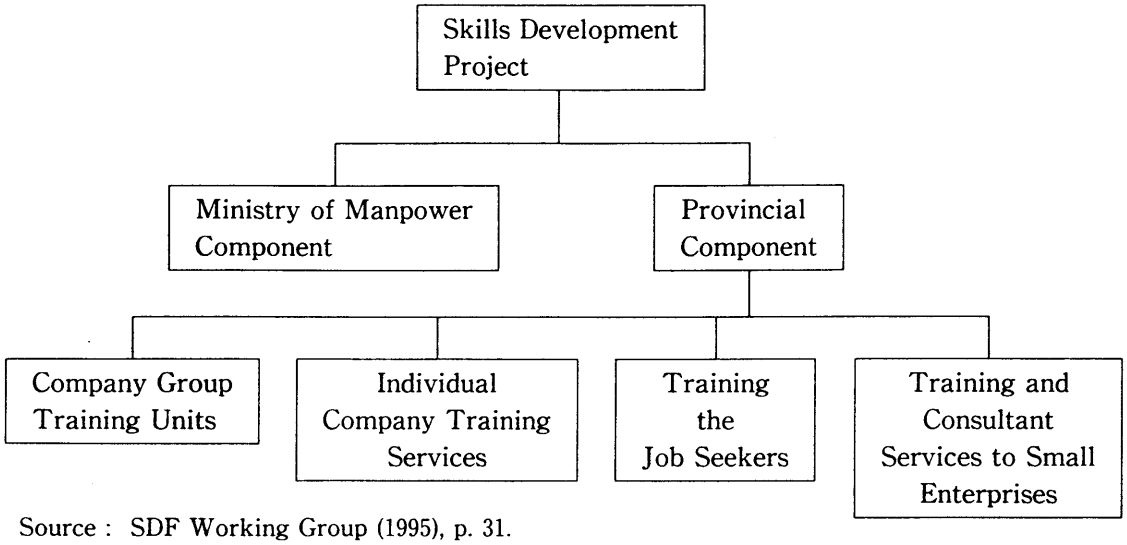
1. Principles and Objectives

The objective of the project is to develop and implement innovative industrial skills training schemes within private enterprises in three provinces for possible replication in other parts of the country in the future as a part of an overall training program to promote productivity and efficiency of the economy. A training fund would be used as the principal mechanism for providing initial support and incentives to increase and improve training within Indonesia's manufacturing industry for the development of its human resources at all levels and strengthen its competitiveness, quality and productivity (World Bank 1994 ; 1996).

2. Organizational Structure

The Skills Development Project could be grouped into two main components : a Provincial Component and a Ministry of Manpower Component. Under the Provincial Component, three participating provinces have established a Provincial Training Fund (PTF). There are four more sub-components under the PTF as shown in Figure 2.

Figure 2. Organizational Structure of Skills Development Project



Source : SDF Working Group (1995), p. 31.

3. Grants

Experiences in other countries have shown that external funds for financing training costs such as the proposed PTF scheme appear to influence significantly a firm's propensity to train its employees. Some details on the grants for four sub-components under the Provincial Component and KADIN/APINDO/sectoral employer organizations will be as follows[13] :

(1) Company Group Training Units (CGTU)

CGTUs are groups of companies associated either through employer organizations or by other means with the objective of organizing training for their members. Medium-size firms in particular, and even some small firms, would benefit from membership. CGTUs could provide a successful vehicle for organizing and supporting training in member firms who would otherwise be too small to sponsor their own training. CGTUs must also become financially self-sustaining over the three year period of the Project, through generating revenues from training contracts to support their own overhead costs. Yearly training contracts would be awarded to public and private training organizations, and payments would be on a phased basis and only in respect of incurred expenditures. The recommended level of training costs financed by the project for a CGTU is shown in Table 5 and the remaining balance comes from the private sector.

(2) Individual Companies

Grants to individual firms would be provided for : (i) 50 percent of the salary of a new Training Manager for two years ; and (ii) the training programs at the CGTU rate, such as 80 percent in year one, 60 percent in year two and 30 percent in year three.

