

HUMAN RESOURCES DEVELOPMENT IN ASIA AND THE PACIFIC

Its Social Dimension

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HUMAN RESOURCES DEVELOPMENT IN ASIA AND THE PACIFIC: ITS SOCIAL DIMENSION

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FOREWORD

Although the Asian and Pacific region has compiled an impressive record of economic growth over the past three decades, hundreds of millions of its people continue to endure the hardships of social deprivation. Indeed, economic progress notwithstanding, this vast and populous region still contains the great majority of the world's poor. Their numbers appear actually to be rising in absolute terms, though the percentage of impoverished people in the total population has declined somewhat.

Despite rising agricultural and industrial productivity throughout much of Asia and the Pacific, the most seriously disadvantaged people – women, youth, the landless, unskilled, disabled and aging – have become increasingly marginalized. Chronic unemployment and endemic underemployment have further restricted their access to education, health, shelter and other rights regarded as fundamental in this enlightened century. Because these basic needs have not been met, the disadvantaged have remained unable to make an effective contribution to development. Seen in this perspective, a stark contrast emerges between the region's long-term economic growth and its lingering social underdevelopment.

With this challenge firmly in mind, the Economic and Social Commission for Asia and the Pacific, at its forty-first session in 1985, adopted the issue of human resources development as the theme of its subsequent two sessions. At its forty-third session, in April 1987, the Commission will examine this issue in its wider dimensions, including the social aspects.

This monograph contains background studies of direct relevance to the Commission's deliberations on the social aspects of human resources development. I am confident that these studies will provide a valuable basis for the Commission's discussions on this major development issue. These studies are also expected to be of interest to a wider audience of policy makers and others seeking a broad understanding of the role of human resources development in the region's overall advancement. I wish to express my gratitude to the Government of Australia for its generous contribution towards the publication of this volume.



Bangkok
September 1986

S.A.M.S. Kibria
Executive Secretary

PREFACE

Each of the four studies contained in this monograph has been prepared for ESCAP by an internationally respected scholar in the field of human resources development.

The first three papers were originally prepared for an expert group meeting on the social aspects of human resources development, convened by the Social Development Division in September 1985. The fourth paper was commissioned separately at the time by the Division of Industry, Human Settlements and Technology, which collaborated closely with the Social Development Division in the preparation of this monograph.

In the first paper, Professor Lorraine Corner surveys major issues of economic theory regarding human resources development as an aspect of overall development. She emphasizes the central continuing relevance of the "human capital" approach and the growing significance of the "new household economics" in interpreting the role of, and delineating effective policies regarding, human resources in development.

The second paper, prepared by Professor Lim Teck Ghee, surveys major human resources development trends and policy options in the Asian and Pacific region. The paper finds that countries with different economic systems have pursued strikingly different strategies for human resources development, with different degrees of emphasis accorded to its social aspects. Specific attention is paid to human resources development issues in the fields of health and education, and proposals are offered as to how programmes in these fields might be improved.

In the third paper, Professor Harry T. Oshima focuses on human resources development issues facing South, South-East and East Asia. Applying the "success stories" of Japan and the Asian newly industrialized economies, he emphasizes the historical importance of measures for achieving early full employment, properly designed vocational education and on-the-job training, and proposes a research agenda to identify appropriate policies and programmes. The paper concludes optimistically that, as human resources are the most important force underlying development, all the Asian nations, irrespective of their national resources endowments, have real development potential.

In the final paper, Professors Helen Hughes, Dennis Ahlburg and Sun-Hee Lee examine the special issues in human resources development that confront the Pacific island developing countries. The small populations of these countries require particular emphasis on the quality of their human resources, which must be highly trained and sufficiently flexible to enable exploitation of the limited economic "niches" available in the Pacific island ecology. The paper concludes with a number of policy guidelines aimed at gearing human resources development in the Pacific to the specific needs of the various island countries.

The range of this set of papers is large, and as a result the views expressed are diverse. One clear conclusion which may be drawn from the differing opinions offered here is that human resources development is both a vital component of egalitarian development and a complex, multifaceted problem. Thus, while the issues are controversial, the challenge is great. There are no simple solutions to the human resources development problem, but it is nevertheless vital that it be addressed with determination by the countries in the region.

HUMAN RESOURCE DEVELOPMENT FOR DEVELOPING COUNTRIES : A SURVEY OF THE MAJOR THEORETICAL ISSUES

*Lorraine Corner**

Paul Streeten has described investment in human resources as "thrice blessed" because, in addition to being a valued consumption good, human resources development both raises productivity and lowers reproductivity: a vigorous, healthy, skilled labour force is more productive while educated, healthy families tend to have fewer children (Streeten, 1983:3). Not surprisingly, therefore, human resource development is a high priority in most developing countries and has been adopted by ESCAP as the theme for its 1986 and 1987 sessions.

Human resource development offers a number of attractions as a key element in overall development strategy. It has often been cited as an appropriate strategy to improve income distribution. Being essentially distributive, rather than redistributive, it is more politically acceptable than many alternative policies. It is also more generally politically popular, firstly because of its undeniably valuable consumption elements[1] but, perhaps more importantly, because of the substantial externalities[2] that accrue to the more affluent (and politically influential) sectors of the community even when human resource development actually reaches the poor.[3] A human resource development strategy may also be popular with governments in developing countries at least as a short-term expedient, because it has relatively low capital costs.[4]

[1] Good health, better nutrition and literacy are highly desirable commodities in their own rights.

[2] These include more skilled and more productive workers for employers and employment opportunities for health and educational professionals, etc., who are usually drawn from the more affluent classes.

[3] Often human resource development targeted for the poor tends to be captured by the more affluent.

[4] On the other hand, the recurrent costs involved are high. However, once initiated, human resource development tends to generate a momentum of its own, particularly because of the political influence of those employed in delivering human resource development services – teachers, doctors and other health professionals. Once embarked on such a strategy, governments may find it difficult to retreat.

* *Demographic Advisor to the Population Studies Centre, Indonesian Institute of Sciences (LIPI), Jakarta, Indonesia and Post-doctoral Fellow, Department of Demography, Australian National University, Canberra, Australia.*

Furthermore, a considerable body of demographic literature supports the view that human resource development is a valuable adjunct to family planning and population control policies. Higher levels of education (especially for women) and, in the longer run, lower mortality rates (especially lower infant mortality) are closely associated with higher acceptor rates for birth control measures and smaller completed family size.

There is thus considerable unanimity of opinion on the desirability of human resource development from both political and humanitarian perspectives and as an element of population policy. However, particularly outside the rather narrow confines of neoclassical economics, there is considerably less agreement on the theoretical justification for regarding human resource expenditure in developing countries as an appropriate investment strategy for development. Some economists apparently go so far as to doubt both the meaning and the usefulness of the term "human resources". Nicholson (1983: 198), speaking at the sixth world congress of the International Economic Association, noted that:

> The very phrase, "human resources", has gradually crept into use in recent years without anyone having consciously decided that it describes an identifiable economic category which can serve as a useful tool in economic analysis or economic prescription. .... [It] does not have a precisely definable and universally recognised function .... [and its] pedigree is somewhat obscure.

A review of both the term and the economic theories associated with it is therefore a useful introduction to the debate on human resource development in developing countries.

A. RECENT ORIGINS AND CURRENT STATE OF THE ECONOMICS OF HUMAN RESOURCES

The fundamental task of development policy and planning in developing countries involves the determination of priorities for the allocation of limited resources in the face of immense and pressingly immediate needs. Conventional economic theory traditionally identified three major categories of productive resources: land, labour and capital. One of the antecedents of the modern economic theory of human resources, the early literature on growth accounting, developed from an attempt to measure the sources of economic growth in the developed nations during their most rapid phases of growth in terms of these three factors. Using aggregate production functions, studies such as those of Denison (1962) and Solow (1962) typically found that less than fifty per cent of total output growth could be explained by changes in the quantities of the conventional factors of production. The resulting residual was ascribed

to qualitative changes variously identified as "technological change", "increased productivity" or, perhaps more frankly, as a "residual of ignorance" (Wykstra, 1969:527). It was soon recognised that such qualitative changes ultimately originated in the human factor, although this was a new dimension not covered by the concept of "labour" as a primary factor of production. Economists and economic historians were quick to identify both formal and informal education as key components of the phenomenon (Griliches, 1964: Arrow, 1962). These early growth accounting studies thus provided the first clear indication of the critical role of human resource development in economic growth. At the same time it was recognised that from this perspective human resources shared many of the attributes of capital goods, a concept that eventually led to the development of human capital theory.[5]

The term "capital" refers to the reproductive power of producer goods. Capital goods are typically factors of production that must themselves be produced at some cost and which are subject to appreciation or depreciation with use or disuse. Human capital formation – the process of changing the "quality" or productive power of human labour – is affected primarily by formal education, on-the-job training, health and migration (where these affect either education or employment).[6] The development of human capital theory provided an economic rationale for the process of human capital formation at an individual level by the very simple proposition that individuals "invest" in themselves through education, better health and nutrition, migration etc. in the expectation of higher returns (usually in the form of higher wages or other earnings) at some future time. In this human capital theory merely applied standard neoclassical economic theory to certain human phenomena that had previously been considered purely as consumption activities.

In its original form, human capital theory was a product of that school of neoclassical economic thought that sought the foundations of all social phenomena in individual behaviour. Human capital formation was carried out by individuals acting in their own interests. The decision to invest was made by comparing the costs and discounted benefits of the investment or by calculating the rate of return and comparing this with alternative investments. Human capital theory thus initially provided an explanation of individual behaviour. However, it was soon taken up by those seeking decision criteria for public action. The transfer of human capital theory from the micro econo-

[5] However, Blaug (1976: 831 n) noted that doubts about the concept of aggregate capital functions have virtually dried up interest in the growth accounting approach and that "in retrospect, it seems doubtful .... whether .... [it] has much to do with the curcial issues in human capital theory".

[6] Human capital formation is also affected by factors unrelated to investment expenditures, such as labour force participation rates and the age-sex composition of the labour force.

mics of individual behaviour to the macro-economics of public policy-making was virtually inevitable. Firstly, the macro origins of the human capital concept via growth accounting theory had implied that investment in human capital resulted in increased productivity and more rapid economic growth. Secondly, although human capital formation in respect of job search and migration is almost exclusively the result of individual decision-making, the major decision areas in the fields of health, education and manpower training in most developing countries are the province of government. The early focus of human capital studies was investment in education. In this field the social investment criterion that emerged from the human capital literature decreed that resources should be allocated to years of schooling and to levels of education such that the marginal, "social" rate of return on educational investment would be equalized. Furthermore, this yield should not be less than the yield on alternative investments (Blaug, 1980:228).

Studies comparing an individual's returns to an extra year of education were rapidly extended to comparisons of returns at the national level to investment in different kinds of education. When studies in developing countries showed that the highest individual returns to educational investment[7] were generally achieved for investment in primary education, the human-capital social investment criterion suggested that developing countries' governments should therefore invest more heavily in primary education and less in secondary and higher education. However, there are a number of fundamental methodological difficulties in this argument.

The first, and in many ways the simplest, methodological obstacle is the obvious potential for divergence between private and social costs and benefits. Given the range of externalities associated with educational investment, the estimation of social costs and benefits presents a measurement problem of considerable dimensions which, however, generally failed to discourage human capital researchers. Many of the sources of discrepancy between private and social returns are essentially non-pecuniary and not quantifiable.[8] While acknowledging the likelihood that private returns do differ from social returns, most empirical applications of the rate-of-returns approach necessarily confine themselves to calculations based only on observable pecuniary values. The non-pecuniary returns are invariably accommodated by qualitative judgements that result in the same observed social rates of return to investment in education frequently producing quite different policy prescriptions, depending on the

[7] Blaug (1976: 840) observed that "calculations of the rates of return to investment in formal schooling have proved to be the bread and butter of the human capital research program".

[8] The major sources of discrepancy are the existence of consumers' surplus, externalities and market imperfections (monopoly or monopsony positions in the labour market, labour market segregation), and price distortions through taxes and subsidies.

value judgements of different "experts" (Blaug, 1980: 228). Given the difficulties of estimating the true social rate of return to educational investments it is doubtful whether rate of return studies can provide an adequate basis for future allocation decisions. On the other hand, the muted role of the price system in the public sector, which is the main source of the problem, means that alternative methodologies for determining allocative efficiency are equally weak.

A more serious objection to human capital theory arises from the implicit assumption that earnings reflect productivity and that, therefore, an efficient allocation of resources requires that rates of return to all levels and durations of educational investment be equalized. It is clear that in many developing countries earnings do not reflect productivity so much as tradition or standards transferred from abroad. The critical importance of market imperfections, labour market segregation and varying private costs and benefits between different groups within the community is also often ignored.[9] A further measurement problem is that earnings differentials measured at a particular time may be a misleading guide to lifetime earnings prospects because of, for example, the existence of "scarcity rent" for higher education levels during the initial stages of development.

A fundamental objection to the human capital approach as a guide to the analysis of public policy is raised by Samuel Bowles who questions the degree to which educational (and other human resource development) decision-making can be analysed independently of political processes and the institutional structure of individual countries. Bowles doubts that decisions made about educational investments can be usefully regarded as reflecting a primary desire on the part of decision-makers to either increase national income or to achieve a more equitable distribution of income. He considers that the primary concern of decision-makers is self-preservation and preservation of the status quo that provides them with power and wealth. Whatever the deficiencies of rate of return estimates for developing countries, there is a remarkable degree of consensus that these countries as a whole have been chronically underinvesting in primary education. Bowles notes (1978: 791) that this hardly supports the notion that schooling is being used as an instrument for either growth or equality. On the other hand, the achievement of near-universal primary education in some developing countries ruled by non-democratic regimes suggests that perhaps the externalities associated with investment in primary education are sufficient to attract the interest of governments. In fact, a certain level of educational investment may be closely associated with political self-preservation.

[9] Opportunity costs for the children of the poor are likely to be higher because of the possibility of employment, while benefits are likely to be reduced by discrimination against them in certain job markets.

The preceding critiques of human capital theory have been concerned primarily with the extent to which earnings reflect productivity and the question of governments' commitment to increasing national income via a productivity raising, educational investment strategy. A more basic issue for human resource development policy at the national level is the extent to which productivity reflects educational investment. For human capital analysis of individual decision-making this is a relatively unimportant question since:

> the fundamental notion of human capital, of foregoing current income for the prospect of future earnings, assumes only that the schooling-income association is not spurious (Welch, 1975: 65).

At the national level, however, the primary justification for educational investment according to human capital theory is that higher education increases productivity. The proposition that education in general raises productivity is virtually self evident. Although research has tended to concentrate on the association between education and productivity as measured by earnings in the formal (wage) sector, studies of farmers (Chaudhri, 1974) and entrepreneurs (Koh, 1977) confirm that the better educated among the self-employed also gain productivity advantages from education. The real question is not whether education *per se* raises productivity (in almost all situations literate and numerate workers could be expected to have higher productivity than the totally uneducated) but whether, at a particular level, a marginal increase in educational investment will yield a direct increase in productivity.

Sociologists and others have also been concerned by the implicit assumption in the human capital approach that all differences in earning capacity/ productivity reflect differences in education or age. It is clear that at least part of earnings differentials are properly attributable to factors such as innate ability, socio-economic background and achievement motivation; that is, certain aspects of the quality of human capital must also be taken into account. Some writers (Griliches, 1970: 100-103) have argued that these factors can be ignored for the purpose of calculating social rates of return to educational investment where the objective is to induce marginal policy changes in resource allocation between different levels or types of education. Others (Denison, 1974) apply rather crude rules-of-thumb, such as Denison's original proposition that two thirds of the difference in earnings should be regarded as pure effects of schooling and the remaining one third an amalgam of genetic endowment and social background.

Recent developments in labour market theory, principally in the analysis of decision-making under conditions of uncertainty, have led to the development of an alternative to the human capital framework, the so-called screening hypothesis and the associated theory of credentialism. This approach shares the

scepticism of sociologists and some marxist writers that, at least at higher levels, education does not so much increase productivity as offer employers a convenient criterion for selecting the best workers under conditions of inadequate information. Human capital theory suggests that the labour market will continually absorb workers with ever-increasing levels of education provided that education-specific earnings are flexible downwards, whether by employing the more educated into lower paid occupations or by reducing real earnings by occupation. This mechanism requires that employers always prefer more educated to less educated employees, other things being equal, but human capital theory offers no explanation as to why employers should hold such a preference. It has been suggested that education acts as a signal to employers regarding the personality traits (persistence, achievement motivation, etc.) or trainability or family/class background of potential employees and that it is these rather than superior cognitive skills (productivity) that are being sought. Cognitive skills are largely obtained through on-the-job training so the employer is largely concerned with trainability. The stronger version of credentialism combines the screening hypothesis with the proposition that firms typically operate their own internal labour markets in order to minimize labour turnover and offer job satisfaction through an internal career path. It is thereby able to explain both the level of starting salaries as well as the pattern of lifetime earnings.

Although there is no fundamental conflict between the theory of credentialism and human capital theory, at the macro level the implications for educational policy are quite different. The implications for the impact of education on income distribution are radically different and the rationale for increased educational investment at higher levels in developing countries is called into question. The conventional human capital approach suggests that an increase in the supply of educated (i.e. more productive) labour relative to uneducated labour would improve income distribution. Under credentialism, where education merely determines access to better paid jobs, the net result of educational expansion may be to widen income disparities. Bhagwati (1973: 22) has observed that in India the job-access paradigm appeared more appropriate. Whether there is indeed a true "social" rate of return to investment in education depends on whether college graduates are perfect substitutes for high school graduates and so on down the educational ladder. If the better educated are not perfect substitutes for the less educated there may be a positive social rate of return but it would appear that human capital theorists may have been measuring the wrong thing. That is, the social rate of return to educational investment is a rate of return to a particular occupational selection mechanism rather than the yield on improving labour force quality directly (Blaug, 1976: 847).

The economic theory of human capital reviewed above relates almost exclusively to human resource development in the fields of education and

manpower, with the former being far the more relevant for development planning and policy-making in developing countries. Blaug (1980: 231) has noted that, although health economics and developments in labour market search theory both had their origins in human capital theory, they rapidly developed into independent areas of activity "now only tenuously related" to the human investment revolution in economic thought. However, the latest developments in the economics of human capital promise much broader potential relevance to human resource development in developing countries. The most recent additions include the "new household economics" and associated developments in the economics of human fertility.

Conventional human capital theory is based on standard neoclassical analysis of consumer choice, in which the key decision variables are prices and income. An exogenous non-economic factor described as "tastes" is included to explain any residual economic behaviour not explicable in terms of either prices or income. As noted, human capital theory is also restricted in practice to a consideration of pecuniary values and, therefore, to market transactions. Yet economics has often been defined as a study of choices between competing ends with limited resources. Many everyday decisions associated with human resource development fit this description but do not involve, in any simple or direct way, monetary considerations, for example, migration decisions, decisions about marriage, family size, etc.

In the new household economics (NHE), Becker produced a theory of consumer choice of sufficient generality to allow economic analysis of the economic aspects of such behaviours, hence the title of his book "The Economic Approach to Human Behaviour". NHE does not imply economic determinism but does allow the economic aspects of human behaviour to be analysed with conventional economic tools. Furthermore, by introducing time in addition to money as a measuring rod, NHE is able to compare alternatives outside the market sector. Human capital theory, as observed above, originated at the micro level of individual decision-making but was soon extended to the macro level of national resource allocation. In NHE, the basic unit of decision-making is the household, thus introducing an intermediate or meso level of analysis and at the same time injecting an element of social structure into the economic analysis of decision-making.

Apart from enabling economic analysis of many kinds of human behaviour previously categorized as "non-economic", NHE allows a much wider interpretation of the concept of investment in human capital. Human capital theory within the conventional consumer demand framework was restricted both empirically and conceptually, in relation to private decision-making, to considerations of monetary values. The new approach permits, at least on a conceptual level, consideration of non-monetary psychological or social future

returns, as for example in studies of fertility decisions. Previously, in societies where the monetary returns to investments in children were small or largely negative, decisions about fertility had to be considered purely as consumption decisions or fertility had to be seen as a totally non-economic phenomenon. In contrast, NHE recognises that returns to investment in children may be largely non-pecuniary in terms of providing status, meaning, social roles, etc. to the lives of parents.

The inclusion of the analysis of time allocation and the value of time in all economic decisions marks another major advance for the economic theory of human resource development. Changes in the value of human time are associated with many aspects of human resource development, such as migration (outmigration of males, for example, may increase the value of females' time because they may be obliged to take over previously male roles); education (higher levels of education tend to increase the opportunity costs of an individual's time since the more educated usually command higher incomes); changes in female labour force participation; or changes in household/family structure.

Although offering many potential benefits for the economic analysis of human resource development, NHE still has many weaknesses and limitations. The model is essentially a static one that lumps together all expenditures and all satisfactions from investment in human capital over the lifetime of the household and analyses decisions about the demand for particular kinds of investment[10] as a single once-and-for-all event. In reality such decisions are sequential with the incidence of costs and benefits varying over the lifetime of the household. The great strength of the NHE model lies in its ability to supply a rationale for the empirical relationships already revealed by "value of children" studies, for example, why lower fertility is related to higher levels of female education, higher rates of female labour force participation and higher income levels. In terms of its relevance for public policy-making, the value of NHE lie primarily in permitting more accurate identification of the key variables involved in individual decision-making so that these may then become the subject of manipulation to achieve desired objectives, such as a reduction in fertility.

[10] The major work of relevance has been in relation to the demand for child services. NHE is concerned, not with the production of "children" (quantity), but with the production of "child services", thereby allowing for the substitution of quality for quantity and providing an explanation for the "paradox" that the wealthy do not consistently have larger families.

B. A SYNOPSIS

Before assessing the implications of current economic theory for human resource development it may be useful to draw together the various strands of economic theory as applied to human resources. One recent speaker at a major international congress (Clement, 1983: 329) claimed that:

> The economics of human resources seems to be almost synonymous with the human capital approach, if one takes the majority of Anglo-Saxon publications as the relevant criteria.

Another participant observed that:

> although some members [of the International Economic Association] .... were skeptical of the human capital approach, most tended to favour it (Streeten, 1983:6).

The first statement is something of an exaggeration since, as pointed out by Blaug, two important areas of human resource development, health economics and the economics of job search, although starting out from the human capital perspective, quickly diverged from it and retain only tenuous links. In the field of education, however, it is clear that, despite severe theoretical obstacles to the application of a methodologically individualist approach to allocative decisions for public investment, the human capital approach has yet to be displaced by a satisfactory alternative. In the fields of labour market analysis and manpower planning, and with a perhaps stronger influence outside the developing countries on thinking about the role of higher education in human resource development, the screening hypothesis and the theory of credentialism are making some inroads on human capital theory. Their impact is restricted by the fact that, to some extent, they are complementary to, rather than conflicting with, human capital theory and by the fact that their relevance for macro level educational planning has yet to be explicitly explored.

The most interesting and significant recent development in the economics of human resources is undoubtedly the new household economics. To date, it has been extensively applied only to fertility analysis and the demand for investment in child services. It is of greatest relevance in areas where household-level, as opposed to individual or national-level, decision-making is operative. Migration is clearly another area where the NHE approach should prove productive, while child nutrition and health may be yet another.

In high infant mortality and resource poor societies it would appear that household efforts to improve child health and reduce infant mortality to some extent involve a trade-off against competing demands for labour and for nutri-

tion for other family members. That is, some element of choice rather than only sheer ignorance or inevitability is involved. The NHE approach to this topic might provide a more balanced perspective by exploring household demands for health and nutrition services. Currently, the emphasis in the health and nutrition literature tends to be supply-oriented.

As a guide to national development planning and policy-making, NHE will be most useful in identifying those factors that determine household decisions so that these may become the objectives of government intervention and manipulation directed towards producing particular kinds of household level decisions. For example, governments need to know how to induce individuals or households to migrate or not migrate, to move to particular destinations, to adopt particular kinds of health measures, etc. NHE is well equipped to provide policy guidance in many of these areas.

C. ECONOMIC THEORY OF HUMAN RESOURCES, POVERTY AND INCOME INEQUALITY

Firstly, what does economic theory have to say about human resource development and its impact on productivity? Having demonstrated through the growth accounting literature the probable contribution of human resource development to output and productivity growth, economic theory has either largely accepted the role of human resource development in productivity growth as a "given" (it is implicit at the individual level in the neoclassical equation of earnings with marginal productivity) or, in respect of marginal increases in education at higher levels, has, through the theory of credentialism, been somewhat skeptical

Applied economists have, however, continued to be enthusiastic exponents of the values of human resource development for productivity growth although their support tends to be couched in general rather than theoretical terms. Roger Grawe, for example, in a paper on poverty and the development of human resources (July, 1980) stated that:

> The development of South Asia is unquestionably a problem of effective human resource utilization .... [which] is primarily a matter of improving productivity and income generation .... Effective utilization ties the consumption of education and health services to higher levels of productivity.

Grawe also emphasized the indirect and non-market effects of education on the economy and the synergistic linkages between human resource sectors. He noted that:

> Although direct effects of health and nutrition improvements on productivity can be strongly presumed because of the widespread incidence of malnutrition and morbidity there has been little success in quantifying their impact on growth. (1980:123)

Other econometric exercises have had more success in establishing linkages between human resource development and productivity. Wheeler (1984:8), in a recent econometric modelling exercise using data from 88 developing countries, reported that the impact of literacy change on output change was apparent in all tests and that, for the available index of nutrition, all the econometric exercises supported the hypothesized impact of nutrition on productivity.[11] However, when life expectancy change was used as a proxy for health improvement, no consistent results were obtained. An unpublished World Bank report showed that Sri Lanka's high life expectancy accounted for about three quarters of the difference between expected and actual fertility rates, while the higher than "expected" literacy accounted for over half the difference between actual and expected life expectancy (Grawe, 1980: 123). However, the warning of Streeten (1983: 6) that econometric exercises establishing correlations between social and human capital indicators and economic growth give no implication of causal relationships should be heeded.

