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Human Resource Development: The Asian Experience in Employment and Manpower Planning — An Overview

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1.1 Introduction

Since the early fifties, the development of human resources has been recognised as one amongst many objectives of long-term economic growth by most developing countries. By the early seventies, however, it had moved to the centre stage of development priorities. It was increasingly cited not only as one of the most important objectives which the developing countries must seek to achieve, but one which required both immediate attention and which in itself would make a positive and significant contribution to economic development. The reasons which brought about this shift in priorities were many but three main factors played a critical role. The first was the general disillusionment with the purely growth oriented development strategies pursued in the fifties and sixties with their major thrust on the directly productive sectors and supporting physical infrastructure, which in many cases, resulted in the neglect of the social sectors principally education, health, housing and other social services. There was also increasing evidence that the pursuit of such a strategy had done little to reduce poverty levels. On the contrary poverty levels may indeed have increased.¹ This disillusionment expressed itself in many cases in open political discontent and there was increasing pressure to placate the causes of this unrest.

The second factor emerging from the results of economic research confirmed that investment in human capital could contribute significantly and directly to overall growth and development. If returns to capital investment were to serve

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1. See ILO (1977).

as major criteria for resource allocation then the case for investing in human capital was just as strong as for other forms of investment. This was especially true for investment in primary education, investment in skill development programmes and investment in basic health services including access to clean drinking water. Especially important was the link between female education and declining fertility rates which was seen as a major breakthrough in promoting a solution to the problem of high population growth which many countries in the Asian region continued to suffer from.

Finally, there was the realisation that a strategy which emphasised the provision of increasing productive employment for the labour force, as well as increasing productivity, especially in the so called 'informal' sectors of the economy would provide the best route to solving the apparent dichotomy between growth and development, and in ensuring that the gains of economic development were equitably distributed amongst the population and the different regions in the country. If investment in human capital, the second of the three factors mentioned, was seen as the traditional 'supply side' of human resource development, the emphasis on the employment goal brought into play the crucial role of 'demand' in ensuring the optimal utilisation of human resources.

The question which must now be asked is how the developing Asian countries fared after well over a decade and a half in translating these objectives into concrete policy measures and with what results? It is pertinent to investigate to what extent it has been possible to integrate human resource development with the overall planning process, and more importantly in terms of allocation of resources, choice of technology, package of fiscal, commercial and monetary policy measures, together with certain basic structural reforms, all of which have a direct bearing on the mobilisation and development of the human resource potential of the economy. While it is clear that the development of human resources will have to compete with other pressing demands for limited resources available for development, the key question still remains whether overall socio-economic development undertaken in this period has incorporated the emphasis on human resource development to justify the importance that almost all countries in the region place on the attainment of this goal.

It is primarily to find an answer to some of these questions that a set of country studies was launched by the ARTEP.¹ These studies examine the experiences of eleven countries in the Asian region in human resource development especially in the last decade and a half. The major issues examined include the extent to which objectives relating to human resource development have been in fact incorporated in the development strategies pursued, the methodological framework developed for carrying out these exercises, the major government organisations and institutions involved in plan formulation and monitoring and finally, most important of all, the extent of actual implementation of plan objectives and policy guidelines. A close examination of these issues will help in focussing attention on the problems which countries in the region have faced in planning and developing their human resources and provide guidelines for both

1. These studies were undertaken as part of the preparatory phase for setting up the Asian Network of Human Resource Development Planning Institutes and were presented at the Technical Workshop held in Bangkok, 16-18 December, 1986 to launch the Network.

future investigative work as well as for identifying the successful mix of policy prescriptions which need to be emphasised in the future.

The eleven countries covered in the country studies are Pakistan, India, Sri Lanka, Bangladesh, Thailand, Malaysia, Singapore, Indonesia, Philippines, Republic of Korea and the People's Republic of China. Clearly it was not possible in the course of a single study to examine the detailed country experience of any one of these countries over the last few decades in the field of human resource development. What has therefore been included is a pragmatic compromise. Each country study primarily concentrates on some selective aspects of its human resource development experience in the more recent past. The advantage of such an approach is that it brings out a wide range of issues which countries faced in this field and the policy measures adopted. Most of the country studies also deal in some detail with the major research activities and initiatives carried out in this field. Also all country studies deal at some length with the existing institutional machinery for human resource development and the problems and limitations of existing data sources.

The framework in which the country studies have been carried out primarily focuses on two important aspects of human resource development — employment and manpower planning and development. The first concentrates on the necessary conditions conducive for productive employment generation and productivity enhancement or what is seen as the 'demand' side of human resource development. On the 'supply' side manpower planning is primarily concerned with determining the skill composition of this demand and the corresponding investments in skill development or 'educational planning' required to meet this demand. Supply planning, however, is not limited to technically trained manpower but also encompasses overall 'educational planning' including general education as well as the whole issue of 'quality' of education, an area unfortunately neglected in most discussions on human resource development. While both these supply and demand aspects are dealt with initially separately in this review, perhaps the most important lesson which emerges is that countries which have been able to combine both aspects in the planning and implementation of policies in this field have been more successful in mobilising, developing and utilising their human resources.

This narrower focus on overall human resource development was adopted mainly to demarcate a workable framework for analysis as well as to concentrate on those issues on which most of ARTEP's recent and past investigative and applied work has been based. This in no way detracts from the broader framework which encompasses all aspects of human resource development, from population planning on the one hand to investments in health, housing and other social welfare services on the other.¹

1.2 Employment Planning, Monitoring and Implementation

There are primarily three sets of issues which an employment planner must face. First, to monitor and review the existing employment situation in the country. Second, to estimate productive employment that needs to be generated

1. These broader aspects are covered in an issues paper by R. Thamarajakshi (1986).

over a specified period of time to absorb both the expected increase in the labour force as well as to reduce the existing levels of unemployment. Third, to examine changes in the labour absorptive capacity of the economy as the process of economic growth and structural change unfolds itself and to suggest measures aimed at the expansion of productive employment both in the short- and medium-term as well as over the long-term future growth of the economy.

1.2.1 Measuring and Monitoring the Employment Situation

Till recently the levels of open unemployment in most developing Asian countries were persistently low and the focus of attention was on estimating the level of under-employment in the economy. While definitions of under-employment varied depending on the different criteria used (e.g. number of hours worked or income generated) they reflected low productivity and incomes which may or may not be due to working less than a prescribed number of hours in a working day. Also the state of under-employment could vary over different parts of the year. In agriculture seasonal under-employment reflected changes in work intensity over the cropping cycle with levels of under-employment being high between the peak harvesting and sowing seasons. In the urban sector under-employment was most pronounced in the so-called informal sector of the economy especially in services where despite long work hours incomes barely reached subsistence levels.

The phenomenon of under-employment assumes much importance in most Asian countries mainly because of the high percentage of the labour force in the agriculture and service sectors. In 1980 of the 11 countries covered in the sample (Table 1.1) with the exception of Malaysia, Republic of Korea and Singapore in all others more than 50 per cent of the labour force was engaged in agriculture.

TABLE 1.1
Growth and Structure of the Labour Force in Selected Asian Countries

COUNTRY	Average Annual Growth of the Labour Force		Percentage of Labour Force in					
	1965-73	1973-84	Agriculture		Industry		Services	
			1965	1980	1965	1980	1965	1980
Bangladesh	2.3	2.6	84	75	5	6	11	19
India	1.8	2.1	73	70	12	13	15	17
China	2.6	1.6	-	69	-	19	-	12
Sri Lanka	2.0	2.1	56	53	14	14	30	33
Pakistan	2.3	3.3	60	55	18	16	22	30
Indonesia	1.9	2.3	71	57	9	13	20	30
Philippines	2.1	3.1	58	52	16	16	26	33
Thailand	2.4	3.0	82	70	5	10	13	20
Malaysia	2.9	3.2	59	42	13	19	28	39
Republic of Korea	2.9	2.7	56	36	14	27	30	37
Singapore	3.4	2.2	5	2	27	38	68	61

Source: World Bank (1986). *World Development Report 1986*, Oxford University Press, p. 238 (Annex Table 30).

In Bangladesh it was as high as 75 per cent, in India, China and Thailand 70 per cent, while in Sri Lanka, Pakistan, Indonesia and Philippines it ranged between 52 and 57 per cent. While the percentage of population engaged in industry (defined as covering manufacturing, mining, construction and electricity, water and gas) in 9 of the 11 countries was less than 20 per cent, the exceptions being Republic of Korea and Singapore, the percentage of population in the service sectors was both high and had increased in recent years. In 1980 in six of the countries — Pakistan, Indonesia, Philippines, Sri Lanka, Republic of Korea and Malaysia — the percentage of population in services ranged between 30 and 39 per cent; only in Singapore was it as high as 61 per cent.

Given the inherent problems of measuring employment, especially in sectors such as agriculture and services, most countries in the region realised the futility of making uni-dimensional estimates and opted for alternative measures of employment and unemployment. Perhaps the most comprehensive attempt at measurement was in India where the Committee of Experts on Unemployment Estimates (Dantwala Committee) of the Planning Commission¹ examined in depth the methodology for arriving at the aggregate estimates of employment/unemployment and recommended that studies should be undertaken to measure unemployment on the basis of different activity status categories, taking into account such distinguishing characteristics as region, rural-urban residence, status or class of workers, age and sex, industry occupation, educational attainments and also seasons. Following the recommendations of the Dantwala Committee, the National Sample Survey Organisation in 1972-73 launched a large scale employment-unemployment survey along with the consumer expenditure survey — both the surveys being conducted in the same sets of households. Since then the two subjects of enquiry have been taken together once every five years.

