

# Chapter 4

## Capacity Building Strategies: East Asian Approaches

William K. Cummings

### 4.1 Introduction

Over the past three decades, out of the nearly 200 countries that have sought to improve their development level, barely a dozen have truly realized sustainable improvement and perhaps another handful show promise (Harrison and Huntington 2000). The successful countries have been able to devise a favorable context for reform. Table 4.1 classifies all countries in terms of their relative possession of natural and human resources, and highlights by name those few countries that have made major recent gains in development. The countries in the top two quadrants have largely improved, thanks to their effective mobilization of investment funds derived from fossil fuels. In this recent historical period, the possession and effective marketing of oil and natural gas has been a godsend enabling several countries to experience rapid development, though others such as Chad, Nigeria, the Sudan, Venezuela, and even Indonesia have failed to take advantage of their opportunities.

The countries in the bottom two quadrants are far more numerous (including most of the so-called developing countries), yet only a handful have significantly improved their development level; and nearly all of these are located in East Asia, the so-called East Asian Newly Industrializing Countries (NICs) (Vogel 1992; World Bank 1993). In the 1950s, the level of development of the NICs was much lower than most of the countries in Africa and Latin America (Ferranti 2005), yet today the NICs are among the most prosperous countries in the world (Yoon 2002). Our interest in this chapter is in the reforms that are common to the East Asian NICs, and what determines the likelihood of these reforms taking root.

Some of these measures are largely internal to the capacity building system such as leadership, thoughtful planning, sensitive implementation, effective monitoring and evaluation, and they were discussed in the first book of this series. Other measures that we refer to as contextual lie outside the capacity building system. Yet they are critical for the success of capacity building. We argue that the experience of these success stories indicates that reforms of basic education, if they are to have the intended impact, need to be coordinated with reforms in other subsectors of the capacity building endeavor as well as with reforms in the broader economy and polity.

**Table 4.1** The resource base of countries that have realized major gains in human development over the past three decades

|                                   | Human Resource Rich   | Human Resource Poor                           |
|-----------------------------------|---|---|
| Natural resource rich             | 5 countries – Norway, Finland, Scotland, Russia, etc.                                 | 15 countries – U.A.E., Qatar, Kazakstan, etc. |
| Natural resource adequate to poor | 15 countries – Japan, South Korea, Taiwan, Singapore, Hong Kong, China, Ireland, etc. | 120 countries                                 |

In sum, we believe the East Asian approach is highly suggestive of the contextual measures that enable a maximization of investments in capacity building.

## 4.2 The Core Features of the East Asian Approach

The first outlines of the East Asian approach emerged in the late nineteenth century as Japan and other East Asian nations responded to the Western challenge. But only Japan and Thailand were able to escape the shackles of Western imperialism and develop distinctive approaches (Altbach and Selvaratnam 1989). Since Japan has enjoyed greater developmental success over time, the Japanese approach has been the most influential. Thus it helps to focus first on Japan when seeking to identify the core features of the East Asian prototype; but, as will be indicated below, other East Asian nations have developed important variations on the Japanese model that deserve note. The core features of the Japanese/East Asian approach insofar as they relate to educational policy are as follows:

### 4.2.1 *Human Resources Are Critical for National Development*

Key leaders in Japan (and later in other Asian nations) who perceived the need to respond to the Western challenge concluded that a major cultural and human transformation would be necessary (Smith 1955; Hall 1973). Surveying the factors behind Western political and economic preeminence, Asian leaders recognized the scarcity of their resources. Whereas the leading Western nations were blessed with adequate to abundant natural resources, East Asian leaders concluded that people were their major resource. Thus Japan and the countries closest to it spent relatively large proportions of their lean national budget on education, and this led to relatively high enrollment rates in primary and secondary education.

In East Asia, stress has been placed not only on the development of human capacity but also on their utilization. To bring this about, the Asian states placed educational and cultural policy at the center of plans for national development.

In the public sector, educational streams were tightly linked to projected manpower requirements. Governments assumed a coordinating role in the transition from education to work, and in several instances routinely carried out annual surveys to evaluate the success of schools in placing their graduates in workplaces. This legacy of planned utilization of scarce human resources endures.

#### ***4.2.2 The State Is Responsible for the Framework***

Given the concern for maximizing the impact of scarce human resources, the state assumed a central role in their development (Black et al. 1975). Central authorities sought to lay out educational goals and a curriculum as well as to provide textbooks and staff (Ministry of Education, Science, and Culture 1980). With these contributions, the Asian state was satisfied it could shape the educational process: given a slim budget, the state minimized its involvement in the everyday management of schools. The trusted principals and staff were expected to do their job. Hence, within the centrally prescribed framework, there remained much school-level autonomy in implementation.

#### ***4.2.3 Seeking Knowledge Throughout the World***

Entering late and reluctantly into the modern era, Asia recognized a need to catch up to the leading Western nations (Levy 1972). Seeking knowledge throughout the world and particularly from the West became a core element in the Asian catch-up strategy (Braisted 1976; Teng and Fairbank 1954). Western knowledge, particularly in the areas of science, medicine, and technology was seen as the essential means for developing national strength and competitiveness. The schools were expected to provide a solid foundation in these areas by featuring mathematics and science as required subjects from the first grades of the primary school. Colleges and universities were also expected to stress these fields. The earliest human resource institutions were established to import and transmit scientific and technical knowledge rather than to create it (Bartholomew 1989); applied faculties such as agriculture, engineering, and medicine were far more prominent than faculties in the basic sciences. This legacy endures.

