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HUMAN RESOURCE DEVELOPMENT IN ASIA AND THE PACIFIC IN THE 21ST CENTURY

ISSUES AND CHALLENGES FOR EMPLOYERS AND THEIR ORGANISATIONS

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1 INTRODUCTION

This paper will in its introduction clarify the terminology used and the focus and the time frame adopted. In the second part it will describe the present economic situation and future prospects of developing countries of Asia and the Pacific. It will then in the third part deal with the global and regional trends affecting human resource development (HRD) in the region. Skills needed by enterprises will be looked at in part four. The HRD issues/challenges for employers and their organisations in Asia and the Pacific in the 21st century will be covered in the fifth part. The sixth part will discuss the HRD role of Asian and Pacific employers' organisations. The paper will then conclude with a reiteration of the importance of HRD to enterprises and countries.

HRD in this paper covers the development of people through education and training in a national context as well as within enterprises. HRD in an integrated sense also encompasses health care, nutrition, population policies and employment (Muqtada & Hildeman 1993; Working Group on HRD Strategies, Commonwealth Secretariat 1993). Though important, these aspects of HRD will not be dealt with.

Developing countries in Asia and the Pacific will be the focus. A country by country approach will not be adopted. Rather, despite the regional diversity in terms of natural resources, culture, political institutions and levels of economic development, common issues and challenges affecting several or more developing countries will be identified and discussed.

The education and training issues and challenges will be dealt with from the perspective of employers and their organisations. Thus the pedagogical aspects of education and training which are of interest to educationists will be left out. In terms of time frame, the period to be covered will be the present into the 21st century. Given the difficulties of forecasting, it is likely that only the early part of the next century will be dealt with. Nevertheless, where possible the later part of the next century will be covered, especially in respect of trends affecting the Asia and the Pacific region.

2 PRESENT ECONOMIC SITUATION AND FUTURE GROWTH PROSPECTS

Asia and Pacific is a vast region with economies at different stages of growth (see Table 1 for the structure of the economies of developing countries of Asia and the Pacific). In the south east are the more than two dozen Polynesian, Melanesian and Micronesian island economies of the South Pacific. Many have "narrow production bases, a subsistence sector which supports the bulk of the population and a small organised sector comprised government, local units of foreign companies and banks and other financial institutions" (Asian Development Bank, [ADB], 1995 p.30). Papua New Guinea has the largest developing South Pacific island economy with mining an important industry. Smaller though large in South Pacific terms is the Fijian economy which is more diversified with its sugar, timber processing, garment and tourism industries. In 1995 GDP fell by 4.3% in the South Pacific island economies, largely because of a 4.8% decline in GDP for Papua New Guinea. Output in most other Pacific islands grew by only 2-4% whilst that of Western Samoa grew by 6.7%. It is unlikely that the Pacific island economies will grow more than 2 to 4 % annually over the next two years (economic growth figures for Asia and Pacific in this section for 1995, 1996 and 1997 are from ADB's Asian Development Outlook 1996 and 1997).

Towards the north of the Pacific islands, are the NIES of Hong Kong, the Republic of Korea (hereafter referred to as South Korea), Singapore and Taiwan. Most have a major manufacturing industry producing middle technology products and a sizeable service sector. These so called "dragon" economies, which have grown rapidly in the last two decades, grew by 7.6% in 1995. These NIEs have continued to follow prudent macro economic policies combined with increasing openness. Most are upgrading their manufacturing industry to produce higher technology and more knowledge intensive products. South Korea, Singapore and Taiwan, are expected to grow between 6-8% per annum for 1996 and 1997. Hong Kong will be returned to China in July 1997, thus completing its growing integration with the Chinese economy.

Moving southeastwards are the industrialising and fast growing Southeast Asian economies of Indonesia, Malaysia, Philippines and Thailand characterised by the growing importance of their manufacturing industry producing labour intensive to medium skill products, the decline in importance of agriculture and a growing service sector. Among them are the so called "tiger" economies of Indonesia, Malaysia and Thailand which in 1995 grew at over 7%. The newer NIEs are expected to grow at over 7% per annum for 1996 and 1997. The Philippines on the other hand expanded by 4.8% in 1995. Growth for the Philippines in the next two years is expected to be around 6 % per annum. The Southeast Asian economies will industrialise further, upgrading their labour intensive manufacturing industry to higher technology and more capital intensive products.

China, Mongolia, Laos, Myanmar and Vietnam are countries in transition to a market economy. These economies are industrialising with labour intensive and lower technology manufacturing. Leading the transition to a market economy is China, which also holds the distinction of being the fastest growing economy in the world with output growing by 10.2% in 1995. Growth for the next two years will be about 9% annually per year. Mongolia, which only began its transition to a market economy in the 1990s, grew by 6.3% in 1995. Vietnam grew at 9.5% while the other countries grew by more than 7%.

To the west are the South Asian economies of India, Pakistan, Bangladesh, Sri Lanka, and Nepal. Most of these countries have started opening their economies and introducing pro-market reforms from the early 1990s.. They are also industrialising with labour intensive and lower technology manufacturing. Growth in 1995 was 4-6% with India growing at 6.2% and Nepal only 2.3%. Over the next two years they are likely to grow at around 5-6% per annum.

Controversy surrounds the sustainability of the high growth of the Asian region in the future. The World Bank is however optimistic. Its baseline forecast expects GDP in East Asia to grow about 7.3 % per annum and about 5.3% per annum for South Asia for the rest of the 1990s to the year 2002 (World Bank 1993s). On the other hand the ADB is of the view that the high overall growth of the Asian region is sustainable for about two to three decades based on the complementarities between the capital abundance of Japan and the NIEs and the labour abundance of the rest of Asia being exploited and subject to the individual economies being open to allow cross border flows of capital, labour, commodities and technologies (for an analysis of the ADB's position see ADB's Asian Development Outlook 1996 and 1997, ADB, pp. 10-13). Economic growth though high will be lower than in the past and will not be uniform, across the region.

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3 GLOBAL AND REGIONAL TRENDS

3.1 Globalisation

One major trend with implications for HRD is globalisation. It is fostered not only by technological change and the continually falling costs of communication and transport but also by the decisions of developing countries in Asia and the Pacific and elsewhere to embrace market oriented development strategies and to open their countries increasingly to the world economy. The world is thus fast becoming one interdependent global market place.

Competitiveness of both nations and enterprises will be on an international basis. World-wide competition has increased, the pace of economic change has accelerated and the process of development has become less predictable. Competitiveness will be decided on a country's or an enterprise's capacity to add value to global economic products, services and processes (Robert Reich 1991). A key contributor in this regard is the knowledge and skills of the workforce. In fact the education and skills of the workforce will be the key competitive weapon for the rest of the 1990s as well as for the 21st century (Robert Reich 1991, Lester Thurow 1994). Globalisation impacts on HRD in various ways. Thus compared to the past, enterprises will need to update much more regularly the skills mix of their employees to respond to the opportunities or threats created by globalisation and rapid technological change. Indeed intense global competition is reconfiguring the market place. Enterprises are increasingly having to compete by differentiating themselves from their competitors by the quality of the human systems and processes behind their products and services (Jeanne C. Meister, 1994). The attitudes, knowledge and skills of the workforce of the enterprise and its contractors and suppliers will determine the quality of the human system and processes behind its products and services. Competition will be less and less in terms of how the features and benefits of one's product/services compare with those of another as more products are perceived to be at parity by customers (product convergence).