The basic methodology used was to classify the population of age 5 years and above as belonging to different activity categories adopting three different approaches, namely:

- (i) usual status approach with a reference period of 365 days preceding the date of survey;
- (ii) current work status approach with a reference period of 7 days preceding the date of survey;
- (iii) current day status approach reference period being each day of the 7 days preceding the date of survey.

Based on the data affected through the three approaches three different estimates of 'employed' and 'unemployed' were obtained. For example, it was estimated that at the start of the Sixth Plan in India using a reference period of 365 days the number of 'chronic' unemployed was 12 million. However, based on the current day status approach (varying number of hours worked in a day) the unemployment level was 20 million. The latter figure and its difference with the chronic unemployed could be taken as one measure of under-employment although the figure in terms of the total labour force still seems on the low side

1. Planning Commission, Government of India (1970). *Report of the Committee of Experts on Unemployment Estimates*, New Delhi, quoted in Y.K. Alagh (1986).

(as daily status unemployed came to about 10 per cent of the total labour force).¹ It also needs to be mentioned that the latest International Standards on Employment and Unemployment Statistics adopted at the Thirteenth International Conference of Labour Statistics (1982) are very similar to those adopted in India.

In other countries too attempts at measuring unemployment and under-employment have been undertaken with different degrees of success. It is clear, however, that given the extreme difficulties involved both in measurement as well as in regularly carrying out such surveys these results would need to be supplemented with other indicators which can provide a proxy measure for the employment situation. Trends in wages, incomes and poverty levels have been suggested and used.

This has become all the more important as in recent years the focus of attention has also sharply shifted to the *short- and medium-term monitoring of the employment situation* as the level of economic activity in developing countries has fluctuated either in response to changes in the external economic situation (e.g. the increases in oil prices in 1973 and 1979 and the resulting world recession) or due to 'structural adjustments' as pre-requisites for borrowing from international financial institutions (IMF or World Bank) to overcome the adverse balance of payments situation. The direct impact of such measures has been felt on the domestic employment situation. In some cases this has manifested itself in increases in the level of 'open' unemployment; in other cases in shifts of the employed labour force from the 'formal' sectors to the 'informal' sectors of the economy resulting in further pressure on the latter sectors with a correspondingly adverse impact on overall income levels.

This is a situation which in many ways has left the employment planners unprepared. Difficult as it was given the data base and measurement problems to discern medium-term trends in employment and suggest policy measures, they now face a situation where even more precise estimates are called for reflecting both short-term economic changes as well as the impact of specific policy measures (e.g. cuts in government expenditure, fall in export earnings) introduced by the government. On the other hand, it also poses a strong challenge to employment planners for if they wish to influence short-term economic policy responses such that the employment impact is 'cushioned' or at least made more bearable, then they must be able to provide some quantifiable estimates of changes in the employment situation as well as of how employment will be affected under alternative policy responses adopted.

At one level the answer must lie in drastically improving the existing labour market information systems so that changes in labour market conditions may be recorded and analysed. The whole question of improving the data base for both employment and manpower planning as well as the institutional state machinery required to meaningfully carry out this has been discussed in considerable detail in the country studies. At the same time one must admit that despite persistent recommendations and countless attempts over the past many years the situation has only very marginally improved and still remains in an extremely unsatisfactory state of affairs. There is clearly need to think afresh on some of the more traditional indicators for labour market monitoring and

mechanisms (e.g. employment exchanges) and suggest alternatives. As illustrations of attempts at short- and medium-term monitoring of the employment situation we examine the main elements of the approaches adopted in three cases. First, the Mid-Term Review of the Employment and Labour Market Situation of the Sixth Five Year Plan recently carried out in Pakistan.¹ Second, the quantification of the impact on employment of the decline in oil prices in Indonesia. Third, the attempt to quantify at a regional level, the impact of the post-1979 recession on the employment situation.

(i) A critical assumption in making projections regarding the employment situation in Pakistan's Sixth Plan (1983-88) was that overseas employment (mainly to the Middle East) would absorb 0.55 million man years of the expected increase in the labour force of 3.89 million over the Plan period.² Even with this high level of expected overseas migration the domestic employment situation would still be under considerable pressure because of the high growth rate of the labour force (over 3 per cent), expected increases in capital intensity in the manufacturing sector as a result of the shift towards intermediate and capital goods industries and continuing mechanisation and commercialisation in the agricultural sector.

Within a year of the start of the Plan because of the slowing down in activity in the Middle East it was clear that overseas migration would be much lower than projected in the Sixth Plan. The domestic employment situation would correspondingly have to absorb a greater than planned increase in the labour force. How the employment situation was being affected as a result of these changes became an area of critical concern for the government.

Existing sources of labour market information were unable to provide any indications of changes in the employment situation. The key issue was, however, to be able to gauge how overseas migration was being affected by the slowing down in activity in the labour receiving countries in the Middle East. While estimates of out migration existed with the government and these were declining by about 20 per cent per annum after 1983 there was no information on return migrants to be able to estimate net migration. To overcome this shortcoming surveys on returnees were carried out at all the international airports. The results clearly indicated that net migration had now become negative, i.e. inflows were greater than outflows. This was corroborated by other indicators mainly domestic wage rate data which suggested a slackening in the domestic labour market.

Since recent data on employment was not available the sectoral employment review was put together from the available evidence on other indicators, e.g. production, investment, exports and wage rates during the first two years of the Sixth Plan. For agriculture a key issue was the pace of mechanisation and this was analysed on the basis of imports and domestic production of farm machinery.

While far from being fully satisfactory the Review provided the Government with indications of a changing and deteriorating employment situation and also with specific recommendations. The Government responded to the situation by

1. See Planning Commission, Government of India (1981), p. 204.

1. See ILO/ARTEP (1986), Report to the Pakistan Planning Commission.
2. Planning Commission, Government of Pakistan (1983), p. 500.

initiating measures especially in its 1985-86 Annual Plan and Budget. Expenditure was shifted to more labour intensive sectors especially construction. The pace and implementation of socio-economic programmes especially in education were speeded up both because they served a genuine need as well as provided employment opportunities for the educated unemployed. A Special Employment Fund of the amount of Rs. 2000 million was allocated in the 1986-87 Budget. The pace of mechanisation in agriculture was slowed down by adopting a more stringent credit policy. Measures were also taken both to increase competitiveness of Pakistani labour abroad as well as special schemes to help generate self-employment for the return migrants.

It is still too early to see whether the measures will prove adequate. What the Review helped achieve was to provide a more concrete basis for Government action to be initiated.

(ii) In the case of Indonesia attempts have been made to develop a framework for analysing and tracing short-term effects of employment-relevant exogenous changes and government policies.¹ The need to trace out such changes have assumed considerable importance given the recent decline in oil revenues and correspondingly needed changes in government expenditure. In the model developed initial effects as well as those due to the consumption multiplier are simulated for a select number of exogenous changes and government policies, e.g. promotion of agricultural, manufactured and oil exports; import substitution; changes in investment spending; and government savings generated by using oil revenues and taxes. One interesting result of the simulation exercise is that the multiplier effect of any policy is more significant than the initial impact of that policy. This emphasises the importance of analysing the multiplier process initiated as a result of change in policy. Another significant implication was that for an equivalent amount, agricultural exports produced more employment than non-agricultural exports.

This does not, however, rule out that manufactured exports might produce more employment in the future if government actively promoted labour-intensive manufactured exports.

While the model is presently being further developed and refined, and this is seen as a continuous on-going activity, it illustrates the potential benefits for policy-makers (in this case the Indonesian planning agency BAPENNAS) in evaluating the employment impact both of changing economic conditions as well as of alternative policy responses by the government.

(iii) An important issue which has arisen in recent years is the employment impact of the post-1979 economic recession. The basic objective was to study the issue at a regional level to analyse the policy adjustments made in various countries with a view to identify policy alternatives which offer the most promising ways of coping with external shocks such as the recent world recession especially for solutions which do not sacrifice longer-term interests in the wake of expedient short run stabilisation measures and which do not place a disproportionate burden of the costs of adjustment on the poor. The study²

1. Yahya Jammal (1986). Similar models are now being developed in other countries. An excellent illustration is the model developed for Peru by Garcia (1986) to study the impact of short-term economic policy on employment and incomes.

2. Islam (1984).

analysed the immediate economic impact of the recession in 10 countries of South, South East and East Asia including the effects on growth of production and employment. The results showed that the 'outward looking' economies of South East and East Asia have been more severely affected as compared to the more 'inward looking' economies of South Asia. It concluded that while export orientation enabled a country to benefit from an expansion in world trade, it would also make the country vulnerable to the instabilities in the world market, particularly if the export industries are not well integrated into the domestic market. The study also concluded that the implications of the policies adopted as a result of either restriction on imports, reduced domestic expenditures and tax reforms resulted in losses of employment depending upon the output elasticity of employment and whether the employers were 'hoarding' labour in the type of recovery. Also in all probability a disproportionately higher burden of lower growth in output was shared by the labourers.

1.2.2 Factors Influencing Growth of the Labour Force

An important step in any standard exercise on employment projection is to estimate the expected increase in the labour force over the planning period. The key factors which determine this growth rate are the past growth rate in population, the resulting age structure, the changes in the labour force participation rates and net overseas migration. Two other important trends which need to be estimated are the distribution of this labour force between the urban and rural areas as well as between the major regions in the country.

The growth rate of the labour force in selected Asian countries in the period 1973-84 is shown in Table 1.1 and ranges from 1.6 per cent per annum in China to 3.3 per cent in Pakistan. The overall high growth rates of the labour force in the last decade reflect the enormous supply pressure generated on the employment situation in most countries in the region. With the exception of China, Republic of Korea and Singapore all the other eight countries experienced a higher growth rate of the labour force in the period 1973-84 as compared to 1965-73. Slowing down the growth rate of population, the principal long-term determinant of the growth in the labour force, has been for some time an area of major concern for countries in the region and measures have been taken, with varying success, to reduce it. A major change in recent years is to view population control not only in terms of direct measures for family planning but in terms of its interaction with broader socio-economic development especially female education.