#### ***4.2.4 Western Science/Eastern Values***

While Western knowledge was considered valuable, Asian leaders had reservations about the broader societal framework of the West. They believed that Asia's family and political values provided a better foundation for the good society (Hall 1973).

Thus, they sought through schooling and other means to foster continuity in the values realm. Schools included moral education as a core component of their curriculum, and educators were expected to set proper examples so as to lead young people to respect Asia's enduring traditions.

In contrast with the off-and-on Western interest in multiculturalism, Asian states identified a common core of values which they sought to convey in the national language to all young people; bilingualism was typically eschewed. The common normative core mainly focused on behavior stressing honesty, hard work, respect for parents and authority, and cleanliness (Befu 1993; NIER 1981). Religious commitments were left up to the individual, so long as they did not conflict with state priorities; thus the Japanese state made no distinction between Christians and Confucianists and the Indonesian Pansacila emphasized respect for God, without placing priority on any particular religion.

Educational leaders in Asia have frequently convened conferences to review their programs in values education, and there has been a noted tendency toward a convergence in the values curriculum of the different nations. For example, while Singapore did not stress moral education 15 years ago it is now featured at both the primary and secondary levels. In both Indonesia and Malaysia, which have large Islamic populations, there has been a tendency to infuse a common morals curriculum into the distinctive programs of religious education for the various ethnic religious groups.

While a process of convergence can be observed, the challenges confronting each Asian nation have differed. The two Koreas are locked in a military stalemate and there is considerable tension between China and Taiwan. Several of the nations of Southeast Asia have only recently achieved internal peace after years of secessionist rebellion. To the extent a nation is threatened, whether by internal or external forces, it is likely to place a higher priority on values of loyalty and political and social conformity. Japan is perhaps the most relaxed Asian nation in this regard while the two Koreas and China are perhaps the most cautious.

#### ***4.2.5 Public Primary Schooling Provides the Foundation***

Reflecting the Asian conviction that excellence derives from a command of the basics, Asian educators placed special emphasis on the development of effective primary schools (Passin 1965). Much care was devoted to the curriculum and teaching methods at this level. And adequate funding was provided to insure a solid basic education for all. Asian nations have tended to realize universal enrollment faster than nations in most other parts of the world (Williamson 1993: 149). The stress on primary education meant that advanced educational levels were sometimes given lower priority, at least in the public sector (James and Benjamin 1988). But through a combination of public and private effort, Asian gross enrollment ratios at the secondary level were also comparatively high as early as 1970.

#### ***4.2.6 The Public School Teaches; the Pupil Has to Learn***

Always conscious of scarce resources, Asian educators placed limits on the school's responsibilities: the school's job was to present the curriculum in as effective a manner as possible for the average pupil (Cummings 1980). It was up to the pupil (and his/her parents) to take advantage of the school's presentation. The school was not required to make special efforts to accommodate slow students or to stimulate the gifted. The responsibility for learning rested on the pupil. To insure this common understanding, the school worked closely with local leaders and parents so as to gain their cooperation. Thus considerable pressure was exerted on young people to exert their best efforts for learning. And when young people encountered difficulties, parents sought through extra tutoring to help them master the required material (Stevenson and Stigler 1992).

#### ***4.2.7 Public Secondary and Tertiary Education Focus on National Priorities***

The Asian state's concern was to catch up and then move ahead. Public resources were allocated in accordance with that objective. Thus in education beyond the foundation level, the public sector had the limited objective of developing critical manpower and training elites (Cummings 1980; Fong 1982). The public sector set up a limited number of educational opportunities in critical areas and heavily subsidized these so tuition was low and good students were attracted; in some fields such as engineering, the state actually funded a surplus of opportunities in anticipation of future expansion in the related labor markets. Despite an overall policy of restraint, public institutions oversupplied in certain specialties.

#### ***4.2.8 "Society" Is Welcome to Fill the Gaps***

The Asian state sought to limit its provision in schooling (and other social services), but it recognized that the public might demand more. Rather than contain this popular demand, the state assumed a permissive policy, only intervening when the private response began to conflict with public objectives. Thus a vigorous private sector often emerged to complement the public sector (Geiger 1987).

One area of private response was at the preschool level. Also, because of the limited public provision of public sector opportunities relative to the number of qualified students, private educational entrepreneurs established competing secondary and tertiary institutions. In several Asian societies (Japan, Taiwan, Korea, Indonesia, and the Philippines) the private sector provides over 75% of all places at the tertiary level. Thus private schools emerged to accommodate the "excess demand," which was sometimes very sizable (James and Benjamin 1988).

A distinctive East Asian creation was the private *juku* or supplementary courses to help pupils keep up with the curriculum provided in basic education (Kitamura 1986; Russell 1997). These schools, which first flourished in Japan, are now prevalent in most East Asian societies. Private schools also have emerged to help young people prepare for post-compulsory level entrance exams.

Yet another area of private initiative was in the utilization of human resources for research and development. While the public sector trained human resources to a high level and supported research in certain critical areas such as health and munitions, it left commercially relevant research and development to the private sector. As the Asian corporate sector expanded, it became increasingly involved in the self-sponsorship of major research efforts. Thus, in contrast with Western nations where national research and development (R&D) budgets tend to be heavily subsidized by the state, in Asia typically three quarters or more of all R&D activities are supported by the private sector (Johnson 1993; Ushioji 1993).