(3) Public and Private Training Institute-Training for Job-Seekers

Training for job-seekers would be supported from the PTF Scheme, provided the trainee

Table 5. Level of Financial Support from the Training Fund

	Year1	Year2	Year3
Staff	80%	60%	30%
Operational	80%	60%	30%
Training Courses (Formal off-the-job)	80%	60%	30%

Source : World Bank (1994), p. 38.

stayed in the related job for at least six months. Support would be 100 percent of costs (minus any fees paid by the trainees) if 85 percent or more of the trainees in a course were placed in a job related to their training.

(4) Training and Consultant Services to Small Enterprises

Four days of consultant services would be available yearly to individual small-scale companies which agree to expand their business. The services would cover business planning, marketing and finance, management and industrial engineering. The PTF Scheme would finance 80 percent of such costs in year one, 60 percent in year two and 30 percent in year three with the balance coming from the participating employers. Technical training would be aided by grants under certain conditions in areas relevant to industry such as tool-making, etc.

(5) KADIN/APINDO/Sectoral Employer Organizations

Grants would be provided for the appointment of two or three operational and support staff per province, whose role would include promotion, coordination and planning of activities on the basis of percentage of contribution by year shown in Table 6.

Table 6. Percentage of Contribution to KADIN/APINDO/ Sectoral Employer Organizations

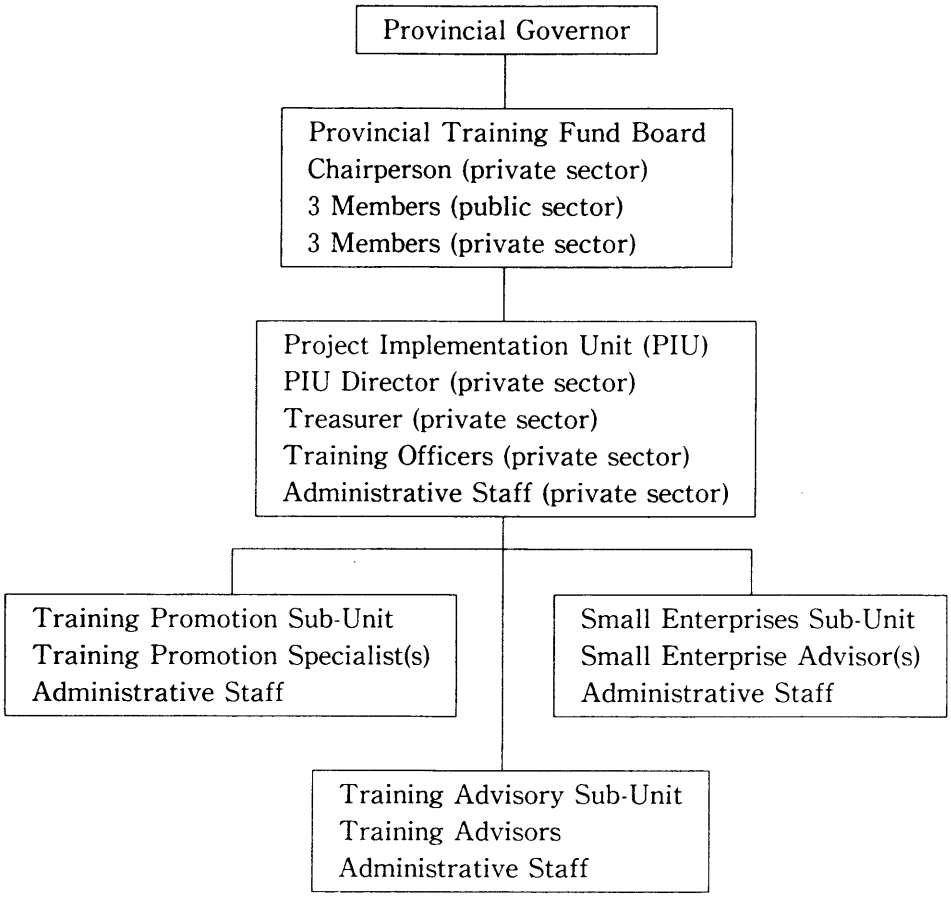
	Year 1	Year 2	Year 3
Training Fund Contribution	80%	60%	30%
Association Contribution	20%	40%	70%

Source : World Bank (1994), p. 39.