From the viewpoint of short- and medium-term employment planning the children for whom jobs have to be created have already been born. What needs to be projected for different age groups of population are the expected changes in labour force participation rates. For the younger age groups this means adjusting for expected increases in enrolment in secondary and tertiary education.

In estimating this growth rate of the labour force, an issue which needs careful examination is female participation rates. There are two basic problems here. The first that Labour Force Surveys, especially in the South Asian region grossly underestimate female participation rates. To some extent the problem is definitional (e.g. what constitutes an economic activity) but there is also

considerable bias introduced in surveys which are conducted mostly by males and the respondents in most cases are male heads of the household. In order to rectify this situation there is need to re-examine the present methodology as well as the manner in which labour force surveys are conducted if we are to get a more correct estimate of female participation rates in economic activities.

From the point of view of the actual increase in female labour force the more important issues relate to changes in labour force participation rates. With increasing female education there is significant increase in those wanting to enter the labour market especially for jobs in the formal sector. Already there is increasing evidence of higher open unemployment amongst the educated females desirous of entering the labour market.

In projecting increases in the labour force the other important issue is its distribution between the urban and rural areas and amongst different regions in the country. The issue of rural-urban migration has always been an important one. However, in recent years the extremely high rate of growth of population in many countries in a few major metropolitan centres has become an area of major if not critical concern (See Table 1.2). Even in a few countries where the

TABLE 1.2
Growth of Urban Population in Selected Asian Countries

COUNTRY	Urban Population				Percentage of Urban Population			
	As % of total popn.		Av. annual growth rate		In largest city		In cities of over 500,000 popn.	
	1965	1984	1965-73	1973-84	1960	1980	1960	1980
Bangladesh	6	18	6.6	7.7	20	30	20	51
India	19	25	4.0	4.2	7	6	26	39
China	18	22	3.0	2.9	6	6	42	45
Sri Lanka	20	21	3.4	3.5	28	16	0	16
Pakistan	24	29	4.3	4.4	20	21	33	51
Indonesia	16	25	4.1	4.5	20	23	34	50
Philippines	32	39	4.0	3.7	27	30	27	34
Thailand	13	18	4.8	3.1	65	69	65	69
Malaysia	26	31	3.3	3.6	19	27	0	27
Republic of Korea	32	64	6.5	4.6	35	41	61	77
Singapore	100	100	1.8	1.3	100	100	100	100

Source: World Bank (1986). *World Development Report 1986*, Oxford University Press, pp. 240-241 (Annex Table 31).

growth rate of urban population has slowed down the percentage of total population living in urban areas has continued to increase. In Bangladesh this percentage increased dramatically from 6 per cent in 1965 to 18 per cent in 1984, in Pakistan from 24 to 29 per cent, in India from 19 to 25 per cent and in the Philippines from 32 to 39 per cent in the same period. The concentration of the urban population in the largest metropolis is most glaring in the case of Thailand (69 per cent in 1980) but also strikingly high in Bangladesh and Philippines (30

per cent), Republic of Korea (40 per cent) and over 20 per cent in Pakistan, Indonesia and Malaysia.

Measures to control the flow of population towards the urban centres is seen in its extreme form in China where such flows are rigidly controlled. While realising that the potential of labour absorption in the farm sector may be declining, the Chinese approach of 'leaving the land but not the village' with its emphasis on developing forestry, animal husbandry, fisheries and most important emphasis on rural industries is primarily aimed at providing employment to rural surplus labour within the rural areas itself.¹ At the same time the Chinese experience also shows that whenever controls have been relaxed they have resulted in large flows into the urban areas especially in the organised sectors and counter-measures had to be initiated as after the period of the 'Great Leap Forward' in 1959-60.

The issue of urban employment has in most studies been analysed mainly in terms of the 'informal sector' framework given the fact that a very large proportion of the workforce in the urban areas has been employed in this sector. While there remains considerable need to continue to study the 'informal sector' per se, especially in trying to understand its role and functions it is also important to analyse this sector as part of the overall urban economy and its immediate surrounding countryside. In a large number of metropolitan centres besides the local municipal authority, in recent years Urban Development Organisations (or Authorities) have been set up. These agencies are involved in planning the future growth of the city both in terms of its physical expansion and the growth of the urban economy. A key issue involved is the provision of productive employment to the growing labour force. The employment planner must increasingly become involved in this exercise, not just in projecting expected increases in population and labour force, but also in helping to build into the urban physical planning framework measures which enhance capacity to provide productive employment. An example of this is making special provisions in physical planning for the setting up of small scale enterprises, including supporting infrastructural facilities. Also the urban authority may directly provide financial support to these establishments in the form of loans on concessionary terms. This has been successfully tried for example by the Madras Urban Development Authority in India.

The other important aspect of supply planning of labour resources is its 'regional dimension'. Clearly given the absolute size of most of the Asian countries and regional diversities the need for a regional approach in many countries is both recognised and practised. Also in some countries, especially Indonesia, there are specific programmes for transmigration of the population from the densely overpopulated islands to the relatively underpopulated ones. In Indonesia attempts at 'regional employment planning' have been underway for almost a decade. In recent years regional employment teams were set up, under the authority of the Provincial Planning Authority (BAPEDDAS), with involvement of key Ministries and the Secretariat of the team being established at the Provincial Department of Manpower.² The aim was to coordinate attempts

1. For details see Zhang Zhijian (1986).

2. See Suroto and Prijono Tjipthoherjanto (1986).

by the Provincial Planning Authority as well as the line Ministries in identifying areas where government attention would encourage employment generation especially in project identification and selection as well as concerted action in manpower planning to meet effectively the skill requirements of the province. It is now being realised that there is considerable need for further strengthening the human resource planning capability at the provincial level in Indonesia and concerted steps both for setting up more effective information gathering systems as well as for increasing the role of the teams in overall provincial planning are presently underway.

An area which in recent years has become extremely important in a number of countries in the Asian region is the 'outflow of contract labour' seeking employment in the oil exporting countries of the Middle East and North Africa. These outflows have had extremely important employment and labour market implications for the labour sending and labour receiving countries. For example, during Pakistan's Fifth Five Year Plan (1978-83) it is estimated that as much as one-third of the increase in the labour force may have left for jobs in the Middle East. Attempts at projecting this overall demand and specific country shares has been a hazardous task as we have discussed earlier in terms of Pakistan's Sixth Plan, especially, given the uncertain future of oil prices and its implications for expenditure plans of the labour receiving countries. Unfortunately, records of return flows hardly exist and this adds greater uncertainty to pressures on the domestic employment situation.

1.2.3 Labour Absorption and Employment Planning

The crucial question relates to the expected increases in labour absorption in the economy given the increase in labour force supply and measures required to minimise imbalances that may arise. Basically the task is of adopting a suitable structure of investment and production, appropriate types of technology and mix of production techniques and organisational support which promotes the growth of productive employment. While at one level this involves linking up these decisions through physical calculations their impact on employment and actual policy issues involved are indeed much wider. They encompass basic structural changes in distribution of productive assets, e.g. land reforms, and distribution of income to questions relating to labour market functioning, policies for employment creation and policies for employment of women. At the sectoral level they require analysis of structural shifts in composition of investment and output, technology choice policies, institutional changes including effects of wage policy and labour legislation.

The employment experiences covered in the country studies touch upon a number of these issues. We may briefly divide the main issue into attempts at macro employment planning and projections and sectoral employment planning.

(i) Macro Employment Planning and Projections

The two standard techniques for employment projections are (a) methods using incremental capital labour ratios and incremental labour productivity, and

(b) techniques using elasticity coefficients.¹ In both cases normally historical estimates are used with slight modifications to project future growth of labour demand. Attempts at projecting employment by sectors based on elasticity estimates have been done in a number of countries in the region.

There are, however, a number of inherent problems in using historical employment elasticities to project future demand.² First, are the sharp fluctuations in productivity growth over different time periods both aggregate as well as for the major sectors. This is also true for sectoral employment elasticities. To a large extent these are a reflection of poor estimates for the growth of output for some sectors as well as extremely weak data on sectoral growth of the labour force. Secondly, and more importantly, there are problems of meaningfully interpreting changes in employment elasticities especially for sectors where wage employment is not a significant proportion of the total labour force. Changes in employment elasticities for the agricultural sector in fact more often than not reflect changes in growth of output and are of little use in estimating actual labour absorption. Only in cases of sectors such as manufacturing and here too the large scale manufacturing and to some extent urban small scale do the elasticity estimates provide some meaningful interpretation of real employment growth. For the other sectors as mentioned earlier estimates of the labour force reflect primarily sector status of the workforce rather than man years of employment and therefore provide little indication of actual increase in employment generated.

At their very best employment projections using these techniques should be based on a realistic range of employment elasticity or incremental labour productivity estimates so as to come up with some broad indication of the extent to which the overall economy and the major sector will be able to provide productive employment over the plan period. These may then be compared with expected increases in labour supply to gauge the possible intensity of the employment problem.

It is not surprising, therefore, that aggregate employment projections have given way to detailed sectoral analysis as the basis for employment planning and policy-making. This, however, does not imply that aggregate employment projections should be ignored in working out the macro framework underlying a medium-term planning exercise. Unfortunately, few countries in the region have seriously tried to integrate employment in plan modelling exercises undertaken in the preparation of their five year plans. The Indian case has been in this sense different from the others. In the Fifth Plan (1975-80) the employment sub-module was added on to the core planning model. In the Sixth Plan (1980-85) the employment calculations were a part of the core model calculations and the way in which this was done with other key economic variables is illustrated in Chapter 11 of this book.