#### ***4.2.9 But All Education and Research Should Be “Coordinated”***

While the public sector limited its provision, it retained comprehensive responsibility. Thus private schools were required to observe public regulations. And periodically public officials intervened in the private sector to curb excesses, such as unreasonable prices or abysmal quality. A particular challenge for the public sector was the education provided by non-school media such as journals, the cinema, and lately the TV industry. In these areas as well, the state was likely to intervene so as to achieve overall consistency in the educational experience.

Similarly, while state funding of research and development was comparatively modest, the state made important contributions to the coordination of research. Most notable was state sponsorship of overseas research trips and of national facilities for the import and translation of foreign research journals. In more recent years, the Asian state has come to play a more prominent role in targeting technologies for development by the private sector.

### **4.3 The Economic Context**

A precondition for educational reform is the availability of funds, enabled through stable economic growth and expanding tax revenues. Most NICs began as primarily agricultural societies, and they recognized that the initial source for such funds would have to depend heavily on the agricultural sector; additionally they recognized that self-sufficiency in agriculture would free up scarce foreign currency reserves for other national purposes. Thus, they placed considerable emphasis on stimulation of agricultural productivity (World Bank 1993).

In most cases, one measure resorted to was land reform, breaking up large farms and distributing the landholding to former tenant farmers in the expectation that

farmers who farmed their own land would work harder than farmers who rented the land or served as day laborers. Another measure was the dissemination of new agricultural technologies such as improved seed, fertilizer, and irrigation. Through these means agricultural productivity in the NICs surged, providing a strong financial base for other policies.

Parallel with the encouragement of farmer land ownership, the NICs have developed housing projects to enable the expanding middle class to achieve ownership of their homes. The earliest projects tended to be publicly subsidized while later projects were managed by the private sector. Through the promotion of home and farm ownership, the NICs fostered the growth of the middle class.

To promote industrialization, the NICs tended to engage in a dual policy of State promotion of selected areas, while leaving most areas for the private sector. Some commentators refer to this approach as the developmental state approach (Gereffi and Wyman 1990). Johnson (1982) has described in considerable detail how Japan's MITI made a series of successful industry bets (textiles, electrical goods, steel, electronics, automobiles, and so on) that enabled Japan to achieve miracle economic growth from the late fifties through the early nineties.

In the realization of economic growth, the NICs have welcomed foreign investment in the takeoff period (Firebaugh and Frank 1994), especially for new industrial and infrastructure ventures, but they have been reluctant to accept social sector loans. Over time the NICs have preferred to reduce and even eliminate foreign debt, replacing it with domestic investment (Stallings 1990). To expand the availability of domestic funds, they have developed ingenious methods to stimulate domestic savings such as postal savings accounts and mandatory pension funds. The domestic savings rates of the NICs tend to average 20%.

#### **4.4 The Political Context**

Stability both in domestic and international relations is the key to sustained development. Most of the NICs face challenging international environments, and they have therefore devoted substantial budgetary allocations for national security. But when faced with the option of pursuing war or negotiations, they have usually opted for the latter course. Thus the incidence of armed conflict of the NICs has been relatively moderate.

On the domestic front, there have been many instances of peasant (Scott 1976) and labor conflict, but the respective governments have sought to address these challenges with a combination of negotiations and force. Thus domestic conflicts have tended to be short-lived.

In pursuing the course of rapid conflict resolution, the governments of the NICs have argued that economic growth is essential for enhancing national and individual welfare. Without stability, the investment climate is shaken, the production of goods and services is interrupted, and economic growth is threatened. Stability has also favored reforms in the education sector.

In the pursuit of economic growth with minimum conflict, the NICs therefore have tended to take a conservative approach to political conflict. Many NICs began as one-party states, and the leading parties have tended to use relatively heavy-handed measures to perpetuate their dominance. In some instances, this has led to short-term coups and military regimes.

Despite the inclination to limited political representation, over time more representative governments have emerged in several of the NICs – especially Japan, Korea, and Taiwan. The increasing educational level of the population and the expansion of the middle class have been factors behind the democratic push. With the shift to democracy, arguably the consistency in the policies of NICs has weakened, and the economic growth rates have declined. However, other factors are also responsible for the economic slow downs such as increased global competition and the need for an improved indigenous capacity to develop competitive knowledge products.

While the political sector provides the leadership for national policies, there is a tendency for the revenues of the NIC States to constitute a relatively small proportion of the total national economies. The annual budgets of NIC states tend to be considerably less than 20% of the total Gross National Product (GNP) compared to nearly twice as much for the typical European welfare state (Cummings1995).

The financial scale of NIC governments is somewhat modest as, in contrast to the European welfare state, the Asian developmental state looks to families to play a major role in financing personal health and welfare (see Fig. 4.1). However, Asian governments nevertheless take an aggressive posture in certain policy areas including economic development, infrastructure development, and educational development among others. All of these areas have consequences for various national constituencies, and thus politicians eagerly seek to influence government decisions. An honest (non-corrupt) and competent government approach to these areas is essential for maintaining the public’s loyalty to the respective regimes. The performance of the respective NICs in this regard varies with Singapore receiving the highest marks (UNDP 2002); while some of the other NIC governments experience a greater incidence of corruption, overall their record is quite respectable in comparative terms.