In a background paper for a recent World Bank *World Development Report,* Bowman (1980) provided a comprehensive review of the relationships between education and economic growth, drawing on a broad cross-section of economic literature. Included in the literature covered was Svennilson's analysis of the role of technical progress in the growth process that highlighted the joint and central roles of education and research in growth; the work of T.W. Schultz and his followers on the effects of education on productivity in agriculture through complementarity between schooling and research and interaction between schooling and extension services (for a recent example, see Jamison and Moock, 1984); and the study carried out by Koh (1977) showing the role of education in the process of selection of individuals into entrepreneurship and particular types of entrepreneurial activity. The literature measuring the effect of education in agriculture and the informal sector is particularly important because it measures productivity directly and thus does not suffer from the difficulties of formal sector studies that are forced to equate productivity with wages. Much of this literature is applied and descriptive, with somewhat tenuous linkages to the economic theory of human capital.

On the whole, it might be said that economic theory *per se* does not offer a very cogent or well-integrated analysis of the impact of human resource

[11] Wheeler cautions that the caloric variable used in the model could have been serving as a proxy for relative changes in agricultural productivity.

development on the growth of output and productivity. Economics as a discipline, on the other hand, seems generally convinced of the existence of a positive relationship, at least for investment in human resources at lower levels of national and individual development.[12]

A human resource development strategy has often been advocated, as much for its anticipated impact on poverty and income distribution as for its impact on output and productivity. Economic theory is regrettably equally ambiguous on the subject of the impact of human resource development on income inequality and poverty. Much of the more general literature begins by questioning the extent to which human resource development expenditures earmarked for the poor actually reach their target, a matter that will be touched on briefly in the next section. Leaving that issue to one side, the theoretical impact of human resource development on poverty depends on whether one accepts the conventional human capital model or the credentialist revision. Regardless of whether the higher earnings accruing to the more educated are the result of their higher productivity or of their increased probabilities of selection for desirable employment due to the operation of education as a screening process, income inequalities will be reduced if the supply of educated labour is increased relative to uneducated labour. If, on the other hand, the credentialist scenario of either the absorption of the more educated into lower-paid occupations or their receiving progressively lower rates of pay for the same occupations (education merely defining access to the better paid jobs) the net result may be increasing inequalities in income.

Another issue in relation to human resource development as an anti-poverty strategy is whether it is better to tackle poverty indirectly by improving the human capital of the poor or to tackle it directly by providing employment.[13] In a sense the question depends on whether it is possible to provide sufficient adequately-paid jobs in the short term to workers who, because of their very low human capital endowment, necessarily have low productivity. In most developing countries national resources are insufficient to achieve this objective. The alternative seeks first to raise the quality of their human capital (or, in many cases, that of their children) so as to enhance their productivity and therefore the probability that jobs can be provided. This may involve a choice between alleviating the poverty of the current generation or investing in the human capital of the next.

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[12] Much of the debate on the screening hypothesis and credentialism seems more relevant to developed countries while its application to developing countries is largely restricted to upper secondary and higher education, particularly in countries such as India and the Philippines, where the levels of educated unemployment are high.

[13] There is abundant evidence that the poor are almost universally unemployed or underemployed, either in terms of insufficient hours of work or working in very low-paid employment.

D. THE POLITICAL ECONOMY OF HUMAN RESOURCE DEVELOPMENT

Despite the tendency of neoclassical economists to ignore the role of political and other non-economic factors in development, economics as a discipline was originally vitally concerned with the institutional context within which economic activity took place. It is a concern that must be revived in the context of development policy in the developing countries and is particularly relevant for human resource development strategies. Marxists such as Bowles and Gintis (1976) have been highly critical of the human capital research program for its neglect of political factors, suggesting that governments in developing countries are more concerned with preserving the *status quo* that provides their power base than with implementing human resource development to raise productivity or alleviate poverty. Although to some extent human resource development strategies may be consistent with their self-preservation priorities, it must be recognised that, particularly in respect of education, human resource development strategies tend to promote political change rather than preserve the *status quo*. Developing country governments are clearly not unaware of this fact, which must enter into their decision matrix when human resource development policies are being considered.

Political considerations as well as economic calculations must necessarily play a major role in determining the receptivity of developing countries to human resource development strategies, the nature of human resource development strategies that are accepted, and the extent to which these are actually implemented. (See World Bank, *World Development Report,* 1980: section 6) Among the political aspects to be considered are the composition of political groups and their position *vis-a-vis* the incidence of costs and benefits (including externalities) that accrue from particular human resource development policies, the time distribution of costs and benefits (the political benefits of human resource development often accrue well in advance of the major economic costs), and the political roles – or potential roles – of the providers of human resource development services (teachers, doctors, other medical professionals, etc.).

A major limitation of human resource development as an anti-poverty strategy is the political weakness of the poor and the tendency of human resource development programmes to be captured by other more affluent groups. The political powerlessness of the poor is both a cause and a consequence of the poverty of their human capital. It must therefore be recognised that a pre-requisite of a successful human resource development anti-poverty strategy is a measure of political influence and that one inevitable consequence of success is an increase in political power for the poor, a fact that may not be appreciated by many governments.

This very brief review of some of the many aspects of the political economy of human resource development in developing countries reminds us that development policies and strategies cannot be determined in a vacuum. Political factors must be actively considered when designing or advocating appropriate human resource development strategies for individual countries if there is to be any hope that the desired objectives will be achieved. The probability of success can be greatly enhanced by bringing into policy calculations the political, as well as the economic, costs and benefits of particular policies.

E. HUMAN RESOURCE DEVELOPMENT ISSUES IN EDUCATION AND MANPOWER PLANNING

The critical question in the public educational arena is how educational resources should be divided between different types and levels of education. This in turn hinges on the question of to what extent and at what levels education raises productivity, as opposed to merely selecting the more trainable or those from a particular (elite) background. Although human capital theory in the form of rate of return analysis is frequently used to advocate particular allocations of educational resources between the different education sectors, its theoretical foundations for this purpose are actually rather weak. Its continuing use reflects the lack of an alternative basis for decision-making and the fact that its policy prescriptions, particularly the advocacy of increased investment in primary education, generally accord with the findings of more descriptive applied studies of the linkages between education and productivity.

In relation to investment priorities in education, the following points emerge. Rate of return studies generally, but not universally, show that the highest private returns to investment are in primary education. Social returns are probably even greater because of the importance of primary education in imparting a critical marginal increase in both cognitive and non-cognitive areas of learning. However, the World Development Report, 1980 (p. 49) cautions against renewed interest in primary education occasioning neglect of secondary and higher education. The warning is particularly apt in view of the unquestionably severe shortages of skilled workers and professionals, especially in human resource development services, in many developing countries. Recent research has raised the issue of efficiency in the delivery of education. Innovative correspondence courses at secondary and higher levels have achieved impressive results in several countries at considerably lower cost than conventional school systems. The efficiency of technical and vocational schools, compared with on-the-job training or short-term courses has also been questioned. Technical and vocational schools often suffer from low prestige; in countries where their prestige is comparable with other educational institutions at the same level, their graduates often fail to use the skills learned but

instead choose white-collar employment or higher education. Adult education programmes have generally achieved poor results, except where they respond to a specific demand, and they seem to be a rather inefficient use of scarce resources.

Accepting that, at least at the lower levels, education does indeed increase productivity, a further issue is: what kinds of education have the greatest impact? Answers to this question must usually be sought from educational rather than economic theory although rate of return analysis, despite its weaknesses, may distinguish between returns to specific (technical, vocational), as opposed to general (liberal, scientific) streams of schooling. The relative importance of the "cognitive" effects of education (specific knowledge and general reasoning skills) *vis-a-vis* the "non-cognitive" effects (changes in values and attitudes) is poorly understood, although clearly both are important (World Development Report, 1980: 47). In the cognitive area, general learning skills have been found to be more important than specific knowledge, perhaps indicating the greater efficiency of on-the-job training in imparting specific skills.

One important educational implication of the application of the new household economics to fertility analysis is the vital importance for population policy of education for women. Female education also has a substantial impact on the efficacy of programmes in health and nutrition and tends to raise female labour force participation, which may increase output. The positive impact of female education on the education levels of children is another important consideration. However, female education levels remain distressingly low in many developing countries.

Analyses of the contributions of education to economic growth and studies of manpower requirements have tended to follow rather divergent paths. Manpower economics as applied to studies of human resources in development grew out of quantitative economic planning, with roots in fixed-coefficient input-output models. The manpower requirements approach was very demand oriented, usually highly aggregated and assumed a rigid relationship between the level of output in each sector of production and the numbers and qualifications of manpower required to achieve this. It failed to deal adequately with technological change or recognize that in the real world the relationship between education and occupation is not fixed.[14] The alternative methodology used was cost-benefit analysis with its attendant weaknesses in assessing social costs and benefits. Current manpower theory represents a compromise between the manpower requirements approach, which continues

[14] As credentialists were quick to point out, the larger the past flows of graduates into the labour force, the larger the proportions of the educated in various occupational categories.

to have some practical application for short-term forecasting, and population projections combined with adjustments that take into account elasticities of demand for various categories of educated or trained workers.

However, manpower planning continues to be in a state of flux. A recent ILO review of projects in manpower planning concludes that a substantial reorientation of existing approaches is required (Richter, 1984). Planners need to be more realistic about the capacity of manpower planning to provide educational planners with accurate and reliable figures on occupational categories, numbers and skill levels likely to be required at a given time. Projections based on various assumptions, rather than precise targets, are called for in order to help economic planners define the direction and emphasis of national manpower and employment strategies. In this way manpower planning should become an integral element of national socio-economic planning. At the same time, a shift in emphasis from forecasting to analysis, particularly of local labour markets, is advocated, with greater attention to labour markets in the informal sector and to the provision of feedback to educational and training authorities as to the experience of their "products" in the labour market. The new emphasis on labour market analysis and labour market signalling will draw manpower studies further away from the human capital model to a more descriptive, data-oriented approach.

F. HUMAN RESOURCE DEVELOPMENT ISSUES IN HEALTH AND NUTRITION

Health and nutrition are a product of real purchasing power (determined by income and prices, including subsistence income), the public health environment, and knowledge and information. The relative importance of these factors is still the subject of research. Health planning and health economics have tended to concentrate on the supply side, with the type of medical services provided by governments (primary health care or sophisticated hospital services) being a major issue. It is implicitly assumed that effective demand for services supplied does or will exist, although numerous applied studies indicate that this is a gross oversimplification. Demand, where it is considered, tends to be treated in terms of deficiencies in effective demand due to problems of access occasioned by distance, cost or information. At the macro level, lip service is paid to human capital theory via the concept of health expenditure as investment, but, somewhat paradoxically, at the individual level the analysis of decision-making appears to have been submerged. As noted earlier, NHE may provide a theoretical basis to redress the current imbalance and to place individual or household[15] decision-making in the health field within a framework

[15] The household seems the more relevant level for many health decisions, particularly those relating to child health and nutrition.

of choice. The choice between vertical, specific-disease-oriented strategies, such as the anti-malarial campaigns, versus horizontally-oriented basic needs and primary health care strategies has been another major issue, as yet unresolved. Almost certainly the ideal strategy contains a mix of the two. The simplicity, ready availability and low cost of oral rehydration combined with its obvious success in preventing deaths from diarrhea and similar diseases has assured this new treatment a popular place in the literature. However, in the absence of other health and nutrition measures, children saved from dehydration may later die of other causes.

The integrated approach to primary health care sponsored by WHO and UNICEF also encompasses food supplies, water, sanitation and education within a framework of self-reliance and participation by local communities. The strong emphasis on self-reliance and participation has clear political elements, as yet largely unexplored, that may bring health care workers and local communities into conflict with governments and entrenched bureaucracies or health professionals at various levels. There are real possibilities of a divergence of perceptions between some international agencies and individual development practitioners and their developing country counterparts as to what constitutes a primary health care strategy.

As with anti-poverty human resource development strategies, an important question for human resource development in the field of nutrition is whether it is more effective to tackle poor nutrition directly, via food supplement programmes, or indirectly through the provision of employment and other income-generating opportunities. With the probable exception of specific nutritional deficiencies, such as lack of iodine or vitamin A, and emergency situations the consensus appears to favour indirect programmes. Direct supplementary feeding programmes for children, nursing mothers, pregnant women, etc. tend to be expensive, difficult to target to the vulnerable group and of relatively short-term impact.

Knowledge and information are clearly vital inputs to both health and nutrition, highlighting potential complementarily between health and educational investments. This is one instance where adult education campaigns directed specifically to the dissemination of information and skills in the fields of health and nutrition may provide good returns. The reverse side of the coin is that healthy, well-fed children, other things being equal, are likely to be more successful students. Complementarity also exists between health and nutrition. Poor nutrition is not always or solely a consequence of insufficient food intake, but may be caused or exacerbated by disease, particularly parasitic infectious.

H. HUMAN RESOURCE DEVELOPMENT ISSUES IN FERTILITY

The 1980 *World Development Report* (p. 64) observed that:

> In the past 10 years striking progress has been made in understanding the causes and consequences of high birth rates, and in helping to resolve two controversial and important issues.
>
> The dispute between those alleging that family planning programmes had little effect on birth rates and those alleging that family planning alone could reduce birth rates has been greatly narrowed if not wholly settled. The evidence overwhelmingly suggests that both social and economic conditions and family planning are important in determining birth rates, and that they are mutually reinforcing.
>
> Accumulating evidence clearly contradicts the fear that health programmes, by lowering death rates, will boost population growth in the long term. Although fertility seemed unresponsive to falling death rates during the 1950's and 1960's, it has declined in many poor countries – partly in response to lower death rates – and population growth is slowing down.

The human capital research programme has contributed to this progress, particularly through the development of NHE, which has provided a stronger theoretical foundation for the analysis of fertility decision-making at the household or family level. NHE has been particularly valuable in highlighting the importance of the value of women's time and therefore of education and female labour force participation in fertility decisions. In contrast to the supply orientation of much general family planning literature (which tends to emphasize the provision of family planning services), NHE focuses on the demand side of the equation. In providing an explanation for the observed fact that higher income families generally have smaller rather than larger families, NHE implies that an important fringe benefit from a successful anti-poverty strategy will be declining fertility.

Although the importance of economic factors in fertility decisions is established, empirical studies reveal significant national and regional differences in fertility that are apparently largely independent of income or education levels. These indicate the strong influence of social norms and cultural and religious values. While independent of the level of education for particular individuals or groups, the climate of opinion in a community and social values are clearly influenced by education in general. Education, particularly in its non-cognitive aspects, may therefore play an important role in determining the

demand for family planning. Informal education, through a well designed and implemented family planning programme, may also be effective.

A key strategic issue for population policy is the extent to which family planning programmes should be integrated with other human resource development programmes, specifically health. In Indonesia one of the most spectacularly successful family planning programmes is institutionally separate from the ministry of health. The consensus of expert opinion, however, sees this as unique, its success due in large measure to the degree of political commitment and financial support from the national government. It is generally considered more efficient if family planning services are integrated with other health services. Some more dynamic and successful programmes, including that of Indonesia, have attempted to broaden their appeal and stimulate the demand through integration with infant and maternal health services and income and employment generation projects.

I. RECAPITULATION: THE MAIN ISSUES OF HUMAN RESOURCES DEVELOPMENT STRATEGY

Perhaps the most outstanding issue for human resource development strategy in the next ten years in developing countries will be how to effectively reach the poor to improve their human capital and quality of life. The choice is largely between direct human resource development programmes in health and education or indirect approaches via income generation and employment creation. The decision criteria to be considered include political factors, including the probability that direct programmes will actually reach their intended targets, resource availability and the probability of success given the low levels of existing human capital. Even given sufficient finances and political will, human resource development programmes for the poor may fail from the demand, rather than the supply, side. The poor are poor largely because of the inferior quality of their human capital and they may remain poor because their human capital endowment does not allow them to take advantage of available opportunities. In extreme cases human resource development strategies may be better advised to concentrate their attention on the children of the poor than on the poor themselves. Indeed, explicitly child-focussed human resource development strategies make a great deal of sense in many developing countries. Most education development policies are implicitly child or youth oriented, while the many health programmes directed at infant mortality and child survival are now gaining in popularity with both national governments and international agencies. Child-focussed programmes may often be a more effective way of gaining access to parents; as most adults in developing countries are parents, this suggests that such programmes will touch the entire community.

Another major issue for human resource development strategy is the sectoral emphasis of programmes, particularly education and manpower programmes. Should an agricultural focus be adopted in order to reach the vast bulk of the population who reside in rural areas and are employed (underemployed) in agriculture or should the strategy concentrate on the needs of the modern sectors and opt for flexibility in order to accommodate structural transformation? Modern education curricula are often accused of being irrelevant to rural children, merely encouraging those who do survive in the system to become migrants to urban areas. On the other hand, separate curricula for rural schools would certainly be interpreted as offering a second-class education and would close off the options of rural children for the more highly paid modern sector jobs. If vocational and technical schools are to be phased out in favour of on-the-job training by employers what are the prospects for those seeking entry to, or forced into, the informal sector? What are the requirements for educational curricula in an age of rapid technological change, change that is not confined to the "modern" sector but which is rapidly reaching into the agricultural sector too? How should national health expenditure be apportioned between rural areas, where most of the population are to be found but where effective demand for many medical services is limited and where the graduates of expensive medical education institutes are often reluctant to serve, and urban areas, which not only have the capacity to pay but also the political influence to demand?

The answers to these questions are certainly not easy and must depend to a large extent on individual situations. However, there is clearly a strong case for a greater share of human resource development expenditures being directed towards rural areas and the informal sector. The principal educational requirement in rural areas is probably not special curricula but better standards of basic education, especially at primary level. At the same time, at higher levels some acknowledgement in the curricula of the local environment and the needs and activities of local people should be achievable without attracting the label "second rate". If primary health care is to be provided or basic needs met for rural populations, some more careful thought needs to be given to manpower planning for medical staff. Human resource development for rural populations, the poor and the informal sector is attainable, but only with careful planning and a strong measure of political commitment.

The final issue in human resource development strategy is essentially political although critical to the success of programmes for the poor. It concerns the role of participation and of beneficiary organisations in the implementation of human resource development. The political weakness of the poor, combined with the poor quality of their human capital, demands political intervention if human resource development programmes are to succeed. In rare cases this may be achieved with the assistance of a patron, but in most cases a measure of

self-help will be necessary. Group action may counteract the weakness of individuals and raise their influence *vis-a-vis* other groups. Participation may reduce programme costs, ensure more appropriate and more efficient utilization of programme services and stimulate demand. At the same time, the poor, precisely because of their low level of human resource development, are unlikely to be able to organise themselves without a leader or sponsor, and government bureaucracies and local officials may well view organizations of the poor as neither desirable nor feasible. Initial sponsorship by international agencies or private local groups, preferably within the national political framework but in some cases necessarily outside it, may be an essential preliminary step for some kinds of human resource development directed specifically towards the poor.

CONCLUSION: SOME POLICY IMPLICATIONS

Investment in human resource development is vitally important for economic development. Appropriate human-resource-development investment decisions are critical because of the long lead times for the production of human capital. Furthermore, human capital is highly mobile and therefore less permanent than fixed capital, although it is also more flexible. While it may be possible to "borrow" human capital in the same way that physical capital is borrowed – the number of foreign consultants working in developing countries indicates the degree to which such borrowing does take place – the social and political costs of extensive borrowing of human capital may be rather high. This, together with the substantial externalities, social, cultural and political, associated with human resource development ensures that governments in most developing countries are very anxious to achieve a high level of such development. The potentially high political, social and human costs of poor planning of human resource development are further reasons for placing a high priority on human resource planning.

The economic theory of human resources in the form of human capital theory, according to the calculations of Mark Blaug, is now in its twenty-fifth year (Balug, 1976: 827). While there have been major advances and breakthroughs in the field, there remain important areas of weakness. Despite some reservations in respect of educational investment at upper-secondary and higher levels, economic theory, drawing on both the human capital research programme and other more macro techniques and supported by numerous empirical studies, has firmly established the vital contributions of human resource development to economic development. Apart from direct and indirect (non-market) effects on productivity, human resource development has been shown to be an important adjunct to population policies and a useful, albeit difficult-to-implement, anti-poverty strategy. Human resource development expenditures tend to have a broader impact and more favourable effects on income distribution

than many alternative development strategies. They are also relatively attractive in political terms, although some of the longer-term implications may be more disturbing to some developing country governments.

Recent advances in the field of human resource economics, specifically the new household economics, offer some significant new avenues for exploring approaches to human resource development. Human capital theory has often been described as strong in analysing the supply side in relation to its approach to manpower planning and education. However, one man's supply is another's demand. In fact, human capital theory is basically demand oriented but it views demand from the level of the individual. NHE is similarly demand oriented. However, NHE is now being applied, or has the potential to be applied, in a number of areas of human resource analysis where previously a supply orientation tended to prevail. This new focus on the demand for human resource development may be one of the most important developments for human resource development in the developing countries to emerge from the economic theory of human resources.

A number of lacunae and limitations remain. Economic theory has yet to develop a wholly satisfactory theory of choice for decision-making in the allocation of scarce public resources between alternative human capital and other development programmes, although this is one of the most basic aspects of human resource development in developing countries. The debate between conventional human capital theorists and credentialists has yet to be resolved, but may prove to be a draw, the reality depending essentially on institutional structures in particular countries. The economics of manpower planning and educational planning for manpower development are undergoing a major revision in the direction of a less ambitious, more data-oriented analysis of labour markets and labour market signalling, the practical results of which are largely yet to be seen.

The human capital revolution in the economics of human resources in the last quarter century has had a major impact on policy-making and planning for human resource development in the developing countries. In many ways it may be said to have initiated interest in planning for human resource development. There can be little doubt that the impact of continuing developments in the economics of human resources will be an equally potent source of new approaches to human resource development in the next twenty-five years.

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POLICIES AND PRIORITIES IN HUMAN RESOURCES DEVELOPMENT FOR ASIA AND THE PACIFIC

*Lim Teck Ghee**

It is useful to remind ourselves from the outset that the *full life,* or realization of human capabilities, which is the ultimate aim of human resource development, rests upon the satisfaction of both simple and complex needs, some of which are excluded from conventional analysis. In addition, not all needs have the same priority, even within one particular society. For example, the human resource needs of tribal minorities which live simple, subsistence-oriented lives and are not yet integrated into mainstream societies call for some common and also some different priorities from those of their "modern" counterparts.

Human resource development should thus refer not only to aspects of physical well-being of the people, such as life expectancy, infant mortality, rates of morbidity and levels of nutrition, but also to socio-cultural aspects, including education and employment, social cohesion and stability, political expression, cultural diversity and even ecological harmony. In fact, the only dimension of intrinsic value in development is the human dimension in its totality.

Unfortunately, much of the discussion of human resource development at the academic and policy levels has been directed at its relationship primarily to economic development. Given the limitations of space, this paper similarly will favour this narrow approach, but wherever possible it will also discuss broader policy options and priorities in specific areas or sectors of human resource development to the extent that the less conventional and less easily monitored socio-cultural indicators are available.

The paper will first summarize the record of Asian and Pacific countries in the field of human resource development. It will try to identify constraints that are common to social programmes in countries in the region, notably in the fields of education, health and nutrition. It will also attempt to categorise the range of policy options that have been used in the area of human resource development by Asian and Pacific governments. Included are options that are acknowledged to have worked well and those which have been less successful.

* Professor, Institute of Advanced Studies, University of Malaya, Kuala Lumpur, Malaysia.

The major part of the paper will deal with what are considered to be the major problems within each social sector for various countries in Asia and the Pacific and the range of policy options that are available to governments. These options will be discussed with reference to the possible inputs to be provided by national actors, including those holding state power, the bureaucracy, nongovernmental organizations, etc. The role of recipients will also be evaluated.

Finally, an attempt will be made to examine the likely consequences of various new approaches to human resource development and to situate the options within changing socio-political contexts, national and international. These evolving conditions, or what has been called "sbustantial externalities", will largely determine within each country (a) the sum of resources made available for human resource development, (b) the type of specific human resource policies pursued and (c) the level of human resource development achieved.

A. A REVIEW OF SOCIAL CONDITIONS IN ASIA AND THE PACIFIC

Many studies of the diverse national development experiences in Asia and the Pacific have confirmed the vital importance of the provision of adequate resources and other attention to the education, health, nutrition and broad socio-cultural preparation of the population, especially the younger generation, if the development effort is to succeed. These studies have also shown that the transfer of financial or physical infrastructural resources, whilst useful, does not by itself create an adequate foundation for self-sustaining development.

The conventional wisdom of the 1950's and 1960's was that successful development and modernization could be generated through a massive transfer of capital resources from developed to developing countries. Although this simplistic view came into increasing question in the 1970's and early 1980's, at the same time the growing acknowledgement of the fundamental importance of improved human skills and strengthened human resources in the development process was not translated into impressive results. Perhaps the best way of illustrating this is by comparing the position of developing Asian and Pacific countries with that of the "industrial market economies" in terms of some selected social and economic indicators as of 1980/1981, when the impact of the international economic recession and debt crisis had not yet fully hit the human resources development programmes in Asia and the Pacific.

From Table 1 we see that nutritional deficiency was marked in 7 out of the 18 countries listed. As measured by daily per capita calories supplied. The worst-off Asian and Pacific country had an average intake only half that of the "industrial market economy" countries. Data on infant mortality rate

Table 1. Asian and Pacific Countries: Selected Indicators of Human Resource Development[a]

	Daily per capita calories supply (as % of requirement)	*Population per physician*	*No. enrolled in secondary schools (as % of age group)*	*Infant mortality rate (aged 0-1)*	*Life expectancy at birth (years)*	*Population size (million)*
Year	*1980*	*1980*	*1980*	*1981*	*1981*	*1981*
Industrial market economies	134	554	89	11	75	
Afghanistan	73	16,730	10	205	37	16.4
Bangladesh	84	10,940	15	135	48	92.8
Burma	113	4,660	20	98	64	35.2
China	107	1,920	34	71	67	985.0
India	87	3,640	28	121	52	688.6
Indonesia	110	11,530	28	105	54	149.4
Laos	97	20,060	17	126	43	3.6
Malaysia	121	7,910	53	30	65	14.3
Mongolia	111	450	89	53	64	1.7
Nepal	86	30,060	21	148	45	14.4
Pakistan	106	3,480	15	123	50	88.9
Papua New Guinea	90	13,590	12	102	51	3.3
Philippines	111	7,970	63	53	63	48.9
Republic of Korea	128	1,690	85	33	66	38.9
Singapore	134	1,150	55	12	72	2.4
Sri Lanka	102	7,170	51	43	69	15.3
Thailand	104	7,180	29	53	63	48.6
Viet Nam	90	4,190	48	97	63	54.9

Note: [a] Excludes countries for which data are not available.