(ii) Sectoral Employment Planning

A clear lesson that has emerged from the employment experience of most of the countries in the Asian region is the limited labour absorption capability of

1. See ILO/ARTEP (1984) for details.

2. These are also discussed in detail in Amjad (1985).

the large scale manufacturing sector which has accounted for a substantial proportion of the total development resources invested by these countries. Also increasingly the capacity of the state to provide employment in the public sector is shrinking especially with increasing emphasis on 'privatisation' of the economy in recent years.

With the large proportion of the labour force engaged in agriculture and the growth of labour absorption outside the agricultural sector in most cases not sufficiently high to absorb this increase in the labour force it became increasingly important to explore possibilities of how to enhance productive employment within the agricultural sector itself. This required both a study of the historical experience of countries especially the East Asian countries which had managed to achieve this in the process of their economic development as well as to study in detail factors which are presently affecting labour absorption in the agricultural sector.¹ As the Indian study (Chapter 11) points out, the demand for agricultural labour has been extensively studied and farm management data has been analysed to estimate crop-wise labour demand as also the role of complementary and substitute inputs. It has been shown that while labour demand for a crop goes down on account of new technology (e.g. lower labour persons per day in high yielding paddy or wheat as compared to traditional varieties), labour intensity per hectare increases on account of cropping pattern shifts or increases in cropping intensity. Similarly, the results of the National Sample Survey (27th Round) were processed to analyse regional differences in labour use in the agricultural sector. For the country as a whole employment elasticities with respect to output were negative. However, the relationship of employment per hectare with irrigation variables, such as pumpsets installed per hectare or gross irrigated area was strongly positive. Also employment per hectare was strongly associated with and showed significantly positive elasticities with respect to percentage of land operated in farms consisting of 5 acres or less. These findings were reflected in the employment strategy adopted for the Fifth Plan based on the following three main conclusions: (a) rural employment is strongly associated with provision of irrigation facilities; (b) investment variables like tractorisation showed negative elasticities with regard to employment; and (c) strong association between higher employment elasticities and land distribution. As a result of the study findings it was also considered essential that a regionally disaggregated agricultural development strategy be adopted. However, the overall conclusion was that while employment opportunities were generated through production planning strategy by the agricultural sector, they would not be enough to absorb the additions to the labour force and the backlog inherited at the beginning of the Fifth Plan.

Given the limitations of labour absorption in the farm sector and to prevent labour migration to urban areas a number of countries in the region have realised the need to develop the non-farm sector of the rural economy. As the recently launched Bangladesh Third Five Year Plan (1985-90) states, "Even with the fullest development of possibilities of labour absorption in crop production

there will remain a large surplus of labour for whom employment opportunities need to be created in the non-farm sector".¹ The major thrust in the Bangladesh Third Plan for employment creation in the non-farm sector is the development of rural industries which are viewed as the logical way of creating optimum possible employment opportunities being close to the markets of their products and labour. Also they must be based mainly on locally available raw materials and indigenous resources so that maximum benefit can be derived from them through the multiplier effect. It is, however, emphasised that a dynamic growth of the rural industry cannot be possible feeding on mainly poor households in the rural economy. Hence a comprehensive rural development strategy covering agriculture and industries would be necessary so that they re-inforce each other by increased supply and demand for goods thereby increasing employment opportunities. The experience of China in rural industrialisation is well documented especially the extremely high growth rate of output and employment achieved in recent years.² In a number of countries in the region including Pakistan measures are being actively initiated to encourage the growth of this sector which can play a dynamic role in employment generation in the rural economy.

It is important to emphasise that the whole issue of employment generation in the rural economy can only be fully analysed within the framework of how *rural labour markets* function. The actual translation of any employment policy into generation of employment and enhancement of real incomes in the rural economy is critically affected by the manner in which rural labour markets are organised. The fact that rural labour markets themselves in recent years have been subject to far reaching changes has increased the importance of understanding their functioning. These changes include the growing landlessness and proletarianisation of rural households, the introduction and spread of seeds of high yielding varieties and widespread use of mechanical devices for some operations. From the point of view of the rural labour markets, increasing landlessness can have important implications for the supply of labour and consequently for the supply price, wages and the bargaining position of labourers and the kind of contractual arrangements they make. Different types of labour contracts and modes of payments may also co-exist even in small geographical areas like villages and the system as well as the mode of wage payment usually vary under different contractual arrangements. At the same time in many countries rural labour markets are segmented and specific groups assigned to carry out particular tasks. In such circumstances it is possible for a situation to arise while overall there may exist surplus labour in the rural areas for certain tasks there may be acute shortages especially during peak seasons. As a result the pace of mechanisation in activities such as harvesting and sowing may accelerate despite excess supply of rural labour as only certain groups in the labour force (e.g. landless labour) may be prepared to undertake these tasks. At a high enough wage rate these barriers may break down and generate sufficient demand pull to attract other sections of the workforce (e.g. small farmers) into

1. The ARTEP has made major contributions in this field. For details see Ishikawa (1978), Bardhan et al. (1978), ILO/ARTEP (1980a & b), Gooneratne (ed.) (1982) and Khan and Lee (1981).

1. Planning Commission, Government of Bangladesh (1985), p.106.

2. See Saith (1986).

these activities but then the equilibrium wage rate would be higher than under conditions of a non-segmented labour market.

Turning to the manufacturing sector two features of the Asian experience prominently stand out. First, that in most cases the overall labour absorptive capacity of this sector has been limited and there have been only marginal increases in the share of the labour force in this sector over the last two decades (See Table 1.1). The second is the contrasting experience of a few selected countries which have managed to achieve both high rates of growth in manufacturing output as well as in employment in this sector. Of these the two covered in our case studies Singapore and Republic of Korea prominently stand out and are increasingly cited as examples of having followed a successful strategy of 'export-led growth' in the manufacturing sector. The experiences of these have been extensively analysed.¹ It is now generally recognised that while their experiences (especially the Republic of Korea) certainly are not supportive of the simplistic 'laissez faire' interpretations and limited role of the government, they do at the same time provide enough evidence to suggest that over-protected industrial growth (i.e. heavily biased 'import-substitution' industrialisation) and excessive controls mitigate the path of industrialisation which reflects factor scarcities and in many cases biases growth in favour of the large scale sector at the expense of the more labour intensive small scale sector. In fact studies of other countries in the region also provide evidence on this score. The study of the industrial experience of the ASEAN countries showed that policies which distorted prices especially of capital and foreign exchange led to a bias in favour of more capital intensive industrialisation.² Pakistan amongst the South Asian countries also provides a classic example where policies, especially overvalued exchange rate and subsidised capital in the sixties resulted in an extremely inefficient industrial structure in terms of employment growth and where the switch over to more realistic exchange rate policies in the early seventies was an important factor in leading to a very impressive growth of the small scale sector. However, in Pakistan's case the almost stagnant if not declining trend in employment in large scale manufacturing meant that overall employment growth in this sector was very limited.

The key issue that exists in a large number of Asian countries is still how to facilitate a labour intensive path of industrialisation while taking into account the dictates of modern technology, international competitiveness and growth of productivity. Also while the experiences referred to earlier do have important policy implications for future industrial growth as well as for immediate policy reforms the manner and speed with which they are to be carried out in individual countries still pose considerable problems. In India recent attempts at import liberalisation may have had unfavourable consequences for employment.³ In the case of Sri Lanka again there is now sufficient evidence to suggest that the post-1977 liberalisation policies have had an adverse impact on the small scale sector especially the rural small scale industries.⁴

There is little doubt, however, that the whole industrialisation issue for

1. See Eddy Lee (1984).
2. See Amjad (1981).
3. See Jayati Ghosh (1986).
4. See S.R. Osmani (1986).

many of the Asian countries has to be seriously re-assessed and the path of future industrial growth more carefully worked out. At one level the whole present debate on 'industrial restructuring' is concerned with this important issue. Of course, industrial restructuring has different implications for different countries in the region given differences in industrial structures, stages of industrialisation, and more importantly in terms of labour supply pressures. Also the pressures stemming from short-term adjustments need to be carefully weighed against their implications for long-term growth.

It is, however, also clear that the manufacturing sector can no longer hold the same promise for labour absorption as many of the earlier development economists had envisaged and that many of the Asian countries would have to increasingly search for other leading sectors in the economy to take on this role.¹ In this context the role of the *construction* sector especially urban housing as an alternative, in being able to generate employment is being discussed especially in response to fall in either export earnings (e.g. oil in the case of Indonesia) or due to decline in overseas migration (e.g. Pakistan) especially when an immediate response is required to counteract the fall in labour demand. In this context a more dynamic role for the *services sector* is also being emphasised as has been done recently in Thailand's Sixth Five Year Plan (1986-90). The service sector is no longer viewed as a residual for excess supply of labour but rather of serving a real need and one which can make an important contribution in supporting the growth of the directly productive sectors. At a time when there is increasing pressure on the reduction of public services an increasing role for *private services* both in contributing to the growth and development of other sectors as well as in providing productive employment is being increasingly realised.

We have only touched upon some of the important sectoral issues bearing on employment generation in the Asian region. The point that needs to be emphasised is that meaningful employment planning can only be undertaken in a sectoral context and viewed as flowing out of a particular set of policies affecting the growth and development of the major sectors in the economy. The lessons that emerge are that one will have to increasingly look beyond the traditional sectors which had earlier been equated with labour absorption in the process of economic development especially the non-farm sector in agriculture and a more dynamic and productive service sector.