3.2 Economic Restructuring

Economic restructuring by countries with changing comparative advantage will be another trend. Enterprises will also restructure regularly in the increasingly competitive marketplace as they seek to secure a competitive edge over their rivals. Thus as China moves into labour intensive manufacturing, it will compete with countries like Indonesia, and Thailand which will have to adjust by moving into medium technology manufacturing. Such restructuring will necessitate changes in education and training both at macro and enterprise levels.

3.3 Cross-Border Asian Investments

Yet another trend is cross border investments by Asian enterprises to other countries in Asia and to Africa, Latin America, Europe and the United States. The Asia and Pacific region has seen waves of investment by Japanese, American and European companies. It has also seen cross border investments by the four Asian "dragon" economies of Hong Kong, South Korea, Taiwan and Singapore pushed by labour shortages, rising wages and stronger exchange rates (see Table 2 for direct foreign investments by the NIEs in the 1980s). Singapore has since 1993 pushed regional investments strongly so as to develop an external wing to its economy. The three "tiger" economies of Indonesia, Malaysia and Thailand are also investing overseas. For example Malaysia is a new major investor in South Africa (The Economist, Aug 24-30 1996). As other Asian countries industrialise successfully, they will also undertake cross-border investments. There has also been an increase in regional cooperation zones in the Association of South East Asian Nations (ASEAN). The first successful zone is the Growth Triangle formed by Indonesia, Malaysia and Singapore. Three others have been proposed -- the Indonesia-Malaysia-Thailand Development Project, the Philippines-Indonesia-Malaysia-Brunei Zone and the Indonesia-Australia project. These cross-border investments will also move whole or part of their operations to other Asian countries to take advantage of changing comparative advantage. This trend will mean that Asian enterprises will need cross-border expertise to operate efficiently in countries with a different political system, language and culture. Asian companies will need to develop appropriate policies and procedures to select, prepare and repatriate executives (and their families) who are sent to manage overseas joint venture subsidiaries. Executives need to understand the political, social and cultural situation of the country they will be operating in. They will need skills in managing a multicultural workforce.

As international alliances become a competitive necessity, executives will need to be trained to make such collaboration successful. Often the success of such international alliances require skills in managing the people related issues involved with two enterprises, each with its own culture and operating systems and procedures, coming to work together.

3.4 Changing Organisational Structures/Work Patterns

Changing organisational structures and work patterns are another trend. The company of the future, according to Charles Handy, will be a shamrock organization (Charles Handy 1990). The shamrock organisations will have the following three elements:

- i. a small and essential core group of professionals, technicians and managers;
- ii. a group of sub-contractors who produce goods and services which the core group does not have to; and
- iii. a growing group of temporary and part-time workers who are hired to provide specialised services or to help at peak workloads.

Companies in the industrialised countries are increasingly becoming shamrock organisations. Shamrock organisations will emerge in developing countries in Asia and the Pacific. This is already happening in the NIEs. For example the Singapore National Trades Union Congress (NTUC) in a study on employment structure and its impact on union membership (NTUC 1996) has pointed out that the shamrock organization is already taking shape in Singapore. The small core of professionals, technicians and managers will need to be the focus for human resource management. More investment in the management and training of part-time and temporary workers will also be required.

Technological changes, especially information technology and telecommunications, and competition in the fast moving competitive global marketplace have changed work organisations and working patterns. The production of goods and services have become flexible and customised instead of being mass produced in long production lines. Fixed automation involving repetitive tasks is being replaced by flexible automation. On-line quality control has replaced end-of-line checking. Instead of fragmentation of tasks, increasing use is made of teams and multiskilled workers. Decision making is being decentralised to points of production and sale. The organisational hierarchy is flatter with middle layers of management eliminated. The gap between those in control of institutional leadership and those responsible for production and delivery of products or services is narrowed. As a result of these changes in working patterns, the role of workers has broadened with a consequent need for a wider range of skills. Thus cellular manufacturing operators (CMOs) in Motorola in the United States are expected not only to perform their own jobs but also to understand a range of additional assembly functions. This is to maximise the flexibility of the teams. Furthermore they must largely be self supervising. CMOs work together in informal teams and are responsible for planning their work, controlling quality and inventing new ways to improve work processes, reduce defects and shorten cycle time. In banking on the other hand the role a customer service representative (CSR) in First of America Bank in the United States has been widened beyond a series of repetitive tasks of approving cheques, answering routine questions and helping customers reconcile account balances. CSRs now also recommend an appropriate mix of products and services of the bank (eg, mutual funds and annuities) to customers. Employees now need a much wider complement of skills than was the case in the previous traditional slower moving hierarchical organization with clear chains of command and "thinkers" at the top and "doers" at the bottom.

Information technology and the advances in and the falling cost of telecommunications mean that it is no longer critical to site offices or companies near the customers. The workforce has become more mobile. One impact on work patterns that is emerging is relationship organisations or virtual corporations. A virtual corporation is an organization which uses information technology to link various independent companies, suppliers, customers and even competitors in a temporary organization to share skills and costs and access to one another's markets. The virtual organization has a very small core with many resources supported from the outside but without a physical set up.

Virtual offices are emerging as companies are leveraging cyberspace and electronic technology to cut costs like rentals and to boost productivity. In such virtual offices workers stay out of the office but retain contact through high technology gadgets which could be handheld devices that can receive and send e-mail and faxes. Telecommuting is one form of the virtual office where workers work from the home or just about anywhere outside the office. Richard Nolan, a professor of business administration from Harvard University predicts that the virtual office will be mainstream rather than an experiment within three years' time (Asiaweek 1995).

The development of virtual organisations has HRD implications. Virtual corporations need workers who are highly skilled, reliable and educated, able to understand the new forms of information, adaptable and can work efficiently with others. Employees need not just technical skills but also the skill of learning how to learn to cope with continuous and radical change of virtual businesses. New forms of training which are flexible, on demand and interactive will have to be devised for employees of virtual enterprises.

These work pattern changes are already taking place in the industrialised world. They are also increasingly affecting enterprises in the developing countries of the Asia and Pacific region. Human resource development policies and programmes will have to change in response to these changes.

3.5 Rapid Knowledge Obsolescence

The exponential growth of knowledge and the rapid change of science and technology is another global trend. Knowledge is doubling every 7-10 years. The resultant relatively rapid obsolescence of knowledge and skills have implications for HRD. The Week-End Australian newspaper contacted education experts in a range of fields to estimate the shelf-life of Australian undergraduate degrees (The Week-End Australian, May 11-12 1996, p.11). The shelf-life of the degrees were estimated as follows:

- 1 year for computer science
- 2 years for electrical engineering
- 3 years for accounting and general medical practice
- 4 years for business
- 5 years for civil engineering and biotechnology
- 10 years for dentistry and surgery
- 15 years for architecture.

All the education experts contacted agreed that the undergraduate degree provided the essential "intellectual capital" on which to build future learning. The rapid rate of accumulation of new knowledge and the fast pace of technological change will mean a need for regular knowledge updating and skills upgrading. More frequent job changes will become the norm. Schools and other education and training institutions will have to teach the ability to learn and inculcate the acceptance of life-long education and training. Continuing education and training programmes will have to be developed by not only education and training institutions but also professional bodies.