Sources: World Bank, *World Development Report, 1983,* Tables 23, 24 and 25, pp. 192-97; Far Eastern Economic Review, *Asian Yearbook 1982,* pp. 8-9.

paint an even grimmer picture. In 8 out of the 18 countries, the infant mortality rate for ages 0-1 exceeded 100 in every 1,000 live births, whilst in 6 countries it ranged from 50-99. Only in Singapore, Republic of Korea, Sri Lanka and Malaysia was there a relatively low infant mortality rate, which reflected well on the health programmes of those countries. Equally depressing was the position of education, with 12 of the 18 countries failing to enrol more than half of the eligible school-age children at the secondary school level.

What are the reasons for the very limited success in human resource development in Asia and the Pacific? Whilst a thorough analysis of the past performance of each country has to take into account a broad spectrum of national conditions and policies, it is possible to generalise on some factors that are common to most of the countries.

The first factor concerns the relative allocation of priority given to the human resource sectors (education, health, nutrition, etc.) *vis-a-vis* other sectors in the government budget, in particular the military budget. Tables 2 and 3 compare military and human resource development expenditure and personnel in the Asia-Pacific countries and provide evidence of government priorities in sectoral allocations for development. From Table 2 we see that in 1979, in 12 out of 20 countries, the governments spent more on the military than on the education and health sectors combined together. As a result of the lop-sided expenditure, social manpower (in the form of physicians and teachers) numbered less than military manpower in 10 countries. These countries included low and middle income countries as well as centrally planned and market ones.

The crowding out of social expenditure by military expenditure is further illustrated in Table 3. If one ranks the 20 listed Asian and Pacific countries by their military public expenditure per capita and by their socio-economic position in the world, only 6 countries ranked lower in military expenditure per capita than they did in socio-economic standing. If military expenditure per capita is substituted with military expenditure per square kilometer, only 4 countries had a per-square-kilometer ranking lower than their ranking in terms of socio-economic standing.

The impact of the greater importance attached to military expenditure than to development and welfare has been succintly summarised by Sivard:

> In quite devious ways, the military burden undermines the growth that is essential to sustain an increasing population. It slows civilian investment and production, stimulates inflation, widens the gap between rich and poor, and postpones the solution of overriding global problems . . . .[1]

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[1] Ruth Sivard, *World Military and Social Expenditure 1982.* p. 32.

Table 2. Asian and Pacific Countries: Distribution of Financial and Human Resources, 1979

Country	*Distribution of expenditures (%)*			*Distribution of human resources (1,000)*		
	Military	*Education*	*Health*	*Armed Forces*	*Physicians*	*Teachers*
Afghanistan	1.7	1.9	0.6	90	1.0	38
Bangladesh	1.4	1.5	0.4	76	8.0	297
Burma	3.7	1.6	1.0	170	7.0	98
China	6.7	3.3	1.5	4,360	400.0	8,460
Fiji	1.0	5.3	2.2	1	0.3	6
India	2.9	3.2	1.2	1,096	180.0	2,988
Indonesia	3.6	2.0	1.2	239	12.0	1,022
Laos	10.3	...	0.9	49	0.2	18
Malaysia	4.0	5.7	1.6	64	1.8	107
Mongolia	10.2	6.3	1.4	30	3.5	14
Nepal	0.9	1.6	0.7	20	0.4	40
Pakistan	5.1	2.0	0.6	429	22.0	265
Papua New Guinea	1.4	4.7	2.6	3	0.2	11
Philippines	2.2	1.9	0.6	103	17.0	323
Republic of Korea	5.5	3.4	0.2	619	21.0	197
Singapore	5.1	2.9	1.5	36	2.0	16
Sri Lanka	0.8	2.3	2.3	14	2.0	119
Thailand	4.2	3.2	0.8	126	6.0	404
Viet Nam	10.6	3.5	0.8	1,023	9.0	374

Source: Ruth Sivard, *World Minitary and Social Expenditure 1982,* Table II, p. 28.

Table 3. Asian and Pacific Countries: Ranking of Military and Human Resource Development Indicators, 1979 (rank on global scale: 1 is highest and 140 is lowest)

Country	Military public expenditure (per capita)	Military public expenditure (per sq. km.)	Socio-economic standing[a]	Education public expenditure (per capita)	Health public expenditure (per capita)	Nutrition caloric supply (per capita)
Afghanistan	125	122	136	130	127	129
Bangladesh	133	74	133	135	105	126
Burma	117	102	113	135	127	84
China	72	47	83	105	88	69
Fiji	87	83	51	51	50	...
India	117	69	115	121	121	117
Indonesia	96	75	108	121	105	82
Laos	102	113	129	...	127	128
Malaysia	59	53	60	54	58	58
Mongolia	47	124	54	72	73	54
Nepal	133	119	137	135	127	122
Pakistan	96	66	118	124	127	81
Papua New Guinea	102	128	94	78	64	84
Philippines	91	58	78	111	112	78
Republic of Korea	44	16	67	71	112	40
Singapore	25	1	41	44	45	34
Sri Lanka	129	92	85	124	95	90
Thailand	77	56	86	98	105	80
Viet Nam	86	51	102	121	127	113

Note: [a] Average of ranks for GNP per capita, education public expenditure and health public expenditure.

Source: Ruth Sivard, *Word Military and Social Expenditure 1982*, pp. 22-32.

Where and when resources have been made available to the social sector instead of to the military, commercial or other politically important sectors, insufficient attention has been given by governments to the consideration of a range of important issues that have a bearing on the type of social development and its impact. These issues include the intra-sectoral allocation of priorities, the importance of inter-sectoral co-ordination in the use of scarce resources to minimise duplication or wastage and avoid unhealthy competition, the appropriateness of the approach used to implement social programmes (whether top-down or bottom-up), the type of technology used (how expensive, whether imported or local and the extent of inter-sectoral linkage) and the role of various actors (bureaucracies, the target population, the private sector, non-governmental organizations and international organizations) in the initiation and implementation of programmes.

Failure to resolve these issues guided by considerations of social equity, economic distribution, political participation and concern for local cultural norms has produced troublesome anomalies in the social development of many Asian and Pacific countries. Such anomalies as the over-production of tertiary schooled graduates which cannot be absorbed into productive employment at the same time as the primary school system is starved of resources diverted instead to universities and colleges, and the installation of expensive curative health systems at the expense of preventive primary health services, highlight the need for governments to review in depth their social and human resource development programmes with a view to ensuring that the mistakes and deficiencies of the past can be swiftly corrected.

The need for a thorough review of priorities and options in human resource development is especially urgent in view of the present climate of cut-backs in the development programmes of many countries. In the late 1970's and early 1980's, as a result of the international economic recession, the attention of national and international policy makers shifted from medium or long-term goals to short-term adjustment and from broader concerns to narrow financial matters. Paradoxically, at the very time when more resources and attention should be given to health, education and other human resource development programmes, these programmes have become the first-rung casualities of fiscal pruning, often carried out at the insistence of international financial organizations that have a constricted approach to debt repayment. The results of the growing under-investment in human resources in many countries have begun to show: there is emerging evidence that in the past five years, inequality in income distribution and in access to basic needs has widened, the number of poor people has risen sharply, health and social problems have increased in incidence and the simmering socio-economic discontent amongst the rural and urban masses has produced flashpoints of violence that threaten to spread. For the continued survival of many governments, and to prevent the develop-

ment process from being blighted for many years to come, it is imperative that the human resource development agenda and its progress and problems be closely monitored and that the evidence thus gathered be effectively acted upon.

B. POLICY OPTIONS IN HUMAN RESOURCE DEVELOPMENT

1. THE USE OF EDUCATION

Governments are confronted by a large number of problems in this key sector of human resource development. Perhaps the most critical is how to impart knowledge and skills not simply to the elite but to the great mass of the people, thus implying that the many formal systems of education must undergo radical reform. This reform is unlikely to be accomplished merely through the redeployment of resources, redesign of curricula or restructuring of teacher training. It can only be done through educational policies that discriminate in favour of disadvantaged groups such as the rural and urban poor, girls and minorities, in order to achieve balanced participation and through broader socio-economic programmes that redress the previously unequal access to resources.

There are other important questions about the educational system as a whole that have been left in abeyance for many years and need urgent resolution. In fact, the many-sided education crisis of the late 1960's, far from diminishing or disappearing, has actually gathered momentum and can be expected to besiege all nations throughout the 1980's. The signs are that the developing countries will bear the brunt of this future crisis, mainly because of the inappropriateness of their imported educational systems (especially in rural areas) and the burden of increasing financial stringency and deeply embedded patterns of socio-economic inequality.

Apart from the educational disparities and inequalities that are common to many countries, certain other critical issues may be identified.[2] Of these, the most relevant for Asia and the Pacific are the following:

- The quantitative problems of meeting rapidly expanding future educational needs (both formal and non-formal) arising especially from population growth and new anti-poverty policies in developing countries and from growing needs for pre-school and adult education in all countries;
- The quality and relevance of education, an intensifying perennial complaint to which few solutions have yet been found;

[2] The following is derived from Philip H. Coombs, *The World Educational Crisis: A Systems Analysis,* New York: Oxford University Press, 1968.

- Rising educational costs, inefficiencies, and resource scarcities, an old problem that is getting worse;
- Education and employment, a ubiquitous problem that has come forcibly to center stage in recent years and is not likely to diminish soon;
- The "new" problem of linking formal and non-formal education into a life-long learning network, which presents many unresolved conceptual and operational problems;
- Collisions between education, culture, and politics, including the language problem, neglect of indigenous history, arts, and humanities, corrosive impact of "modern" education on traditional cultural values, and growing political intrusions on intellectual freedom;
- The problem of how to accelerate overdue educational changes, which still frustrates policy makers and baffles innovators after a decade of greatly increased emphasis on educational reform and innovation;
- The problem of planning and management of education in the context of rapid social, economic, and political change, including such questions as who should do the planning, how to achieve greater local adaptability, participation, and support, how to make evaluation a continuous process, and how to build vital non-formal education components into development programmes.[3]

In the next sections we shall focus on what we consider to be the most critical of these problems in Asia and the Pacific and discuss various policy options that confront governments in dealing with them.

(a) ***Primary vs Post-Primary Education*** – For countries with low levels of enrolment in primary education, the debate focuses on the benefits of moving rapidly towards universal primary education. Although the majority of rate-of-return studies show that investment in primary education provides the highest private and social returns, doubts remain. Beyond the results of narrow investment yield analysis with its problematic methodology and uncertain data, however, it is generally admitted that primary education is the basis of functional and numeral literacy as well as a source of non-cognitive values and attitudes.

Studies also show that primary education, especially of girls, is the single most important determinant of family health. Countries with universal primary

[3] For a fuller discussion see "Education and Community Self-Reliance", *Assignment Children* (UNICEF) 51/52 (Autumn, 1980) Paris.

education invariably have low infant mortality and high life expectancy while countries with low levels of primary education have substantially lower life expectancy, in some cases 20 years or more, than countries with universal primary education. Primary education, effectively organised and consistently pursued, can also be a successful means of reaching the poor and provides a relatively cheap and practicable way of benefitting them. Universality is a necessary condition for ensuring that the poor – all the poor – can benefit. Anything short of universality does not leave out the rich; it is the poor who will not benefit.

In moving towards universal primary education as an essentially distributive process, elements of subsidization or redistribution will have to be built into public programmes to ensure that the poorest segments of society are reached. Free books, transportation, school meals, etc. are costly items, but when effectively administered through means tests, local religious participation, etc., they can help prevent the high drop-out rates that are prevalent among poor children in most countries.

In countries where high rates of primary school attendance have been attained, qualitative improvements in primary education could usefully form the next focus of public policy. These could center on improvements in facilities, pupil/teacher ratios, curricula, etc. Often such improvements tend to be neglected when specific admission targets have been met, thereby weakening the basis of secondary schooling and lessening its benefits. Such back-sliding needs to be carefully and persistently guarded against.

(b) ***Technical vs "White Collar" or Liberal Education*** – Continuing debate has long taken place on whether developing countries have over-invested in white collar or liberal education. The need for a substantial mass of technicians, production workers, craftsmen, skilled agricultural workers, etc. is generally recognized to be a precondition to national attainment of the critical threshold towards meaningful development, and the inability to ensure this has led to "manpower imbalances" and mismatches of various types. Nevertheless, it has been found that the key factor in terms of educated unemployed is located at the level of high-school graduates. Arts graduates followed by science and commerce graduates constitute the largest proportion of the educated unemployed. In the presence of such serious horizontal, spatial and vertical mismatches, there are important doubts whether technical education can be sucessfully delivered through the school system and also whether the state should play the primary role in fostering technical education.

Two country experiences indicate some of the options available. Japan at the beginning of the Meiji era was a predominantly agrarian economy with a low level of per capita income and large pool of unskilled manpower. In

launching its national industrialization and modernization programme a century ago, the government gave priority to economic and social infrastructure. Compulsory national education was introduced whereby all children were enrolled in primary schools for 4-6 years. The role of the private sector was crucial. Since workers were mobilized from rural areas for employment in factories far away from home, employee residence halls were set up on or near the factory compounds, making it convenient for further education and training to be provided by the factory management. Emphasis was given not only to enlightening employees on new techniques and methods of production but also to maintaining and improving team spirit. From very early on, therefore, attempts were made to draw up distinctive and favourable work ethics at the individual and group levels. The Japanese programme was immensely successful, and within a few generations the country was transformed into a major industrial power.

Singapore's experience offers a contrast. Confronted by mercantile capitalists who were not willing to invest in long-term manufacturing ventures and with little tradition in developing manufacturing technologies among bureaucrats and business entrepreneurs, the country, after its separation from Malaysia in 1965, expanded its technical training facilities and programmes through reliance on foreign investors willing to bring in risk capital, technology and management know-how. Through a far-reaching network of incentives to both workers and employers, formal and on-the-job training succeeded in generating a significant uplifting in the skills level within two decades.

In both cases, expansion and improvement of general education by the state was emphasized to involve the masses in their respective modernization and industrialization programmes. But thereafter, to meet the increased demand for qualified skilled workers and technicians and improve the technical and human relations quality of this crucial group, the private sector came to be increasingly relied on to provide in-house training.

(c) ***Tertiary Education : Too Much or Too Little?*** – In some Asian and Pacific countries, a recent phenomenon in human resource development has been the spectacular increase in demand for tertiary education. A typical example is Malaysia, where, despite the opening of several universities and colleges in the past few years, demand for post-secondary and tertiary education has far outstripped the supply of places. Thus, it is estimated that about 150,000 students (in a country of 15 million people) are studying abroad in post-secondary training and education.

Recent reversals of previously liberal educational policies towards non-nationals (increases in fees, quotas on admissions, etc.) by the recipient countries in the West, as well as long-standing problems relating to the inappropriateness

of curricula and training in relation to local needs and the brain-drain phenomenon have resulted in many calls for a review of national tertiary education policies. But if external constraints on tertiary education work in one direction, various internal developments in some countries caution against a simplistic expansion of the tertiary education infrastructure. In South Asia, limited job opportunities for graduates, over-crowding in universities, falling standards and the mismatch between formally-inculcated skills and job opportunities have been aggravated by increasing state investment in tertiary education. Finally, governments also are wary of the problems of "screening credentialism" i.e. the possibility that, at higher levels, the social rate of return to educational investment tends to be more a rate of return to a particular occupational selection mechanism than the yield on improving labour force quality.

One way of resolving the policy dilemma as it relates to allocation of scarce resources is to permit private sector development of tertiary education, especially in fields that are deemed important to national manpower needs but where the state is unable to take the lead. Full-cost recovery systems are another especially attractive option because of their equity implications. Since tertiary education is the most expensive level of education in terms of state support and because its graduates enjoy a large advantage in terms of earning capacity when compared with non-graduates, it is only fair that they pay more. By relating these options to manpower forecasts and taking into account the elasticities of demand for various categories of highly qualified workers, it might be possible to reduce the present mismatch in much of tertiary education and harness it to national socio-economic development strategies.

However, the Philippines experience, where impressive investment in tertiary education predominantly by the private sector has produced rather meagre results in socio-economic development, cautions against an over-simplistic approach to this policy dilemma. What clearly needs change are curricula and attitudes that confine graduates of tertiary education to be mainly white collar managers and bosses who simply sit at their desks, either in the private or public sector, cut off from reality. In this respect, it is necessary to re-define tertiary education to mean any education beyond the secondary level and to include technical and industrial education.

(d) ***Alternatives to Conventional Formal Education*** – Whilst universal primary education is essential as a means of equipping all working-age citizens with the rudiments of knowledge required for them to secure a reasonable life for themselves and to enable them to contribute to the general welfare of society, the move towards universal formal schooling must be tempered by considerations regarding its financial costs and whether it is affordable.

Projections on the basis of recent population growth trends show that, in the three developing regions of the world between 1975 and 2000, school

enrolment must increase by 418 million students to match in proportional terms the actual increase of 252 million from 1950-1975. This trend of increase would leave out of school in the year 2000 at least 27 per cent of primary age children (6-11 years old) in South Asia. For the older age group of 12-17 years, the proportion out of school in South Asia in the year 2000 would be about 61 per cent.[4]

The impact of the increase in enrolment on national public expenditure allocated to education is likely to be dramatic as economies of scale do not apply to formal educational systems. Over the years there has actually been a trend for expenditure on students to increase as total enrolment has risen. Moreover, as school systems reach larger proportions of primary level children, costs of general, vocational and technical education at the secondary and post-secondary levels will rise even more.

There is therefore a clear urgency to investigate possible alternatives to the formal school system in providing skills and learning experiences to the great mass of young people. Some of these alternatives have already been attempted on a small scale in various developing countries. They include non-formal education, part-time abridged programmes at the primary level, distance learning (especially at the secondary level) and combined learning and production programmes. The unique conditions of each country are likely to determine which particular alternative or combination of alternatives is most appropriate, but meanwhile there is a great need for governments in the region to gain a comprehensive awareness of the principles and methods of these alternatives so as to make a practicable selection. As one perceptive observer has pointed out, "non-formal educational approaches, to the extent they must function in the context of an established formal educational system, cannot be effective unless a nation is committed to the principles and objectives of an egalitarian society, and development programmes and priorities are based on this commitment".[5]

2. THE CASE OF NUTRITION AND HEALTH

The right to health and to food can be considered basic human rights. Notwithstanding some improvements in the health and nutritional status of some developing countries of Asia and the Pacific as indicated by improvements in life expectancy, infant mortality and the incidence of various debilitating

[4] Projections by the International Council for Educational Development based on data contained in *UNESCO Statistical Yearbook.*

[5] Mansoor Ahmed, "Mobilising Human Resources: The Role of Non-Formal Education", paper presented at the 8th Commonwealth Education Conference, Colombo, Sri Lanka, August 1980.

diseases, the state of health and nutriton in the region remains far from satisfactory.

This is true not only for Asia and the Pacific but for the entire Third World. In 1980, in the developing countries an estimated 5 million children under 5 years of age – about 10 every minute – died as a consequence of diarrheal diseases. These deaths were an outcome of the some 1,000 million episodes that occurred among the 338 million children in this age group and were undoubtedly more frequent among poorer families.[6]

More recently, cutbacks in social expenditure by many countries have resulted in setbacks to programmes aimed at reducing infant mortality, malnutrition and water and vector-borne diseases such as cholera, typhoid, dysentery, and filariasis at the same time as the incidence of ill-health from drug, alcohol and tobacco addiction, industrial accidents and environmental pollution has increased.

The root-cause of health and nutrition problems is, of course, poverty. Although there are diseases of affluence, poverty is inseparable from malnutrition, unsafe water supply, exposure to vector-borne diseases, occupational hazards, etc. At birth, poor people suffer higher rates of prematurity, malformation and still-birth, whilst children with a background of poverty tend to be physically less fit, smaller and possessing intellectual abilities stunted by poor nutrition.

The vicious circle of poor health and poverty can only be broken by measures which alleviate poverty directly, such as fair returns to labour and fair access to land and capital. Until this relationship is broken through increased income and food production, wide disparities will continue to exist among various classes and strata of society in their health and nutrition.

In addition, there is a need for government administrators, policy makers and planners (and as many members of the community as possible) to ask some hard questions about the health and nutrition delivery systems that are presently in place. How appropriate and effective are these systems? To what extent do they reach all segments of the population, especially the historically depressed groups such as the rural and urban poor, women and children, the aged and the disabled? Is the two-tier system of medical delivery – private and public – providing optimum social benefits? Should curative medicine, oriented towards hospital-based, high-technology and specialized service, be allowed to dominate over community-oriented preventive medicine? In

[6] "Joint Statement by WHO/UNICEF on the Management of Diarrhoea and of Oral Rehydration Theraphy", World Health Organization, Geneva, 1983.

addressing the above questions and reviewing the range of policy options required to provide better health and nutrition, governments should pay attention to the following approaches.

(a) ***Primary Health Care*** – In this approach health and disease should become issues around which the community is to be mobilized and organized for self-reliant, participatory and multi-sectoral action. The concept has six major features:

- Accessibility of services to everyone, with the poor receiving priority attention;
- Relevant and effective services which meet the health needs of the majority poor and which are socially and culturally acceptable to them;
- Functional integration with higher technical levels of the health system;
- Cost effectiveness through improved efficiency and the allocation of resources so as to achieve the greatest benefit for the majority at the lowest cost;
- Intersectoral collaboration involving close contact with agricultural services, nutrition cadres, educational entities, etc. similarly oriented towards the needs of the poor;
- Community participation in planning, management and evaluation of health services at all levels.[7]

It has been suggested that governments might, in operationalizing their concept, focus on simple, low-cost and manageable activities in order to make an impressive start, with the understanding that the other elements of action required within a broad strategy would be brought into play sequentially.[8] One good example of community focussed action on the health front is a mix of programmes regarding improved breast-feeding/complementary feeding, immunization of common diseases of childhood, monitoring of growth of infants and young children, and oral rehydration therapy against diarrhoea.[9] Such a mix of activities will have a very effective child-saving impact in view

[7] This discussion is based on Hollnsteiner's summary of Susan Cole-King's work on primary health care. See Mary R. Hollnsteiner, "Towards an Authentic Development: The Role of Adult Education", paper prepared for International Council for Adult Education, Paris, October 1982.

[8] UNICEF, *Current Views on Nutrition Strategies,* Report of an Informal Consultation at UNICEF Headquarters, New York, September 25-26, 1982, p. 6.

[9] *Ibid.*, p. 6.

of the fact that the majority of deaths among young children today are due to a small number of conditions.

However, some countries might wish to aim for a more ambitious mix of activities. Viet Nam's early primary health care programme, for example, had the following objectives:[10]

> Prevention of epidemics (smallpox, cholera, plague, typhus, encephalitis, etc.) by means of mass vaccinations; Stamping out of common infectious diseases gradually (typhoid fever, influenza, dysentery); Fighting social and parasitic diseases (malaria, trachoma, tuberculosis, etc.); Attacking common diseases (pneumonia, diarrhoea); Treating common urgent cases (infantile diseases); Launching a vast campaign to promote hygiene and prophylactic measures dealing with water supply, sanitation and rubbish disposal; Undertaking a mass immunization campaign for the whole population.

Whatever the mix decided on by individual governments, the real test of the system depends on its actual delivery performance and its ability to organize other activities around it, such as participation, nutritional education and surveillance. Lessons learnt from the implementation of this approach in a number of countries have also indicated the need for monitoring and evaluation, both in the short and long term.

The Thai experience is instructive for other countries. Thailand, like many developing countries, has encountered serious constraints in meeting the health needs of its population. Although 5 per cent of the national budget is allocated to health, 65-80 per cent of this budget needs to be spent on expansion, improvement and maintenance of health services, primarily on the curative side. Only 15-30 per cent of the population is being serviced by these facilities. The recipients are those who can afford to pay for the care and are primarily concentrated in the urban areas and physically close to the facilities.

Traditionally within the rural poor areas of Thailand, the older, more senior and more skilled villagers effectively helped and advised those in need so far as health complaints were concerned. Within the last 10-15 years the primary health care "Thai style" has been built around this tradition through identification, training and support of two types of local health agents. These are called village health volunteers (VHV) and village health communicators (VHC).[11] The village health communicators are selected from those who, in

[10] See Hollnsteiner, *op. cit.*, p. 8.

[11] The subsequent discussion is taken from A. Nondusta, "Concept of Primary Health Care", Bangkok, Thailand, February 1981, summarised in UNICEF, *Current Views on Nutrition Strategies*, pp. 25-27.

the natural process of human clustering, happen to be key members of the group. Through stimulation of VHCs the community is helped to organize itself around identification of priority health issues followed by organization for action with assistance from VHVs and the government health officials. The VHVs have been shown to be effective in tackling around 60-65 per cent of all health complaints.

The primary health care system (PHC) in Thailand is organized around the following concepts: PHC is defined as public health services of the community, by the community and for the community; it represents a supplementary system extending from the system rendered by the state and with co-operation from the community; it equips the community with the necessary capabilities to solve its own health problems through community participation and organization; it comes into being upon the recognition and will of the community, while government plays a supporting role in provision of technical and financial assistance; community involvement includes priority identification, and contribution may take the form of funds, labour time and co-operation in other forms; activities must interact with other activities such as agriculture, education and community development; appropriate technology in terms of economic, social and cultural viability and effectiveness in problem-solving should be utilized; harmony with existing institutions and norms of community life should be maintained; flexible patterns of work consistent with the nature of the problem and with the social, economic and cultural environment need to be adopted; it must relate to public health services, especially for supervision of referral services, continuing education and provision of health information.

It is too early for comprehensive evaluation of the success of this approach. However, there is substantial evidence in villages where the scheme has become effectively operational that third-degree malnutrition has been reduced to almost zero level within a period of one year.