1.3 Manpower Planning Experience

The objectives of manpower planning are primarily two-fold. First, to make an assessment of the skilled human resource needs of the economy within a specific time frame and to see to what extent the production of skills will match the estimated demand and suggest measures which will to the extent possible reduce the supply-demand imbalances. Second, to provide an analytical framework for undertaking human resource planning which will serve as a guideline for educational planning and making appropriate investment in education, training and manpower development.

While the importance and need for manpower planning is well realised, the

1. See M. Godfrey (1986).

actual task, as the country experiences clearly bring out, is by no means an easy one. There is still considerable controversy and debate on the existing techniques available, a situation further compounded by severe data limitations in most Asian countries. While these controversies have still not been satisfactorily resolved there remains the pressing need to develop some criteria for assessing future demand to be able to decide between alternative types of education and the categories of skills that need to be developed.

The set of country studies, especially those covering the ASEAN and South Korean experience, provide considerable insight into the manner in which manpower planning has been attempted and especially the weaknesses of some of the conventional approaches adopted. Our interest here is not only to examine the use of the conventional techniques but more important to see whether they have actually served as guidelines for decision-making in resource allocation for skill development programmes. However, as pointed out, the aim of manpower planning is not only in identifying skill needs but also in providing a comprehensive framework for educational planning. Here important questions relate to the total amount of resources invested in the education sector, its spread between primary, secondary and higher education as well as between technical and general education, cost effectiveness of alternative skill development programmes and the important issue relating to 'quality' of education.

1.3.1 Manpower Forecasting: Performance Evaluation

Despite the inherent and well known weaknesses of the manpower requirement approach (MRA) most countries in the region have adopted it for making forecasts of skill requirements both for medium- and long-term planning. The major reason is the preference of planners to have quantitative estimates on the basis of which they can calculate the required levels of investment to meet the expected demand. One way of evaluating such forecasts is to compare them with the actual experience over the forecast period.

We illustrate this with examples of manpower forecasting by three countries. In Singapore the 1977 Manpower Budget focussed on two sub-periods 1977-81 and 1982-86. Projections were made separately for the two sub-periods as well as for the entire ten year period. The intention of developing these forecasts was to provide "...policy makers with a systematic and integrated picture of future manpower demands and supplies" and to furnish "...educational and training institutions a basis upon which they can adjust their future enrolment patterns to meet anticipated manpower demands."¹ They focussed on three broad occupational groups, namely (a) Graduates (high level manpower), (b) Technicians (middle level manpower), and (c) Skilled Workers (low level manpower). Comparing projected with actual employment for the period 1977-84 in the case of manufacturing, commerce and services the prediction error² was in most years significantly less than 10 per cent. In the case of construction the prediction error was as high as 20 to 70 per cent for individual years. The manpower forecasts were also tested at a disaggregative level for the 1977-81 period. The prediction error for graduates as a whole was around 15 per cent.

1. See Islam (1986), p.13.

2. Defined as the percentage difference between the actual and projected estimate.

However, for certain groups within it (engineers, doctors, "other" graduates the prediction errors were quite substantial, ranging from 19 to 32 per cent. For technicians as a whole the prediction error seemed to be within reasonable limits (7 per cent) but again for the different sub-groups it was quite large, ranging from 27 per cent (mechanical engineering) to 84 per cent (electrical and electronic engineering).

The Thailand study (Chapter 2) also provides details of manpower forecasting carried out either directly by or under the auspices of the NESDB (National Economic and Social Development Board). These forecasts were made first in 1963 by the Joint Thai-USOM Human Resource Study Task Force, for the Second (1967-71), Third (1972-76) and Fifth Five Year Plans (1982-86). The manpower projections made by the Task Force for the Second Plan were based upon the 'international comparison' approach using manpower coefficient estimates developed under the Mediterranean Regional Project. For the Third Plan the occupational coefficients were assumed to remain constant till 1976. For the Fifth Plan manpower projections were made for several key manpower categories based on different approaches. For the health sectors manpower requirement projections were based on a specific target approach. For teachers they were based on a specified student-teacher ratio. For agricultural, engineering and services, the projections were based on past trends as well as expected growth of demand of government, public enterprises and the private sectors. For vocational manpower, different methods were used for different types of manpower. For agricultural skills, projections were based on past trends and a broad assessment of future demand. The production of industrial skills was based on the prescribed UNESCO proportion of engineers to vocational technical manpower. For construction and public utilities past coefficients relating to overall GDP growth rates were used. It is interesting to note that manpower projections were not carried out for the Fourth Plan (1977-81) as it was felt that the use of this methodology was defective; this was soon re-introduced in the Fifth Plan on the insistence of policy-makers who felt that quantitative estimates were essential for manpower planning.

How well did these various projections compare with actual developments? In the case of the Second Five Year Plan (1967-71) the projection results had indicated anticipated shortages of university trained scientific and technical related manpower, vocational school graduates and trained teachers and recommendations had been made for the expansion of these skills in the educational system. Using a broad occupational grouping as a basis for comparison as data limitations do not allow a more detailed analysis, the results suggest that the Second Plan considerably overestimated the demand for skilled craftsmen, service, transport and professional workers. Studies of particular groups of vocational skills also indicated heavy unemployment among vocational graduates. In the case of the Third Plan (1972-76) additional requirements of production workers was also overestimated as was the additional demand for professional and technical occupations. The Fifth Plan (1982-86) projected increasing unemployment amongst vocational and teacher training graduates by the end of the Fifth Plan. While the unemployment statistics mid-way through the Plan, i.e. in 1984 do point to unemployment amongst vocational and teacher training graduates, their number appears much lower than projected by the

forecast. As for manpower in higher educational categories based on a general overview of the Thai labour market, rather than a comparison based on official data as this was not available, surplus did not arise for selected professional skills, e.g. pharmacists or dentists as suggested by the forecast. However, engineers and scientists were in slight surplus as suggested by the forecast, but for certain categories of engineers there were shortages and their wages were pushed upwards.

In Malaysia manpower planning forecasts of future requirements have been derived from a variety of techniques. In the earliest attempts the survey method was relied upon, subsequently statistical extrapolations and regression estimations were utilised and more recently computer-based data banking techniques have been introduced experimentally. To test the accuracy of these forecasts the results of the 1973 Manpower Survey were compared with the actual situation in 1980 as reported in the Fourth Malaysian Plan. The comparison at an aggregate level suggests that for major occupational groups, the planners performance was mixed. They were quite successful in their forecasts of the professional and technical, clerical, service and agricultural occupations. However, there were significant deviations in the case of other major occupational groups. In particular there was a 29.2 per cent underforecast of requirements for production workers implying that the volume of inter-sectoral shifts in the labour force were largely unanticipated by the planners. Likewise there was an 18.4 per cent underestimation of employment growth in sales occupations and 13.1 per cent underestimation in administrative and managerial occupations.

For specific occupations for the major groups comprising professional, technical and related workers, in a few cases the projections were very accurate (+ or - 5 per cent difference) especially for mechanical engineers, mining engineers, veterinary assistants and pharmacists. However, in the case of others there were very wide discrepancies. Requirements for agronomists and related scientists were underestimated by 492.5 per cent, civil engineers by 169.2 per cent, electrical engineering assistants by 231.8 per cent and engineers, not elsewhere classified, by 451.5 per cent, system analysts by 137.5 per cent and architects and town planners by 101.4 per cent. There were also several over-projections although the margins were considerably smaller. In the largest single occupation, i.e. primary and secondary education teachers, net requirements were overestimated by 38.1 per cent.

Where planners and forecasters failed rather seriously, as the Malaysian study points out, was in underestimating the rate of structural and technological shifts which unfolded rapidly as a consequence of the Malaysian industrialisation drive after 1970. While therefore manpower planners were relatively successful in so far as the overall manpower requirements of the public sector and high-quality manpower categories were concerned their performance was seriously deficient in sectors experiencing rapid technological and structural changes.

We have covered in some detail the experience of some selected countries in manpower forecasting. This is primarily due to the fact that in the majority of the country studies covered both in the formulation of development plans as well as the major research studies conducted in this field more often than not the forecasting approach was adopted. It is also clear from the review of the country

studies that in a number of cases planners have opted for the forecasting approach despite acknowledging its weaknesses and in some cases (e.g. Thailand) have again reverted back to this approach after discontinuing its use for some period of time.

This experience in manpower forecasting raises the following important issues:

- (i) Do the results of the country experiences justify a total rejection of the forecasting approach? If so what should be an alternative approach or approaches? Have these alternatives been used and with what results in the Asian region?
- (ii) To what extent can the forecasting approach be combined with alternative approaches to provide a realistic and effective basis for manpower planning?

1.3.2 *Alternative Approaches to Manpower Planning*

Analysis of the 'rate of return' to investment in education provides a different approach to manpower planning. In this approach priorities in investment in human capital are determined in the same way as priorities in investment in physical capital and one should expand educational facilities in the directions in which the rate of return are highest. In common with physical investment, an educational investment has a cost, and a resultant benefit. The benefit is seen in the increased earnings which follow from training or education. The costs consist of the range of items associated with the investment: teachers' salaries, imputed rent on buildings and equipment, expenditure on books, etc., and foregone earnings (i.e. what the students could have earned had they not been in school). A distinction is made between the 'social' and 'private' rate of return as society and individual must measure costs and benefits differently. Although 'social' and not 'private' rate of return is directly used in determining priorities, it gives an indication of the future demand for different types of education. As such it can help the planner to anticipate future pressures to deviate from a policy based on the social rate.