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4 THE SKILLS NEEDED BY ENTERPRISES

No systematic study has been undertaken of the skills needed by enterprises in developing countries of Asia and the Pacific in the 21st century. However a number of industrialised countries like the United States, United Kingdom, Australia and New Zealand have worked out the generic skills workers would need to perform well in the workplaces of the future. In the United States there is the Secretary of Labour's Commission on Achieving Necessary Skills (SCANS) on What Work Requires of Schools: A SCANS Report for America 2000 and the American Society for Training and Development (ASTD) report on Workplace Basics: The Essential Skills Employers Want. In the case of the United Kingdom, the work on core skills was

Zealand it formed part of the development of the National Curriculum. In Australia the key competencies were developed under the aegis of the Australian Education Council and Ministers for Vocational Education, Employment and Training. All these reports were produced in the late 1980s or the early 1990s. While these generic skills have been developed in the context of industrialised countries, they would still be useful to the developing Asian and Pacific countries. As they move towards the end of this century and into the 21st century, these generic skills will increasingly be applicable. It is proposed to select the ASTD's study of the skills which employers want for elaboration.

The ASTD's 1990 report lists seven groups of skills wanted by employers. They are:

i. **Knowing How to Learn**

This is the most basic of all skills. With this skill employees can more easily acquire other skills. The skill involves the capacity to collect, analyse, organise and apply information. It covers techniques, attitudes and knowledge that facilitates processing of information. It is also the ability to use appropriate technology as well as the capability to apply it in a new context at work. This skill therefore enables workers to adapt quickly to new demands at work.

Learning is a part of working life with competitive pressures and changing technology. Furthermore the availability, amount and complexity of information has increased. Employers see the skill of knowing how to learn as the key to retraining efforts and continuing education. Most importantly the skill enables more efficient application of new knowledge to work thus greatly assisting the enterprise to meet its strategic goals and competitive challenges.

ii. **Reading, Writing and Computation**

For traditional jobs working often involves going through a regularised process or repetitive interaction with machines. Illiteracy and innumeracy could be hidden or ignored. But today's workplace involves increasingly interaction with sophisticated computerised equipment which requires good reading and computation skills. Higher mathematical skills are required with the introduction of approaches like statistical process controls. Writing is frequently the first step in communicating with customers, documenting competitive transactions or successfully moving new ideas into the workplace.

Workers spend daily an average of one and one-half to two hours reading forms, charts, graphs, manuals, computer terminals etc. Writing remains the primary form of communicating policies, procedures and concepts. Computation is used daily to conduct inventories, report on production levels, measure machine parts or specifications etc.

Deficiencies in these skills will result in productivity decline, increased accident rates and costly production errors. It will also be difficult to effect necessary job retraining. An employer's ability to meet strategic goals and to be competitive will be impaired.

iii. **Communication Skills: Speaking and Listening Effectively**

Communication is central to the smooth operation of an enterprise. These skills are at the heart of winning and keeping customers. Pitching innovation, contributing to quality circles, resolving conflicts and providing meaningful feedback all hinge on effective communication skills.

Workers spend most of their day in some form of communication. Success on the job is linked to good communication skills. In fact recent studies have shown that only job knowledge ranks above communication skills as a factor for workplace success.

Business leaders estimate that deficiencies in these skills cost employers millions each year in lost productivity and errors.

iv. **Adaptability Skills: Solving Problems and Thinking Creatively**

Enterprises are increasingly placing a premium on a worker who is both a problem solver and a creative thinker. As decision making is decentralised to the point of actual production or service delivery, a company's competitive position may hinge on its workers' ability to solve problems quickly. Competitive advantage is frequently tied to a company's capacity to innovate quickly. This capacity rests in large part on the skills that employees have to free themselves from linear thinking in order to make the creative leap.

Successful problem solving involves firstly skill in individual problem solving; secondly skill in group problem solving and thirdly practical ability in combining individual and group skills. Cognitive skills, group interaction skills and problem-processing skills are crucial to successful problem solving.

Creative thinking is the ability to use different modes of thought, to come up with something new, to visualise, foresee or form new combinations of ideas to fulfil a need. In the workplace creative thinking is generally manifested as creative problem solving or creative innovation. Often a group activity, creative problem solving is characterised by effective teamwork, the examination of problems in a new way and the invention of new solutions to existing problems. On the other hand creative innovation is either an individual or group activity. It is the development of new activities that expand markets and improve such elements as productivity.

An enterprise's ability to achieve its strategic objectives often depends on the problem solving and creative thinking skills of its workforce. Unresolved problems create dysfunctional relationships in the workplace which can become impediments to dealing with strategic change in an open-ended and creative way. Creative solutions help the enterprise to move towards its strategic goals.

v. **Developmental Skills: Managing Personal and Professional-Growth**

Personal management skills are the building blocks for good morale, a focused work life and even organisational productivity. A strong foundation of skills self-esteem, motivation, goal setting and employability/career development influences the behaviour, attitudes and desires of workers and ultimately contributes to an enterprises' ability to carry out its mission and strategies.

Today workers are increasingly called upon to make decisions at the point of production or at the point of sale and to display good interpersonal skills when they work in teams or with customers. A positive sense of self worth is important to success in these areas..

For an employer to succeed in the market place, employees must be motivated. They must possess the ability to set and meet reasonable goals. Individual employee's lack of motivation or goal setting skills can produce repeated errors, absenteeism and quality problems or it can hinder change.

- vi. **Group Effectiveness: Interpersonal Skills, Teamwork and Negotiation Skills**
At work an employee constantly interacts with other people To perform work roles effectively requires good interpersonal, teamwork and negotiation skills.

Interpersonal skills includes the ability to judge and balance appropriate behaviour, cope with undesirable behaviour in others, absorb stress, deal with ambiguity, listen, inspire confidence in others, structure social interaction, share responsibility and interact easily with others. These skills are essential to successful negotiation of conflicts which are a fact of worklife. Negotiating skills include the ability to separate people from the problem, to focus on interests not positions, to work out compromises for mutual gain, to use objective criteria and an understanding of the approach demanded by the circumstance.

Interpersonal and negotiation skills are the cornerstone of successful teamwork. Teams, which are increasingly being used, are organised in the workplace so that appropriate talents and skills can be pooled to accomplish vital tasks and goals. This pooling of resources requires team members to have an array of skills that individual or routine jobs do not demand.

Quality teamwork results when team members know how to recognise and cope with the various and unique personalities and when each has a sense of the cultures and approaches that other team members represent. Team members also need an understanding of group dynamics which evolve and change as the team approaches its goals. Finally team members must be aware of the technical skills of fellow members and how these skills can be applied.

- vii. **Influencing Skills: Organised Effectiveness and Leadership**
Enterprises are a maze of explicit and implicit structures that make up their "culture". Good performance can only occur when employees know the culture of their workplace. Both organisational effectiveness and leadership skills are required.

Organisational effectiveness skills include the behaviours, attitudes, and knowledge an employee needs to achieve success on the job both as an individual and as a member of an enterprise. Each employee uses these skills to adapt to organisational expectations, rules and regulations including expected job performance levels. They provide guidelines for establishing appropriate and effective interrelationships.

Organisational effectiveness skills are the building blocks for leadership. Without them, leadership can be misplaced or even be counterproductive.

At its most elementary level, leadership means that a person can influence others to act in a certain way. The employee may need at times to influence his work group and to provide a vision of what the organization as a whole or the specific task at hand requires. Leadership skills are necessary at every level of the enterprise from chief executive to the line worker.