This scheme has been most effectively introduced in villages where at least a minimum of resources are available for financing simple health care at the village level and where the community is willing to pay for it. It is not clear how poor a village would have to be before this approach becomes unaffordable. It is very likely that in poorer villages with less satisfactory records of motivation and community organization, this approach will face major difficulties. How many villages of this type exist in Thailand is not known. What should be the answer in the presence of such circumstances is an important subject for future research.

(b) ***Development of Health Manpower*** – Besides involvement of the community at large, a more specialized and specific form of involvement – that of health manpower – is necessary before any meaningful strides can be

made in health development. It is useful to elaborate upon the successful Chinese experience with this group of key personnel, not least because it illustrates the importance of the development of manpower capable of delivering services in any field of social development, be it health, nutrition or education.

The Chinese health manpower system basically has evolved in line with the overall socio-political system and is structured at three levels.[12]

1. A series of voluntary part-time health workers are trained and ultilized at the production team level, i.e. at the periphery.

2. Rural health personnel, notably barefoot doctors, are trained by the country and commune (on the basis of local needs) and utilized at the brigade level. This category of health personnel is highly localized and cannot be transferred from one brigade to another.

3. Medical and health personnel at medical college level and "middle" medical school level are trained by the State in accordance with national plans and assigned to all medical and health institutions at commune level and above.

Generally, the number and categories of health workers trained at State level are determined by the overall national health plan. At the commune and brigade levels, manpower development is based upon actual local needs. There are basic guidelines at the national level such as one hospital bed per 1,000 population, one doctor per 1.3 hospital beds, two nurses per one doctor and one barefoot doctor per 500 population (approx.). However, at brigade level there is more flexibility.

What is distinctive about the above system is that it is an integral part of overall national policies and strategies for manpower development as well as an internally cohesive and appropriate system devised to meet the special conditions of the Chinese context. Thus, new categories of health manpower, such as barefoot doctors, have been introduced to ensure that the basic needs of the population are satisfied. At the same time a diversified and flexible approach enables a shift of emphasis to the upgrading of both the status and professional competence of each category of personnel, after basic coverage is achieved. Finally, there seem to be adequate machinery and facilities for continuing education and meaningful supervision through linkages between the various levels of the health service, each level being supervised by the next-higher level.

[12] Discussion of these levels and the wider manpower issues are contained in World Health Organization, *Primary Health Care – The Chinese Experience*, Geneva, 1983.

Obviously, each country must devise its own options for manpower development according to its peculiar socio-political context. However, the success of the Chinese, despite the huge scale and great complexity of their country's health problems, illustrates clearly that too many human resource development programmes have become bogged down simply because planners and administrators have failed to devote sufficient attention to the total continuum of manpower from the lowest rung up to the most sophisticated level or have failed to generate the kind of internal dynamic cohesion that is necessary to motivate and sustain what are, in effect, fairly long-term programmes.

(c) ***Integration of the Health, Food and Poverty Fronts*** – This approach has much potential in addressing the health and nutrition problems of the bottom 20 per cent of the poor, or what is called the "ultra poor", who are very difficult to reach.[13] Since development efforts have often bypassed the ultra poor, they are quite unlikely to become easily motivated and mobilized around issues such as health and growth. Their felt needs are centered more on quick remedies for their immediate economic hardships. Furthermore, they are unable to share the costs of meeting their health needs. Thus, many experts have voiced the opinion that, in very poor communities, the initial stage of action should be organized around poverty reduction approaches which would, through modest economic and technical inputs, stimulate and motivate the community for action and set the stage for addressing health issues. Once the economic injection is made and mobilization is stimulated, then (it is assumed) community concern for health and other social issues will quickly follow.

Two interesting exercises in the community-based, poverty-oriented approach have recently been carried out in Nepal.[14] In these projects, increased income and improved food availability is obtained through institutional credit, effective communication and participation of small farmers and women. This has set the stage for the community to address health issues. Such projects would be more effective if they are part of a wider approach that attempts to provide food security at sub-national levels and where food security is the central concern.

The PHC and "integrated" approaches outlined above do not, of course, cover all the important areas of health concern, which in the last few decades have expanded enormously with the growing complexity and absolute magnitude of society. In the following sections we shall touch on some of these new areas and suggest ways whereby governments of the Asia-Pacific region may deal with their countries' health problems.

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[13] For a fuller discussion, see *Current Views on Nutrition Strategies*, pp. 10-11.

[14] See *ibid.*, pp. 19-21.

(d) ***Health and the Workplace*** – Despite mounting evidence that, as the countries in the region pursue their industrialization programmes, increasing numbers of workers are being exposed to danger and injury in their new workplaces, industrial health and safety is still a neglected area of official and public concern in most countries. In Malaysia, for example, in 1977 as many as 50,000 industrial accidents (or 23 accidents per working hour), with considerable loss to limb and life, were recorded. These figures do not take into account the thousands of workers who were exposed to serious health risks in the factories, plants, quarries and mines while dealing with dangerous materials in population-rich environments.[15]

Exploitation of workers in terms of adverse work conditions and lack of safety precautions also produces severe psychological distress. Research by social researchers indicates, for example, that the outbreak of mass hysteria among factory workers in Southeast Asia is often a symptom of conflict between labour and management and not due to superstition or cultural reasons. Workers who feel exploited sometimes resort to mass hysteria to disrupt production in the absence of any other means of voicing their grievances.

To minimise the problem of health in the workplace, governments could legislate strict safety standards in places of work through safety features on machinery, control of emissions and specialized equipment to handle toxic or dangerous materials. Furthermore, enactment of comprehensive industrial health regulations covering all aspects of industrial health and safety, insistence by government on the proper training of workers in the running of heavy machinery and handling of hazardous materials, and more generous compensation benefits and rehabilitation programmes for injured or sick workers would do much to ensure that the health of workers is not sacrificed in the drive for development.

(e) ***Health and Pharmaceuticals*** – Since pharmaceuticals play an important role in helping the human body fight disease and infection, their production and distribution has become a multibillion dollar business providing huge profits. As such, the industry has attracted some unscrupulous operators. Strong measures are therefore required to ensure that the health and well-being of the people are not adversely affected by malpractice and other abuses. Unfortunately however, malpractice and abuse in the pharmaceuticals industry are rampant in the region. For example, many drugs banned or severely restricted in the developed countries are still readily available in developing Asian and Pacific countries. Dipyrone, which can cause agranulocytosis, a fatal blood disease as well as frequent skin eruptions and serious shock has, for instance,

[15] Consumers' Association of Penang, *Malaysian Consumers and Development*, Penang, 1986, pp. 19-20.

been taken off the market in developed countries but is still contained in at least 13 preparations for sale in Malaysia as a treatment against the common cold, coughs, etc.[16]

Drugs can only be effective when they are properly administered, used for the specific purpose for which they have been prescribed and taken in the proper manner. Unfortunately, these precautions are not always followed by poorly educated people in developing countries, and even when they are followed there is no guarantee that they will not cause further problems. Thus, drug toxication accounts for 5 per cent of patients admitted to hospitals in Thailand, whilst another 1 to 2 per cent of patients treated with drugs develop drug-induced illness. Adverse reaction to drugs are an important cause of illness and death but many drug manufacturers and distributors do not provide proper labelling to inform consumers of what they are purchasing, the dosage to be used, frequency of use, possible side-effects, what to do if reaction occurs, etc. Imitation drugs produced by unscrupulous operators are another serious health hazard.

Because of the vast profits to be made in the drug industry, with the Asian-Pacific market today estimated at billions of dollars annually, countries in the region are being swamped by a large variety of drugs and much effort is exerted by many drug companies to induce consumers to purchase drugs indiscriminately. Thus, for example as many as 4,000 pharmaceutical items are available in the Indonesian market when the World Health Organization suggests that only about 200 essential drugs and 30 other complementary products would be sufficient to meet the country's basic medical needs. There is great scope, therefore, for national and regional self-reliance in the production of basic drugs as well as a need to discourage the tendencies of unwarranted proliferation and indiscriminate use of drugs that are presently being fostered by drug advertisements in the mass media.

(f) ***Health and Narcotic Drugs*** – The spread of narcotic drugs abuse in Asia and the Pacific in recent years is posing a very serious social menace. It is officially estimated, for example, that there are 100,000 drug addicts in Malaysia alone.[17] Especially worrying is the fact that the great majority of drug addicts are young people. Eleven and a half per cent of school children were shown, in a recent Malaysian study, to have taken one or more drugs without a medical reason, and 70 per cent of identified addicts were found to be between the ages of 15 to 24. This problem constitutes an unbearable

[16] Consumers' Association of Penang, *Drugs and the Third World: Aminophenazone and Dipyrone Hazards and Marketing Practices*, Penang, 1986.

[17] Government of Malaysia, *Malaysia Country Report*, prepared for UNAFEI International Seminar on Drug Problems in Asia and the Pacific, 4-22 August 1986, p. 5.

social and economic drain on the nation, besides affecting the health of the addicts.

Establishment of rehabilitation programmes to cope with drug addicts must be coupled with massive public educational campaigns beginning in schools to warn young people of the hazards of drug addiction. Firm steps at the national and international levels to control the production, smuggling and distribution of drugs are also necessary measures.

(g) ***Health and Transnational Corporations*** – There is an urgent need to control the activities of transnational corporations dealing with products related to food, nutrition and health as some of these companies actually do more harm than good to the consumer. Malpractices of transnational corporations include the taste-transfer of inappropriate and sometimes dangerous patterns of consumption, use of double standards between developed and developing country markets, and marketing of dangerous products without adequate caution and instructions for proper use. For example, as sources of protein or calories, Western breakfast cereals can cost consumers many times more than far more nutritious locally available staples. Similarly, vitamin preparations are a blatant form of irrelevant medicine sold to the masses. Since transnational corporations have as their primary motive the maximization of their own profits and power, they cannot be expected to be concerned about the ill-effects they may have on traditional socio-cultural consumption values and thus the health of other societies. It is, therefore, for these societies to adequately protect themselves and their people's health where the products and marketing practices of transnational corporations are found to be harmful.

C. THE SOCIO-POLITICAL CONTEXT OF HUMAN RESOURCE DEVELOPMENT

It is, in conclusion, pertinent to point out that despite the many problems reviewed in this paper, Asia and the Pacific have had more success in economic-growth-oriented human resource development than either Africa and Latin America. It is possible to discern three groups of countries that have been particularly successful in this regard:

- High-growth market-oriented countries and territories that have experienced labour-absorbing type industrialization (Hong Kong, Republic of Korea, Singapore);
- Mixed economies where state intervention in support of social services and food security has been significant (Malaysia, Sri Lanka);

Centrally planned economies which have given high priority to planning for basic minimum needs, both from a production and an entitlement perspective (China).

To some extent these three groups are representative of countries that have made use of rather different socio-political and natural characteristics to survive relatively well (at least until now) in the increasingly difficult international environment. The first group, commonly referred to as the newly industrializing countries (NICs) have been pressured by scarce natural resource endowments to enter into the global market for a variety of manufactured products. Their impressive export performances in the 1970's and early 1980's were facilitated to a large extent by external factors such as highly mobile Western capital and technology seeking lower costs and internal factors such as a young and skilled labour force. The spin-off from the strong economic growth has been a considerable degree of social development as measured by the orthodox indicators.

Unlike the first group, the so-called mixed economies have had relatively rich natural resources to build upon and through the expansion of export-oriented agricultural and mineral production and, to a lesser extent, the development of an export-oriented light manufacturing sector similar to that of the first rung NICs, as well as generous external loans provided by international banks, have been able to generate impressive growth rates and a certain amount of trickle-down to the poorer sections of the population, primarily through health and education programmes.

Unlike the first two groups, the centrally planned economies have deliberately emphasized social and economic development through egalitarian programmes, often of a radical nature. This group's success in meeting some of the basic needs of the people shows that low per capita incomes and a relative isolation of the economies from the international system need not prevent meaningful development from taking place.

Of these three groups of countries, the strategy adopted by the second has been the most vulnerable to disruption since welfare-type interventions are difficult to retain during periods of economic difficulty, especially when pressure is exerted by the international community through the International Monetary Fund or World Bank. All three strategies, to continue to run successfully, need in one form of combination or another the following conditions: cohesive leadership of talented and dedicated politicians over a substantial period; modernization of political and social institutions, including control of corruption, advancement of education, etc. and careful selection of models provided by the prior experience of the developed countries.

They also need to incorporate into their planning two givens in the developmental process. One is the population clock fast ticking away. Already overcrowded countries will find their populations doubling within the next 25-35 years. Even where draconian birth control measures have been initiated, these countries will see absolute *net* increases in population in the foreseeable future.

The other given is the rapid depletion of non-renewable natural resources such as oil and other minerals. Renewable resources such as forests and seas have also been subject to dramatically increased rates of exploitation in the last two decades without proper conservation or rehabilitation programmes.

These two givens operate against a backdrop of rapidly changing international economic trends which are especially unfavourable to developing countries. Most agricultural and mineral commodities that form the basic exports of many developing countries have experienced sharp falls in prices, and world demand projections do not look encouraging. The ability of some newly industrialized countries (NIC's) to export finished products that have been able to compete successfully in the international market may well be a "one-shot" historical phenomenon. Some of the NIC's, in fact, have begun to falter in their economic growth due to protectionism and technical innovations (such as robotization) in the developed countries which have chipped away at the comparative advantage of cheap labour that the NIC's had formerly enjoyed. Even if the window of opportunity in international trade remains open, the bleak logic of the NICs' experience in the 1970's points to the fact that only a few countries can benefit; the rest will have to make do with lesser ambitions.

These three factors – the two givens and the increasingly unfavourable international economy – necessitate a shift in paradigm of planners and governments in most developing countries. This shift in paradigm is required, first, in order to be prepared for ecological, socio-economic and even political, disequilibria which are likely to assume traumatic dimensions in the worst-case scenarios. Mass forced migration for job opportunities (or simply for food) across local or national boundaries, mega-cities where the quality of life among the urban masses will become increasingly worse, endemic alienation and widespread violence as various economic classes, social strata and ethnic groups compete for scarce resources and blame one another for their woes – these and other disequilibria can be expected to occur with increasing frequency.

The other part of this paradigm shift involves learning to live with zero or near-zero economic growth rates, and reorientating society towards what is modest and achievable for the great majority, rather than what is grandiose and achievable for a few, and a mirage to the majority.

Even if the second part of the paradigm shift is achieved, existing human resource development policies, plans and programmes in health, education, nutrition, etc. (already severely strained in many cases) will be tested to the hilt and found wanting if preparations are not made now to rethink them and modify or even revolutionize them to meet the challenge of the coming crisis. Of course, the solutions ultimately lie outside the human resources arena – they are located in national and international systems of power. But human resource development has an important contribution to make to the lessening of inequalities and mitigation of disequilibria.

What kind of human resource development can best support the developing societies in surviving these testing times? The best rule-of-thumb is to ensure that the people and their institutions become flexible and innovative in the face of the unknown. Factors that come to mind as constituent elements would thus be low-cost and participatory, equitable catering to mass and basic needs; avoidance of blind imitation of imported technologies; and incorporation of moral and social values for the common good.

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HUMAN RESOURCES IN ASIAN DEVELOPMENT: TRENDS, PROBLEMS AND RESEARCH ISSUES

*Harry T. Oshima**

Human resources include all resources other than material resources, the latter being either nature-endowed or man-made. The rise in importance of human resources (labour) over material resources (land and capital) in modern economic growth is reflected in the contribution of human resources to the postwar growth of the Asian countries. Those countries which reached full employment (i.e., full quantitative use of human resources) early were able to develop their work forces qualitatively more quickly because full employment and rising wages promoted rapid importation of sophisticated modern technologies, especially machines to complement labour inputs, and thereby opened up new opportunities for workers to acquire more sophisticated skills. Furthermore, since the East Asian labour force averaged less than 6 years of school completed in the early decades of postwar development, the 40 years or so of learning on the job was probably the most important source of manpower development.

This mechanism in the development process in part explains the faster growth of East Asia over other parts of Asia, hence underscoring the crucial role of human resources in postwar growth and the importance of studies on the subject. In undertaking such research, there is a need to understand better how full employment was reached, how important were vocational education and the specific needs of schooling by various industries, the role of learning on the job for both entrepreneurship and skill formation, and the place of the home, mass media, and community organizations in human resource development. Finally, it is necessary to draw up long-range plans for human resources development, which necessarily takes a long time.

A. THE RISING IMPORTANCE OF HUMAN RESOURCES: DEFINITIONS AND INTER-RELATIONS

The earliest economists listed the factors of production to be land, labour and capital. With the emergence of modern economic growth, land began to stand for all nature-endowed resources such as minerals and fuels as the rise of modern industry made them increasingly valuable in the productive activities of the first industrial revolution (e.g., iron and coal). Since the new technologies

* Visiting Professor, School of Economics, University of the Philippines, Diliman, Quezon City, Philippines.

of the early industrial revolution began to make economies of scale feasible and absorbed extensive external economies, capital rose to the fore as the most important scarce factor throughout the 19th Century in Europe, superseding land as countries overseas became major sources of food and raw materials, cheaply transported by steam-powered railroads and ships.

It was in the 20th Century with the spread of the second industrial revolution that technology began to emerge as a factor to be reckoned with. The acceleration in the pace of technological progress rendered existing equipment obsolete, augmented the fertility of existing lands with new crops, modern varieties, and inputs, and produced new sources of industrial materials. Above all, the new technologies, based increasingly on science, succeeded in mechanizing most operations in industry and many in agriculture and services. In so doing, they wiped out the need for most of the unskilled labouring classes which the first industrial revolution had created to comprise the industrial proletariat.[1]

The new products of the emerging technologies opened up new industries for production and multiplied many times over industries and enterprises as the decades of the 20th Century wore on. The upshot was that by the middle of this century, the knowledge and skills needed by workers who replaced the proletariat of the 19th Century were so extensive that the term, "human resources", began to replace "labour" as a factor of production.[2]

Skills and knowledge rather than muscle power emerged as the main contribution of human beings to the production process, and as machines replaced unskilled labourers, quality rather than quantity of human beings came to be important, with major implications for the demand for children and fertility. England, the site of the first industrial revolution with its almost unlimited supply of surplus labour thrown out from the enclosed and consolicated capitalistic farms, lost its industrial leadership to the United States with its limited labour supply working with more machinery and equipment than British workers by the early decades of the present century.[3]

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[1] In my view, it was the dwindling importance of the class of unskilled workers "with nothing to lose but their chains" which nullified the predictions of Marx, who died half a century before the emergence of the second industrial revolution.

[2] The early censuses one digit classification of industries and occupations had to be expanded to three, then to four and even five in some cases in order to classify the multitudinous trades. Instead of a few pages, the cross-classified industry/occupation tables required a volume to list all the different types of workers in the labour force.

[3] For details of the impact of restrictions on migration, wages and the substitution of electric- and gas-powered machinery on the farm and in factories in the 1920s, see my note entitled "The Growth of U.S. Factor Productivity: The Significance of New Technologies in the Early Decades of the Twentieth Century," *Journal of Economic History*, March 1984; "Problems of Heavy Industrialization in Asia"; *Philippine Review of Economics and Business*, March 1983; and "The Industrial and Demographic Transitions" *Population Development Review*, October 1983, for population dynamics.

Then, in the post-World War II decades, Japan began to make rapid headway and by the end of the 1970s began to catch up with the technology of the West, and in the 1980s it began to challenge the supremacy of the hitherto undisputed leader of the industrial world, the United States, in a number of industries. Japan's success could hardly be attributed to material resources, having to import most of its oil, coal, iron, copper, paper pulp, lumber, foods, and other products and located far away from the centres of modern economic growth. Nor to capital resources, substantial parts of which had been wasted away in military campaigns abroad or destroyed by Allied bombs. Hence, it was to human resources that one must turn for Japan's source of rapid growth, and not so much to their quantitative but qualitative aspects (as the dualist theories used to say), as Western entrepreneurs and managers coming into head-on competition from Japanese firms are beginning to realize.[4] Not only Japan, the importance of human resources is being shown by Asia's NICs (including the Republic of Korea, Hong Kong and Singapore), countries and territories with even less natural and capital resources than Japan. It cannot be their lower labour costs only; their ability to penetrate Western markets far better than other countries in Asia and elsewhere with far lower wages indicates that qualitative aspects of human resources must be, as in Japan, the source of their success. This emergence of human resources to the forefront in the growth of economies in the second half of this century may be related to the movement of technologies toward even more skill- and knowledge-intensive directions, compelling manpower to become even more highly qualified.

To simplify, we can think of land and capital as representing *material* resources, with capital, inclusive of its quality, particularly the (embodied and disembodied) technology associated with it, as all man-made material resources, and land as all nature-endowed material resources, inclusive of climate, location, land fertility, and so on. Labour, then, represents all human resources, that is, the total population both as consumers and producers, their size, sex, age, location, labour force status in all its manifestations – industrial attachments, employment status, income classes, occupation, skills, and work culture. By the closing decades of the present century, after only two and a half centuries of modern economic growth in the West, the industrial revolutions have created hundreds of thousands of human and material resource types, especially with respect to machinery and equipment and skills associated with their operation.

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[4] Japanese enterprises moving into the U.S. and European countries are beginning to demonstrate that their competitive strength comes not so much from the lower wages they pay in Japan but from their ability to motivate employees in the Western countries. See *Asian Wall Street Journal*, April 3, 1985, and various issues of *Euro-Asia Business Journal*. I have touched on the ability of the Japanese to motivate the labour force in "Reinterpreting Japan's Postwar Economic Growth," *Economic Development and Cultural Change*, October 1982.

Moreover, in the operation and organization of this vast array of technologies, man cannot work individually and alone but in groups of varying sizes and complexities, since this is not a "Robinson Crusoe" economy. Hence, human resources, in managing material resources effectively, must work in an organized fashion under patterned or set ways of doing and thinking – in a word, institutions. Whether in the training of human resources or in their utilization, the quality and quantity of institutions cannot be ignored.

The historical background is necessary in understanding why, when the postwar era began, there was so much enthusiasm for education as a means for the uplift of underdeveloped economies. Plans for seven years of cost-free, compulsory education for all by 1980 were agreed upon in Karachi in 1960 by Asian countries, although more than one-third of the countries were unable to meet the target, and some of those succeeding did so only by lowering the quality of education substantially. The reasons for the reduced enthusiasm are complex; perhaps too much was expected from education. This paper attempts to review the course of postwar development to find clues for further research in the hope that a better understanding may improve the role of human resources in economic growth.

B. COMPARATIVE ROLE OF HUMAN RESOURCES IN ASIAN ECONOMIC GROWTH

This section summarizes the role of human resources in the postwar aggregate growth of East, Southeast and South Asian countries for which sufficient long-term data are available. It is largely based on my forthcoming book, *Comparative Postwar Asian Economic Growth,*[4a] and much of the speculation as to the relations of economic growth and human resources is taken from the analysis made therein. The reader will appreciate the difficulties inherent in any attempt to trace the connections between large aggregates such as GDP and human resources when the intervening variables such as the quality of technologies and institutions are so fundamental in the development process. Since human development unlike changes in money supply, interest rates, aggregate demand, fiscal policies and other economic processes, is a slow process, long-term analysis encompassing the postwar era as a whole is relevant in the study of economic growth and human resources. Even three decades may be too short, and we cannot avoid reference to the prewar period, especially historical legacies. One is reminded of a number of studies of rates of return to education made in earlier decades which showed high returns, and on the basis of which governments expanded educational facilities in the higher yielding levels. But these returns were somewhat misleading since in the 1950s and 1960s the newly independent countries were establishing the infrastructure of

[4a] Tokyo University Press, forthcoming.

a modern society, including the bureaucracies and public utilities, and were planning for the rise of modern industries. By the 1970s and 1980s, with the near completion of the basic core of public utilities and administration, and the slow growth of sophisticated modern industrialization, unemployment of the educated had become a problem in most countries in Southeast and South Asia, serious for the Philippines, Thailand, India and Sri Lanka, and perhaps emerging even for fast-growing economies such as the Republic of Korea and Malaysia, and slow-growing ones such as Nepal and Bangladesh.[5]

The problem to which this paper pays most attention may be stated as follows. An unprecedented phenomenon of three decades of postwar Asian growth is the differentiation or widening gap in the average incomes of the three main regions of monsoon Asia, East Asia (including Japan), The Republic of Korea, Hong Kong, Singapore) with 4 or 5 times the per capita income of Southeast Asia (Philippines, Thailand, Indonesia and Malaysia), and the latter with 4 to 5 times the per capita income of South Asia (India, Burma, Nepal, Sri Lanka and Bangladesh).[6] The country with the highest per capita income (Japan) has a per capita income 15 or more times higher than the countries with lowest per capita income levels (Nepal and Bangladesh). This wide gap is the result of large differences in the postwar growth rates of the three regions, since there is no evidence that such wide gaps existed in the historical past. The figures available for the early 1950s, when postwar growth started, showed differences of only 3 or 4 times between the highest and lowest income countries.

It is difficult to find in the components of human resources variations as large as in the average per capita income figures cited above. In Table 2, the adult literacy rate is only about twice as large in East Asia as that of South Asia, with the lowest rate in Nepal being one fifth that of the highest, Japan. Of similar orders of differences are the other magnitudes, levels of life expectancies, total fertility rates, caloric consumption, income inequalities, and so on, shown in Table 2, and growth rates of population, labour force, employment, participation, unemployment, and so on in Table 1. Thus, it is difficult to attribute the differentials in income levels in 1980 to any single human resource

[5] A production function approach for international comparison may give misleading results since the quality of education varies so much from country to country. It is reported that high school graduates in East Asian schools have about the same level of education as college graduates in some of the countries in other regions.

[6] Pakistan is omitted because it is largely outside the monsoon region, with wheat production as the predominant staple crop. Data exist for China but there are some major puzzling features, such as growth rates of GDP per capita three times higher than India, 1950 to 1980, but with very low per capita US dollar incomes in 1980, only 20 per cent higher than India. For other countries (Laos, Democratic Republic of Cambodia, Viet Nam) the data are too scanty.

[7] The most conspicuous differential is in the average years of school completed by the labour force, about 10 to 1 between Japan and Nepal. See the next section for a discussion of this.