4. Eligibility Criteria for Grant

Each participating firm would be required to fulfill the following criteria (World Bank 1994, pp. 37-38) : (i) employ 10 or more people and be engaged in manufacturing ; (ii) appoint and train a Training Manager who would have overall responsibility for coordinating all training activities within the firm ; (iii) identify the training needs of individuals in the firm

Figure 3. Organizational Structure of Provincial Training Fund



Source : World Bank (1994), Chart 3.

at all job levels ; and (iv) prepare and implement training programs to meet the identified needs and evaluate the impact of training programs.

5. Implementation

The organizational structure which will be established in each of the three targeted provinces is shown in Figure 3. It will have its own legal status and have a strictly market-led commercial focus. The private sector would be heavily involved as reflected in the proposed structural model in which the two pivotal components are the PTF Board and the Project Implementation Unit (PIU).

Provincial Training Fund Board : The PTF Board would include equal government and employer representation and would have an independent private-sector Chairperson. In all positions, appointments would be made by the provincial governor from a short list of candidates submitted by the nominating bodies, e. g., KADIN, APINDO, and government, etc. Board members should have a high profile and have the ability to represent their organizations effectively. The Chairperson should be appointed in an individual capacity. Potential

candidates for this position might include senior executives from other sectors as well as industry.

The Board's role would be to provide overall direction for the PTF. More specifically, the Board would : (i) set and review scheme criteria ; (ii) set and review grant levels ; (iii) oversee the direction of the PTF ; (iv) approve expenditure within an agreed budget ; (v) direct the PIU ; (vi) promote and promulgate the economic rationale for training ; (vii) ensure that training seminars and other public relations activities are organized ; (viii) disseminate information ; (ix) provide for an industry sector focus ; and (x) approve reports, etc.

Project Implementation Unit : It is imperative that professionally trained administrative staff be appointed to the PIU. The Director will be nominated from the private sector by the Board. The Treasure, who would be a government employee, and all other staff from the private sector, would be appointed by the Board. Secondment of appropriate personnel from industry would appear to be the best option for recruiting PIU staff. The PIU would : (i) evaluate submissions ; (ii) prepare training contracts ; (iii) ensure that training seminars are delivered ; (iv) register training providers ; (v) evaluate trainer capability ; (vi) develop a training course directory ; (vii) undertake training audits and other inspection ; (viii) develop and update an information database ; (ix) develop a management information system ; (x) provide general training advice and assistance ; (xi) develop and promulgate case studies ; (xii) maintain sound financial control ; and (xiii) approve payments.

6. Monitoring and Evaluation

The World Bank (1994) describes the framework for monitoring and evaluating the proposed Project which comprises of : (i) annual operational reviews ; (ii) semi-annual progress reports from the PIU ; (iii) detailed case studies compiled by the PIU ; and (iv) and rigorous impact evaluation analyses including a cost-benefit analysis of major program interventions.

IV. Summary and Concluding Remarks

It is found that each country has its own funding mechanism for skills formation and upgrading, while the underlying concept, cost-sharing among direct and indirect beneficiaries of training, is almost identical. Except for Singapore, other three countries examined in this paper seem to be under the similar development stages, following the Asian NIEs. However, the natural resources, and economic, social and political background in these countries are different so that the degree of necessity for skills development and each mechanism of the SDF is also different. Thailand, for example, is based on agriculture-based industries and

still possesses sufficient cheap labor force in rural areas, although it is pursuing outward-oriented industrialization and diversification of industries like other countries. Relatively slow formation of SDF in Thailand might reflects such a situation.