Schools and other education and training institutions will need to incorporate the teaching of these basic workplace skills in their curriculum to ensure that future labour market entrants are properly equipped for the world of work. Likewise enterprises need to teach these skills to their existing employees. Enterprises in the industrialised countries, particularly the larger ones, are

undertaking such training. A study of thirty important US corporations (Jeanne C. Meister 1994) showed that they have expanded the scope and mission of training from merely upgrading the technical skills of their professional managers to ensuring that all their employees as well as key customers and suppliers understand the company's quality vision and develop the skills and competencies needed for success.

The study lists the following as lessons to be learnt for building a world-class workforce from the experiences of these thirty companies :

- Tie the goals of training to the strategic needs of the organization
Training must be tied to the enterprise's strategic business requirements and maintain the organization's core competencies in every field at every level.
- Provide all levels of employees with opportunities for lifelong learning
Continuous training and retraining are provided to all levels of employees. Learning becomes a habitual activity instead of an occasional event.
- Require workers to be accountable for learning new skills
These companies have developed an individual training and development plan for each employee as a way to help employees be accountable for learning new skills. These plans are reviewed regularly to ensure responsiveness to the changing needs of the workplace and the marketplace as well as appropriateness of the type and the timing of the training.
- Extend training beyond internal employees to key members of the customer/supply chain
Training by these companies is extended throughout the customer and supply chains. They realise it is no longer enough to have their own well trained employees. The success of the company depends on working with a core group of suppliers and customers to achieve its quality vision in the marketplace. Thus customers are not just taught how to use the company's products or services but also how to run their business successfully. They even reach out to schools to cultivate a commitment to quality and to promote thereby a highly qualified student force.
- Recruit well so that training can have the greatest impact on productivity
Many skills required of workers assume they also have a broad set of human traits such as persistence and initiative. Training must be considered only as one aspect of a process which also includes recruiting employees with the appropriate attitudes and qualities.
- Consider new employee orientation as a strategic process
Many of the companies cover not just the policies and procedures for entry and exiting but also the vision, values and 'big picture' of the company in orientation for their new employees. Considered a gradual and strategic process than a one-time event, the orientation is designed to help ensure all new employees develop a firm foundation in the company's values,- culture, traditions and philosophy of customer service as well as bond with the company and its quality vision.
- Design a training curriculum to stress corporate citizenship, contextual framework and core
The purpose of training in corporate citizenship is to have workers who are knowledgeable about the history, culture, traditions and values of the company. The aim is to engender a strong feeling of belonging to the company.

Training in contextual framework on the other hand, is to provide a well informed understanding of the company's 'big picture' and its products and services in the context of what competitors are offering and the best practices in the industry.

The core competencies employees are trained in are learning skills the 3 Rs, creative thinking and problem solving, leadership and visioning and self development. These companies viewed them as critical to their long term success

- Experiment with ways for individual employees and teams to learn -- both inside and outside the classroom
The traditional classroom format is being supplemented by innovative techniques of learning in these companies. Experiential learning and company specific case studies in which the trainee, not the instructor takes the principal role are two examples of such techniques.
- Sustain the message of training with a system of employee recognition
Once an employee is trained to solve problems and deliver the company's vision, the next critical step pursued by a number of companies is to reinforce training through a systematic approach to recognition. When recognition is given consistently and regularly, the need for training can be reinforced throughout the enterprise. A company-wide system of recognition of individual and team accomplishments on the spot, monthly, quarterly and yearly supplements peer recognition of each other's achievement.
- Sharing employee success throughout the company
Employees who have succeeded in redefining and enhancing their jobs must be encouraged to share their successes with other employees. Such sharing will improve the work of others. Simply publicising them through newsletters and magazines is not enough. Employers must actively relate and cooperate in an attempt to learn from one another.

These ten lessons underline the importance of the need to have a systems approach to the training and development of the workforce. Enterprises in developing countries of Asia and Pacific need to do more training. They might like to take into account the lessons learnt from the training experiences of thirty American corporations.

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5 HRD ISSUES/CHALLENGES

5.1 Strengthening Primary and Secondary Education

Primary and secondary education provide the basic skills of literacy, numeracy, communication and problem solving skills and develop the required attitudes which are necessary for the workplace. These skills and attitudes enable the people concerned to acquire job specific knowledge and skills They are a foundation for further education and training which has become increasingly important with fast changing technology, rapid obsolescence of knowledge and the intense competition of the globalised marketplace.

Studies show that primary schooling improves the productivity of small farmers. Evidence from 13 low income countries show that 4 years of schooling were accompanied by some 8% increase in farm output. Where there were complementary investments in better roads or access to marketing facilities, fertilisers and improved crop varieties, the positive impact of 4 years of primary schooling was higher.

The introduction of "packages" of technology through agricultural extension services is important to efforts at improving farm productivity. These "packages" are essentially combinations of practices and inputs tailored to specific crops and to land, water and climate conditions. Farmers need good quality basic education to use these extension services. They need most importantly to be able to read, to write and to count. Also important is a good understanding of the scientific principles behind the use of farming technologies such as pesticides and fertilisers. Higher levels and better quality education will increase the farmers' ability to use new agricultural extension services resulting from technological change, especially in biotechnology.

Surveys of the urban informal sector in countries like Nigeria, Columbia and Thailand have shown that primary education increases the propensity to work in the urban informal sector and that there is a positive correlation between their education and their earnings.

Primary schooling or less may suffice for lower level manufacturing involving single task machines with workers performing one or a set of repetitive tasks. But secondary education will be required for medium and high level manufacturing which Asian and Pacific developing countries are aiming for. Manufacturing which involves advanced production technologies like numerically controlled machine tools and automated technologies where workers are organised in flexible production systems using multiskilled teams that produce whole products will call for high levels of education. Good quality primary and secondary education of say ten years will equip students with the required level of literacy and numeracy and the higher order skills like learning how to learn and problem solving to work in medium and high level manufacturing jobs.

Strengthening primary and secondary education is a key HRD challenge in the developing countries of Asia and the Pacific (see Tables [5](#) and [8](#)). Developing countries in the region have generally made good progress in primary schooling. Many have achieved near or complete universal primary education. A few need to expand their primary school enrolment. A number of Asian and Pacific countries have to raise their primary school completion rate. Thus in South Asia only Sri Lanka had more than 90% of the primary school cohort reaching grade 4. The situation will worsen if the relatively high rate of population growth of most South Asian countries continues (see [Table 3](#)). In South Asia the primary school age population is projected to increase by 28 million between 1990 to 2010 (World Bank 1995a). As regards the South Pacific, Papua New Guinea's school-age population is expected to increase by a third between 1990 and 2010 (Australian National University 1994). To improve the quantity and quality of its education, Papua New Guinea will have to raise its already high expenditure on education (see [Table 8](#)) and increase the efficiency of its education expenditure.

In many developing countries in the region more can be done to improve the quality of primary school education. Crucial to the quality of schools appears to be the qualifications, experience, knowledge, level of education of teachers and more and better textbooks and materials. In this regard it is interesting to note that Hong Kong had since 1992 introduced degree courses for primary school teachers to upgrade their quality. It had graduate teachers in primary schools for the first time in September 1994. It aims to have 35% of graduates in primary schools by the Year 2006 (Education Commission of the States, US, 1994). The pupil-teacher ratio should also be improved. This ratio in 1992 for industrialised countries was 18 for primary schools whereas for many of the Asian and Pacific countries it was much higher.