And for the reforms discussed in this book, the government needs to be firmly committed to Education For All (EFA). Education is strongly featured in the respective

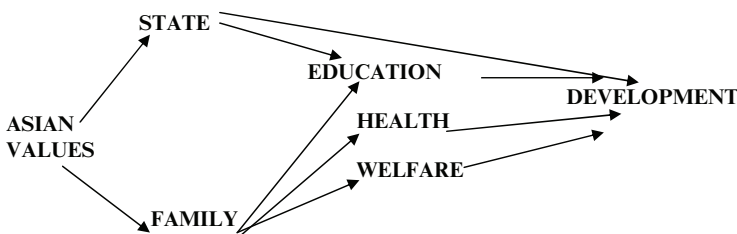


Fig. 4.1 An Asian model of development



constitutions; it is frequently commented on in national press coverage, and politicians are expected to have explicit positions on educational issues. National identity and moral education are major themes for many politicians as is their commitment to the continued funding of a strong and effective educational system. Helpful to the politicians have been the recent PISA reports (OECD 2007) suggesting that Asian education is impressively competitive with the best in the West.

## 4.5 The Demographic Context

The successful NICs have tended to experience moderate population growth rates due to the rapid decline in infant mortality rates and the steady decline in fertility rates (Williamson 1993). The moderation of fertility rates has been essentially a function of parental choice rather than public policy. However, contributing to parental choice was sex education which both explained the likelihood of child survival and familiarized young people with acceptable means of birth control.

Declining population growth rates reduced the quantitative demand for those public services intended for young people, notably education and health. Lower growth meant relatively fewer children in school and hence, with only modest budget increases that were in line with overall economic growth, the potential for greater investment in each child (Crouch et al. 1988).

Of course, there is the counter argument that declining population growth leads to a slower rate of growth in the domestic market and can, therefore, contribute to a slowdown in the growth of the overall economy. Partly for that reason, Asian countries such as Malaysia and Indonesia have not emphasized population control. Declining population growth eventually leads to a graying of the population structure, a challenge most NICs are currently experiencing.

## 4.6 The Geographic Context

The topography of the NICs varies in accessibility. In Singapore most neighborhoods are easily accessible. But in rugged mountainous countries such as Japan and Korea many localities are quite difficult to reach by road or train. Also, in China the location of some minority groups tends to be in more isolated areas.

Governments have to choose between trying to reach all or only some. Noteworthy in the case of most NICs has been the determination to reach all, often through policies of affirmative action such as higher subsidies for isolated schools, bonuses for personnel willing to serve in these posts along with the forced rotation of staff to these posts, and extensive reliance on distance learning technologies. In contrast, China has tended to prioritize some regions for initial emphasis in its development plans, and others (those in the more northern and western areas) for delayed development. This has resulted in sharp regional disparities and a floating

population of migrant workers toward the favored regions. While the Chinese approach may lead to regional conflict, in the context of resource scarcity, it is an interesting policy choice worthy of thoughtful study.

## 4.7 Support for Capacity Building

The NICs from the earliest days of their independence articulated a strong commitment to capacity building. This commitment was typically made explicit in the national constitution and frequently stressed both by educational leaders and the top political leaders. Even when there were regime changes, this political support persisted.

Political commitment was backed up by firm government administration of the educational system (Gopinathan 1997), and in the aid of effective administration the governments stressed the collection of reliable statistics for use in monitoring progress. In the case of most of the NICs, the administrative system was relatively centralized; the current Chinese practice is somewhat of an exception.

Adequate public funding is essential if education is going to be of sufficient quantity and quality to contribute to national development. Initially the NICs aimed for a minimum of 3% of GNP and at least 15% of government budgets (Tan and Mingat 1992). Gradually these respective shares increased to at least 4% of GNP and 20% of the government budget. All except mainland China have realized the 4% standard, and China has now pledged to achieve that level.

Additionally, the government and other sectors progressively expanded their support for R&D (Cummings 2006). In the early stages, less than 1% of GNP was devoted to R&D, but that percentage was steadily increased and now is approximately 3% in most NICs, a greater proportion than in the USA or most Western European nations. While funding is not sufficient to stimulate scientific creativity, it helps.

## 4.8 Interdependence of Different Educational Levels

While the NICs early quantitative emphasis was on basic education, they also from the earliest days provided significant support for secondary and higher education. They recognized that there was or soon would be a national need for adequate numbers of trained people to serve as teachers, officials, engineers, accountants, and other skilled occupations. Ferranti (2005) observes that the Asian NICs were able to manage a balanced expansion of their secondary and tertiary levels whereas most Latin American countries have excessively curtailed secondary education and thus have encountered damaging skills shortages. While the NICs intentionally limited the public supply of secondary and higher education places, most allowed the private sector to expand and meet the excess demand (James 1987).

Only as basic education was fully achieved, did the NICs implement a priority shift to increased emphasis on upper levels of education and to the support of research.

They have monitored the flows between levels and then out to the employment sector so as to achieve a relatively smooth articulation of the different levels. In most cases they have slowed down the expansion of particular types of schools when under-employment became evident, though in Singapore, when oversupply was detected, the more drastic step of shutting down particular types of schools was not unknown (Fong 1982).

In order to induce serious participation in formal schooling, most of the NICs have explicitly linked completion of particular secondary or higher education courses to related forms of public employment (Amano 1990). Overall, the NIC policies have resulted in what some consider an oversupply of human resources; but this oversupply in some cases was a conscious attempt to anticipate future demand. Most NIC school and university graduates obtain some form of employment soon after they complete their schooling.