Needless to say, all of these countries are forced to pursue more skill-, technology-and knowledge-intensive industrialization due to the catching up by other developing countries such as China and India, using more cheaper labor force. Now, their comparative advantage is shifting to skill-intensive industries from labor-intensive industries, where SMEs play a critical role. In such a context, a more efficient and effective HRD strategy for SMEs should be recognized as being a must, in which reducing the skills mismatch between supply and demand and attaining an optimum point of the skill levels are required. In particular, collaboration among beneficiaries in skills formation and upglading is an essential element in the efficient and effective HRD strategy for SMEs. Table 7 briefly summarizes the current sharing roles of each financing source under the SDF operations in four countries : Singapore ; Thailand ; Malaysia ; and Indonesia.

It is noteworthy that all four countries have not accidentally established SDF mechanisms, but have made considerable efforts to fulfill the required institutional and labor market conditions. They promoted the development of the private sector, developed the network for

Table 7. A Summary Matrix : Sharing Roles in Skills Development Fund Operations

	Government	Enterprise	Employee	Foreign Donor
Singapore	-purchaser -facilitator of training	-main financier (levy) -provider	-trainee -financier (levy)	N/A
Thailand	-facilitator of training -financier -provider	-main financier (levy) -provider	-trainee -potential financier (loans)	Asian Development Bank -consulting services
Malaysia	-facilitator -financier -provider	-main financier (levy) -provider (requiring the registration with HRD Council)	-trainee (Malaysian citizens only)	N/A
Indonesia	-facilitator -financier -provider	-main financier -provider (manufacturing only)	-trainee -potential financier (fees)	World Bank -consulting service -financier (initial fund)

Source : Compiled by the author.

labor market information sharing, and attracted multinational corporations through the improvement of economic and political infrastructure. Basic education was mostly universalized, although enrollment ratios of secondary education in Thailand and Indonesia are still not so high. Governments and industries are paying much attention to utilize their human resources through raising external efficiency of training programs. An internal labor market is also emphasized in some countries to reduce labor turnover rate and prevent employers from being discouraged to provide training because of the fear of job-hopping.

Furthermore, attentions are increasingly being paid to set up the SDF mechanism in several developing countries trying to catch up with the pace of economic development achieved in Asian NIEs and ASEAN. Since it requires a long gestation period, it is difficult to say that the same SDF mechanism is able to be adopted to any industrial structures and development stages. Several conditions are required for establishing such fund and appropriate mechanism should be found according to the country's own background. In future undertakings, it is necessary to fully assess cost-effectiveness of SDF operations and its relevance to other developing countries, especially those transitional economies in Asia. It is also expected that a more thorough investigation of SDF mechanisms would bring a new dimension on human resources development and utilization in the Asian Pacific Rim economies[14].

Notes

1) In Asia, similar training schemes, but not necessarily named as SDF, had also been introduced in South Korea (in 1976) and Taiwan (in 1972) during the 1970s, while, in Latin America, compulsory training levy schemes have been in place, most notably in Brazil as early as the 1940s.

2) According to Dougherty and Tan (1991), there are five main types of externalities which are : (i) breaking bottlenecks in production ; (ii) the development of a pool of skilled workers to encourage industrialization ; (iii) the raising of skill development standards ; (iv) improvement in the use of underemployed manpower ; and (v) the reduction of inflation.

3) See Ashton and Green (1996) for more details on employers' commitment to skills formation.

4) In Japan, the life-time employment system, known as the internal labor market, has been established. Wong and Ng (1992) argue that the life time employment system among large Japanese firms have been credited as an effective mechanism to foster orderly job mobility within the internal labor market of the firms (rather than through disruptive movements via the external labor market), thereby maximizing the accumulation of know-how within the firms. In Singapore, regulation is achieved by government's intervention in the form of agreement with employers to reduce layoffs in return for tax reductions and incentives for employers to participate in training programs for their employees.

5) More detailed explanation is provided by ADB (1995, Appendix 31).

6) Sri Lanka, which in 1992 announced the creation of a skill development fund, intends to permit offshore

investment of initial capitalization for a period of five years in order to build up fund reserves (ADB 1995).

7) The Human Resource Development Fund (HRDF) in Malaysia adapts the system of payment of the HRD levy through the commercial banking system. It is discussed in the following Section C.