Table 1. East, Southeast and South Asia. Average Growth Rates, 1950 to 1980: Population, Employment, GDP

Country	*Population*	*Employment*	*GDP*	*GDP per capita*	*GDP per worker*	*Per capita GNP (1980)*	*Agri. Pop. per hectare of agri. land (1979)*
	(%)	(%)	(%)	(%)	(%)	(US$)	(%)
East Asia	*2.3*	*3.4*	*8.3*	*6.2*	*4.8*	*5,020*	*4.7*
Japan	1.1	1.6	8.0	6.9	6.3	9,890	2.7
Republic of Korea	2.1	3.5	7.7	5.7	4.2	1,520	6.7
Hong Kong	3.2	4.9	9.5	6.0	4.7	4,240	...
Singapore	2.9	3.6	8.1	6.2	4.0	4,430	...
Southeast Asia	*2.6*	*3.4*	*6.1*	*3.5*	*2.9*	*853*	*2.7*
Malaysia	2.6	3.0	6.0	3.2	3.0	1,620	1.7
Thailand	2.8	3.6	7.1	4.2	3.5	670	2.0
Indonesia	2.1	3.1	5.2	3.3	3.0	430	4.6
Philippines	2.8	3.9	6.0	3.1	2.0	690	2.3
South Asia	*2.2*	*2.3*	*3.7*	*1.5*	*1.8*	*190*	*3.8*
India	2.1	2.7	3.6	1.8	0.9	240	2.6
Bangladesh	2.5	...	3.8	0.7	...	130	7.9
Burma	2.2	...	4.5	2.2	...	170	1.8
Sri Lanka	2.2	1.8	4.2	2.0	2.6	270	3.6
Nepal	1.8	...	2.5	0.7	...	140	3.2

Sources: Employment data are computed from various issues of ILO Yearbook of Labour Statistics. Unless otherwise indicated, product and population data for the 1950s and 1960s were taken from *IBRD World Tables 1980* and those for the 1970s from *IBRD Word Development Report 1982.*

Table 2. East, Southeast and South Asia: Indicators of Human Resource Development (Circa 1980)

Country	*Adult literacy rate*	*Life expectancy at birth (years)*	*Total fertility rate*	*Daily per capita calorie*	*TDI[a] of quintiles*	*% of male agri. labour force in total labour force*	*Female working rate[b]*	*Average years of school completed*
East Asia	*85*	*70*	*2.3*	*2,893*	*.51*	*14*	*29*	*6.8*
Japan	99	76	1.8	2,912	.41	6	39	11.5
China	59	64	2.9	2,539	.50	41	...	...
Hong Kong	90	74	2.2	2,898	.57	2	35	8.0
Singapore	83	72	1.8	3,158	.52	2	34	6.0
Republic of Korea	93	65	3.0	2,957	.55	19	37	8.5
Southeast Asia	*71*	*61*	*4.3*	*2,381*	*.67*	*34*	*39*	*5.2*
Malaysia	60	64	4.2	2,625	.73	24	36	6.6
Thailand	86	63	4.0	2,308	.62	36	47	5.8
Philippines	75	64	4.6	2,275	.68	37	37	4.8[c]
Indonesia	62	53	4.5	2,315	.66	38	36	3.7
South Asia	*46*	*52*	*5.2*	*2,046*	*.60*	*56*	*22*	*1.5*
India	36	52	4.9	1,880	.60	55	17	...
Sri Lanka	85	66	3.6	2,238	.50	39	28	...
Burma	66	54	5.3	2,174	...	...	...	...
Nepal	19	44	6.1	1,977	.78	57	35	1.0
Bangladesh	26	46	6.0	1,960	.51	71	6	2.0

Notes: [a] TDI derived as the sum of differences between shares of income and household of each quintile with signs ignored. To give an idea of relationship between TDI and gini coefficient, the latter is generally about three-quarters of the former.

[b] Female workers as percent of total labour force.

[c] Estimated by Thai growth rate, 1971-1981.

Sources: *IBRD World Development Report*, 1982, 1983, and 1984 editions except column 6 which is computed from *ILO Yearbook of Labour Statistics 1982;* for earlier years see previous reports. Years of school completed by labour force computed from the 1980 Censuses.

or group of human resource endowments. By looking at how these various forces enter into the process of development and speculating about their connection to the growth of the economy, we may be able to come up with suggestions for research on human resources for the next section of this paper.

The general impression one gets in reviewing the postwar growth of Asian countries is that the countries which succeeded earliest in utilizing as large a proportion of their labour force as possible appear to have grown more rapidly than those which did not, and after reaching or approaching full employment, they were able to accelerate their growth by bringing in machinery to substitute for labour. Full use of the labour force and mechanization made possible extensive training through learning by working with higher technologies. Moreover, accelerating growth of GDP per capita enabled households and governments to spend more on food, education, housing and health, which in turn meant that the quantity of the population did not need to rise as much since quality substituted for quantity.

This generalization is largely derived from the experience of East Asian countries, Japan and the NICs, whose economies by the 1970s were fully employed, Japan and Hong Kong by the end of the 1950s, Singapore by the end of 1960s, and the Republic of Korea in the later 1970s.[8] The key to the achievement was agricultural development in the earlier decades for Japan, and the Republic of Korea, assisted by labour-intensive industrial exports. For the city-states, it was the influx of a sizeable number of experienced textile entrepreneurs and their skilled technicians from Shanghai to Hong Kong in the late 1940s, and in Singapore of foreign multinationals in the later 1960s, helped by modern and efficient financial, commercial, and public sectors inherited from the pre-war British days. The efficiencies of the service sector in the city-states are demonstrated by their ability to become shopping centres in East and Southeast Asia, able to buy cheaply manufactured products throughout the world and sell to millions of tourists who come to shop every year. But as the experience of city-states is not relevant for Southeast and South Asia, we dwell on the experience of the other East Asian countries, although it should be kept in mind that the role of the tertiary sector is always important for all countries as it generates externalities in the form of efficient lending, marketing, ware-housing, technical, professional and public services.[8a] The last

[8] For details, see my "Towards a Model of Monsoon Asian Growth," *Singapore Economic Review*, October 1984; this may be called a full employment model in contrast to the surplus labour model of Arthur Lewis, Renis-Fei, and others which have been criticized in the *Malayan Economic Review*, October 1981: also my paper "The Transition from an Agricultural to an Industrial Economy in East Asia," *Economic Development and Cultural Changes*, July 1986.

[8a] Moreover, net foreign earnings from these services were able to pay about two-thirds to three quarters of their excess of imports of goods in the foreign trade balance. See official balance of payments data for both city-states.

should be singled out because corruption and inefficiencies, poor roads, transport, health, communication, sanitation, water, power, and educational services, red-tape, nationalized industries, onerous regulations, and so on can be major obstacles to private enterprises and raise the cost of household activities and thereby the cost of living. Besides this historical legacy, and a location strategic to foreign commerce and travel with excellent harbours, these city-states are inhabited by a supply of labour with a strong culture of work.

1. ***The Japanese Case*** – Japan in the late 1940s and 1950s pursued a policy of agricultural development which through institutional changes such as land reform enhanced the work motivation of all peasants, central and local government officials, agricultural and home service extension agents, experiment stations workers, rural school teachers, and so on to improve the productivity of the land. These institutional changes enabled widespread participation in decision-making and implementation in various rural organizations such as co-operatives, reducing substantially the power of the large landowners and business owners. Fortunately, the high level of literacy and educational attainment of the farm labour force (about 7 years of schooling in 1950, by far the highest in Asia), combined with the decades of experience with the major rudiments of scientific agriculture in the pre-war period, enabled the peasantry to progress rapidly when new opportunities were opened up. Yields per hectare in rice rose sharply even though labour input fell during the 1950s; then there was a major shift to diversified crops, fruits, vegetables, animal husbandry and aquaculture, and to off-farm employment during the drier months, as multiple-cropping reached its peak and as rice self-sufficiency was approached by the end of the 1950s. Farm family incomes rose substantially with plenty of work for all members all year round. With the expansion of the rural domestic market and exports, urban industries began to attract young rural workers with higher wages. From the latter 1950s, farm mechanization began to accelerate to replace the workers migrating to the cities. For the first time in monsoon padi agriculture, there was the clear beginning of the long-term, absolute decline of the labour force in the agricultural sector, which was undergoing the first agricultural revolution in monsoon farming.[9] It is important to note that the rapidity of changes in the Japanese countryside during the 1950s, sustained into the subsequent decades, would not have been possible without the transformation of institutions which raised the quality of rural manpower on all levels and made possible the quick dissemination of new technologies most of which may have originated in the pre-war decades.

[9] For data cited above, see my *Significance of Off-farm Employment and Incomes in Post-war East Asian Growth*, Asian Development Bank, Paper No. 21. Slight tendencies for the farm labour force to decline in the pre-war 1930s (from 14.5 million in 1930 to 14.2 million in 1940) may be attributable to the growth of the war economy, which absorbed men from agriculture to the armed forces and military industries.

This improvement in the quality of human resources able to organize and operate modern mechanical, biological and chemical technologies meant that less human resources were needed on the Japanese farms, and birth rates fell very sharply.[10]

With full employment attained, Japanese growth in the 1960s accelerated with extensive substitution of mechanized and other technologies for labour, which shifted from agriculture to industry and then to services in the latter 1970s. These were the decades when the capital- and knowledge-intensive industries, particularly the heavy industries, were expanded and modernized with the latest technologies from the West. Since technologies could be easily imported from the West it was again the human factor that was strategic to the progress of the capital- and knowledge-intensive industries – in the selection, adaptation, dissemination, and efficient operation of the new industrial technologies. For this entrepreneurship and management had to be improved and the workers motivated to produce diligently and responsibly. To get the most out of all levels of manpower, a form of industrial democracy was introduced which called for widespread participation in decision-making, for long-term and often permanent hiring practices, seniority wage-payments and profit-sharing bonuses, extensive in-service training, and so on. Although private enterprises were not permitted to act as freely as in the West, the bureaucracy consulted frequently with them, and decisions were made with full participation and mutual consent so that combersome regulations were not necessary as in the West. In all this, the small and medium entreprises were not left out.

As in agriculture, the efficiency of Japanese industry was due to the high-level schooling of its manpower, averaging about 10 years in the early 1950s, and the industrial experience from several pre-war decades.[11] But perhaps more important was the ability of Japanese industry to grow quickly and into highly sophisticated industrial sectors without skilled-labour shortages with what the ILO terms its "continuous" in-service training programmes, and the day-to-day, intimate working together of upper and lower echelons of manpower in the factories. Wearing the same uniforms, eating in the same cafeteria, and other egalitarian practices were intended to facilitate communications, contacts, transmission of know-how and skills, and efficient problem-solving which cannot be done well only in the front offices of the companies. Though time-consuming in some respects, these day-to-day practices turned out to be the best

[10] For data on birth rates, unemployment, employment, mechanization, and schooling, see my "The Industrial and Demographic Transitions," *Population Development Review*, October 1983.

[11] For the quality and extensiveness of pre-war education in Japan, see Toshio Toyoda, "Role of Education in Japan's Industrialization," *Look Japan*, 10 May 1963. He points out that already in the mid-19th Century Japanese educational levels were comparable to those of the advanced countries in the West, a fact not to be neglected in the success of Japanese modernization in the pre-war decades.

way of improving manpower at all levels, besides serving to motivate manpower and making the work day less boring.

The importance of these ways of improving manpower quality at the workplace in the overall post-war growth of the Japanese economy should not be minimized. Modern technology as it has evolved in the closing decades of this century (in contrast to the 19th Century) is too complex to be managed efficiently only by the upper echelons of the work force. Nor can the quality of most of its products be assured or tested solely by means at the disposal of management. Without the whole-hearted co-operation of all sections of the labour force, the efficient operation of modern technologies for the smooth production of high-quality output is difficult, particularly for the more capital- and knowledge-intensive sectors of the economy. The lesson of Japan's experience may be that manpower cannot be sufficiently and adequately trained for the demanding specialized skills modern technologies by schooling alone. However, decade or so of schooling can greatly facilitate the absorption of in-service training and on-the-job day-to-day learning, which must be the main sources of skills in the workplace during the four long decades of work-life after schooling. And the transmission of the accumulated skills and know-how in the workplace may be most effective in an egalitarian surrounding, rather than in the relatively rigid social stratification of occupations characteristic of South Asia or in the detailed work specifications of modern labour-union contracts typical of some Western countries.

2. ***The Case of the Republic of Korea*** – Full employment was reached in the Republic of Korea about a decade later than in Japan with policies to develop agriculture in the 1950s and 1960s and labour-intensive, import-substitution industrialization in the 1950s and their export-promotion in the 1960s.[12] Farm family incomes rose faster than the labour force, and with full employment mechanization began to accelerate in the 1970s. There was an acceleration of per capita GDP growth after full employment was reached as mechanization substituted for labour, raising productivity.

The ability of Korea to take off rapidly into post-war growth was aided by the experience in the colonial period. Japan had to develop rice production in Korea and other conquered areas in order to feed its population for its militarization and industrialization drive. For this, the rudiments of modern agriculture had to be introduced into the colonies, especially to raise rice yields substantially higher than in Southeast Asia. Thousands of extension agents were brought in together with modern varieties requiring fertilizer, roads, irrigation and so on.

[12] For details, see my paper "The Transition from an Agricultural to an Industrial Economy in East Asia," *Economic Development and Cultural Change*, July 1986.

For the Japonification of society and the modernization of the economy, the colonial government sought to educate a substantial portion of the population. By the mid-1940s more than one-half of the children of primary-school ages were attending public schools, more than in the colonies of the Dutch, British, and French.[13] These schools were of a high standard. The emphasis in the Japanese schools on Confucian morals and work education was important in contributing to a strong work ethic and a bureaucracy dedicated to national development.

These were two advantages in human resource development with which the Republic of Korea began the post-war decades. Already in the pre-war decades, its economy was growing at rates as high as in Japan. Once freed from Japanese domination, it was able to develop its economy freely, beginning with agriculture which attained the highest growth rate found in Asia in the 1950s, 5.5 per cent, and more than 4 per cent in the 1960s, second only to Thailand and Malaysia. (The Republic of Korea's unusually high rate in the 1950s was partly due to the low base level of the early 1950s.) The Republic of Korea borrowed technologies and institutions freely from abroad, especially the United States and Japan, and was in addition assisted financially by the United States. And when import-substitution oriented industrialization became saturated and slowed down by the late 1950s, export-promotion was begun in the 1960s, opening the Korean economy to foreign enterprises, learning from them especially through joint-ventures and technical tie-ups. From these two decades, the Republic of Korea emerged with a highly productive peasantry and a large shelf of efficient labour-intensive industries largely managed by home-grown entrepreneurs ready to move into more capital- and knowledge-intensive industries in the late 1970s.

As in the case of Japan, with a rapidly rising level of education of the labour force and a high level of school enrollment for the young, Korean families began to substitute quality for quantity in child rearing, completing the demographic transition in the 1970s with low levels of total fertility. Similarly to Japan, land reform, agricultural development, and labour-intensive industrialization kept income disparities low in the 1960s, though rising in the latter 1970s.

To succeed in more sophisticated industrialization and to meet the challenge of Japan and the West, the Republic of Korea will have to dismantle much of the top-down management in its society, especially in its labour-management practices and in the regulation of its entrepreneurs. Like Hong Kong and Singapore, the Republic of Korea has reached levels of literacy and education as high as those of Japan in the the early 1950s, and more responsibility can thus

[13] N.F. Mc Ginn, *et al., Education and Development in Korea*, pp. 80-85, Harvard University Press, 1980.

be borne by its populace, both economically and politically. Continued centralized decision-making, as the pre-war Japanese experience has shown, breeds a population too docile to meet the challenges of a sophisticated technological society with its complex of institutions. The tight control of schools, mass media, labour relations, the peasantry, the bureaucracy, private enterprises, and the home can do great damage to the main sources of manpower development. The great dangers of authoritarianism in human resource development is shown in the experience of the Philippines, which started the post-war decades with high levels of literacy and education and with a growth rate of GDP per capita highest in both South and Southeast Asia but ended with the lowest growth rate in the 1970s.[14]

3. ***The Southeast Asian Case*** – Southeast Asia has done better in the post-war decades than South Asia partly because of its fuller utilization of its labour force, with lower rates of open unemployment, underemployment and greater female participation rates. As in East Asia,this is related to the greater efforts to develop agriculture in Southeast Asia, where growth rates of agriculture for the entire three decades are about double that of South Asia, and per worker product perhaps triple. Of the countries which have accomplished most in Southeast Asia, it is Malaysia and Thailand, with the highest agricultural growth rates, which appear to have the fullest utilization of labour. Peninsular Malaysia in the first half of the 1980s approached or achieved full employment. The high level of efficiency reached by its plantations and the development of irrigation and multiple cropping in Muda and elsewhere in Malaysia have been major forces in the full utilization of its labour force and the high levels of per capita income (and life expectancies), which in 1982 were nearly as high as those of the Republic Korea, though literacy and schooling of the labour force were substantially lower.

The greatest puzzle is the Philippines, which started out strong in the 1950s with levels of literacy, schooling, per capita incomes, and United States assistance higher than in the Republic of Korea. But unlike the latter, the Philippines chose to put its available resources not in agriculture but in capital-intensive industrialization and ended with low growth rates, large amounts of unemployed labour and unequal income distribution. In the early 1980s, despite vast amounts of foreign loans, growth came to a stop.[15] High levels of human resource development are no assurrance of success in development.

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[14] Use is made of per capita rather than per worker GDP because of the variations in the definitions of the labour force, particularly of females, between countries, with Thailand's high 46 per cent and Bangladesh's low 7 per cent.

[15] Philippine GNP statistics for the 1970s may have to be re-examined, especially for the agricultural sector. Nutrition surveys from 1978 to 1982 show no rise in per capita intake of calories and proteins while the national accounts indicate an agricultural product growth rate of 4.9 per cent per year.

Perhaps the failures of the Philippines may be traceable to the inappropriate institutions accumulated over the long periods of foreign occupation, particularly in the centuries of Spanish occupation which bred ways of thinking quite the opposite of Confucianism among the ruling elite who play the key roles in developing societies. When badly led and managed, high levels of human resources may go to waste.

In contrast to the Philippines, Thailand started out in the early 1950s with the smallest amount of modernized manpower among the ASEAN countries, largely because it was never occupied by Western powers, even though the British exerted considerable influence in Bangkok. Its high literacy rate in 1960, like that of Burma and Sri Lanka, was mainly the result of tranditional education in Buddhist temple schools. Bangkok in the early 1950s was a traditional Asian city with limited modern facilities. Despite the country's backwardness, its peasantry was free and independent and in the post-war decades was able to expand production rapidly, much of it for export. On the basis largely of peasant production, Thailand achieved the most rapid sustained growth among the ASEAN countries and, starting with nearly half the per capita income of the Philippines, was able to surpass the latter in the early 1980s. Despite a less modernized manpower base, Thailand progressed largely because its ruling elite proved more devoted to national development. Nevertheless, Thailand's very low rainfall during the dry season leaves its agricultural labour force with long periods of seasonal unemployment, which requires further serious attention to irrigation and drainage works in the absence of sufficient industry to absorb the seasonal surplus.

4. ***The South Asian and Chinese Case*** – Sri Lanka has long been exceptional among Asian countries (indeed among virtually all developing countries) in that it has put more faith in human investment than in material investment – in free education all the way to the university, free health services, subsidized food, housing and trasnport, and other welfare services for all its people. It has thus ended with the highest literacy rates in Southeast and South Asia, highest life expectancy rates and lowest income inequality and total fertility rates. But its per capita GDP growth rate has been lower than in the Philippines and its per capita income level in 1980 was less than one-half that of the same country, with a large portion of the labour force unemployed, particularly among the educated. Sri Lanka long spent on welfare as though it was a developed country, hoping to grow up through human resource development. Its experience points to the need for balance in the allocation of resources for human and material investment – a balance which must change with the stages of development, for much of the investment in developing human resources may go to waste if the appropriate material resources for human beings to work on and with do not exist. In the early stages, where Sri Lanka has remained over the past decades with its slow growth, human resources must be put to work to earn food, housing and transport.

Another welfare-oriented nation (with a stronger emphasis on socialism than Sri Lanka) is China. Besides free education and subsidized food, pensions and so on, China's experience is unique even for Asia in its extreme egalitarian manpower policy symbolized in the "iron bowl", signifying nearly equal pay for different levels of manpower and permanent employment. The recent abolitions of the "iron bowl" in China attests to the country's inability to motivate manpower to hard and diligent work under that policy The experience of welfarist Sri Lanka and socialist China shows that the culture of work cannot be developed to high levels of vitality and vigour if it is spoiled with too many handouts and guarantees. The lesson to be learned is that human resources, unlike other resources, need a large degree of rivalry and competition to become vigorous and attain higher levels of sophistication, whether in the homes, schools, or workplaces. It is not sufficient to dole out funds and resources, and much thought must be given to the ways of developing human resources.[16]

Social stratification is a special important factor in Indian human resource development (and also that of Nepal). The demarcation of the labour force into a large number of occupational groupings reduces substantially the easy flow of communication, contacts, and exchange of information and skills in the workplace and society. This makes for difficulties in management not only in modern enterprises but also on the farms and in craft shops where the extension agents may find obstacles to communication and information dissemination, hindering the day-to-day, on-the-job training and learning process. In general, the structural differentiations make for additional sources of suspicion, misunderstanding, and conflict, rendering difficult the co-operative, participatory and egalitarian group atmosphere needed for the operation of modern technology with its strong inter-connected and integrative tendencies within each factory or plant. This differentiation may be the reason why the proliferation of management schools is felt to be necessary in India.

Another interesting aspect of Indian manpower policy is its concentration on the upper levels. With substantially lower levels of literacy than in China or Sri Lanka, 8 per cent of its population 20 to 24 years old are enrolled in higher education compared to only 1 per cent for China and 3 per cent for Sri Lanka. This may be due to India's concentration of industrialization on heavy industries, but since China is just as much heavy-industrialized it may also be due to the traditions which look upon education as a special perquisite of the higher social stratification. But with past low industrialization growth rates, particularly in heavy industries, India is faced with a large surpluses of highly educated manpower, in contrast with too little education in the lower echelons. This

[16] This is a problem in cultures such as in Java, where entrepreneurs do not like to complete with one another, compared to the rivalry encouraged in Chinese and Western cultures. In Japan, competition is fierce with respect to groups, though less so among individuals within a group.

imbalance may make it difficult for India to shift from its heavy industrialization strategy.

Both India and China opted for a concentration of resources in a wide range of heavy industries in the 1950s following Soviet growth strategy. This strategy was bogged down by insufficient high-level manpower to efficiently operate complexes in such industries as iron and steel, other metals, petrochemicals, heavy machinery, etc. and to keep up with the R and D for new technologies from the West. These industries have rapidly become obsolete during the post-war era. The slow growth of the overall economy due to the "cascading" of poor-quality equipment and industrial materials from the heavy industries to downstream light industries and insufficient resources remaining for agriculture after paying for the cost of maintaining and replacing heavy industries meant that the mass markets for the products of heavy industries were spread thinly over these vast countries. This in turn called for massive development of a nation-wide transport infrastructure to service the heavy industries.

The most pressing problem for the South Asian countries which grew slowly during the three post-war decades is massive underemployment during the dry months. Progress in reducing this must be made first, with accelerated agricultural development focussed on the introduction of irrigation to get higher yields from existing crops and for multiple and diversified-cropping during the drier season, in much the same way as in Japan and Korea in the pre-war and post-war decades. This will contribute to solving the health problems which are most severe in Burma, Bangladesh, Nepal and India with the lowest life expectancies (and hence the shortest working-life of its labour force). The share of arable land under irrigation and off-farm incomes in these countries are the lowest in Asia, with rice yields also the lowest, but with the highest total fertility rates. Under these circumstances food becomes the major problem. Household income and expenditure surveys for India, Nepal and Bangladesh show that the share of food expenditure in personal family incomes (Engel coefficient) begins to fall only from the middle deciles, unlike other Asian countries where it falls from the lowest decile. The rising portion of the Engel curve may be interpreted to mean that families in the lower deciles are not eating enough so that when their incomes rise, more of their income is spent on food, not less.[17] Under these circumstances, the vigour of manpower cannot be maximal nor the vitality of human resources sufficient.

The total fertility rates in Nepal and Bangladesh of over 6, the highest in Asia, are in part due to the labour force's low level of educational attainment (averaging only one year of schooling in both countries in the late 1970s)

[17] Data underlying this paragraph are from the *FAO Production Yearbook*, various issues, and from income surveys of various countries.

and school enrollment. With the quality of the population increasing slowly, farm households must continue to maintain a large number of children as this is the only means of raising the family incomes, since the quantity of agricultural land per household is declining. In Nepal, total fertility rates in the 1970s do not appear to have fallen.[18] In Bangladesh, the agricultural population per hectare of arable land is the highest in Asia, and perhaps the highest in the world, rising to nearly 8 persons in 1980, even though in the early 1950s it was no higher than in South Korea. Nepal has more land per person, but the quality of this land in the mountains and hills is very poor. In either case, manual labour must compensate for insufficient or inadequate land, and the short working-life of the labour force must be made the most of. These two countries with extremely low per capita incomes appear to be caught in a cruel dilemma: manpower must be increased to make up or substitute for scarce material resources, but the more the manpower the lower the per capita resources and hence the per capita income; to close the circle, with low incomes it is difficult to improve the quality of human and material resources. The only way out of this dilemma is for foreign aid to be put into irrigation and drainage to improve existing material resources in order to achieve higher yields and multiple-crops, and into extension services to raise the quality of the labour force.

5. ***Conclusions*** – The disenchantment with the developmental value of education in the post-war decades may be due to earlier over-reliance on it in countries which regarded it as a panacea for economic growth. The latter is an extremely complex proccess, in which a number of forces operate under varying conditions and in which no single actor dominates. Human resources interact with material resources, and the quantitative and qualitative dimensions of both are so varied that no formula, however complicated, can capture the essence of the process of development. The foregoing overview of post-war Asian growth neither affirms nor rejects the importance of schooling in the production process, while it is difficult even to speculate about its role in the development of individual and social values and in the molding of national unity and goals. But one conclusion that dominates our discussion is the importance of achieving full employment as early as possible in the early stages of growth, if growth is to be rapid enough to utilize in appropriate work the educated labour force graduating from the schools.