## **4.9 The Outputs and Outcomes of Education**

At the cross-national level, educational expansion and educational quality are strongly linked to national development – perhaps more so than any other factor (McMahon 2000). What stands out for the NICs is the relatively equitable distribution of the expanding pie – or at least the economic pie (World Bank 1993). So for the NICs the distribution of individual benefits is relatively broad. The provision of mass basic education and extensive secondary and tertiary education contributes to the relatively equitable distribution of benefits.

One theme in the analysis of education's benefit has been to examine the relative cost-effectiveness of different levels. One common finding is that all levels are cost-effective. A second common finding is that the rate of return to primary education is the highest. For the past two decades, this latter finding has tended to capture the attention of international donors so they have slowed support of secondary education (including vocational secondary education) and tertiary education.

But the NICs adopted an approach of balanced support of all levels with a bias toward basic education in the early years and over time a gradual shift to higher levels. This approach paid off. Without the balanced approach they would have lacked the capacity to gradually upgrade their capacity building effort.

### **4.10 Comparing NIC Educational Reforms and Those Typically Proposed for EFA**

The Asian NICs have selected many of the reforms favored by advocates of EFA. All have placed a high priority on basic education for all. Several have demonstrated exceptional efforts to reach out to peripheral groups – through extra funding, small

schools, incentive pay for teachers, and other reforms. For example, even though most of them have a Confucian heritage, they have stressed gender equality in basic education (Tsai et al. 1994). All have stressed textbook provision and teacher professional development. Also, most have encouraged community participation in schools through such vehicles as the PTA, but they have insisted that the costs of primary education should be borne by the state rather than by the parents.

On the other hand, the NICs have pursued certain policy directions that run counter to the EFA agenda. For example, the NICs have tended to implement a single language policy for primary education rather than bilingualism – and in the case of Singapore this has been English that, at the time of the initial policy decision, was the first language of only a minority (Tan et al. 2001). Also the NICs have not promoted publicly supported preschool education but instead have tried to insure that the primary school climate is child-friendly. And the NICs have allowed familial or private measures (such as the *juku*) to complement formal schooling whereas mainstream EFA reformists assume the school should be the fount of learning.

#### **4.11 Some Implications of the East Asian Approach**

The East Asian approach provides several sharp contrasts with the approaches to education that have evolved in leading Western industrial nations (Cummings 2005). For example, the East Asian educational ideal places greater stress on cooperation and cohesion relative to the Western stress on individualism. East Asian pedagogy assumes that the key to learning is individual effort rather than inherent genetic endowment or talent. And East Asian systems place more emphasis on insuring that every child receives a standard education than on enabling each child to obtain an education suited to his or her needs; similarly teachers are expected to teach the common curriculum rather than to introduce curricular innovations that express their unique strengths. East Asian educational systems tend to place their greatest stress on basic education, rather than on elite public schools or great universities; though in the schools that provide basic education, some educational conditions such as the numbers of students in a classroom do not conform to the standards characteristic of Western systems.

In these various ways, the East Asian approach constitutes an alternative to Western approaches, and an exception to the proposition that education around the world is becoming more homogeneous. The distinctiveness of the East Asian approach has provoked a variety of assessments. Many are critical, focusing on lack of quality and on “human costs,” and we will turn to these shortly. In contrast are assessments which take the East Asian approach on its own terms, evaluate its effectiveness in promoting cultural and political autonomy in the face of the Western challenge, and then consider its comparative success in promoting national development. Since the East Asian approach has proved to have impressive

development effects, this line of assessment inevitably leads to a consideration of the global implications of the East Asian approach.

### ***4.11.1 Social Stability***

A major concern of the East Asian approach is to instill accepted social values. Whereas Western educators lean toward a cognitive reasoning approach to values education (Kohlberg 1981), Asian educators favor a directive approach involving explicit teaching and consistent reinforcement (Cummings et al. 1988). The school is viewed as the primary vehicle for conveying the values curriculum, and it is partly for this reason that the school calendar is long and the atmosphere is constrained. But constrained is not the same as joyless or inhuman. Observation studies indicate that Asian schoolchildren enjoy their schooling (Tobin 1989), and comparative statistics suggest that their schooldays are at least as humane as those experienced by children in other industrial societies: East Asian schools have low absenteeism; high completion rates; abundant evidence of healthy youth; a comparatively low incidence of neurosis-suicide; as well as a low incidence of other forms of deviance (drugs, delinquency, juvenile pregnancy). The social savings from these healthy and stable child and adolescent years are substantial (UNICEF 1992; UNESCO 1992).

### ***4.11.2 Human Resource Edge***

A second set of implications is what might be called the East Asian Human Resource Edge. A relatively uncontroversial theme is that East Asian educational systems are slanted toward the provision of math and science education and that they produce relatively large numbers of upper secondary and university graduates in the fields of technology, engineering, and science. For example, Japan with only half the US population trains as many engineers as the USA (Johnson 1993; US Department of Education 1987). Despite the comparatively large number of Asian students specializing in these fields, nearly all obtain employment on graduation. Many of the best end up as researchers in Asia's corporate laboratories and universities. Some of the less qualified of these graduates take up positions in the lower levels of the modern manufacturing sector, providing East Asia with the best "second half" of the labor force (Dore and Sako 1989).

But what about the rest? All find employment, but many are by standard human resource measurements "underemployed," that is, they work in positions that do not require their professional skills such as in sales jobs or as stock brokers and analysts (Kodama and Nishigata 1991; Muta 1990). But perhaps the underemployed provide

unique perspectives to their coworkers that enhance the productivity of these non-technological units (Cole 1989; Lynn et al. 1993).