Secondary school enrolment needs to be expanded for many of the developing Asian and Pacific countries. The average percentage of age group enrolled in secondary schools for five industrialised countries (Australia, New Zealand, France, Sweden and United Kingdom) was 88.8% in 1992. Except for a handful, most developing Asian and Pacific countries have less than 50% of the age group enrolled in secondary schools. Furthermore greater efforts should be made to improve the quality of secondary education. The pupil-teacher ratio should be improved. This ratio in 1992 for industrialised countries was 14 whereas for some Asian and Pacific countries it was above 20. There is a need to reduce the number of drop-outs. The school curriculum should be revised to ensure that it not only caters for the academically less inclined but also prepares them for the world of work.

5.2 Upgrading The Basic Education of the Workforce

Most developing Asian and Pacific countries have low adult illiteracy rates (see [Table 5](#)). However a small number have high adult illiteracy rates of over 40%. Most of them are in South Asia.

A sizeable proportion of the workforce of many developing countries of Asia and the Pacific is poorly educated. This applies to the NIEs as well as other Asian and Pacific countries. In 1994 the percentage of the workforce with only primary or lower qualifications was 43.2% for Singapore. In the case of Indonesia, in 1993, 72.1% of its workforce had primary or no schooling. 78.7% males and 95.0% females of the Indian rural workforce had only up to primary education or were illiterate in 1987/88. In the case of the Indian urban workforce, 51.2% males and 74.0% females had only up to primary education or were illiterate.

"Without basic literacy and numeracy, people's ability to adapt to changing production methods and technologies is severely constrained" (UNDP Human Development Report 1996, p. 105). This applies to agriculture, manufacturing and other industrial activity. A country's efforts to upgrade to higher technology and more skilled-intensive products with changing comparative advantage will be made more difficult. Without it an enterprise's ability to move to higher value added production will be hampered.

A national effort will be needed to deal with the poor education level of the workforce. Enterprises will have to work with the government and educational institutions. Basic literacy and numeracy skills should be taught to those without a sound foundation in primary schooling. The literacy and numeracy of those with primary education should be upgraded to secondary school level. Such an upgrading scheme should be opened to those who have mastered basic literacy and numeracy skills. The rationale behind these schemes is to enable those who have completed such programmes to proceed to basic skills courses. Courses will have to be specially worked out to enable graduates of such programmes to undertake skills training.

5.3 Expanding and Improving In-Company Training

Training by companies is cost-effective and efficient. Such training, which should be structured and planned, can be on or off the job. Training in enterprises should be linked to its strategic plan and be based on a training needs analysis of the enterprise.

In-company training in many developing countries of Asia and Pacific countries can be expanded and improved (see [Table 6](#)). Much of the training is done by large companies. Successful companies around the world devote about 4% of payroll on training. Developing Asian and Pacific countries may wish to use this as a benchmark and work towards it.

To this end, they may wish to expand the pool of trainers in their countries. In 1992 the Singapore National Productivity Board's Advisory Committee on Training Infrastructure pointed out that Singapore in 1989 had only 1,200 full-time trainers or a ratio of about one trainer for every 1,000 employees. The ratio for the US was 1:122 and Germany 1:49. In Japan, most managers and supervisors have training responsibilities as part of their duties. A national programme to train more full time trainers and to train more managers in training and coaching skills could be considered.

On-the-job training (OJT) is one training mode used by companies. Enterprises use OJT because it provides the specific skills needed for job performance. Unlike other training systems, it enables the enterprise to quickly change the skills required if there are changes in technology, work processes and product lines. OJT is a good training option for smaller companies. Such companies cannot release their employees for training during working hours especially if there is a tight labour market. Their employees are invariably unable to train after office hours as they need to work overtime or at another job to supplement their low basic wages.

Where OJT is conducted in Asia and the Pacific, it tends to be structured in large companies, whereas in smaller local companies it is unstructured. The Asian Productivity Organisation (APO) conducted a research project from 1990-1991 on HRD in twelve Asian economies in the 1990s which included a firm level survey of corporate HRD policies and practices (APO 1993). The survey of firms in eight developing economies viz. Hong Kong, India, Indonesia, South Korea, Nepal, Pakistan, the Philippines and Taiwan revealed scope for improvement and expansion of OJT. For example, in Hong Kong formal and systematic training was neglected in local firms. About a third of companies surveyed carried out OJT according to a company wide plan, 36% conducted OJT only on the initiative of each division and 27% conducted OJT only when necessary. A small number of companies did not have OJT. Self learning and observing seniors was more widely adopted while learning through exposure to various jobs was in general underutilised. In Indonesia's case, there were still many companies which did not see training as a basic need or as a strategy to compete. OJT was not widely done. Where practised, OJT was conducted only in each division and not according to a company wide plan. In Pakistan more than 60% of the companies surveyed did not have any corporate policy for HRD. 35.8% of firms carried out OJT according to a plan, 17.6% did it on the initiative of each division, 40.8% carried it out as and when necessary and about 6% did not practice it at all. The majority of employees acquired skills and knowledge by self learning and observing.

OJT in enterprises in Asia and Pacific can be improved. A national programme to improve and expand OJT, involving the government, enterprises and the relevant training body, is worth looking into.

5.4 Expanding Post Secondary Technical Education and Training

A number of developing Asian and Pacific countries are at present involved in labour intensive lower technology manufacturing. They intend to or are already upgrading into medium technology manufacturing. Higher technology manufacturing involves fewer but more skilled workers and more technicians and engineers. In this regard, it may be of interest to note that when Singapore decided to restructure into medium technology products from labour intensive lower technology manufacturing in 1979, it expanded the training of skilled workers, technicians and engineers from 1980 onwards. An issue for developing Asian and Pacific countries, which want to move into medium technology manufacturing, is the need to expand post secondary technical education and training. Given the time lag in education and training institutions

producing the needed graduates, alternatives like importing foreign manpower and working with foreign companies to train skilled workers and technicians for the economy in excess of their own requirements may be considered.

5.5 Expanding Scientific And Technological Manpower

Some Asian and Pacific developing countries intend to or are already upgrading into high technology and knowledge intensive manufacturing. Foreign advanced technology is difficult to access and is costly. Asian and Pacific developing countries embarking on high technology manufacturing need to develop indigenous research and development (R & D) capability. They need to expand tertiary education and more importantly to train more scientific and technological manpower (see [Table 7](#)). To compete in the league of industrialised countries means to operate in sophisticated and highly competitive markets. The most successful are those enterprises which can innovate and produce new products and services. Merely to improve the quality of goods produced or producing at a lower cost is no longer enough. Asian and Pacific developing countries concerned need to move towards the innovation phase of their economic development. {According to Porter there are four distinct stages of national competitive development -- (i) factor driven; (ii) investment-driven; (iii) innovation-driven; and (iv) wealth driven. A nation's competitive advantage is upgraded successively in the first three stages which is normally associated with progressively rising economic prosperity. The fourth stage is one of drift and ultimately decline [Porter 1990]}.