Nevertheless, in the interplay of human resources and materials resources in the growth process, the experience of Japan and the newly industrializing countries points to the dominant role human resources can play in the interaction. Human resources have been able to make up for the scantiness of natural

[18] See Nepal, Central Bureau of Statistics, Population Division, (mimeographed) studies of the 1971 and 1981 population censuses. Fertility seems to be rising, although part of the increase is attributed to improved data reporting in 1981 over 1971.

resources by building up capital resources and substituting them for natural resources. For this to happen, human resources have been developed not only through the mass media over a period which coincides with the pre-war decades. Viewed in this broad perspective, we may assume that human resources are the most important force underlying growth and that nations with scanty natural resources such as Nepal and Bangladesh need not despair. If so, research on human resources must be given high priority in the agenda of social science institutions. With this overview of post-war Asian growth in mind, we turn to a consideration of research issues which do not appear to have been sufficiently attended to in the past.

C. RESEARCH ISSUES IN HUMAN RESOURCE DEVELOPMENT

1. ***Full Employment*** – Outside of Japan, the newly industrializing countries and Malaysia, efforts to reach fuller utilization of manpower in Asia should be given top priority, particularly in India, Nepal, Bangladesh, Sri Lanka, and the Philippines. The problem is multi-dimensional: intermittant, irregular urban unemployment, underemployment in months other than the busy seasons in the rural areas, insufficient off-farm employment, low female participation rates, and short working lives. Low productivity is another dimension, but sustained growth of productivity is difficult to achieve with too much surplus manpower. Thus, full employment is the initial goal, after which the quality of manpower improves through more incomes for schooling, experience and learning on the job with advanced modern technologies, and better food, shelter and health services resulting in longer life expectancy. Perhaps more than anything else it was the early attainment in the post-war decades of full employment and accelerated quality improvement in the East Asian labour force, together with better technologies, which contributed to the widening differential in the per capita income levels of East and South Asian countries.

To do full justice to the multi-dimensional nature of the manpower underutilization problem, labour force surveys should go beyond the usual questionnaires, which are largely based on surveys of the advanced countries. In addition to unemployment information in the reference week, data should be collected on average hours of work and days worked during the month. These surveys should be conducted monthly or bimonthly in order to determine seasonality. Moreover, female participation in the labour force is differently defined in each country. Since it is difficult to get countries to standardize the definitions for cultural and other reasons, it may also be useful to take the working age population (10 to 12 and above) and ask about the hours of work put in by everyone, including housewives and students who may do only a few hours of work now and then. Moslem women do help with the threshing of the rice in the house (though not in the field), and this should be counted as work, not home activities. Off-farm work in non-agriculture should be clearly

separated out and the kind of work done properly described. Also, information on absenteeism, sickness, and reasons for idleness should be collected.

These monthly household surveys (the main source of manpower information) should collect data on various other aspects. In some months wage and other income data may be collected, alternatively in other months expenditure data such as on food in one survey, and clothing, shelter and services (especially schooling and health) in another. And in other surveys questions on apprenticeship and in-service training may be asked. The decennial population censuses, the main source of demographic information, including population size and characteristics, mortality and fertility, migration and mobility, and so on, need to be supplemented in later years with sample surveys on more detailed demographic information. More needs to be said on the basic sources of human resource information, whose paucity is a major impediment to research.[19]

If we agree that full employment as early as possible is important, the issue arises: how is it to be attained? Perhaps we need to look more closely at the experience of Japan in the 1950s, the Republic of Korea in the 1950s, Malaysia in the early 1980s. Some of the questions to ask are: what was the role of agricultural development in relation to industrial exports in these countries? How different was the experience of West Malaysia with its very large plantation sector? What was the pattern of agricultural development in these countries, and how important were structural changes within the agricultural sector, particularly the shift from rice to other crops and noncrop activities? How important were industrial exports in reaching full employment, and what manufactures were exported? How was full employment sustained and how was it favourable to accelerated growth? How did it contribute to faster development of human resources at various levels of sophistication?[20]

2. ***Schooling*** – For the pre-labour age groups, schooling together with the home are the major sources of human resource development. To a development economist, the issue that looms largest is the problem of educated unemployment. Perhaps it calls for a joint study by economists and educationists to learn more about national needs for different types of skills and knowledge at various stages and under various strategies of development in Asia, and the extent to which countries can afford education programmes to finance the acquisition of the requisite skills, The joint effort should go beyond the study of rates of return to different levels and kinds of schooling, and examine the reasons for the successes and failures in the experience of other countries, particularly Japan and the newly industrializing countries. We may need to go

[19] See my notes in "A Need for an Integrated Statistical System for Manpower Planning in Southeast Asia," *Ekonomi dan Keungan Indonesia*, Vol. 24.

[20] A fuller statement of the hypotheses underlying these questions is found in my papers for the *Singapore Economic Review,* October 1984.

beyond the usual manpower surveys and study the technological characteristics of different industries at various levels of development, their skill requirements, and whether they are best taught in formal schooling and/or on the job. The curriculum in the schools may have to be examined in order to assess its appropriateness for the time when the children grow up and enter the labour force.

This calls for a long-range view of what is likely to be the pattern of industry not just in 5 or 10 years but 20 and even 30 years hence. The dilemma is that few, if any, South and Southeast Asian countries have worked out carefully such long-range plans, in the absence of which the educationists, understandably, will have to fall back on their own training, which is apt to be dominated by Western experience. If this is so, the views of those who feel that schooling in Asia is unbalanced and biased toward higher levels, with vocational and technical education insufficiently stressed, call for immediate attention.[21]

In the factories, farms and offices of the later half of this century more mechanized, biological and chemical technologies are being used in Asia today than in the first industrial revolution. Accordingly, vocational education may be needed even more than in the educational system of pre-war Japan and the West in the decades around the turn of this century. Unlike handicrafts, modern technologies call for responsible, diligent, co-operative, disciplined work habits and attitudes. Good work habits can be best taught in vocational curricula.[22]

All this may mean squeezing out some of the conventional subjects taught in elementary and secondary schools. But with limited resources available in the developing countries, priorities must go to the most practical courses. High drop-out rates may in part be related to the perception of many parents that the subjects taught to their children are of dubious work value, especially to farming families, and it may also be that the more abstract types of learning are difficult to grasp for children in the lower income groups. Perhaps a close examination of the reasons for the high drop-out rate and the atrophying of literacy may be revealing.

As noted in the previous section, since schooling averaging half a decade or so is a short period in the life of a person, its role should be integrated with other sources in a programme of a lifetime of human resource development. This calls for a study of what functions each of the sources must and can perform best, so that schooling is not over-burdened with too many functions,

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[21] See, in particularly, Toshio Toyoda, "Role of Education in Japan's Industrialization," *Look Japan*, 10 May 1963, who reports that vocational education played an important role in the early stages of industrialization in Japan.

[22] I argue in "Manpower Quality in the Differential Growth of Monsoon Asia," *Philippine Economic Journal*, No. 3, 1980, that the religions of South and Southeast Asia do not stress the teaching of work ethics as much as Confucianism or Christian religions.

particularly in the early stages of development where resources are sharply limited and children cannot be kept in school for as long as in more developed countries. In this section, we have noted the role that other sources – the home, the mass media and the community – can play, in the next, research on the role of the workplace and on-the-job training is discussed.

3. ***On-the-job training*** – We need to know more than we do now regarding how much the labour force learns in different occupations and industries and at different levels of the manpower hierarchy. This depends on the pattern of industrial relations of each country: for instance, what perceptions management entertains as to the importance of the workers in productivity; how much it values on-the-job training and learning; how much participation the various levels of the work force are permitted in different types of decision-making; how much time different levels of management spend in day-to-day supervision, communication and personal contact with workers on the factory floor and outside? The pattern of adversarial, even hostile industrial relations emerged in the technologies of the first industrial relations where the muscle power of the proletariat working with a few simple machines was the major concern of the capitalist, but in the presence of today's technologies most workers use a variety of machines powered by electricity, and dexterity more than muscle-power is required for efficiency and productivity. Workers cannot be motivated to high levels of efficiency adversarialy nor to undertake high-quality work by material incentives only. Since the Japanese approach seems to be working well, we need to know more about it and its appropriateness to other countries.[23]

Of special interest to developing countries is the scarce form of manpower known as entrepreneurs. How are they to be trained, and how is schooling related to their learning from experience? Unlike the employed labour force, entrepreneurs must be able to furnish or attract capital, use it efficiently and manage the work force including teaching the skills and know-how that are strategic to success in production and marketing. The techniques and mechanics of these functions can be learned in schools and books, but the successful entrepreneur frequently must learn them through experience and practice since there is much in the exercise of these functions that involves psychological, subjective, incalculable, innovative dimensions – in brief, the venturing spirit.

There are not many studies of entrepreneurship in Asia (outside of Japan) which can serve as case studies of factors making for success or failure, to be used as teaching materials in and out of schools. We need to know to what extent entrepreneurs are the product of experience and to what extent they

[23] In the Republic of Korea, industrial relations are now shifting to more participatory and conciliatory ways, as workers resort to strikes and forming independent incomes. Similarly, it is turning to more autonomy and grass-roots initiatives for its co-operatives, which had previously been tightly controlled by the central government.

are "inborn", as often said. The experience of the newly industrializing countries may throw some light on this issue. After independence from restrictive colonial rule, the Republic of Korea appeared to generate plenty of entrepreneurs, who were able to export. To what extent was this due to the import-substitution period of the 1950s and to what extent, in the 1960s, to their learning as partners with foreigners in joint ventures and technical tie-ups, and to what extent from United States department stores (Sears, Penney, Montgomery Ward and others) who sent these countries their engineers, designers, and supervisors to teach the production of television sets, radios, garments, kitchen ware, etc.? To what extent did entrepreneurs emerge from the locals employed in multinational firms who picked up production and marketing know-how and ventured out on their own?

Is the success of these Confucian countries due to the vitality of these societies, to their promotion of a strong work ethic, a willingness to compete and to save? To what extent do other societies in Asia look down upon the competitive spirit, vigorous work, and thrift as evidence of greed and selfishness? Can efficient entrepreneurship and also good workmanship develop without extensive competition and a strong desire to maximize earnings and savings? In the West, the rise of capitalism has often been associated with the Protestant notion that hard work and thrift are God's calling and will. This may have been the way the West overcame the traditional association of greed and selfishness with hard work and thrift. In Japan, the spirit of enterprise was promoted through its association with national development, strength, and independence. How does one go about promoting the venturesome spirit among entrepreneurs and vitality among workers without competition? How much is the loss of these traits in the West due to excessive security induced by social security institutions, and in the socialist societies to monopolies and minimization of competitive pressures in the workplace?[24] In addition, it is necessary to find out the value not only of internal competition but also of the opening of the country to foreign competition, internationalization in the transfer of foreign technology, knowledge, information, views, and so on, and their wider dissemination and circulation domestically for a more rapid improvement in human resource quality.

4. ***Long-range planning*** – Human resources take time to develop, longer than material resources in most instances. However, plans for the development of both types of resources cannot be adequately worked out without long-range

[24] Is the loss of vitality in entrepreneurship related to the monopolies created within the British Empire, and the loss of vigour in workers to the closed shop unionism demanding detailed work rule specifications? It is interesting to note the concern of Japanese leaders with the problems of losing the vitality in its manpower as Japan moves into economic affluence and maturity. See Long-Term Outlook Council, *Japan in the Year 2000*, Tokyo, 1981.

planning and visions of the economy, particularly of the goals for the growth of each of the major industrial sectors. There is an interplay between the potential supplies of human and material resources, the targeting of sector goals for the future and the restructuring of agriculture, industry, and services. The failure to assess realistically the potential supplies of various types of human resources partly underlies the failure of various over-ambitious plans for industrialization, such as the heavy industry programmes of India and China.[25]

Here is an undertaking which national research institutions are best qualified to take the initiative to carry out for each Asian country. Long-range plans, say, to the year 2000, are too complex for the national planning agencies to undertake by themselves, so limited in range is their expertise and confined as they are to shorter planning exercises. But more important, if the development of human resources (as argued above) entails the involvement of the homes, workplaces, mass media, schools, and community organizations, their veiws and co-operation are required for both formulation and implementation, and this is a different kind of planning. Certainly, the planning agencies should be closely involved, particularly in the logistics of data gathering and projections and financing of the costs of the undertaking, but the formulation of the visions of the future, perspectives as to the goals that are desired and can be attained and the identification of the problems to be encountered and the approaches to their solutions must be the collective work of leading representatives from the scholarly community, business community, labour, agriculture, consumers, mass media and religious institutions – all of them sources of human resource development, co-ordinated by social science institutions and closely supported by government agencies.[26] Long-range plans worked out by the latter alone are likely to lead to failures like those of the Indian and Chinese heavy-industrialization programmes or lead to nothing more than political propaganda such as the 1978 Philippine plans for the year 2000.

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[25] Nehru, asserting that India had the third largest number of scientists next to the United States and Soviet Union, thought that India could undertake the establishment of a whole range of heavy industries in the second-five year plan during the mid-1950s. But it was not basic scientists such as chemists, physicists, biologists, etc., mostly teaching in secondary schools, who were needed for the heavy industries but engineers, metallurgists and other specialized and applied scientists. To solve the shortage, India established a large number of universities, only to end up with an army of young, educated but inexperienced higher-level manpower, many of whom were unable to find work suited to their training.

[26] The Japanese, who take their long-range plans seriously, targeted their first one (1960-1980) to catch up with the West technologically. In the second, to the year 2000, Saburo Okita, as chairman brought together 128 experts who met 182 times to work out "a map of the next two decades .... essential for trekking in the mountains". See Long-Term Outlook Committee, Economic Council, Economic Planning Agency, *Japan in the Year 2000, Preparing Japan for an Age of Internationalization, the Aging Society and Maturity*, Japan Times, Tokyo, 1983. In Japanese, a dozen or so volumes have been published with details as to sector plans, etc., besides an English translation of *Asia in the Year 2000.*

It takes a long time to adapt traditional child rearing practices in the home to social values, behaviour, and attitudes in line with life in cities and work in modern farms, factories and offices. Parents must be persuaded to inculcate the required modifications in child rearing, and this takes time. To get schools to emphasize vocational and technical education requires more financing and training of teachers, while the convincing of employers to shift to more participatory labour-management relations is far from easy, even in the long run. For the mass media to include more educational material (on culture and arts, history, physical and social sciences, language and literacy, politics and civics, geography and travelogue) in a programme of lifelong education for adults in place of simple entertainment, will require the development, over time, of a competent staff capable of producing interesting programmes for the viewers. Nor is the modernization of religious doctrines along lines of greater flexibility in the presence of new trends in morality and ways of thinking, easy to work out even within a decade.

In the drawing up of long-range goals and strategies, all these matters must be taken into account, discussed fully by the relevant representatives, compromises reached, and implementation provided for. It may be necessary for international organizations to promote and help with the working out of tentative plans, then calling for meetings to review and compare the plans of various countries, which can in turn be taken back for revision and finalization. Periodical meetings to assess the need for revisions in the light of changing internal and international conditions may also be desirable. Difficult as such an undertaking may be at the outset, the time has come for a start toward the institutionalization of long-range planning and the internationalization of discussions to harmonize and improve such plans.

5. ***Conclusion.*** It may be said that, in the confusions of the early post-war decades and the high priorities commanded by the exigencies of achieving independence and nation-building, thinking about long-range aspirations, goals and problems was a luxury. Fortunately, the exuberance of the world economy in those decades called only for make-shift, short-range plans.

But that exuberance came to an end in the 1970s. We now face the prospects of slower growth of industrialized countries plagued by high unemployment rates and slow economic growth.[27] Also, the closing decades of this century have witnessed the beginnings of the electronic age in the advanced

[27] In the 1950s and 1960s, exogenous demand piled up from the depressed 1930s and militarized 1940s together from the newly independent developing countries fueled high growth, but in the 1970s and 1980s that demand is gone, and the productivity capacity built-up exceeds the demand endogenous to the current growth process, besides new capacities from the newly industrializing countries. On this matter, see *Philippine Review of Economics and Business*, Nos. 3 and 4, 1981.

countries and the uncertainties that a new industrial revolution may bring to less advanced countries. Moreover, in this troubled situation, the giants of Asia are emerging from their post-war economic isolation realizing the futility of a heavy industry strategy, with China already well on the road to getting a huge chunk of world and regional trade in labour-intensive production while in India new leadership is preparing new strategies lest it be left far behind. It may be time for smaller nations to study and provide for these and other problems which will require much thinking and planning for the long-term, perhaps even beyond the year 2000.

The major topics of income distribution and demography will require further research. These are topics which have been vigorously studied in Asia, whereas the present paper has been limited to the discussion of relatively neglected areas in human resource research. In the income distribution research that I have been involved in, distribution by socio-economic (or occupation/status) groupings instead of size-distribution appears to be most interesting, especially for linking up with the conventional analysis of growth and structural changes, and then with demographic changes, particularly fertility. I have found that variables affecting the latter which are closely related to economic growth and structural and distributional changes are most strategic, influencing fertility not only directly but indirectly through changes in non-economic variables.

One area that has come to recent prominence as a result of the writings of the late Simon Kuznets is that the association between size-distribution of per capita family income and the number of children per family is negative. The subject was brought to public attention in Asia when the Prime Minister of Singapore, in a 1983 speech, voiced concern regarding the negative association between the educational attainment of women and the number of children they have, as reported in the 1980 Census, and proposed an approach to work out and implement policies.[28] This is an important area for more research. We may need to look closer into the negative association between income/education and birth rates before moving into policies, perhaps also undertaking detailed examination of the socio-economic distribution of family income, education, age of parents, background of grandparents, ethnicity and culture, attitudes toward education, etc., since there are other variables intervening in the negative association. We may need to find out through interviews more about the role of nature (genetics) and nurture (environment) in educational attainment within and between ethnic groups before dire conclusions about unfavourable consequences on society, economy, and policies are drawn from

[28] His Speech is reproduced in *Population and Development Review*, October 1983, which also contains my preliminary attempts to associate growth, structural change and income distribution with birth rates in several Asian countries, with further discussions in my forthcoming book. Kuznets' paper is found in *Economic Development and Cultural Change*, July 1982.

the negative associations. There are broad positive relations between an educated population and the effectiveness of the economy, politics and society; but how close is the association? This information should be gathered for various countries in Asia so that comparative and historical insights can be obtained.

The countries in Asia have made impressive progress in establishing social science research institutions in the past decades. With limited resources, they have only been concerned with the problems of their own countries. Perhaps the time has come for them to get together more often and compare their results with those of other countries. Comparative studies in post-war Japan were extremely valuable to the Japanese in gaining insights into their own country, and the Koreans have increasingly been conducting such research and conferences. The trend is toward the internationalization of social science research, just as in science and technology. This is not only because of the greater economic interdependence of nations but also because no single nation in Asia can monopolize research methodologies or possess the resources to do all the varied social science research. The United States with its huge lead over other nations in technology paid little attention in the past to developments in other countries, but with the decline of its industries such as steel and automobiles it is now moving rapidly to the internationalization of its R and D work. No nation, however large, can afford to adopt policies of isolationism and self-reliance in science and technology in this age of incessant change in millions of technologies, big and small, most of which are never patented. It is also so for the social sciences. In such a dynamic technological age, the multitude of ways of living, working, and thinking are affected and must change. In order to cope with these changes, social science research must also become increasingly international if it is to guide the institutional changes which a society must undergo to keep up with the other nations.

HUMAN RESOURCES DEVELOPMENT IN THE PACIFIC ISLAND DEVELOPING COUNTRIES

*Helen Hughes, Dennis Ahlburg and Sun-Hee Lee**

The Pacific island developing countries range from Papua New Guinea with a population of more than 3 million to Nauru and Tuvalu with less than 10,000 people. Papua New Guinea is very well-endowed with natural resources, all but the small atolls have good agricultural land, and several other islands also have minerals and forests. Fish and mineral nodules are rich ocean resources. But the islands have only relatively recently become independent, and their growth lags behind that of many Asian countries. Because their population base is small, they have to pay particular attention to policies that build up the quality of that population base so that they will be able to develop their national resources and accelerate their growth and development.

Several of the Pacific countries are encountering population pressures which, if further ignored, could turn today's serious problems into tomorrow's critical ones. Human resources development policies, notably in education, population planning and health, are essential to managing the supply of labour in the Pacific, and particularly to increasing productivity to levels at which rapidly rising living standards can be achieved. The need for policy improvement is urgent. In general only countries with considerable emigration, notably Samoa and Tonga, have reasonably efficient primary and secondary education systems, and these are located in relatively high-income urban areas. At the other end of the spectrum, Papua New Guinea and Solomon Islands have poorly developed education, particularly for girls. In Papua New Guinea, for example, less than 4 per cent of high school age girls attend school.

A rapid expansion of population, with a concomitant need for rising health and education expenditure, is already built into the population age structure and can only be influenced to a limited degree during the remainder of the present century. The next fifteen years will also see great demands on public funds as school populations double and, if higher standards are sought, quadruple in some Pacific nations.

* Authors are, respectively, Executive Director, National Centre for Development Studies, Australian National University, Canberra, Australia; Assistant Professor, Industrial Relations Centre, University of Minnesota, U.S.A.; Research Fellow, Australian Institute of Health, Canberra, Australia.

Economic policy will have to ensure that labour markets are not swamped by the supply of labour, particularly as the flow from rural to urban areas is likely to accelerate and school dropout rates increase in some parts of the Pacific. The increases in the labour force implicit even in conservative forecasts suggest that past rates of economic growth, high capital-to-labour ratios and low capital utilization are not tenable if the social and political peace that has made many Pacific island countries envied worldwide is to be maintained.

The development experience of the past forty years fortunately makes it possible for the Pacific countries to choose growth-oriented paths that will enable the supply of and demand for labour to converge at feasible price/cost levels. Economically successful countries focus their human resource development strategies on the creation of a highly trained, sophisticated and flexible workforce so that they can take advantage of new economic opportunities as they arise. Such a strategy is particularly important in small countries that have to exploit the special niches left in the world economy by larger countries. Such niches are many: tropical fruit and flowers for high-quality markets, specialized spice production, handmade high-fashion clothing and villa tourism are examples particularly suited to small Pacific islands. At present the Pacific nations do not have the skills to take advantage of such niches. With appropriate human resource development, however, they will be able to do so in the future.

A. SPECIAL CHARACTERISTICS OF THE PACIFIC COUNTRIES

Small, and particularly very small, countries (some with populations of less than 10,000) were among the last to be decolonized, and their economic problems have accordingly only recently begun to be analysed, particularly in the Pacific. Much of the initial concern was with location and natural resource endowment; this emphasis has turned out to be misplaced. With the exception of some of the small atoll economies, the islands of the Pacific are well endowed with natural resources. Papua New Guinea has extensive minerals and forests, Fiji and Solomon Islands are also mineral rich and have forests, and agricultural land and fisheries abound. Rapid technological changes in air transport and telecommunications have sharply reduced the islands' isolation. Satellite telecommunications are cost neutral with respect to distance. It has become possible to integrate small remote island communities into national and regional life at costs affordable by the Pacific economies. The Pacific economies face a more favourable trading environment than many other developing countries because they have ready access to most industrial country markets. Aid flows are among the highest per recipient among developing countries (Government of Australia, Jackson Report, 1984). Prospects for growth are very favourable. The principal bottlenecks, accounting for low per capita income growth, lie in human resource development.

The experience of nearly forty years of development indicates that people are a country's most important asset, but that it is not the size of a country's population that matters (Blazic-Metzner and Hughes 1982), but its quality. The fitness, skillfulness, flexibility and social attitudes that make up quality largely depend on a country's population, health, education and manpower policies. In the Pacific these are not always adequate or appropriate because they are still heavily influenced by historical circumstances. In addition, the smallness of population must be taken into account.

The Pacific countries vary in population size from Papua New Guinea with about 3.2 million people to small nations such as Nauru and Tuvalu with populations of less than 10,000 (Table 1.1). They are not unique in being small. There are almost 100 independent countries of less than 5 million population, and some of them are the most rapidly growing economies in the world.

If small countries want to grow and develop rapidly, however, they have to work within the demographic and economic boundaries established by development experience as the parameters for growth. The principal constraint that small countries have to manage is their relatively limited human resource pool. Even if human resources are developed to very high levels (as is the case in small Scandinavian countries, where the entire population, men as well as women, is educated throughout its lifetime to the highest levels known), production possibilities are limited by human resource constraints. The importation of capital and technology and participation in trade provide access to specialization and physical economies of scale, and hence to as a high level of income as any country can achieve. This development path entails income fluctuations, but these can be offset (Falvey 1986). It is open to the smallest atoll. Each small community can find its areas of comparative advantage – fishing, agriculture, work abroad or specialized tourism – and make a comfortable living.

Small countries cannot specialize in industries that require large-scale, capital-intensive production techniques. In addition to exploiting natural resources such as minerals, forests, fishing and agriculture, they must look for special niches in the world economy that will afford them high returns. Such niches need sophisticated and flexible skills, often with short-term specialized inputs. In addition to high-quality basic, specialized and social education, open attitudes to immigration and emigration are essential to adjust a small population base to economic necessities.