8) According to Majlis Pemgbangunan Sumber Manusia (1992a), DDI scheme for approved training for the manufacturing sector will be abolished for employers with fifty employees and above with effect from 1 July 1993. Effective from this date, employers who had registered with the HRD Council and paid the HRD levy for a period of six months will be eligible to apply for financial assistance in the form of training grants.

9) For more details, see Majlis Pemgbangunan Sumber Manusia (1992b).

10) For more details, see Majlis Pemgbangunan Sumber Manusia (1992c).

11) For more details, see Majlis Pemgbangunan Sumber Manusia (1992d).

12) The trainee must be Malaysian citizens, and also complete the full program while in the sponsoring employer's employment. In addition, the trainee must attain a minimum of 75 percent attendance at each and every module and must sit for all examinations if the training leads to certification. See Majlis Pemgbangunan Sumber Manusia (1992a).

13) KADIN is Indonesian Chamber of Commerce and Industry and APINDO is Indonesian Employers' Association.

14) In future undertakings, it is also necessary to carefully assess any impacts on SDF operations brought by economic crisis in most ASEAN especially after July 1997, although this topic is beyond the scope of this paper which was mostly drafted before the crisis started.

REFERENCES

Ashton, David and Green, Francis (1996). *Education, Training and the Global Economy*. Cheltenham, UK : Edward Elgar.

Asian Development Bank (1995). *Kingdom of Thailand : Skills Development Project, Project Preparatory Technical Assistance, Final Report, Vol. III, TA No. 2082-THA*. Metro Manila : ADB.

——— (1996). *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Thailand for the Skills Development Project*. Metro Manila : ADB.

——— (1997). *Coordination and Private Sector Participation in Skills Development, Final Report-Volume I, TA Report-No. 2523*-THA. Metro Manila : ADB.

Department of Skill Development (1996). *Department of Skill Development*. Bangkok : Technical Studies and Planning Division, Department of Skill Development, Ministry of Labor and Social Welfare.

Djojonegoro, Wardiman (1992). "Education and Industrial Productivity with Science, Technology and Vocational Education as the Critical Link," A paper presented at the Second National Convention on Indonesian Education, February 6, 1992.

Dougherty, Christopher and Tan, Jee-Peng (1991). *Financing Training : Issues and Options*. Washington, D. C. : WPS 716, The World Bank.

Government of Singapore (1992). *The Skills Development Fund : Annual Report 1990/91*. Singapore : The Singapore National Printers Ltd.

——— (1996). *The Skills Development Fund : Annual Report 1995/96*. Singapore : The Singapore National Printers Ltd.

Hirosato, Yasushi (1992). "Establishment of Skill Development Fund in Thailand," Faculty of Economics, Chulalongkon University, Bangkok, Thailand. (mimeo)

Human Resources Development (HRD) Working Group (1995). *Mid to Long-Term Action Program for APEC Human Resources Development*. Beijing : APEC HRD Working Group.

Majlis Pembangunan Sumber Manusia (1992a). *General Guidelines on the Human Resources Development Fund*. Kuala Lumpur : MPSM.

——— (1992b). *The SBL Scheme Act 1992*. Kuala Lumpur : MPSM.

——— (1992c). *Approved Training Programmes/Courses under the PROLUS Scheme*. Kuala Lumpur : MPSM.

——— (1992d). *The PLT Scheme*. Kuala Lumpur : MPSM.

Skills Development Fund (SDF) Working Group (1995). *Impressions from Study Tour on Funding Skills Development*. Colombo, Sri Lanka : SDF Working Group.

Wong, Poh Kam and Ng, Chee Yuen eds. (1992). *Human Resource Development and Utilization in the Asia-Pacific : A Social Absorption Capacity Approach*. Singapore : Institute of Southeast Asian Studies.

World Bank (1991). *Vocational and Technical Education and Training, A World Bank Policy Paper*. Washington, D. C. : The World Bank.

——— (1994). *Indonesia : Skills Development Project, Staff Appraisal Report*. Washington, D. C. : The World Bank.

——— (1996). *Training and the Labor Market in Indonesia : Policies for Productivity Gains and Employment Growth, Report No. 14413-IND*. Washington, D. C. : The World Bank.

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