The elements of plans to move to high technology and to boost indigenous R & D could include the following:

- i. Increasing national R & D expenditure
- ii. Expanding the supportive role played by the government in R & D. The government should develop a national science and technology development plan in consultation with industry and tertiary education and training institutions. In the plan R & D must be industry driven. The government should then play a proactive coordinating and facilitating role in the implementation of the plan.
- iii. Supporting more R & D by the private sector and the universities (ea. through grants and financial incentives)
- iv. Assisting smaller companies to acquire the relevant technology including sourcing technology which may require creating a national repository of new and emerging foreign technology
- v. Expanding tertiary education, especially in science and engineering and developing R & D manpower and recruiting such manpower from overseas.
- vi. Establishing and supporting research centres/institutes which can provide scientific and technological support to enable companies to undertake R & D and can train R & D manpower. Their close links with industry should be promoted.
- vii. Developing the physical infrastructure for R & D. The experience in industrialised countries shows that intensive knowledge based activities flourish best in technopoles. A technopolis is a closely knit community where a high concentration of high technology industries, research centres and higher education institutions are integrated in an attractive living environment. California's Silicon Valley and France's Sophia Antipolis are examples of technopoles. The government will have to develop the equivalent of these technopoles in Asian and Pacific developing countries.
- viii. Assisting the commercialisation of R & D products and services. Successful commercialisation requires the availability of and the ability to link together complementary assets like finance, marketing and competitive manufacturing.

The older Asian NIEs are already implementing measures to boost their indigenous science and technology capabilities. The newer Asian NIEs, which also intend to move into high technology and knowledge intensive production, have begun to implement programmes to strengthen their science and technology capabilities. More measures will need to be taken as their economies upgrade.

5.6 Upgrading Skills in the Service Sector

As developing countries in Asia and the Pacific industrialise further, the size and contribution to output and employment of the service sector will increase (see Tables [1](#) and [4](#)). Liberalisation will also increasingly affect the service sector. The development and the productivity of the service sector will become more important. Service industries which are not exposed to international competitiveness tend to have lower productivity. Developing countries in Asia and Pacific will increasingly need to pay greater attention to the development of the service sector and the raising of its productivity. This may involve the development of new service industries, the rationalisation of existing service industries, where applicable, and the improvement of productivity of individual service enterprises.

There are opportunities for the development of new service industries in many developing Asian and Pacific countries to service national, subregional or regional markets. An example of a seized opportunity is the software industry in Bangalore which services not just the region but also OECD countries. Other possibilities include medical services, legal services, logistics, lifestyle, information and communications. Various measures will have to be taken to develop these new service industries including having the appropriate policies, regulatory framework and infrastructure. Manpower will also have to be developed and overseas recruitment of trained and experienced professionals and supporting staff will be necessary.

The experiences of outstanding service companies in the world, especially the United States and Japan, indicate that the development of a quality culture is essential to higher productivity. Such a culture enables the enterprise to develop management systems to improve productivity and to motivate employees to deliver quality service. The commitment by top management to its implementation is critical.

At the same time, management systems designed to achieve higher productivity and customer satisfaction are also necessary. These include quality improvement practices; good human resource management practices; performance management systems providing for clear customer oriented performance standards in work; and technology management which involves the use of modern technology to improve customer service and to make work easier and more rewarding to employees.

The attitude, knowledge and skills of workers is a major ingredient in service quality. The upgrading of service skills is an issue for many developing countries of Asia and the Pacific. Skills standards for service jobs are generally underdeveloped. Without such standards, it would be difficult to improve performance and have career development. Training in the service sector tends to be inadequate. There is a need to set skills standards for service vocations and to certify service skills. Training programmes should then be developed to teach these skills. To this end, industry bodies in the service sector will need to work with government bodies dealing with training and certification to develop standards and certification of skills and training programmes to teach such skills for their respective service industry.

5.7 Continuing Education and Training

Given the rapid obsolescence of knowledge and the fast change in technology, there is a need for continuing education and training on the part of all employees whether they are managers, supervisors or rank and file workers. Greater attention needs to be paid to continuing education and training in many developing Asian and Pacific countries. Continuing education and training will have to be looked at holistically and systematically and improved and expanded. Government training agencies, employers' organisations, education and training institutions and trade unions should be involved in the exercise to review the existing situation in regard to continuing education and training and to map out its future development.

5.8 Greater Employers' Involvement in Education And Training

Presently major national decisions on education and training in developing countries of Asia and Pacific are invariably made by the government. A major responsibility of education and training institutions is to produce trained manpower to meet the needs of industry. Employers should seek greater involvement in national education and training policy making. They should be consulted as a matter of course in the formulation of major education and training initiatives.

This should be complemented by greater exchanges between individual enterprises and schools and training institutions. The prospect of industry receiving job entrants better equipped for the world of work will be enhanced. This involves ensuring the continued relevance of courses and syllabi of tertiary educational and training institutions and accepting and ensuring the effective industrial attachment of students of tertiary institutions. At the school level, the linkage may involve increasing the awareness of students to the world of work, the relevance of vocational courses and the familiarity of vocational teachers with the industry they are preparing their students for. It could also cover more effective teaching of the basic skills needed by enterprises as outlined in part four above.

5.9 Adapting Education and Training To The Market Economy

The education and training system of countries in transition to a market economy was designed for a command economy. Under such a system basic education was of a high standard but subsequent training was too specialised. Adult education and training was neglected since workers were expected to be in one job throughout their working life. Furthermore subjects such as economics, management science, law and psychology were ignored or underemphasised. Such a socialist education and training system was inadequate for the needs of the market economy which is being set up. Reform of the education and training system is needed. The World Bank lists the financing, content and delivery of education as the three priority areas for education reform in countries in transition to a market economy (World Bank 1996). Much progress has been made in the reform of the education and training system in these countries as they move closer towards a market economy. However much more remains to be done.

The above is not a comprehensive list of the HRD issues/challenges confronting developing countries of Asia and the Pacific. It is a list of the major issues/challenges from the perspective of employers. They do not affect all the developing countries in the region. Nor do they necessarily affect them to the same degree when applicable.

Furthermore the list does not in any way imply that no country is dealing with the issues/challenges at all. Thus in regard to the poor education level of the workforce, Thailand

was reported to be intending to launch a programme on October 1995 to upgrade two million poorly educated factory workers from primary to lower secondary school level by the year 2000. As regards the issues of expanding technician, engineering and scientific manpower, Malaysia for instance has unveiled a ten-year blueprint to promote technical education from 1996. It has announced its intention to increase enrolment in universities to 40% of those between the ages of 19 and 24 by the year 2020. It also has inaugurated the Academy of Sciences, Malaysia, and designated twenty one research institutes as approved institutions whose services would enjoy double taxation deductions when used by the private sector. A Science and Technology Human Resource Fund of M\$300 million to provide scholarships for postgraduate studies as well as fellowships for graduate research has been set up.

Even when countries are dealing with them, it is useful to draw the attention of employers and their organisations to these issues so that they can play a role in the implementation and review of the measures being taken. Where action has not been taken by countries, employers and their organisations can contribute to the formulation and implementation of measures to deal with these HRD issues. The measures to be adopted must necessarily take into account the situation in each individual country -- its stage of education and training and economic development as well as its historical and political context. There cannot be one single solution to each of the HRD issues/challenges. However the experience of other countries in and outside the region in dealing with these HRD issues/challenges will be useful. The principles and approaches behind their best practices will be useful in the quest for measures to deal with these HRD issues/challenges.

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6 THE HRD ROLE OF EMPLOYERS' ORGANISATIONS

Employers' organisations in Asia and Pacific developing countries have an important role to play in HRD. Since they deal with labour matters, HRD is an area within their responsibility. Their prime task is to ensure that the education and training system is "demand driven" and responsive to the changing needs of industry.