Human resource development, though a necessary condition for rapid growth and development, is not a sufficient condition. Because small countries must specialize and trade if they wish to have high incomes, they must ensure that domestic prices are not out of line with international prices. This rule does not only refer to the cost of commodities, but also to services and to the prices

Table 1.1 Pacific Developing Countries: Economic Indicators

Country	*Land area (km^2)*[a]	*Sea area (km^2 1000)*[b]	*Population 1983*[c] *(1000)*	*Population density 1983*[d] *(population/ land area in km^2)*	*Total GNP 1983 (US$ million)*	*GNP per capita 1983 (US$)*	*GNP per capita growth per annum 1973-82*	*Inflation per annum 1973-83 (%)*	*Aid per capita 1982 (US$)*
Cook Islands	240	1,800	17	72.5	20[e]	1,360[e]	...	14.8	581
Fiji	18,300	1,300	672	36.8	1,199	1,790	1.2	9.7[f]	56
French Polynesia	3,300	5,000	154	47.2	1,260	8,190	1.8	...	1,169
Kiribati	690	3,600	61	88.4	30	460	-13.1	11.8[g]	258
Nauru	21	320	8[f]	381.0	70[e]	9,091[e]	...	...	–
New Caledonia	19,100	1,740	146	7.6	1,140	7,790	-0.9	...	1,138
Niue	259	390	3	11.6	3[e]	1,080[e]	...	14.1[h]	1,294
Papua New Guinea	462,000	...	3,198	6.9	2,510	790	-0.7	7.0[h]	102
Samoa	2,900	120	158	53.8	119[e]	770[e]	...	18.4[l]	146
Solomon Islands	28,500	1,340	252	8.8	160	640	2.0	10.5[i]	126
Tokelau	10	290	2	200.0	1[e]	560[e]	...	...	1,188
Tonga	699	700	98	140.2	80	780	3.9	12.0	177
Tuvalu	26	900	8	307.7	4[a]	570[e]	...	8.3[j]	827
Vanuatu	11,900	680	124	10.4	60[e]	531[e]	...	9.1[k]	221

Notes:
[a] Large countries rounded off at hundreds of km^2.
[b] Sea areas based on 200 mile exclusive economic zone.
[c] Mid-year estimates.
[d] Figures do not correspond to other columns due to rounding off.
[e] 1980 figure.
[f] 1979-83.
[g] 1975-81.
[h] 1976-83.
[i] 1977-83.
[j] 1978-83.
[k] 1st quarter 1976-83.
[l] 1980-83.

Sources: Government of Australia (Jackson Report), 1984; United Nations (ESCAP) 1983 and 1984; World Bank, 1985 a and b.

of such factors of production as land, labour, capital, management and entrepreneurship. Prices, moreover, have to be stable, or at least rise no faster than world prices. "Getting the prices right" not only means that principal macro and micro economic policies have to be appropriate and efficiently administered, but also requires that appropriate human resource development policies are in place. Demographic, health and education indicators suggest that this is not the case for all the countries of the Pacific (Table 1.2). Statistical evidence is supported by the number of expatriates still engaged in key policy (rather than technical) positions in some island nations. In Papua New Guinea, for example, 2,000 expatriates in government positions account for 25 per cent of total salary costs (Connell 1985b).

Table 1.2 Pacific Developing Countries: Social Indicators

Country	*Life expectancy at birth*		*Infant mortality rate (aged under 1 year)*		*Primary school enrolment*		*Adult literacy rate*
	1970[a]	*1982*[b]	*1970*[a]	*1982*[b]	*1970*[a]	*1982*[b]	*1980 (%)*
Cook Islands	65	...	37	...	...	...	92
Fiji	62	68	50	34	101	109	75
French Polynesia	61	...	47	...	...	...	95
Kiribati	52	52	87	...	...	...	95
New Caledonia	64	67	41	30	...	...	91
Niue	62	...	33	...	...	...	100
Papua New Guinea	46	53	125	99	52	65	32
Samoa	62	65	36	13	91	...	98
Solomon Islands	54	57	52	...	61	60	51
Tokelau	...	...	...	45	...	...	97
Tonga	58	63	60	...	...	...	100
Tuvalu	59	...	...	42	...	...	98
Vanuatu	50-60	55	100	...	...	...	...

Notes: [a] Figures generally refer to census year, with a few exceptions.
[b] Figures generally refer to 1980, 1981, or 1982.

Sources: Government of Australia, Jackson Report (1984); South Pacific Commission (1982); World Bank (1985a).

B. POPULATION TRENDS

The Pacific countries' demographic characteristics and rate of population growth are key factors in human resource development and economic growth. Unfortunately, most Pacific countries do not have clearly articulated population policies. Some are, implicitly, seeking to escape the problems of smallness by rapid population growth. This is not a viable strategy. Even if Papua New Guinea, the largest Pacific country, were to quadruple its population to 13 million people, it would still remain a small country in economic terms and in relation to such neighbours as the Philippines or Indonesia. The benefits that such population growth would bring have to be offset against increased population density, reduced per capita national resource endowment, and the high investment and recurrent costs of a rapid increase in the demand for health, education and other social services, and jobs. High rates of population growth are more likely to reduce the rate of economic growth and development than to increase it.

The low priority given to human resource development in the Pacific in practice is reflected in a relatively poor information base, particularly for Papua New Guinea and the smaller countries. Demographic reporting is inadequate and the processing of demographic data is worse. Basic demographic work does not attract local resources. Expatriate inputs have not always been of adequate quality and they have often been disjointed. In extreme cases "experts" have regarded surveys they have conducted for Pacific nations as their personal property. For all these reasons only one or two Pacific countries have a reliable basis for population and other human resource policy planning.

The demographic trends that emerge out of recent detailed work (McMurray 1985, Haberkorn 1985, Lucas and McMurray 1986, and Ahlburg 1986) are worrying. Crude rates of natural increase (as measured by the difference between birth and death rates) are high in most of the Pacific countries due mainly to high birth rates (Table 2.1). In Papua New Guinea, the Solomon Islands and Vanuatu birth rates are among the highest in the world. While this is reflected in Solomon Islands' population growth rates with a 3.4 population growth rate per annum (Table 1.2) the Papua New Guinea census data only indicate an annual population growth of 2.6 per cent per annum. As emigration is small this figure seems too low, suggesting that estimates of 2.8 per cent per annum (Goodman, Lepani and Morawetz 1985) are more reliable, and may, indeed, be too low. Population growth in most Pacific countries, however, is offset by high emigration, notably in the Cook Islands, Niue, Samoa and Tokelau.

With high population growth come high ratios of women in reproductive age groups and concomitantly high future population growth rates, a high

Table 2.1 Component Rates of Population Growth in Pacific Countries

Country	*Average Annual growth rate (%)*	*Birth rate (per 1000)*	*Death rate (per 1000)*	*Natural increase rate (per 1000)*
Cook Islands	-3.2 (1971-76)	27	9	18
Fiji	2.1 (1966-76)	31	7	24
Kiribati	1.6 (1973-78)	35	14	21
Nauru	1.7 (1966-77)	22	5	17
Niue	-5.1 (1971-76)	26	7	19
Papua New Guinea	2.6 (1961-71)	44	16	28
Samoa	0.7 (1971-76)	37	8	29
Solomon Islands	3.4 (1970-76)	45	12	33
Tokelau	-0.3 (1972-76)	24	7	17
Tonga	1.5 (1966-76)	31	10	21
Tuvalu	4.6 (1973-79)	24	15	9
Vanuatu	3.5 (1967-79)	45	15-19	26-30

Sources: Censuses at various dates; Haberkorn (1985); South Pacific Commission (1982).

degree of youth dependency, but, particularly where the expectation of life is still relatively low, low aged dependency (Table 2.2). These population characteristics are exerting serious pressures on health and education services in the Pacific, and they are beginning to cause employment problems as young people enter labour markets. Unfortunately, such pressures will be exacerbated during the next twenty to thirty years as the growth factors already built into the population structure evolve.

To analyse the human resource development policy issues that will result from population growth, the authors undertook population projections to the year 2001. For each of the larger Pacific countries two approaches were taken: existing cohort-component methodology forecasts using likely fertility, mortality and migration paths were assembled from various sources; however, because of the shortcoming of past data and future policy uncertainties, for many South Pacific nations the assumptions that should be made about the future paths of migration and fertility are not clear. Cohort-component forecasting models are in any case considered to be unsuitable for countries with populations below 300,000. Alternative population forecasts were therefore

Table 2.2 Proportion of Broad Age Groups, Women of Reproductive Age, Youth and Aged Dependency Ratios in Selected Pacific Countries

Country	Persons aged			Youth dependency ratio	Aged dependency ratio	Women of reproductive age (%)[b]
	0-14	15-59[a] (%)	60+			
Fiji	41	55	4	75	7	23
Papua New Guinea	45	52	3	87	6	21
Samoa	45	51	5	88	10	19
Solomon Islands	48	48	4	101	8	19
Tonga	44	50	5	88	10	20
Vanuatu	45	50	5	90	10	20

Notes: [a] Since life expectancy is generally lower than 60 in the Pacific, the working age population includes the age group 15-59.

[b] Proportion of women of reproductive age (15-44) to total population.

Sources: Calculated from 1976 Fiji Census; 1971 PNG census; 1976 Solomon Islands census; 1976 Tonga census; 1979 Vanuatu census; and 1981 Samoa census.

prepared using an autoregressive model (Ahlburg 1985). This approach assumes that the future path of population is determined solely by its past values and does not involve predictions about the future path of the components of population. The approach is thus very conservative. It assumes that mortality rates will not decline, that fertility rates will not (as a result of mortality declines and population planning policy) decrease, and that emigration rates will continue to be constant.

The autoregressive model forecasts suggest annual rates of population growth between 1985 and 2000 of 1.7, 0.8, 4.0, 1.3 and 3.3 for Fiji, Samoa, Solomon Islands, Tonga and Vanuatu, respectively. The rates of growth for Fiji and Tonga represent a slowing in their rates of population growth from those experienced in 1966-76 (2.1 and 1.5 per cent, respectively). The autoregressive forecasts also indicate a decline in the rate of population increase over the remainder of this century for Fiji and Tonga. The rate of population growth in Samoa is predicted to be above its recent level (0.6 per cent, 1975-81) for the remainder of the century, although it would be declining to 0.7 per cent by 2000. The situation for Solomon Islands and Vanuatu is, however, quite different. Both of these countries are predicted to experience an increasing rate of population growth between 1985 and 2000. These rates would exceed those recently experienced by both countries (3.2 per cent in 1967-79

for Vanuatu, 3.4 per cent in 1970-76 for Solomon Islands). Population growth in Papua New Guinea is also likely to be quite strong. Growth will be at least equal to that of the 1970s and may be considerably higher.

The change in the age distribution and total population by 2001 is indicated in Table 2.3. The starting point is the age and sex structure of each nation as reported in their last census. The relevant 1981 population is assigned a value of 100 and the 2001 figure is expressed in relation to this base.

In nations with an increasing rate of population growth, the growth in the working age population is less than that of the total population. This is the case for Solomon Islands, where total population growth over the period 1981-2001 is 4 points higher than working-age population growth. This implies an increase in the youth dependency rate. For nations whose rates of population have slowed, the working age population will grow more rapidly than the total population. This is the case for Fiji, Samoa, Tonga, Vanuatu and Papua New Guinea (but note that the Papua New Guinea forecast may be low).

Fiji, Samoa and Tonga are likely to have moderate increases in population compared to the other three nations under study. Samoa is predicted to have a 50 per cent increase in population between 1981 and 2001, but this outcome is dependent on continuing very high rates of emigration. For Samoa and Tonga the rates of increase for the population 5-14 years are considerably lower

Table 2.3 Indices of Projected Population Growth in Selected Pacific Countries, 1981-2001
(1981 = 100)

Country	*Total population*	*Population aged 5-14*	*Population aged 15-64*
Fiji	152	138	159
Solomon Islands	210	213	206
Tonga	145	122	159
Vanuatu	181[a]	172[a]	182[a]
Samoa	150	113	179
Papua New Guinea	157[b]	138[b]	170[b]

Notes: [a] 1979-1999.
[b] 1980-2000.

Source: Authors' calculations.

than those of working age (reflecting past and future migration of women), while for Fiji the rates are somewhat closer. This is a consequence of slowing population growth and implies that pressure on the labour market will be relatively higher than on the provision of schooling. The Solomon Islands population will approximately double by the year 2001. High rates of growth translate into strong increases in both population aged 5-14 and the working age population. Papua New Guinea could approach such a population increase if the upper ranges of population growth estimates are taken. Placing people in the workforce productively is therefore going to be a major policy issue in the Pacific during the next fifteen years.

C. LABOUR CONDITIONS

The developing island nations of the Pacific are still predominantly agricultural (Table 3.1). In Papua New Guinea it is estimated that over 80 per cent of the workforce is still in agriculture. For most other Pacific countries agriculture is so dominant that other sectoral workforce data are too small to be reliable. Subsistence farming and fishing play a considerable role in the economy although most subsistence farmers also undertake some production

Table 3.1 Share of Active Population Working in Agriculture, Hunting Forestry and Fishing in Selected Pacific Countries

Country	*Year*	*Per cent of population in agriculture, hunting, forestry and fishing*
Cook Islands	1980	31
Fiji	1980	39
Papua New Guinea	1980	82[a]
Samoa	1981	60
Solomon Islands	1976	45
Tonga	1976	56
Vanuatu	1980	82

Note: [a] USAID Estimate (1985). According to the 1980 National Population Census in Papua New Guinea, the proportion of population in farming (both cash and subsistence) was only 49 per cent. This is clearly an underestimation, perhaps due to the omission of women involved in subsistence farming.

Sources: Hayes (1983); Agency for International Development (1985); South Pacific Commission (1982); Samoa Census (1981); Haberkorn (1985).

for cash. The bulk of agricultural work, particularly in Melanesia, is carried out by women. Given the relatively short hours required to earn a subsistence livelihood in most of the islands, the concept of employment has little relevance in rural areas. The extended family usually also makes part-time employment feasible in urban areas. Nevertheless, open unemployment, with consequent social problems, is becoming an increasing problem in many urban areas, and in many rural districts there is dissatisfaction with the limited income and life style opportunities available to school leavers.

Relatively slow economic growth and the concomitant inability to find productive full-time employment for the majority of the population have deep-seated causes in the Pacific.

Slow agricultural growth is a major factor in stagnant demand for labour (Goodman, Lepani and Morawetz 1985; Fisk 1986). Taking the Pacific as a whole, food production has barely kept up with population growth during the past decade. Food production technology is not advancing, so local producers cannot satisfy changing consumer tastes. Capital-intensive, large-scale sugar and beef import substitution schemes have proved costly in Papua New Guinea, and rice is likely to run into similar problems. Some agricultural exports are growing in some countries, but overall exports are lagging behind their potential (Goodman, Lepani and Morawetz 1985; Fisk 1986). In many Pacific countries marketing organizations and policies distort prices so that the Pacific nations receive relatively low prices for their exports, and the returns to growers are so low that it is not worth their while to strive for high quality or high volume outputs. The entrepreneurship and skills necessary to enter the expanding and lucrative markets for high quality and high value agricultural products such as fresh fruit and flowers are lacking. Markets for spices – pepper, vanilla and cloves – are booming currently, but the islands have not been able to organize supplies. Overall, Pacific agriculture lags a long way behind technological and market opportunities.

The lack of agricultural development leads to relatively low standards of living and employment opportunities in rural areas, and hence to rural-urban migration. Table 3.2 indicates that the population of lifetime migrants is marked, up to 30 per cent in Suva, and the percentage would be higher if temporary migration could be taken into account. Urban-biased migration is predominant, though rural-to-rural migration is also occurring, and there is some return migration to rural areas, particularly by women and their children. Urban areas are growing much more rapidly than total population (Table 3.3) with the exception of Tonga and Samoa which are already highly urbanized. "Definitions of urban areas vary, making precise comparisons impossible" (Walsh 1982).

Table 3.2 Characteristics of Internal Migration in Selected Pacific Countries

	Fiji (1976)	*Papua New Guinea (1971)*	*Samoa (1976)*	*Solomon Islands (1976)*	*Tonga (1976)*	*Vanuatu (1979)*
Proportion of lifetime migrants[a] (%)	31	7	26	18	19	18
In-migration regions	Central (Suva)	Central, East New Britain	Apia Northwest Upolu	Honiara Guadalcanal	Tongatapu Eua	Santo Efate
Out-migration regions	Southern, Eastern islands	Gulf Chimbu	Savai'i Rest Upolu	Malaita Eastern	Ha'apai Vava'u	Paama Tongariki
Direction of migration among adult migrants (%)						
rural-urban	)	)	)	54	)	37
rural-rural	) b	) b	)	40	)	63
urban-urban	) ...	) ...	) ...	1	) ...	...
urban-rural	)	)	)	6	)	...
Percentage of adults among migrants (%)	74	63	...	50	...	62
Sex ratio[c]:						
migrants	88	264	110-135	149	–	122
total population	102	106	107	115	105	113

Notes: [a] Adults age 15 years and over.

[b] The presence of different types of migration was acknowledged, but data on the proportions were not available.

[c] male divided by female times hundred.

Sources: Censuses at various dates; Walsh (1982); Haberkorn (1985); Skeldon (1979).

Table 3.3 Urban Population and Urban Growth in Pacific Countries

Country	*Urban population (in 000)*	*Urban population (% of total)*	*Annual urban population growth rate (%)*
Cook Islands	4.5 (1976)	25	-3.9 (1977-76)
Fiji	218.5 (1976)	37	3.2 (1966-76)
Kiribati	18.1 (1978)	32	4.3 (1969-78)
Nauru	7.3 (1977)	100	1.7 (1966-77)
Niue	1.0 (1976)	27	6.1 (1971-76)
Papua New Guinea	177.9 (1971)	6	12.0 (1966-71)
	263.5 (1980)	12	6.0 (1971-80)
Samoa	32.1 (1976)	21	1.2 (1966-76)
Solomon Islands	18.6 (1976)	9	4.6 (1966-76)
Tonga	27.8 (1976)	30	1.5 (1966-76)
Vanuatu	20.0 (1979)	14	5.4 (1967-76)

Sources: Walsh (1982); Walsh (1984); 1966 and 1979 Vanuatu Census.

Migration today is primarily for more and better employment opportunities and to take advantage of income differentials. Young males of working age are the most mobile group, especially in Papua New Guinea, where the proportion of males among lifetime migrants is about three times that of females. In Fiji, males also move to urban areas, while females and children move in the reverse direction (Walsh 1982:27). These aspects of rural-urban migration are characteristic of most developing economies. They have been studied in depth in a large number of countries and the principal trends are clear: migrants move from rural to urban areas in the Pacific, as in other developing countries, because real incomes are higher and access to public goods and entertainment is better than in rural areas. In some cases rural-urban migration leads to labour shortages at peak agricultural times in rural areas, but in the Pacific the absence of clearly marked seasons and widespread underemployment means that this is not a major problem.

Rural-to-urban migration and urban growth are high in comparison to other developing countries because labour and other markets are more heavily distorted in favour of urban areas than in most developing countries. The high rate of urbanization in the Pacific is closely linked to high per capita aid flows (Table 1.1). In economic terms, aid is a form of rent that distorts intersectoral

parities. In the same way as natural resource "rents" attract capital and labour to mineral sectors, aid turns government sectors, including public administration, into "booming sectors" that attract highly paid factors of production (Corden 1982). Workers (and capital) are drawn out of agricultural and other private sector activities because they are remunerated at artificially high levels in the public service. Colonial governments saddled the Pacific islands with large administrative bureaucracies, and a large proportion of aid funds has gone to maintain and even expand them. Public services are often highly subsidized. Wages and fringe benefits in government service are often unduly high in relation to national income; to attract any labour at all the private sector has to pay similar wages and fringe benefits, so remuneration in urban (and sometimes even in rural) areas is well above productivity levels. In international terms labour costs are thus very high. Aid inflows also raise the exchange rate to artificially high levels, making it difficult to increase exports.

A well-remunerated elite of local government officials, together with a relatively large corps of expatriates required to maintain the swollen government service, provide a market for service industries and service-oriented manufacturing such as dry cleaning, motor vehicle repairs and building material production and assembly. However, local markets are too small for economic import substitution (Hughes 1984), and the combination of high labour costs, overvalued exchange rates and, in some countries, inflation has prevented the Pacific countries from taking advantage of their privileged access to industrial markets (Robertson 1985). Tourism has similarly been restricted in most Pacific countries.

High labour costs also make for unduly capital-intensive production technology throughout the economy. Machines are employed because labour is too dear in relation to its productivity, but machines are often not utilized effectively. Capital utilization follows New Zealand and Australian patterns, which are very low by international standards because of labour and other regulations. This results in slow amortization, low replacement rates of capital and further barriers to growth.

As in agriculture, there are many niches in world markets that could be filled in the Pacific in services and manufacturing. Tourism offers very considerable income opportunities in the provision of high style, high quality villa-type facilities to North American, European and Northeast Asian markets instead of the mass markets at the lower end of the scale now being sought. Second home ownership could offer an attractive package with light, specialized manufacturing for export markets. Timber has prospects, notably in Solomon Islands and Papua New Guinea and could become a major employer of labour if suitable entrepreneurs could be found and forestry practices could be improved.

Pacific countries cannot afford to continue to neglect labour demand problems. Table 3.4 gives a breakdown of the growth in labour force by sex and age groups. High as the figures are, they are more likely to be understated than overstated. The absolute numbers involved are high for the island countries. Between 1986 and 2001 nearly 20,000 productive opportunities will have to be found in Tonga, nearly 40,000 in Vanuatu, more than 50,000 in Samoa, nearly 100,000 in Solomon Islands, and more than 800,000 or more than 50,000 a year in Papua New Guinea.

Fortunately, an increased demand for labour is well within the reach of most Pacific economies. The policy changes necessary are beginning to be discussed. They include:

- An improvement in the granting of aid by donor countries and in its utilization by recipients to avoid labour market and other distortions;
- Greater attention to productivity in agriculture together with the freeing up of access to domestic and export markets;
- Positive national and regional policies toward tourism;
- A reversal of protectionist tendencies in manufacturing and service industries which preserve inefficient enterprises and prevent the growth of economic ones;

Table 3.4 Indices of Projected Working Age Population Groups in Selected Pacific Countries, 1981-2001
(1981 = 100)

Country	*Total*	*Male*	*Female*	*Aged 15-39*	*Aged 40-54*	*Aged 55-64*
Fiji	159	159	159	142	213	207
Papua New Guinea[a]	170	164	177	166	159	149
Samoa	178	182	175	173	212	153
Solomon Islands	206	204	208	219	176	167
Tonga	159	161	157	158	168	144
Vanuatu[b]	182	177	189	178	198	189

Notes: [a] 1980-2000.
[b] 1979-1999.
Source: Authors' calculations.

- Stimulation of labour productivity to bring it into line with labour remuneration;
- Ending of subsidies in the form of privileged access to public goods to urban areas;
- And, in some Pacific countries, improving macro-economic policies to bring down inflation by reducing budget and balance of payments deficits and thus decreasing the need for public borrowing.

Labour markets do not operate poorly in the Pacific only because the demand for labour is distorted. Labour supply policies – relating to education, population planning and health – are also distorted, notably by inadequate recognition of, and investment in, human resource development.

D. EDUCATION

The essential role of capital in economic growth and development, and hence of physical investment in roads, power, factories and other facilities, has long been recognized, but the role of human capital has only become evident during the last decade as the lessons of development have become clear. It is estimated that the returns to investment in education, particularly at early levels of development, are higher than the returns to almost any other investment, provided, of course, that the "output" of education is of appropriate quality and relevance (Psacharopoulus 1982). Countries that desired rapid growth all made considerable public and private investment in education, but ratios of education expenditures to total public expenditures are not useful guides to effective investment in education. Countries can spend relatively large sums on education and still fail to develop the population effectively. This is the case in the Pacific, where education represents 20 per cent and more of government budgets in countries such as Papua New Guinea. Accumulated achievement in education in terms of literacy is low by international standards, and so is the current effort as measured by enrolment rates (Table 4.1).

Age-specific enrolment rates throw additional light on the situation. Except in Fiji and Tonga, a significant proportion of children does not enter the school system until the age of 10 to 14 years, when enrolments peak. Enrolments of girls are particularly low in Solomon Islands and Papua New Guinea. They are in fact among the lowest in the world. Primary education also varies in enrolment rates and quality by location in Pacific countries.

Urban enrolment and standards of education tend to be higher than in rural areas because urban schools attract the best teachers. Rural enrolments are thus still as low as 25 per cent in rural areas for boys in early years of primary school, and zero for girls. Urban schools not only serve the wealthier

Table 4.1 School Enrolment Rates in Pacific Island Countries[a]

	Fiji	*Papua New Guinea*	*Samoa*	*Solomon Islands*	*Tonga*	*Vanuatu*
Primary						
Male	79	41	67	56	71	38
Female	79	27	68	40	70	34
Total	79	34	68	48	70	36
Secondary						
Male	41	14	76	12	95	10
Female	42	8	87	5	91	7
Total	41	11	81	9	93	8

Note: [a] Level-specific enrolment rates expressed as $\frac{Et}{Pa} \times 100$ where Et represents enrolment at primary or secondary schools and Pa represents population in age group 'a' corresponding to school level in the numerator. The base population used for primary school enrolment is those aged 5 to 14, and that for secondary and above is those aged 15 to 19.

Sources: Calculated from 1976 Fiji census; 1971 PNG census; 1976 Solomon Island census; 1976 Tonga census; 1976 Samoa census; and Vanuatu (1984), Table 18.1.

sections of society, but paradoxically, schools also tend to be free in urban areas whereas parents have to supplement teachers' low incomes in rural areas. Many rural schools not only fail to teach the basic reading, writing and arithmetic skills that should equip children for participation in modern life and enable the best to progress to secondary school, but are also irrelevant to rural needs. Many children cannot read and understand the instructions on a fertilizer package when they graduate from school.

The failures of education in the Pacific reflect inadequate training of teachers, poor curriculum development and lack of teaching materials, but it is also caused by deep confusion about language. Education is mostly formally in English, but in practice local languages and varieties of Pidgin are the only ones teachers as well as children understand. Basic language and learning problems are thus far from resolved in some Pacific countries, with a large range of achievement differences between countries such as Papua New Guinea and Fiji.

Differences in secondary education are greater, and objectives even muddier, than in primary school systems. Private, in some countries mostly church organized, education is important at the secondary level. The highest

levels of enrolment have been achieved, together with relatively high quality education, in Samoa and Tonga, where students are keen to acquire the skills necessary for emigration. Although fees are charged and parents have to find funds for books, uniforms and sports equipment, half the boys and girls aged 15 to 19 years are at school. Education for emigration thus appears to be the most efficient component of Pacific education. Fiji stands next in enrolment and levels of education with more than a third of 15 to 19 year olds at school. In Papua New Guinea, Solomon Islands and Vanuatu, secondary enrolments are only around 10 per cent, with lower rates for girls.