Not an insignificant number of East Asia's underemployed graduates decide to leave the Asian labor market and seek opportunities in Western labor markets, especially the USA. Indeed one of the least-heralded outcomes of Asian education's excess production is the extraordinary extent to which it has supplied scientific and technical workers to Western corporations and universities (Cummings 1984, 1985; Lee 1991).

While East Asia supplies both indigenous and overseas markets with large quantities of scientific and technical workers, it is sometimes asserted that these workers are not particularly gifted, that they are unable to make creative contributions (Miyana 1991). But the evidence supporting these assertions comes from earlier years when Asian researchers and research laboratories were underfunded. That constraint is rapidly disappearing, and it remains to be seen how impressive the productivity of the Asian researcher will be under more favorable conditions. Recent indications (based on gains in scientific articles, patent submissions, high-tech product sales) are that East Asian scientists may be highly competitive (Bloom 1990; Science and Technology Agency 1991; Cummings 2006). Their hard work ethic combined with their openness to cooperate in joint projects may even give them an edge in some creative endeavors.

### ***4.11.3 Pacific Rim Connection***

A third set of implications could be described as the Pacific Rim Connection. Over the course of the past three decades, Asian human resources have become extensively developed and diffused throughout the Pacific Rim.

One facet of the rapid expansion of East Asian human resources has been a fostering of a new level of competitiveness as Asian corporations seek to outdo each other in the international marketplace. This competitiveness, often fueled by feelings of chauvinism, as between Korean and Japanese construction firms competing for the same contract, pushes Asian human resources to ever-higher levels of productivity.

But an equally interesting and virtually unexplored theme is the extent of cooperation that emerges between Asian scientists, particularly when they are located in foreign settings. For example, a recent study documents that many Asian-born scientists working in American research universities retain relatively fluid scientific ties with colleagues in their countries of origin (Choi 1993). This cooperation across national boundaries may provide an important impetus to the quality of Asian scientific and technical work.

Yet another feature of the Asian connection is the rapidly expanding level of communication between scholars and scientists within the East Asian region, particularly stimulated by Japan's new commitment to Overseas Development

Assistance. Over the past 5 years, Japan has trebled its intake of students from other Asian countries. Even more impressive has been the fivefold increase in the number of Asian scholars spending short study visits in Japan (Science and Technology Agency, Japan 1991).

There still remains the question of the East Asian Limit, particularly in the area of research. Will there be an East Asian Research Edge? Can the East Asian approach move beyond knowledge seeking to indigenous knowledge creation (Cummings, 1994)? This may be a false question – for if Asian corporations can buy the other brains and labs of overseas competitors, why do they have to do the work on their own? Thus an extension of the Pacific Rim Connection analysis would be to look into Asian (and non-Asian) strategies for securing control of offshore knowledge/value production. In the new era of weaker states, the nationality of knowledge workers has reduced meaning – but there still is interest in who benefits.

#### ***4.11.4 Human Rights***

Another difference in the Asian and Western perspectives is with respect to human rights (Awanojara 1993). The East Asian approach places considerable emphasis on the family group and the community, often urging the individual to subordinate personal interests so as to advance the welfare of these broader collectivities. Even more, the individual identifies his/her well-being with the well-being of the broader collective. The welfare of the broader group, it is proposed, results in a better situation for each of the members. Harmony and the consensual negotiation of differences are emphasized as means to reconcile individual and social rights. As suggested earlier, the East Asian record in terms of such positive human rights as skills, enlightenment, well-being, and respect is quite impressive. Several of the East Asian nations are also outstanding in terms of the distribution of wealth.

In contrast to the East Asian approach, in recent years Western ideologues have urged East Asian states to make greater efforts to conform to universal (or are they Western?) concepts of human rights. The Western critics insist that East Asian nations should foster greater personal freedom and institute more representative forms of democratic government. In Lasswellian terms, perhaps the most critical issue is the distribution of power. Crises such as Timor and Tiananmen Square have sharply polarized Western critics and East Asian leaders. The East Asian statesmen argue that their approach places its first priority on social welfare or development, and only as these conditions are realized does it become meaningful to encourage democracy and Western concepts of human rights. Sometimes the East Asian leaders go so far as to point out how much more stable and crime-free their societies are than are the societies of those Western nations that place such high priority on human rights. It may be that these differences in the notion of what constitutes the good society will lead to sharp conflicts between the East Asian and Western approaches to human rights over the next decades.

## 4.12 Policy Evolution or Revolution?

The NIC stories suggest that policies should not remain unchanged, but at the same time it is best to build new directions on earlier practices. Secondly, policy change in education requires policy evolution in other sectors: opening of society to allow more critical perspectives, steady growth of the economy with a shift to high-tech manufacturing and service, possible opening of the labor market to foreigners, and so on.

It may be that many of the past strengths of East Asian education are also future weaknesses. For example, while East Asian education has favored basic education, much more care in the future needs to be devoted to secondary and tertiary education as well as continuing education. Table 4.2 summarizes the major strains in contemporary East Asian education and the likely future reform directions.

Our focus here has been on the Asian NICs. They share with many developing countries a relative scarcity of natural resources. At the starting point of their takeoff, they arguably enjoyed a modest advantage in human resources. But what really seems to distinguish the NICs from other resource-poor countries is that they had a clear set of policies for all of the contexts noted above and they were able to stick with these policies for a lengthy period. For the NICs, development was not a sprint but an endurance race.