One role they can undertake is to contribute to HRD policy making. They should seek representation on national education and training bodies and the policy making bodies of tertiary education and training institutions. Submissions should be made on major aspects of education and training requiring improvement or on any planned major education and training changes. In this regard they may wish to take up the issues/challenges listed in part five which are applicable to their countries.

Employers' organisations may want to encourage individual enterprises to work with schools and other education and training institutions in programmes which improve the relevance of vocational courses, introduces the world of work to students, increases the familiarity of teachers with the industries they are preparing their students for and promotes the teaching of the basic skills required by industry. In this regard the employers' organisation may want to establish jointly with the Ministry of Education, a committee to improve linkages between industry and education and to promote collaborative programmes between enterprises and schools.

National targets for education and training systematically and holistically arrived allows for the setting of priorities and the identification of key-areas for improvement. They provide unambiguous quantitative goals against which to evaluate performance. They also enable a country to measure where it stands in relation to other countries which are its competitors and provides a basis for catching up and eventually overtaking them. Employers' organisations of Asian and Pacific countries may want to push for the setting up of national education and training targets if their countries do not already have them. Those with such goals already may want them to be reviewed at least on an annual basis. They may also wish to suggest a periodic skills audit of where their countries stand in relation to countries which are their competitors.

Another HRD role for employers' organisations is to undertake advisory and training services designed to improve the skills and knowledge of managers and supervisors. Thus they can provide an advisory service in training needs analysis and the development of a training plan. As regards training, they can mount a training the trainer programme or programmes to improve supervisory and management skills.

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7 CONCLUSION

The importance of HRD cannot be overemphasised. The Chinese philosopher, Guanzi (551 - 479 BC) said that

"When planning for one year,
there's nothing better than planting grain,
When planning for ten years,
there's nothing better than planting trees,
When planning for a lifetime,
there's nothing better than planting men".

In his own words he explained that grain is something that is planted once and produces only a single harvest. Trees are planted once but may produce ten harvests. Men are things that are planted once but may produce a hundred harvests.

HRD contributes to economic development. It does not by itself make such growth possible.

Employers' organisations of Asian and Pacific developing countries face the challenge of defining their HRD role. Their decision will affect the standing and relevance of their organisations to enterprises and their contribution to the economic and social development of their countries in the 21st century.

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TABLES

Table 1

STRUCTURE OF THE ECONOMIES OF ASIA AND THE PACIFIC Distribution of GDP (%)

Country/Economy	GDP (million US\$)		Agriculture		Industry		(Manufacturing)		Services	
	1980	1994	1980	1994	1980	1994	1980	1994	1980	1994
1 Bangladesh	12,950	26,164	50	30	16	18	11	10	34	52
2 China	201,696	522,172	30	21	49	47	41	37	21	32
3 Fiji	-	-	22.5	21.3*	21.7	17.6*	-	-	55.8	61.1*
4 Hong Kong	28,496	131,881	1	0	31	18	23	11	68	82
5 India	172,321	293,606	38	30	26	28	18	18	36	42
6 Indonesia	78,013	174,640	24	17	42	41	13	24	34	42
7 Korea, Republic of	63,661	376,505	15	7	40	43	29	29	45	50
8 Laos	-	1,534	-	51	-	18	-	13	-	31
9 Malaysia	24,488	70,626	22	14	38	43	21	32	40	42
10 Mongolia	2,329	741	14	21	28	45	-	-	57	34
11 Myanmar			47	63 .	13	9	10	7	41	28
12 Nepal	1,946	4,048	62	44	12	21	4	9	26	35
13 Pakistan	23,690	52,011	30	25	25	25	16	18	46	50
14 Papua New Guinea	2,548	5,403	33	28	27	38	10	8	40	33
15 Philippines	32,500	64162 1	25	22	39 1	33	26	23	36	45
16 Singapore	11,718	49	1	0	38	36	29	27	61	64
17 Sri Lanka	4,024	11,712	28	24	30	25	18	16	43	51
18 Thailand	32,354	143,209	23	10	29	39	22	29	48	50
19 Vietnam	-	15,570		28	- 1	30	0 1	22		

Source: For Fiji - Asian Development Bank, *Asian Development Outlook 1996 and 1997*

For other countries - World Bank *World Development Report 1996*

* The figures are for 1995

Table 2**DIRECT FOREIGN INVESTMENT BY NIEs IN THE 1980s (US\$m)**

Destination	Hong Kong	Singapore	Taiwan	Republic of Korea
1 Indonesia	1361.0	281.0	303.0	399.8
2 Malaysia	53.5	134.2	61.2	70.9
3 Philippines	50.5	na	100.2	70.7
4 Thailand	1937.9	827.8	2015.8	41.6
5 China	8400.0	292.0	1200.0	54.5
6 Hong Kong	-	73.8	30.9	10.3
7 Singapore	540.6	-	8.5	5.3
8 Korea, Republic of	400.5	67.9	3.5	-
9 Taiwan	121.6	29.5	-	4.0
% of total directed to OECD	<50%	<50%	50%-60%	55.4%

Source : Pacific Economic Basin Council, *International Bulletin*, 15 October 1991.

Table 3

POPULATION IN ASIA AND THE PACIFIC

Countries/Economies	Total (millions)		Average Annual Growth (%)		Age 15 - 64 (millions)	
	1994	2000	2025	1980-1993	1993-2000	1994
1 Bangladesh	118	-	-	2.1	-	62
2 China	1,191	1,255	1,471	1.4	0.9	800
3 Fiji	0.767	-	-	-	-	-
4 Hong Kong	6	6	6	1.1	0.4	4
5 India	914	1,022	1,392	2.0	1.8	550
6 Indonesia	190	-	-	1.7	-	117
7 Korea, Republic of	44	47	54	1.1	0.9	31
8 Laos	5	6	10	2.8	2.8	2
9 Malaysia	20	22	32	2.5	2.3	11
10 Mongolia	2	3	4	2.6	2	1
11 Myanmar	46	52	76	2.1	2.1	27
12 Nepal	21	25	41	2.6	2.5	11
13 Pakistan	126	-	-	2.8	-	67
14 Papua New Guinea	4	5	8	2.2	2.2	2
15 Philippines	67	75	105	2.3	2.0	38
16 Singapore	3	3	3	1.1	0.9	2
17 Sri Lanka	18	20	25	1.5	1.2	11
18 Thailand	58	62	74	1.7	0.9	39
19 Vietnam	72	83	118	2.2	2.1	41