Standards vary considerably between and within countries. Much of the secondary school system still reflects a literacy bias inherited from colonial times instead of moving to the mathematics and natural sciences emphasis that modern technology requires. The training of teachers, curriculum development and the availability of teaching materials are critical problems. Only a handful of secondary schools throughout the Pacific has developed standards that are competitive with industrial countries. During colonial times secondary education was in the hands of expatriates, and local teachers were not trained. Standards have thus deteriorated sharply in many cases during the past decade. Most community leaders – businessmen, public servants and politicians – send their children to boarding school in Australia or New Zealand.

In contrast to leading East and Southeast Asian developing countries, Pacific nations have placed almost no emphasis on training for manual skills. The islands thus almost universally lack plumbers, electricians, fitters and turners, motor vehicle mechanics and wood workers, nurses, secretaries and other keyboard operators. Nursing positions often cannot be filled in Port Moresby. Mechanics have to be brought to Tonga from New Zealand to service buses. Even in Fiji, where trades skills are most highly developed with a technical school component in the education system, mechanical jobs requiring more than routine skills are generally undertaken or supervised by expatriates.

Pacific countries were led by the colonial powers to adopt the apprenticeship system for training in manual skills at a time when that system had for the most part already outlived its usefulness. Some current approaches are going to another extreme by elevating vocational training to "university" level in name but with very poor content. A Pacific-wide facility has been established for telecommunications workers with the support of the International Telecommunications Union. There are schools for seamen in Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Tuvalu and French Polynesia. Most, however, only train to levels appropriate to Pacific rather than international standards. Training for work on foreign ships is not well organized although such workers contribute important income to Tuvalu and Kiribati. Otherwise,

skill formation largely relies on learning-by-doing in enterprises that themselves lack skilled workers.

Three principal institutions are attempting to train students at the tertiary level: the University of Papua New Guinea at Port Moresby, the Papua New Guinea University of Technology at Lae and the University of the South Pacific at Suva. A large number of other post secondary institutions – more than sixty in Papua New Guinea alone – seek tertiary status. Many of these institutions barely reach international secondary standards. Their students have difficulty in gaining professional acceptance outside the Pacific. Many of those graduating from local tertiary institutions are so ill equipped for modern life that they prefer to return to their village and a subsistence existence rather than compete with the much better trained expatriates who still dominate private and public sector corridors of power in many Pacific countries.

Education is the cornerstone of human resource development. Most of the countries, and the Pacific as a whole, lag a generation behind Asian countries in this regard. If education policies and planning are not quickly and greatly improved, particularly in Papua New Guinea, Solomon Islands and Vanuatu, rising school age population levels may result in a breakdown in education. In Papua New Guinea, the need for school places would increase by 40 to 50 per cent on very conservative assumptions (Table 4.2, case 1). But if Papua New Guinea wants to achieve universal primary education by the year 2001, primary enrolments would have to quadruple for 5 to 9 year olds. If Papua New Guinea wants to raise secondary school enrolments to 60 per cent of the 15 to 19 year-old group, the number of secondary school places would have to increase nearly ten times. The Pacific needs a new approach to education policy and investment at all levels of education. Enrolments need to rise sharply and the content of education has to be improved. Secondary schooling attendance is only beginning to enter an adequate range in Fiji, Samoa and Tonga. The education of girls and young women has been neglected, not only by the countries but also by the aid agencies (Siwatibau 1985).

Each of the small island states needs to establish a community college to provide manual vocational training and also undertake teaching at the sub-professional level in skills such as book-keeping and nursing. Many students would attend part-time. The best graduates could then pursue professional training at regional tertiary institutions which need fundamental re-structuring. The various community colleges could also specialize on a region-wide scale in some areas. Satellite telecommunications could be used to support teaching in the community colleges. The colleges could also become centres of extension work and adult evening classes. The community colleges would be able to localize the low-level training that is currently being undertaken abroad. A change of direction in the universities is needed to provide the islands with first

Table 4.2 Indices of Projected Enrolments in Selected Pacific Countries, 1981-2001

(1981 = 100)

	Enrolment 5-9	*Enrolment 10-14*	*Enrolment 15-19*
Case 1 Assuming current enrolment ratios			
Fiji	143	132	115
Papua New Guinea[a]	138	138	153
Samoa	118	109	110
Solomon Islands	217	209	210
Tonga	136	110	110
Vanuatu[b]	175	170	170
Case 2 Assuming 100 per cent enrolment for 5 to 14 year olds, and 60 per cent enrolment for 15 to 19 year olds			
Fiji	150	152	193
Papua New Guinea[a]	464	305	987
Samoa	144	115	122
Solomon Islands	667	363	497
Tonga	152	135	129
Vanuatu[b]	283	266	453

Notes: [a] 1979-1999.
[b] 1980-2000.
Source: Authors' calculations.

degree students who can then go abroad for training to become leading barristers, doctors and engineers in graduate schools of international repute.

E. POPULATION PLANNING AND HEALTH POLICIES

Population planning and health policies are closely connected inputs into the quantity and quality of labour supply. Fertility rates are the dominant factor in population growth and are heavily influenced by mortality rates, particularly of infants and children. Health indicators and population growth are not out of line with per capita income levels (Tables 1.1, 1.2 and 5.1) for the Pacific as a whole. Samoa and Tonga, however, have achieved higher health standards than their per capita incomes would suggest, indicating that with the

Table 5.1 Health Indicators in Selected Pacific Countries

	Fiji	*Papua New Guinea*	*Samoa*	*Solomon Islands*	*Tonga*	*Vanuatu*
Crude death rate	7-8 (1976)	17 (1981)	7 (1976)	11 (1970)	14 (1966)	12 (1974-79)
	5-6 (1983)	13 (1983)	8 (1984)	12 (1976)	8-10 (1976)	...
Population per medical doctor	2,122 (1970)	17,740 (1973)	2,745 (1970)	4,474 (1970)	3,214 (1970)	...
	2,070 (1971)	11,695 (1983)	2,920 (1976)	6,250 (1976)	3,460 (1976)	3,910 (1979)
Population per hospital bed	344 (1970)	...	222 (1970)	120 (1970)	390 (1970)	...
	381 (1976)	215 (1983)	230 (1976)	163 (1976)	395 (1976)	107 (1979)
Per cent of family planning acceptors	26 (1983)	5 (1980)	17 (1981)	7 (1979)	41 (1982)	35 (1982)
	...	...	...	10 (1981)	...	...
Calorie intake as per cent of the recommended daily allowance	175	...	123	104	165	164
Causes of morbidity	Malaria	Malaria, Gastro-intestinal diseases, Diarrhoea, TB	Respiratory disease, Infection	Malaria, TB	Influenza, Conjunctivitis, Gastro-enteritis, Diarrhoea, Dengue	Infection, Respiratory disease
Causes of mortality	Cardiovascular Respiratory	Respiratory Infection	Cardiovascular Respiratory	Respiratory Prenatal	Cardiovascular Cancer, Infection	Infection Prenatal

Sources: Taylor (1985); Lucas and McMurray (1985) Tables 2 and 5; South Pacific Commission (1982), Statistical Summary; Cleland and Singh (1980, Table 12); Goodman *et al.* (1985), p. 165; McMurray (1985); Ahlburg (1985); Solomon Islands 1981 Statistical Yearbook; United Nations (1985a).

relatively high levels of subsistence agriculture prevailing in the Pacific, a greatly improved health and population planning performance is possible with stronger policies.

Expenditures on health are relatively high in the Pacific. The shares of public expenditures allocated to public health range from 11 to 15 per cent of the budget, but these sums are not spent as well as they could be.

Three types of health problems continue to prevail in varying degrees in the islands. First, malaria remains a leading cause of illness and death. The incidence had been sharply reduced by the early 1970s, but there has been some reversal in recent years, particularly in Papua New Guinea. Renewed spraying and education campaigns are necessary to eliminate malaria.

A second major cause of illness, particularly among infants and children, is gastro-intestinal disease including particularly diarrhoea. This group of diseases is clearly linked to the purity and ampleness of drinking water supplies and to human waste disposal. A major investment effort by households (roof run-offs and proper water storage), communities (village drinking water and latrines) and governments (major water reservoirs and sewerage works) will be required to reduce illness and death. Access to safe water and sewerage is only satisfactory in urban areas in Tonga, Fiji, Samoa and Vanuatu (Ahlburg 1986, Table 16).

The third major health problem is associated with cardiovascular (heart) diseases, cerebrovascular diseases (stroke), diabetes and cancer. Improved living standards and greater longevity are important factors in the onset of these "industrial country" illnesses. However, it is also due to high calory intakes in countries other than Papua New Guinea and Solomon Islands. People in the Pacific islands have changed their life styles so rapidly, both by reducing their output of energy and increasing their intake of calories, that obesity has become a problem before the diseases of poverty have been eliminated. A return to traditional diets, frequently advocated, is unlikely to be either feasible or successful in increasing energy outputs or cutting down excess calorie intake. Public health education campaigns are much more likely to be effective.

As in education, high population growth makes for very high costs in basic health improvement. Population planning is in its infancy in the Pacific. Most governments have not yet turned to this issue despite the high costs of high population growth. None has implemented a serious campaign to reduce fertility rates.

Investment in health, as in education has very high socio-economic returns. It is strongly linked to education, particularly to the education of women. Women

influence health through their household tasks and can play an important role in determining fertility. Not surprisingly, in most field studies the education of women turned out to be the most important determinant of fertility. As in education, a great deal of investment in health consists of recurrent expenditures: health workers, like teachers, have to be paid. Efficiency, effectiveness and cost recovery must be important criteria in evaluating health policies and projects if a growing population's health needs are not to swamp public budgets.

F. INTERNATIONAL MIGRATION

Migration has traditionally cushioned the costs of high population growth in the Pacific. It has avoided serious imbalances in labour markets and encouraged high-quality health care and investment, often by the potential emigrant's family, in education. Most Pacific countries have a long history of emigration. While immigration to the Pacific is strictly regulated, emigration to other countries has been relatively easy. Data on net gains and losses of population due to international migration are fragmentary, but the number of immigrants seems to have been large enough to have a significant impact on the local economies of most countries except Papua New Guinea and Solomon Islands. Being small countries, their migration streams are perceived as being of little threat to the mainly industrial countries of immigration. There are other reasons for high migration flows. Many of the Pacific countries established migration patterns during their colonial period, migrants face few language barriers in Australia, New Zealand, Canada and the United States, and the demand for labour has been high in countries of immigration (Caldwell *et al,* 1980:960).

As in internal migration, not all causes of movement are purely, or even principally, economic. Very small countries at all levels of development tend to have high outflows of emigrants who want to savour a richer life than a small community can offer, at least for a time. It is much better for national policy to accept such trends as a fact of life and to try to benefit from them rather than ignore or oppose them.

Most labour emigrants are young, healthy, relatively well educated and skilled. The evidence is abundant: relatively skilled Fijians moved to Canada, skilled and experienced construction and electrical tradesmen from Solomon Islands went to Vanuatu, but ni-Vanuatu construction workers went to New Caledonia (Connell 1985 a, b, c). Most emigrants are from the major towns of the Pacific. In Fiji, for example, most emigrants come from Suva. Internal migration is often a stepping stone to external migration.

Earlier migrations were within the Pacific region: from Solomon Islands to Vanuatu, from Kiribati and Tuvalu to Nauru, and from Vanuatu to New

Caledonia. In recent years, however, migration toward developed countries accounts for most of international migration flows. Migrants of both types move for higher wages, better employment and education opportunities, particularly for their children. While the former type of migration tended to be temporary, the latter appears to be permanent.

The impact of emigration on home countries depends on the number and characteristics of the immigrants, the level and patterns of remittances to the home country, and rates of return. Current levels of remittances are high to Samoa and Tonga. In 1980 they totalled US$11 million and US$9 million respectively. In both countries they exceed commodity export earnings. Emigration is likely to continue to be an important safety valve in the rapid expansion of population during the next decade. Migrants' remittances are also likely to continue to be important in foreign exchange earnings for Samoa and Tonga, and to a lesser, though still appreciable, extent in the other countries. Experience in other countries of emigration in the Mediterranean and Central America suggests that the home countries can affect the flow of remittances and the ratio of migrants returning or at least keeping ties to the home country, and that these are related. Financial and exchange policies that maintain the value of local currencies are an important factor in attracting remittances. Creating private enterprise business opportunities can bring back migrants. Developing a lively tourist industry that provides good facilities for retirement is another way of encouraging emigrants to return.

Migration is not all one way in the Pacific. The funnelling of aid to the government sector combined with inadeqaute education has led to relatively high numbers of expatriates in the Pacific despite strong localization policies. In Fiji, the number of expatriate work permit holders fell from about 1900 in 1976 to about 1500 in 1981 (Connell 1985a:46). Localization of labour has now stabilized so that local workers represent about 96 per cent of the workforce in Fiji. The number of expatriates remaining in Papua New Guinea decreased substantially from 30,000 in 1971 to about 9,000 in 1982 (Connell 1985b). Over 70 per cent of the expatriates remaining in Papua New Guinea are classified as professional and executive officers. In some other countries the number of expatriates has increased as the countries tried to accelerate their development although the proportion of expatriates to the total labour force remains low. In Solomon Islands, the number of expatriates grew from 1300 in 1970 to 1400 in 1976. Samoa also showed an increase, from some 600 in 1980 to 1,000 in 1982, most of the additional expatriates being teachers and technicians. It is estimated that a further increase in expatriates would be required by the end of 1984 (Connell 1983). Vanuatu had about 600 expatriate work permit holders in 1981. Their employment patterns are similar to other countries, with over 60 per cent engaged in technical or managerial jobs, 16 per cent in production and 10 per cent in sales and service sectors.

Most of expatriates in the Pacific have been Europeans, but the number of Asian expatriates has been increasing in recent years (Connell 1985c).

Small countries not only tend to have high rates of emigration, they also usually have high rates of immigration. It is not practicable to train local people in all the skills that will be necessary at all times. It is usually more efficient to import skills, particularly for short periods, but even for long periods, just as it is necessary to import some specialized goods. Liberal attitudes to migration are necessary components of small country strategies. The concern in the Pacific is not with such immigration; it is with the relatively high number of expatriates in government and certain private sectors, with those who perform poorly and those who do not train local staff. The ratio of expatriates to local staff is reminiscent of conditions in Asia twenty or thirty years ago. In part, of course, it reflects the acute shortage of trained local people. Another reason for the relatively high number of expatriates in the Pacific lies in excessive numbers of government ministries and departments in relation to the size of the countries they manage. Papua New Guinea, with 20 governments (19 provincial plus the central government), is an example of overlapping responsibilities. It has been suggested that collapsing the nearly 30 ministries and departments of central government to 4 "super" departments would greatly increase efficiency. It would certainly make possible a sharp reduction in the number of expatriates, and in the drain they represent on aid and national funds.

G. REGIONAL ISSUES

The Pacific nations are fortunate to have the experience of many developing country regional experiments before them, because most of the economic arrangements among developing countries, with the notable exception of the Association of South East Asian Nations (ASEAN), have been costly failure. Five million people scattered over vast distances cannot benefit from the formation of an economic community, let alone a protective, inward-oriented one. The islands have taken a cautious and gradualistic approach to regional cooperation.

In a number of economic areas a regional approach can be helpful to growth and development. Considerable headway has been made in fisheries, and opportunities clearly exist in air transportation and tourism (Forsyth 1986; Dwyer 1986), telecommunications (Cheah 1986) as well as in trade diplomacy, where a regional approach to the Australian and New Zealand markets has been effective in improving market access. In several of these areas a great deal more can be done by using regional initiatives to accelerate growth. However, as social and political reasons make it difficult to extend the small pool of people by the exploitation of economies of scale through

international "trade", regional initiatives are likely to be most important in the long run in relation to human resource development.

At present these possibilities are not being exploited fully. Partly this is because the Pacific islands do not yet have one clear regional institution. Table 7.1 indicates the division of the Pacific countries between the South Pacific Commission and the Pacific Forum. More importantly, however, Pacific nations have become independent too recently to be able to focus on regional rather than national issues.

Table 7.1 Membership of Pacific Organizations

Country	*South Pacific Forum and South Pacific Bureau for Economic Co-operation*	*South Pacific Commission*[a]
Pacific islands countries		
Cook Islands	x	x
Fiji	x	x
Kiribati	x	x
Micronesia	(observer)	x
Nauru	x	x
Niue	x	x
Papua New Guinea	x	x
Samoa	x	x
Solomon Islands	x	x
Tonga	x	x
Tuvalu	x	x
Vanuatu	x	x
Metropolitan countries		
Australia	x	x
France		x
New Zealand	x	x
United Kingdom		x
United States		x

Notes: [a] The other members of the Commission are American Samoa, French Polynesia, Guam, Marshall Islands, New Caledonia, Northern Mariana Islands, Palau, Pitcairn Island, Tokelau, and Wallis and Futuna.

Source: Government of Australia, Jackson Report, (1984) p. 169.

A start has nevertheless been made in regional cooperation in education and training. The University of the South Pacific is the most important regional institution. It brings together students from the various island countries for 3 or 4 years of sustained study, during which long-term relationships can be developed. The University has many academic problems, and even its regional character is sometimes threatened. However, it has the potential to develop into a major force in human resource development in the region. If the University of the South Pacific were to be supported by community colleges in all the South Pacific islands, a regional post-secondary educational network competitive with institutions in the rest of the world could be established.

A network of community colleges could also provide specialized training for the Pacific in areas in which individual islands are too small to provide a critical mass of students. Teachers and trainers could be brought together for short term courses. Courses could also be organized in areas currently taught mainly in foreign countries so that more Pacific people could participate. Such arrangements are particularly important for women who usually have greater difficulties with long absences from home than men do.

Perhaps the greatest opportunity in human resource development lies in the potential utilization of satellite communications by the Pacific (Cheah 1986). Satellite broadcasting could bring remote villages into a network of agricultural extension, population planning and health education, as well as adult literacy and numeracy. The weakness of primary and secondary school teaching could be substantially augmented. This is an area where small countries cannot "go it alone". With some assistance through loans, remote villages will be able to afford to invest in and maintain the earth stations (costing some $20,000 to $40,000) that will enable them to receive broadcasts, but the governments of even medium-sized Pacific countries will not be able to afford quality educational broadcasting (to mix with entertainment which could cross subsidize educational programmes) on their own. They will have to join together regionally if they want to emulate those developing countries that are using mass communications effectively.

In this context, the numerous current efforts at developing regional programmes being undertaken both by international agencies and bilateral donors will require a stronger thrust towards coherence and co-ordination to avoid potential waste of resources through duplication and competition.

CONCLUSIONS AND RECOMMENDATIONS

Although they share such characteristics as smallness and geographical location, the Pacific island developing countries differ so greatly from one another that for policy purposes they must largely be regarded individually.

For policy purposes it must also be noted that the Pacific island countries represent spectrums of population and geographic size, of natural and human resource endowment, of levels of development, of styles of policy formulation and of degrees of implementation capacity. These spectrums do not coincide. Some of the largest countries with rich natural resources are the least developed while some of the poorest with few resources have proved to be the most rational managers.

As each Pacific country's situation is unique, each has to develop its own strategy for that unique situation. However, some general policy directions can be seen to be emerging:

- Most Pacific economies require tighter macro-economic policies alongside more liberal micro-economic measures to create a sound base for new opportunities, particularly in agriculture and tourism, for expanded production and exports;

- Productivity has to be increased to bring it into line with remuneration to lower labour costs to internationally competitive levels;

- One key to the improvement of productivity and entrepreneurship is a rapid improvement in education participation and standards in most Pacific countries;

- Population growth will threaten economic endeavours as public expenditures are swallowed up by population increases in all but a few Pacific countries unless population and health policies change;

- To increase productive employment opportunities the Pacific countries need to shift the emphasis from public administration to private productive sectors, thus also reducing their expenditures on expatriates;

- As educational levels rise, Pacific countries need to adapt high technology to increase agricultural yields and raise productivity in other sectors;

- Since the small size of the islands is likely to continue to lead to significant temporary and permanent emigration, the Pacific nations need policies that take advantage of emigration flows;

- Changes in policy require support from bilateral and multilateral aid donors. Instead of exacerbating "booms" in the government sector, aid donors should seek to stimulate productive activities in infrastructure, agriculture and other sectors;

- Finally, most policies must remain nationally focused if they are to attain the necessary political support for their speedy implementation. However, in some areas of human resource development, notably tertiary education and the use of satellite telecommunications for mass education, a regional approach is essential.

Human resource development is a distinct component of policy and can be isolated in terms of population, health and education policy requirements. Policies in these sectors, however, will only be effective in a stable environment, and their effectiveness is not only mutually interdependent but is also highly influenced by overall economic growth and development.

Population policies – Many Pacific country governments are either indifferent to population growth or even hostile to family planning. Women are bearing more children than they wish to bear, so there is an unsatisfied demand for family planning. Health considerations suggest that women are also bearing more children than is warranted on health grounds. Population growth is consequently swamping the development effort in several Pacific island countries. Population planning should therefore be an essential component of national policy. The following components are required:

- An adequate data base to enable appropriate policies to be evolved. Such data do not exist in several countries, notably Papua New Guinea;
- A public information and education service directed particularly to men, but also to women;
- Access to contraception methods for men and women through private and public sources.

Maternal and child health policies – The number of children a woman bears is influenced by their survival rate. Infant and child health and the care of mothers during pregnancy and child birth are therefore critical inputs into family planning. Health care for mothers and children in the Pacific island countries varies greatly; care is best in the urban areas of the higher-income countries and negligible in the remote areas of the lowest-income countries, where maternal and infant death and fertility rates are correspondingly very high. In some countries rural facilities have declined in recent years. Improved maternal and child health in the Pacific countries requires:

- Investment in simple physical health-promoting facilities much of which can be contributed by village communities;

- Training of health workers, particularly midwives, who will work in villages using modern mother and child care methods. This generally means training village women over a period of time;
- Developing facilities and methodologies for training the trainers;
- Bonus payments for surviving mothers and children as part of the remuneration structure;
- The distribution of basic medicines and contraceptives throughout rural areas through public and private channels.

Health facilities – The principal causes of illness and death, particularly among children, are the diseases of poverty. They are caused by malnutrition, poor housing and, above all, polluted water supplies and a lack of sanitary facilities. Except for areas where population pressure is being felt in terms of land availability and no other sources of income are available, or where women are being forced to spend too much of their agricultural production time on cash crops, malnutrition is not a serious problem in most Pacific countries, though both urban and rural diets are far from ideal. Housing problems are only evident in rapidly growing cities. Pure water and sanitation, however, are the exception rather than the rule. The following steps should be taken in this area:

- Soundly based nutrition education should be part of all primary and junior secondary education curricula for boys as well as girls;
- Model housing construction should be given similar importance in primary and junior secondary education, particularly in relation to water supply and sanitation;
- Personal hygiene should be an important and practical component of school curricula;
- National plans should include the specific problems of rural as well as urban pure water and sanitation supply, with an emphasis on self-help and local management.

Education policies – To make headway in education and training without crippling their public expenditure capacities, the Pacific countries will have to take innovative approaches to investment and recurrent expenditures in education. A five-tier structure of education is recommended: primary schools enrolling all children, including girls; secondary schools enrolling all children in junior years but tapering off sharply in senior years, with equal enrolment ratios, however, for boys and girls throughout secondary schools; national community colleges catering for technical and pre-university academic training

supplemented by specialized regional technical training; selected university-level institutions in Papua New Guinea and at the University of the South Pacific; and post-graduate study outside the region.

It is essential that education systems are made cost effective so that a substantial increase in facilities can be afforded. This will require community involvement, particularly at the primary level but even at the secondary level, to reduce construction and maintenance costs. Cost recovery, particularly at higher levels, will be necessary. Given the high returns to investment in education, cost recovery would be equitable and practical if it were supported by means-tested scholarships for academic excellence. The education system needs to be much more relevant than it is at present. This will not only require curriculum development but the settling of such issues as the language of instruction, particularly in primary schools, and the mix between academic and applied subjects. A high degree of selectivity, involving scholarship funding and the use of boarding schools, would be required to ensure that the most able children could compete for higher level education. The principal changes required would be:

- The involvement of communities in school building, maintenance and management;
- To minimize recurrent costs, the introduction of a "monitor" system by which able older children would teach younger children. Potential teacher trainees would be selected from the "monitors";
- The introduction of effective cost recovery systems that at the same time encourage girls to be sent to school. For example, brothers of girls at school could be enrolled without payment;
- Curriculum development in schools to introduce more practical subjects as well as better teaching methods and also for teacher training to produce more effective teachers;
- Establishment of a network of national community colleges in the larger countries for "catchment" populations of 100,000 people or so to serve technical, sub-professional and pre-academic needs and to lead to a consolidation of existing sub-standard institutions;
- Movement of the three universities in the region toward higher professional standards compatible with university standards in such neighbouring developing countries as the Philippines, Singapore and Thailand.

Regional and sub-regional issues – Economies of scale escalate with rising levels of education, so that at the university level catchment areas of at

least 1.5 million people are a necessary base. The Pacific countries thus require region-wide universities. Regional training is also necessary to meet specialized technical needs such as those already existing for police managers and telecommunications staffs. Other areas in which regional-level activities are needed are transportation, tourism and telecommunications. Further higher-level training facilities will be needed in all three areas. Courses for higher-level tourist staffs will be required if the industry is not to be run entirely by expatriates. However, the principal effort should be focused on raising the professionalism and increasing the professional content of the existing universities.

Given its small total population, the Pacific region is served by a relatively large number of international organizations. The overlapping responsibilities of these institutions seems to be a principal reason for the relatively slow progress in many regional concerns. A basic Pacific bottleneck – the lack of reliable and timely data – has not been removed in spite of considerable international and national investment in data gathering. International agencies in the region should thus seek to specialize. For example, whereas the Asian Development Bank's (ADB) Regional Team's particular business is the identification of projects suitable for ADB funding, the ESCAP Pacific Operations Centre (EPOC) might seek to improve information gathering and the flow of information among Pacific countries. In this regard, the following areas need to be looked at:

- A review of the reasons for the continuing poverty of data in the Pacific region should be undertaken so that the situation can be remedied;
- The need for regional and sub-regional training facilities, taking into account the actual and potential role of the universities, should be examined;
- A Pacific register of experts should be developed on a computerized base to enable Pacific country governments to have access to high-quality staff and consultants;
- The various international organizations serving the Pacific should establish an improved co-ordination mechanism to ensure maximum collective efficiency in their various functions and activities in the region.

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