But will the Asian NICs evolutionary approach work elsewhere? Actually the Asian NICs began with revolutions, and then followed these takeoff revolutions with evolutions. Most developing countries have familiarity with the ideas presented above, but they have difficulty in implementing these ideas. Perhaps because their start was too gentle, they did not engage in a careful policy review. To the extent so, this argues for a fresh and thoughtful restart that may involve some radical changes.

**Table 4.2** Historical and future directions of the Asian model

| Historical   | Future  |
|--|---|
| Foundation in primary school education   | More stress on secondary/tertiary   |
| Western science/Eastern values   | Multiculturalism/transnationalism   |
| School teaches, pupil learns   | More active teaching; stress on debate analysis                           |
| Public sector for S&E/vocational education                                       | Encourage S&E competition from private sector;<br>More internships        |
| Society fills the gaps in public education<br>with tuition; large private sector | Control and subsidize tuition to preserve equity                          |
| Knowledge seeking  | Creativity  |
| Strong state   | Supportive state; community participation building<br>on local traditions |
| Lean state   | More public & private funding on a competitive<br>basis                   |



## References

- Amamo, Ikuo (1990). *Education and Examinations in Modern Japan*. Tokyo: University of Tokyo Press (translated by W.K. and F.K. Cummings from Ikuo Amamo, Shiken no Shakaishi). Tokyo: University of Tokyo Press, 1983.
- Altbach, Philip and Selvaratnam, Viswanathan. (1989). *From Dependence to Autonomy: The Development of Asian Universities*. Dordrecht: Kluwer Academic.
- Awanohara, Susumu, et al. (1993). "Human Rights: Vienna Showdown," *Far Eastern Economic Review* (June 17): 16ff.
- Bartholomew, James (1989). *The Formation of Science in Japan*. New Haven, CT: Yale University Press.
- Befu, Harumi (1993). *Cultural Nationalism in East Asia*. London: Curzon Press.
- Black, Cyril E. et al. (1975). *The Modernization of Japan and Russia*. New York: Free Press.
- Bloom, Justin (1990). *Japan as a Scientific and Technological Superpower*. Washington, D.C.: US Department of Commerce.
- Braisted, William R. (1976) (translation). *Mei roku Zasshi: Journal of the Japanese Enlightenment*. Cambridge: Harvard University Press.
- Choi, Hyaewol (1993). *Asian Scholars in the United States: Roles, Careers and Contributions to the International Knowledge System*. Ph.D. dissertation. Buffalo, NY: Graduate School of Education, University at Buffalo.
- Cole, Robert (1989). *Strategies for Learning*. Berkeley, CA: University of California Press.
- Crouch, L.A., Spratt, J.E., and Cubeddu, L.M. (1988). "Examining Social and Economic Impacts of Educational Investment and Participation in Developing Countries: The Educational Impacts Model (EIM) Approach." Research Triangle Institute, Research Triangle Park, North Carolina.
- Cummings, William K. (1980). *Education and Equality in Japan*. Princeton, NJ: Princeton University Press.
- Cummings, William K. (1984). "Going Overseas for Higher Education: The Asian Experience," *Comparative Education Review*, 28 (May): 241–257.
- Cummings, William K. (1985). "The Preference of Asian Overseas Students for the United States: An Examination of the Context," *Higher Education*, 14: 403–423 (with Wing-Cheung So).
- Cummings, William K. (1994). "From Knowledge Seeking to Knowledge Creation: The Japanese University's Challenge." *Higher Education*, 27(4):399–415.
- Cummings, William K. (1995). "Asian Human Resource Approach in Global Perspective." *Oxford Review of Education*, 21(1): 67–81.
- Cummings, William K. (2005). *The InstitutionS of Education*. Oxford: Symposium Books.
- Cummings, William K. (2006). "Modernization, Development Strategies, and Knowledge Production in the Asia Pacific Region," in V. Lynn Meek and Charas Suwanwela (eds.), *Higher Education, Research, and Knowledge in the Asia-Pacific Region*. New York: Palgrave-Macmillan, pp. 27–42.
- Cummings, William K. et al. (eds.) (1988). *The Revival of Values Education in East and West*. London: Pergamon.
- Dore, Ronald and Sako, Mari (1989). *How the Japanese Learn to Work*. London: Routledge.
- Ferranti, David, et al. (2005). *Closing the Gap in Education and Technology*. Washington, D.C.: The World Bank.
- Firebaugh, Glenn, and Frank, D. Beck. (1994). "Does Economic Growth Benefit the Masses?" *American Sociological Review*, 59(5) (October): 631–653.
- Fong, Pang Eng. (1982). *Education, Manpower and Development in Singapore*. Singapore: Singapore University Press.
- Geiger, Roger L. (1987). *Private Sectors in Higher Education*. Ann Arbor, MI: University of Michigan Press.
- Gereffi, Gary and Wyman, Donald L. (1990). *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*. New Jersey: Princeton University Press.