There are also major problems associated in implementing the cost-benefit approach in manpower planning especially in relation to quantifying costs and benefits. While these problems still remain there is now a considerable body of literature on the estimation of 'social' and 'private' rate of return by educational level and by types of specialisation, and we can draw some lessons from these results. Although it is dangerous to generalise too mechanically, certain patterns can be easily detected from an international comparison of return estimation.¹ First, rates of return to investment in education are usually higher than the alternative rate of physical capital. Second, returns to education are higher in countries at a lower stage of development, and with a narrower base of education. Third, returns to primary education (whether social or private) are the highest among all educational levels. Finally, the private returns are in excess of social returns, especially at the university level. This information can

1. See Psacharopoulos (1973) and Psacharopoulos et al. (1983). These results are reported in Thamarajakshi (1986).

help us decide on the choice between primary, secondary and general higher education. As regards technical education, the rate of return analysis, helps focus attention on 'cost-effectiveness' in production of specific skills as well as in deciding substitution (to the extent possible without adversely affecting quality and output) of higher skills by lower skills.

There is little doubt that the results of the rate of return analysis helped strengthen the case for increasing the share of resources to primary education in a number of countries and also in diverting resources from general higher education. For example, in the case of the Philippines the ILO Report (1974) took a strong stand in favour of the rate of return approach to the analysis of public investment decisions in education and cited a number of arguments against the manpower planning approach.¹ The conclusion reached and the recommendations given by the ILO Report were in favour of continuing public support, especially by way of curriculum reform for elementary and to some extent secondary schooling. College enrolments, however, needed some cutting down, through the National College Entrance Examination. Non-formal education geared to productivity change, such as the family planning and nutrition campaign, it was stressed should be given more attention, especially through the use of the already existing wide network of mass media. Vocational training should be less specialised in orientation and should be addressed to an expanded clientele in the region. In Thailand the study by Blaug (1972) to assist educational planning was based on the rate of return approach. Blaug used cross-section data with the stepwise regression procedure to estimate the personal earnings equation. The cost data with respect to higher education, were derived from an analysis of budgetary accounts, but in the case of elementary schools, they were obtained from an independent survey. The results indicated that primary education had the highest, social and private rate of return, followed by senior primary, junior secondary and higher education which had the lowest social rate of return. The results of the Blaug study were said to have influenced education policy in Thailand in expanding rapidly primary education as well as the reduction in state subsidies on higher education in later years.

The study on the Republic of Korea (see Chapter 7) provides a detailed and good example of how the rate of return methodology combined with an evaluation of manpower programmes, with special emphasis on cost effectiveness, has been used for the formulation and implementation of economic policies in the manpower field. The study points out that, "Korea's successful industrialisation has been largely due to vocational and technical education by timely widespread provision of vocational training at secondary level. Hence changes in vocational education and training are always under review and constantly being adjusted to the needs of the rapidly developing industries".² The Republic of Korea is also amongst the few countries in the region which carries out its vocational training programmes under a Five Year Plan framework.

Studies carried out in the Republic of Korea to measure the rate of return to

1. See Tan and Alonzo (1986).

2. See Yoo Bae Kim, (1986).

educational investment display a compelling consistency in their findings of economic benefits to individuals and society which, over time outweigh the cost of training. The results of the studies generally indicate gains in employment, wage rates, and earnings for trainees sufficient to generate favourable rates of return, with both private and social rates of return, for vocational technical college significantly higher as compared to high school and middle school leavers. Also the results suggest that while women who have completed high school or college may do less well in the labour market than do their male counterparts, they however, do experience substantial improvement in income from vocational and technical college level training.

Studies to quantify the impact of vocational training programmes in the Republic of Korea are based on a comparison with the labour market experience of other groups (e.g. unskilled workers) and have come to the conclusion that manpower programmes have in general a substantial positive impact upon the employment and earnings of their enrollers. They also show significant differences in internal rates of return across educational background and training programmes. In most cases those with in-plant training had higher income gains as compared to public vocational training and those with higher educational background also experienced a higher rate of return. The post-training employment experience of trainees was also used to measure the effectiveness of the manpower training programme.

In evaluating the rate of return criteria for investment in educational planning it needs, however, to be emphasised that especially in working out the social rate of return there are a number of assumptions which have an important bearing on the results of the calculations. One such assumption is that observed wages reflect the marginal product of labour. Also in working out cost estimates there are a number of practical difficulties which in many cases are resolved by making simplified assumptions which may not stand upto careful scrutiny. As a guideline to manpower planning the rate of return criteria, however, suffers from two main drawbacks. First, while it provides an indication of the direction of future profitability of investment it does not provide quantitative estimates of the desirable expansion in different directions. Second, while it can help decision-makers in resource allocation decisions between different levels of education, i.e. primary, secondary and tertiary and between technical and general education it does not always provide sufficient detailed information on specific skill levels which need to be expanded. Although, it is possible to work out the rate of return for each specific skill category this is practically not feasible given the wide range of skills that exist. Where, however, the rate of return analysis is extremely useful is in its focus on 'costs'. This is especially important as costs of technical education at all levels are many times the cost of general education and considerable savings can be generated through better and more effective utilisation of existing technical institutions and in deciding between alternative programmes, e.g. on-the-job training vs formal training, and in the case of the latter between training programmes run by different ministries and departments.

One of the positive trends that emerges from the country studies is that there is an increasing realisation of the need to move away from traditional techniques of manpower planning towards *manpower analysis* (also termed as the

'diagnostic' approach) and the importance of a better understanding of the function and role of *labour markets* in carrying out such an analysis. At one level this is a reflection of a general disillusionment with traditional techniques. However, more importantly it represents increased awareness that manpower planning is not simply a matter of working out supply and demand balances or decisions to invest in human capital but that the exact outcome of such situations are more complex and determined by a large number of factors which simple formal analysis fails to capture.

An important outcome of manpower analysis is that as in the case of employment planning discussed earlier it has shifted emphasis to studies at the 'sectoral level' instead of concentrating on overall or macro planning exercises. This has a number of advantages. Firstly, while undertaking overall or macro manpower planning exercises it is not always possible to bring out the detailed manpower needs of each sector and more importantly to capture structural changes and adjustments which have important implications for investments in skill training programmes. This may not only be true for the 'manufacturing sector' which is subject to structural shifts but also for other sectors like agriculture, whose present demands on the formal education system may be minimal but with the introduction of capital and skill intensive technology throw up needs for skills whose production planning has to be undertaken. Similarly, in the case of the energy sector, where large scale development programmes have been initiated in recent years, which will become effective over a longer period of time, the manpower needs must be planned especially since these are not reflected through existing labour market signals. The other considerable advantage of manpower analysis is that it concentrates on specific problem areas which emerge especially at the detailed occupation and skill category classification. This is especially important for higher skills and occupations where for example the whole issue of unemployment amongst fresh graduate doctors in many countries is the focus of considerable government concern and attention. In this case given the very low doctor population ratio there is at one level a real social need to expand health services but given the preference of fresh medical graduates to work in the public sector in the urban areas it means that a number of them remain unemployed. The answer to these problems lies in many cases in the form of a "package" approach encompassing increasing shifts in existing medical hospitals, loan facilities for fresh medical graduates to set up their own clinics and monetary and other incentives including better housing facilities to attract them to work in rural areas.

Clearly the whole emphasis on manpower analysis means concentrating on and understanding labour markets and processes which primarily determine the manner in which the demand signals are finally communicated and the supply response to them. This is not to view the problem only in terms of increasing labour market 'efficiency' by reducing institutional and other constraints but also the social processes underlying labour use and their implications for both production and distribution.¹ The first brings out the importance of encouraging inter-sectoral and inter-firm mobility if productivity growth is to be enhanced and measures including wage differentials and other incentives which

1. See Gerry Rogers (1986).

encourage such movements. The latter stresses the role of the social structure in determining educational and training credentials and acting as an inhibiting force on overall labour mobility and more importantly in the distribution of economic benefits.

On the issue of the methodology for manpower planning we can now draw some broad conclusions. The first that equating manpower planning simply with manpower projections must be dispensed with and the sooner this is done the better. However, what the country experiences also show is that there is no single methodology with which this can be replaced.¹ For certain issues in manpower planning the rate of return analysis provides a useful guide including focussing attention on the important aspects of cost-effectiveness of alternative manpower development programmes. Increasingly also countries are realising the importance of manpower analysis (the 'diagnostic' approach) and the need to analyse manpower problems in the framework of existing labour market processes.

The real task is to devise a framework which can help combine these alternative approaches for meaningful manpower analysis and implementation. The need is to concentrate on policy issues which are of immediate concern to the policy-maker distinguishing between different levels of policy-making. For example, it may not be important for the planner at the national planning agency to know what the total demand for skilled production workers at a very detailed occupational classification level (e.g. carpenters) is going to be 10 years hence. What he needs to decide upon is how much of the national development resources should be allocated to technical education. The actual skills to be offered in various technical institutions can be best left to local technical institutions in response to local conditions. This does not imply that there should be no coordination between different agencies. It only underlines the fact that no central agency should take upon itself the task of all manpower planning decision-making.

1.3.3 Selected Issues in Manpower Planning

We now turn to some selected issues and problems which countries in the region have faced in the development and optimal allocation of their manpower resources and which are emphasised in the country studies.

An important realisation is the need for encouraging mobility of labour for efficient allocation of the skilled manpower resources available. The contribution that inter-firm, inter-industry and regional mobility of labour can make to overall productivity growth in the economy is now increasingly recognised. The recent labour market reforms being introduced in the People's Republic of China are perhaps the best example of the introduction of selected market forces in a centrally planned economy to encourage such mobility.² The earlier system of employment and manpower planning was designed primarily to ensure that the allocation of workers to different sectors and enterprises would enable the latter

1. The limitations of manpower forecasting and ways in which this may play a limited but useful role in manpower planning is discussed in the paper by Godfrey and Stavenuiter (1986).