Source - World Bank, *World Development Reports 1995 and 1996*

Table 4

LABOUR FORCE IN ASIA AND THE PACIFIC

Country/Economy	Total (millions)		By Sector						Average Annual Growth rate
			Agriculture		Industry		Services		
	1980	1994	1980	1990	1980	1990	1980	1990	1995-2025
1 Bangladesh	42	59	73	65	9	16	18	19	2.75
2 China	548	715	74	72	14	15	12	13	0.41
3 Fiji	0.24*	0.27+	48*	-	15*	-	37*	-	-
4 Hong Kong	2	3	1	1	50	37	49	62	-0.17
5 India	300	394	70	64	13	16	17	20	1.61
6 Indonesia	60	89	58	55	12	14	30	31	1.50
7 Korea, Republic of	16	21	37	18	27	35	36	47	0.55
8 Laos	2	2	80	78	6	6	14	16	2.54
9 Malaysia	5	8	41	27	19	23	40	50	2.01
10 Mongolia	1	1	40	32	21	22	39	46	2.63
11 Myanmar	17	23	76	73	8	10	16	17	1.90
12 Nepal	7	10	94	94	1	0	5	6	2.52
13 Pakistan	30	49	60	52	15	19	25	29	3-21
14 Papua New Guinea	2	2	82	79	6	7	12	14	2.22
15 Philippines	19	27	52	46	15	15	33	39	1.91
16 Singapore	1	1	2	0	42	36	56	64	-
17 Sri Lanka	5	7	52	48	18	21	30	31	1.35
18 Thailand	24	34	71	64	10	14	19	22	0.63
19 Vietnam	26 1	37 1	73	71	13	14	14	15	2.05

Source: For Fiji - Europa Publications Ltd, *The Europa World Yearbook 1996*
For other countries - World Bank, *World Development Reports 1995 and 1996*

* The figures are for 1986

+ The figure is for 1993

Table 5

PRIMARY AND SECONDARY EDUCATION IN ASIA AND THE PACIFIC

Country/Economy	Adult Illiteracy (%)	Percentage of Age Group Enrolled				Percentage of Cohort Reaching Grade 4				Pupil-Teacher ratio	
		Primary		Secondary		Female		Male		Primary	Secondary
	1995	1970	1992	1970	1992	1980	1988	1980	1988	1992	1992
1 Bangladesh	62	54	77	-	19	30	46	29	44	63	28
2 China	19	89	121	24	51	-	81	-	97	22	15
3 Fiji	8	-	-	-	-	-	-	-	-	31	20
4 Hong Kong	8	117	108	36	-	99	-	100	-	27	-
5 India	48	73	102	26	44	52	-	57	-	48	33
6 Indonesia	16	80	115	16	38	65	82	88	97	23	14
7 Korea, Republic of	<5	103	105	42	90	96	100	96	100	33	24
8 Laos	43	53	98	3	22	31	-	31	-	29	12
9 Malaysia	17	87 1	93	34	58	-	99	-	98	20	19
10 Mongolia		113	89	87	77	-	-	-	-	28	19
11 Myanmar	17	83	105	21	-	-	-	-	-	36	19
12 Nepal	73	26	102	10	36	-	-	-	-	39	34
13 Pakistan	62	40	46	13	21	41	45	53	55	41	19
14 Papua New Guinea	28	52	73 1	8	12	85	67	77	68	31	24
15 Philippines	5	108	109	46	74	-	85	-	84	34	33
16 Singapore	9	105	107	46	-	100	-	99	-	26	22
17 Sri Lanka	10	99	107	47	74	-	98	-	97	29	20
18 Thailand	6	83	97	17	33	-	-	-	-	17	18
19 Vietnam	6	-	108	-	33	67	-	71	-	36	21

Source: United Nations Development Programme, *Human Development Report 1996*
World Bank, *World Development Reports 1995 and 1996*

Table 6**In-Company Training of Selected Countries**

Ranking	Country/Economy	Score
1	Japan	7.71
2	Germany	7.11
3	Finland	6.93
4	Sweden	6.90
5	Netherlands	6.82
6	Denmark	6.82
7	Singapore	6.81
8	Republic of Korea	6.79
9	Austria	6.78
10	Switzerland	6.51
11	Norway	6.38
12	Malaysia	6.26
13	Philippines	6.25
14	Taiwan	6.25
15	Chile	6.23
16	Australia	6.07
17	Belgium	6.04
18	New Zealand	6.03
19	Luxembourg	5.91
20	Ireland	5.64
21	France	5.63
22	USA	5.43
23	Israel	5.19
24	Brazil	5.18
25	Italy	5.12
26	Iceland	4.97
27	Hong Kong	4.97
28	Czech Republic	4.91
29	Colombia	4.91
30	India	4.86

31	Canada	4.82
32	Spain	4.82
33	Greece	4.76
34	Indonesia	4,71
35	Venezuela	4.65
36	Argentina	4.64
37	Thailand	4.63
38	United Kingdom	4.61
39	South Africa	4.58
40	China	4.56
41	Turkey	4.53
42	Russia	4.49
43	Mexico	4.29
44	Hungary	3.93
45	Portugal	3.68
46	Poland	2.95

Scale : 0 - neglect training their employees
10 - invest sufficiently in training their employees

Source: International Institute for Management Development, *The World Competitiveness Yearbook 1996*

Table 7

TERTIARY EDUCATION IN ASIA AND THE PACIFIC

Country/Economy	% of Age Group Enrolled in Tertiary Education		Tertiary Natural Science & Applied Science Enrolment (% of total tertiary)	Tertiary Students Abroad (% of those at home)	R & D Scientists & Technicians per 1000 people
	1980	1992	1992	1985-1992	1988-1992
1 Bangladesh	3	4	25	1.3	-
2 China	1	2	47	5.7	1.6
2 Fiji	-	-	25	21.6	0.2
4 Hong Kong	11	20	35	50.2	-
5 India	-	-	26	1	0.3
6 Indonesia	4	10	2	1	-
7 Korea, Republic of	16	42	40	2.7	2.3
8 Laos	1	-	45	24.9	-
9 Malaysia	4	7	27	28.3	0.4
10 Mongolia	-	14	-	6.7	-
11 Myanmar	5	-	-	0.4	-
12 Nepal	3	7	14	3.2	-
13 Pakistan	4	-	-	3.9	0.1
14 Papua New Guinea	2	-	-	9.4	-
15 Philippines	28	28	26	0.3	0.1
16 Singapore	8	-	-	25	1.8
17 Sri Lanka	3	6	34	10	0.2
18 Thailand	13	19	19	1.1	0.2
19 Vietnam	2	2		2.7	-

Source - World Bank, *World Development Report 1995*
 United Nations Development Programme, *Human Development Report 1996*

Table 8

PUBLIC EXPENDITURE ON EDUCATION IN ASIA AND THE PACIFIC

Country/Economy	% of GDP		As % of Total Government Expenditure	On Primary & Secondary Education as % of All Levels	On Higher Education as % of All Levels
	1980	1992	1992	1992	1992
1 Bangladesh	1.5	2.3	7.8	88	8
2 China	2.5	2.0	12.2	69	19
2 Fiji	5.1	5.6	18.6	88	9
4 Hong Kong	-	-	18.1	66	30
5 India	2.8	3.7	11.9	65	15
6 Indonesia	1.7	2.2	9.4	-	-
7 Korea, Republic of	3.7	4.2	14.8	83	7
8 Laos	-	2.3	-	86	4
9 Malaysia	6.0	5.5	16.9	76	16
10 Mongolia	-	8.5	-	78	22
11 Myanmar	1.7	2.4	-	-	-
12 Nepal	1.8	2.9	13.2	62	28
13 Pakistan	2.0	2.7	-	-	-
14 Papua New Guinea	4.7	-	-	-	-
15 Philippines	1.7	2.9	10.5	-	-
16 Singapore	2.8	-	-	-	-
17 Sri Lanka	2.7	3.3	8.8	82	14
18 Thailand	3.4	4.0	19.6	76	16
19 Vietnam	-	-	-	-	-

Source - United Nations Development Programme, *Human Development Report 1996*

For further information, please contact Bureau for Employers' Activities (ACT/EMP)