- Gopinathan, S. (1997) "Educational Development in a Strong Developmentalist State: The Singapore Experience," in William K. Cummings and Noel McGinn (eds.) *International Handbook of Education and Development*. Oxford: Elsevier Science, Ltd., pp. 587–608.
- Hall, Ivan Parker (1973). *Mori Arinori*. Cambridge: Harvard University Press.
- Harrison, Lawrence E. and Huntington, Samuel P. (2000). *Culture Matters*. New York: Basic Books
- James, Estelle (1987). "The Public/Private Division of Responsibility for Education: An International Comparison," in E.H. Haertel et al. (eds.), *Comparing Public and Private Schools*. New York: The Falmer Press.
- James, Estelle and Benjamin, Gail (1988). *Public Policy and Private Education in Japan*. New York: St. Martin's Press.
- Johnson, Chalmers A. (1982). *MITI and the Japanese Economic Miracle, 1925–1975*. Stanford, CA: Stanford University Press.
- Johnson, Jean M. (1993). *Human Resources for Science and Technology: The Asian Region*. Washington, D.C.: National Science Foundation.
- Kitamura, Kazuyuki (1986). "Japan's Informal Education System," in William K. Cummings, et al. (eds.), *Educational Policies in Crisis*. New York: Praeger.
- Kodama, Fumio and Nishigata, Chiaki (1991). "Structural Changes in the Japanese Supply/Employment System of Engineers: Are We Losing or Gaining?" in D.S. Zinberg (ed.), *The Changing University*. Amsterdam: Kluwer.
- Kohlberg, Lawrence (1981). *The Meaning and Measurement of Moral Development*. Worcester: Clark University Press.
- Lee, W. O. (1991). *Social Change and Educational Problems in Japan, Singapore and Hong Kong*. New York: St. Martin's Press.
- Levy, Marion J. Jr. (1972). *Modernization: Latecomers and Survivors*. New York: Basic Books.
- Lynn, Leonard H., Piehler, Henry R., and Keiler, Mark. (1993). "Engineering Careers, Job Rotation, and Gatekeepers in Japan and the United States," *Journal of Engineering & Technology Management*, 10: 53–72.
- McMahon, Walter W. (2000). *Education and Development: Measuring the Social Benefits*. Oxford: Oxford University Press.
- Ministry of Education, Science and Culture (1980). *Japan's Modern Educational System*. (Tokyo). Translated from Mombusho (1972), *Gakusei Hyakunenshi* (One Hundred Year History of Japanese Education). 2 Vols. Tokyo: Teikoku Chiho Gyosei Gakkai.
- Miyana, Kuniko (1991). *The Creative Edge: Emerging Individualism in Japan*. New Brunswick, NJ: Transaction.
- Muta, Hiromitsu (ed.) (1990) *Educated Unemployment in Asia*. Tokyo: Asian Productivity Organization.
- National Institute for Educational Research (1981). *Moral Education in Asia*. Research Bulletin No. 20 (Tokyo).
- OECD (2007). *PISA 2006 Science Competencies for Tomorrow's World*. Paris: OECD.
- Passin, Herbert (1965). *Society and Education in Japan*. New York: Teachers College.
- Russell, Nancy Ukai (1997). "Lessons from Japan's Cram Schools," in William K. Cummings, "Private Education in the New Asia," in William K. Cummings and Philip G. Altbach (eds.), *The Asian Educational Challenge: Implications for America*. Albany, NY: SUNY Press, pp. 153–187.
- Science and Technology Agency, Japan (1991). *White Paper on Science and Technology 1991: Globalization of Scientific and Technological Activities and Issues Japan is Encountering* (Tokyo).
- Scott, James C. (1976). *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*. New Haven, CT: Yale University Press.
- Smith, Thomas C. (1955). *Political Change and Industrial Development in Japan: Government Enterprise, 1868–1880*. Stanford, CA: Stanford University Press.
- Stallings, Barbara (1990). "The Role of Foreign Capital in Economic Development," in Gary Gereffi and Donald L. Wyman (eds.) *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*. Princeton, NJ: Princeton University Press.

- Stevenson, Harold W. and Stigler, James W. (1992). *The Learning Gap*. New York: Summit Books.
- Tan, Jason, et al. (2001). *Challenges Facing the Singapore Education System Today*. Singapore: Prentice Hall.
- Tan, Jee-Peng and Mingat, Alain (1992). *Education in Asia: A Comparative Study of Cost and Financing*. Washington, D.C.: The World Bank.
- Teng, Su-yu and Fraibank, John K. (1954). *China's Response to the West*. Cambridge: Harvard University Press.
- Tobin, Joseph (1989). *Preschool in Three Cultures: Japan, China and the United States*. New Haven, CT: Yale University Press.
- Tsai, Shu Ling, Gates, Hill, and Chiu, Hei Yuan. (1994). "Schooling of Taiwanese Women: Educational Attainment in the Mid-20th Century." *Sociology of Education*, 67 (October): 243–263.
- UNESCO (1992). *World Education Report 1991*. Paris: UNESCO.
- UNICEF (1992). *The State of the World's Children*. New York: Oxford University Press.
- US Department of Education (1987). *Japanese Education Today*. Washington, D.C.: US Government Printing Office.
- Ushioji, Morikazu (1993). "Graduate Education and Research Organization in Japan," in Burton R. Clark (ed.), *The Research Foundations of Graduate Education*. Berkeley, CA: University of California Press.
- United Nations Development Programme (2002). *Human Development Report 2002*. New York: UNDP.
- Vogel, Ezra (1992). *The Four Little Dragons*. Cambridge: Harvard University Press.
- Williamson, Jeffrey G. (1993). "Human Capital Deepening, Inequality, and Demographic Events along the Pacific Rim," in Naohiro Ogawa et al., *Human Resources in Development Along the Pacific Rim*. Oxford: Oxford University Press, pp. 129–158.
- World Bank (1993). *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.
- Yoon, Yang-Ro (2002). *Effectiveness Born Out of Necessity: A Comparison of Korean and East African Education Policies*. Mimeo. The World Bank.