2. See Edgren and Amjad (1986) for a brief description of some of these recently introduced reforms.

to meet production targets laid down by the national and provincial development plans. Seen as a whole the system of employment planning was successful in bringing about massive redistribution of labour without creating open unemployment. A number of factors in this system discouraged labour mobility which was amongst the lowest in the Asian region. One reason was the tight control on rural-urban migration. Another factor was that enterprises were unable to lay off workers that had been hired. Wage policies also mitigated labour mobility by offering too small incentives in terms of straight wages and too much in terms of service-related fringe benefits. Among the important steps which are being taken to encourage mobility are greater powers to enterprises to determine how many employees they need, introducing a system of transferring redundant workers facilitated by employing workers on contracts of limited duration (3 to 5 years), setting up technician exchange centres under the guidance of the Department of Labour to facilitate mobility of skilled labour and linking wages with productivity gains. Similarly mobility between sectors is being encouraged especially redundant workers in industry (estimated at about 15 million) to the service sector, in the rural economy the 'surplus' labour from the farm to the non-farm sector, especially rural industries, and finally by encouraging self-employment through setting up of small enterprises hiring at present upto 10 workers.

A crucial factor in encouraging labour mobility and helping to reduce skill imbalances in the economy is the availability of adequate labour market information. This is a field in which not only the central planned economies but also the predominantly market economies are seriously deficient. Many countries in the region are in the process of trying to upgrade and improve their existing systems. It is now increasingly realised that existing employment exchanges are serving a very limited role in this regard. The introduction of electronic data processing systems in providing and processing such information is considered as having much potential in overcoming some of the inherent weaknesses in the existing system. What needs to be emphasised is that while such systems can play a positive role in providing timely and adequate labour market information considerable amount of groundwork needs to be done to effectively install and benefit from such systems. Especially, there is need to work out a detailed occupational classification together with identifying and defining other variables on which information is to be stored.

An important question is whether the country experiences point to serious skill shortages developing at different time periods, especially of skilled and semi-skilled production workers and whether this acts as a serious constraint in the countries overall development effort. In some extreme cases this did happen as for example skill shortages appearing in Pakistan and other labour sending countries because of the massive exodus of workers to the Middle East especially in the construction sector. However, the country experiences do not seem to point out such striking instances of shortages of skilled production workers except for certain exceptional cases as China, immediately after the Cultural Revolution.

Can one draw the conclusion from this that in the supply of skilled and semi-skilled production workers labour markets have functioned fairly efficiently and shortages as and when they developed have been overcome in

fairly short periods of time? In answering these questions especially in relation to the developing or semi-industrialised countries three important points need to be borne in mind. First, the fact that existing needs were met does not mean that the pace as well as the process of structural change was not constrained by the availability of skilled manpower. To the extent that potential investment, both domestic and foreign, may not be forthcoming because of fears of lack of skill availability this can adversely influence further growth prospects of the economy. The second issue relates to costs. In many countries to overcome skill constraints investors resort to providing their own training facilities so as to ensure that skilled manpower will be available once the plant is ready for production. This is separate from on-the-job training which may be later imparted to trainees who have received skill training from facilities built and operated by the management as part of the construction phase of the project. Clearly this results in much higher costs than in the alternative case where labour trained in basic skills would be available from public or private institutions. The third question relates to the quality of the skilled labour force. Again potential investors may shy off from making new investments or expanding existing plants if they find quality of output is being adversely affected by poorly trained manpower. This would be especially true for products which have to compete in the export markets.

It is especially when viewed in these terms that there are clearly many instances where overall development programmes including potential to attract foreign investors have been seriously constrained by lack of skilled manpower. An example of this is Malaysia where levels of foreign investment especially in the 'hi-tech' industry have been lower than planned mainly because investors believe that it does not adequately possess a trained labour force capable of absorbing more technology intensive industries. Such factors assume even more importance as other countries in the region (e.g. Singapore and the Republic of Korea) who compete for such foreign investment may be more attractive to investors as they have the necessary labour force capability.¹ The Malaysian authorities are now increasingly aware of these shortcomings and the Malaysian Industrial Development Authority (MIDA) together with the Ministry of Labour who are primarily in charge of manpower planning for the private sector are in the process of launching a number of skill development programmes to meet the needs of 'industrial restructuring'.

What the Malaysian experience emphasises is the importance of manpower planning as an integral part of the industrial restructuring programme. It is important also to note that normal market mechanisms are unlikely to be able to take care of the manpower consequences of industrial restructuring. Amongst the reasons for this is the imperfect knowledge by potential suppliers of skills of the new pattern of demand and longer gestation periods for generating the higher skilled workers required by the new industries. Also as pointed out on-the-job training by new firms is not likely to provide a solution as the prior availability of the required skilled labour is usually an important part of the inducement to invest. In undertaking manpower planning in such

1. See Also *Far Eastern Economic Review*, September 4, 1986, "Look East or Look West, High-tech Eludes Malaysia", p. 66.

circumstances there would have to be a premium on flexibility in the skill development programmes. The manpower requirements of the restructuring programme would need to be translated into broad types of skill requirements and training provided for each of these general categories. The 'fine tuning' for specific requirements can then be based on each general skill category.¹

Central to the whole discussion of supply of skilled and semi-skilled production workers to meet development needs is the role played by the government in the provision of such skills through its *vocational and technical training* programmes run either by the Ministry of Labour, Education or Production ministries. In a number of countries the experience has been a very mixed one and especially in countries like India there is growing frustration with the existing pace and results of such vocational training programmes as part of an overall strategy to shift high school students towards vocational education. As a recent report² points out, exactly 20 years after the Kothari Commission on Education drew up a scheme to attract one million, or 50 per cent of the students seeking admission to colleges into job-oriented courses till 1985 only 72,000 or 3.6 per cent of the total of two million high school students had enrolled in job-oriented courses. Also in most states hardly one out of four students who passed such courses got jobs, the rest remained unemployed or went back to colleges thereby defeating the very purpose of vocational courses.

The whole issue of vocational training by both the public and private sector as well as the increasing emphasis to impart basic technical education and skills at the general secondary level is one which needs to be seriously examined. The key question is the need to devise policies which can minimise the mismatch of supply and demand for skills as well as measures to make the programmes more cost effective. There are countries in the region from which one can learn especially the Republic of Korea whose experience we have discussed earlier. But given the key role that the supply of skilled and semi-skilled production workers plays in both overall industrialisation and industrial restructuring the need to effectively plan for their efficient production and utilisation is an urgent task.

In the overall field of educational planning the country studies bring out a number of important issues and problems which have arisen and we basically touch two issues of central importance especially as regards higher or tertiary education. The first relates to the 'quality of education' which is of course extremely relevant not only to higher but all levels of education. The second is the issue of 'educated unemployed', especially amongst youth and fresh graduates. Both issues are in fact closely related. Educated unemployment is not just the result of over emphasis in general education or wrong choice of specialisation. In many cases it is directly related to the quality of general education imparted. The reason why many fresh graduates with general education face long periods of unemployment is not simply a matter of not possessing specialised skills but because the quality of their education makes them unemployable. This is in no way to underplay the important need to shift from general to more technically trained manpower at the higher level but it is

1. See MAMPU/ILO-ARTEP (1984) for further details.

2. See *India Today*, December 5, 1986, "Vocational Studies: A Dismal Failure", p.174.

also important to realise that this will be subject to overall demand limitation for such manpower. A more sound well-rounded general education could provide the necessary flexibility for further training as well as confidence to opt for self-employment. The decline in the quality of education is not only linked with government run educational systems but as the Philippine study (Chapter 5) points out is also the result of rapid expansion of private educational institutions for those unable to find admission in state run colleges and universities.

In the context of educated unemployed the whole issue of increasing emphasis on 'privatisation' also needs to be examined. Traditionally in almost all countries in the region the public sector was the main employer of the higher educated and trained manpower. This capacity of the public sector has declined sharply in recent years both because of absorptive constraints as well as because of increasing emphasis to shift economic growth towards the private sector. While there is little doubt that the public sector has become overmanned and as a result economically inefficient the fact remains that the capacity of the private sector to employ higher level manpower in many countries in the region is still extremely limited. Except for a small enclave of large scale firms, either indigenous or set up with foreign collaboration, the very large part of the economy is run by family based medium or mainly small sized firms. These firms are in most cases extremely reluctant to take on professional management preferring to rely on close family members. This trend is of course slowly changing but the pace of this change will need to be accelerated both to increase management efficiency as well as absorb professionally trained manpower which must increasingly find employment in such firms. This again is an area which has not been sufficiently explored in the past and the ways in which this process could be expedited needs careful examination.

1.4 Institutional Machinery for Employment and Manpower Planning and Data Requirements

A valuable contribution of the country studies in this book is that perhaps for the first time there is a detailed systematic account of the evolution of the institutional machinery involved in employment and manpower planning and how the role and functions of different government agencies have changed over time. As expected a number of government ministries and agencies are directly involved, with the exact numbers and their precise roles varying amongst the different countries. We briefly touch upon three important issues which are of central concern from the viewpoint of effective employment and manpower planning, i.e. formulation, coordination, monitoring and implementation of policies.

In almost all countries the two primary agencies concerned with employment and manpower planning are the central planning agency or ministry and the Labour and Manpower Ministry. At the same time a number of production ministries especially agriculture, industry, natural resource division and others are also engaged in policy decision-making which has a direct impact on employment and manpower needs of the sector. The other key ministries are of course the Ministries of Education and Health which primarily focus on the supply of trained manpower in the economy. In some countries there is also a separate Ministry of Youth Affairs.

At the formulation stage of policy while most central planning agencies have an employment and manpower unit there are two major constraints. First, that the unit may not be sufficiently technically qualified to undertake the task for comprehensive employment and manpower planning. This is not just a matter of technical capability but also lack of available data for analysis to which we shall turn later. Second, and perhaps even more important is the extent to which the plan strategy is able to incorporate the employment and manpower strategy suggested by the Unit in terms of resource allocation between sectors, funds for human resource development and relevant policy issues, e.g. choice of technology, fiscal, monetary and trade incentives which have an important bearing on employment generation.

The country experiences suggest that there is considerable need to strengthen the capability of the employment and manpower planning unit in the planning agencies. In some countries technical assistance programmes have helped in this task but much more still needs to be done. It is, however, at the stage of deciding upon the relative priority which the employment and manpower development objective has in relation to other competing demands on resources that these units find that more often than not these objectives are not sufficiently incorporated in the adopted strategy. At one level this may be a matter of political choice. But in many cases their weak bargaining position in relation to other units (especially in key production sectors) is also reflective of not either having prepared themselves sufficiently well or not being able to incorporate employment as part of the overall macro plan or model being used by the planning agency to decide upon plan targets. Both of these issues are in fact related to strengthening of technical capability of the unit discussed earlier.

The need for coordination is especially important when we find that a large number of ministries and agencies are engaged in some aspect of human resource development planning. The weakest link in most countries is between the Ministries of Education (or the supplier of skilled manpower) and the Planning and Production Ministries (primarily determining the demand for skills). Again on the supply side there are a number of ministries engaged in training of skilled manpower; besides Education these include Labour and Production Ministries. The lack of coordination between them in many cases leads to duplication of effort and wastage of resources.

It is now being increasingly realised that the key role of coordination should be in the form of inter-ministerial bodies being headed by the planning agencies. Where organisations have been set up slightly outside the system as in the case of MAMPU (Malaysian Administrative and Manpower Unit) to coordinate this task the experiments have not been successful and the role of overall employment and manpower planning is increasingly being placed with the Planning and Labour Ministries.

While formulation and coordination of policies are extremely important the key issue is how to make employment and manpower planning 'operational', i.e. ensure implementation based on regular monitoring of the situation. This is an issue which we have already touched upon in Section 1.2.1 in emphasising the increasing need for short-term employment planning within a medium- and long-term framework. In terms of the institutional machinery the need to build up such capability in both the planning agency as well as the Ministry of Labour

is now being increasingly realised. In Bangladesh steps are already underway to help set up such a Unit and a number of countries in the region are seriously considering doing so.

What however, needs to be realised is that these tasks are only possible if there is access at least to some reliable and regular sources of data to analyse and assess the changing employment situation and manpower needs of the economy. The importance of labour market analysis and labour market information has been repeatedly stressed throughout this paper as also in the country studies. We have also pointed out that it is not just a matter of generating numbers but variables which are conceptually sound and also reasonably reliable and consistent over time. In many cases one finds that even where data exists it tends to 'crumble' once it is subject to any detailed analysis. Some countries have, however, been more successful than others in being able to generate data for sound analysis and there is much to be learnt from these countries. Important data needs must be identified especially alternatives which may be more easily available and serve as proxy indicators to the changing labour market situation (e.g. wage data) than present day sources which are extremely difficult to collect and are only available after long intervals.

1.5 Conclusions

The Chinese experience aptly sums up the labour force planning experience over three decades, as "a curving road" from which many profound lessons were learnt. There is little doubt that the same could be said for most of the other country experiences.

We may now try to draw some broad conclusions to answer both the specific issues raised at the beginning of this chapter.

First and foremost, a number of country experiences suggest that while the objective of human resource development has certainly moved to the centre stage of development priorities in almost all countries, in actual practice sufficient importance is still not attached to the attainment of the specific objectives of employment generation and manpower development. This is especially true in terms of resource allocation and adoption of policies which have a direct bearing on these objectives. At the same time, country experiences also clearly show that there have been significant improvements especially over the last decade and a half and some serious attempts have been made to incorporate employment and manpower planning in overall development planning. There is, however, considerable scope for further improvement.

Second, the need to integrate employment and manpower planning and to increasingly view human resource development from an employment perspective. This is reflected in the growing emphasis on the demand side of human resource planning and the need to adjust rather than to take as given the supply situation especially as regards programmes for the development of professional and skilled manpower.

Third, and alas, the rather slow realisation that employment and manpower planning is not a question of just projecting requirements of demand and supply and accordingly making adjustments. The severe limitations of the projection approach are being realised and the need for sectoral analysis and an understanding of the functioning of labour markets is being increasingly recognised.

Fourth, the need to significantly strengthen the institutional machinery directly engaged in the formulation, coordination, monitoring and implementation of employment and manpower planning. Also that a major weakness in carrying out this task is the lack of reliable and timely availability of data.

Some of the specific issues especially where much more analytical work needs to be carried out are as follows:

- (a) If employment planning is to be made operational then it is imperative that the focus must shift to short- and medium-term employment planning. For undertaking this task there is an urgent need to develop a pragmatic and realistic framework for measuring and monitoring changes in the employment situation. Such a framework must deal with some of the inherent problems in measuring employment and come up with alternative indicators (e.g. wage levels) as well as take into account the interactions between the 'formal' and 'informal' sectors of the economy especially in a period of recession. Some countries in the region have taken some initial steps in this direction and one can learn from their experience. However, in most countries, this would be a 'learning by doing' process in which research institutes could make a valuable contribution while working closely with the national planning authorities.
- (b) An accurate estimate of increases in labour force supply in the medium- and long-term is essential for employment planning. One particular problem, mainly for the South Asian countries, is measurement and growth of the female labour force. For this the existing sources of data (e.g. Labour Force Surveys) come up with very unsatisfactory estimates of female labour force participation rates. With increasing education amongst females their demand for employment especially in the formal sectors of the economy will increase. There is considerable need to be able to correctly assess this change for realistic employment planning.
- (c) The extremely high growth rate of urbanisation, concentrated in many cases in a few metropolitan centres, means that the whole issue of urban employment planning must become an urgent task especially since all indications are that this growth will further accelerate in the future. An important component of the urban economy is the 'informal' sector. While the need to study the 'informal sector' becomes all the more imperative with growing urbanisation there is also need to analyse its role and function in employment generation as part of the overall urban economy and its immediate surrounding countryside. Employment planners will need to embed employment generation as an integral part of the urban planning framework. Again there are valuable country experiences in this field from which others can learn.
- (d) Given the vast size of most Asian countries and the wide differences in physical and economic features of different regions the need for regional employment planning and strengthening of the regional planning authorities in this task is an issue of considerable importance. While there are countries where attempts have been made at

regional employment planning, far more needs to be done to make it more effective. The translation of a national employment strategy into policies for implementation at a regional level needs careful assessment. While obviously country experiences will vary there are still important lessons that can be learnt from each other for successful decentralisation of employment planning and policy implementation.

- (e) Macro employment planning based on estimates of future trends in labour productivity and employment elasticity coefficients needs careful reassessment especially to bring out some of the obvious limitations of these approaches. The limited role these can play in assessing future labour demand and how these estimates should be interpreted needs to be disseminated amongst employment planners in the region. At the same time there is need for incorporating in the macro models used by the planning authorities a realistic employment module. Presently in most countries while macro models have been developed for overall planning purposes their employment component is extremely weak.
- (f) It is important to identify key sectors in the economy which can play a leading role in future employment generation. This has become all the more important as past experience suggests that the labour absorptive capacity of the manufacturing sector is limited. While the search for a more labour intensive path of industrialisation for most Asian countries must continue there is increasing need to identify alternative leading sectors which can provide productive employment to the growing labour force. In this, the non-farm sector in the rural areas, construction and a more dynamic and productive service sector can play an important part. While some research has already been done in these fields there is need to build upon this initial work so as to integrate it into employment planning and policy-making which can help strengthen the growth of these sectors.
- (g) The need to move away from simplistic manpower forecasting (or manpower requirement approach) in assessing future manpower needs of the economy is finally being realised in most countries in the region. The task of building up an alternative framework has, however, only just begun. The importance of manpower analysis and the need to understand how labour markets function is now widely accepted. What is still lacking is a meaningful framework through which one can translate these into manpower policies which can minimise mismatch and lead to an optimal utilisation of manpower resources. What is needed is a framework that can integrate the positive elements of alternative approaches to manpower planning so that it can serve as a guide to investment allocation in skill development and overall educational planning.
- (h) A crucial factor in encouraging labour mobility and helping to reduce skill imbalances is the availability of adequate labour market information. While the introduction of electronic data processing systems has enormous potential in this field a considerable amount of groundwork needs to be done to adequately and effectively instal and benefit from

such systems. There is need for a detailed occupational classification of skills as well as identifying other key variables on which information needs to be stored.

- (i) The need for manpower planning to become an integral part of the industrial restructuring programmes (especially in a number of South East Asian economies) is now widely acknowledged. The development of an adequate manpower planning framework with a premium on flexibility and focussed on the needs of the private sector is still in its initial stages.
- (j) The experience of a number of countries in the region in the development of vocational and technical training programmes has been one of considerable disappointment. Costs per trainee are extremely high and there is considerable unemployment amongst graduates from the vocational training system. This is a specific field where there is considerable need to come up with concrete policy suggestions to reduce mismatch and achieve cost-effectiveness in training.
- (k) The whole issue of educated unemployment is one which has been the centre of attention of governments and policy-makers in the region for quite some time and is also an area where some significant work has been done. The major emphasis has so far been on adjustments through supply planning. However, two issues have not been given sufficient importance. These relate to the demand aspects and the quality of higher education. What steps can be taken to increase demand for graduates especially in private sector employment; and whether government can offer incentives which can speed up this process are issues which need further analysis.
- (l) Finally, the need to strengthen the institutional machinery engaged in employment and manpower planning. Enhancement of the technical capability of those engaged in this task, suggested improvements for better coordination between agencies and improvements in monitoring and implementation must all form an important part of the efforts required in this field.

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