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Gender Discrimination in Education and Economic Development: A study of Asia

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Dedication

Within three weeks of my arrival at IDE,
my father, who had undergone numerous hardships
so that I could pursue my higher education at faraway Delhi
and have, what he called, “a good future”, passed away.

It is to his memory that I dedicate this work.

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Abstract

The countries of Asia are at different levels of economic development. In educational development too, they are not uniform. Historical legacies and other factors have impacted on the modernization course that each country embarked upon. These countries can (and are) benefiting by doing studies that compare their experience in development with that of the more advanced nations of the west. However, there is much that they can learn by studying about each other inside Asia; likewise they have much to offer to the outside world.

In what follows, we look at the attempts of some of the Asian countries to eliminate gender discrimination in education and how these impacted on their course of modernization. We would also look at the impact of education on the female labor force participation. Finally we attempt an inter-regional comparison. The main focus will be on East Asia, the best performing region and South Asia, the worst performing region; Southeast Asia which falls between the two will also be covered, though not in similar detail. As the countries of Asia stand at different levels of development, this exercise is similar to the one that compares a developing country's experience with that of a developed country's historical experience and which tries to locate useful lessons. Further, countries at nearly the same level of economic development too have much to learn from each other as the educational developments and the degree to which the elimination of gender discrimination in education has proceeded, are not the same.

The benefits that a country gains by eliminating gender discrimination in education are enormous, as we will try to document. Likewise the losses a country undergoes by neglecting to educate its girls and women are substantial. Thus any insight we gain by a cross country comparison, and which might hint at some policy prescription, if not a corrective, should be welcome.

Acknowledgements

I was interested in agricultural development in prewar Japan and was fortunate to be guided by Prof. Nishida Yoshiaki. While pursuing prewar issues in Japan, I became tangentially interested in prewar education and its impact on economic development in Japan. On the issues of the role of gender education and how it impacted on Japanese modernization, I benefited from long interactions with Prof. Okado Masakatsu; his continuous involvement with gender issues in prewar Japan and his insights have stimulated me. Others who have helped me at various points of time to learn about the role of education in modernization in education include Krishna Kumar, N V Varghese and Anil Sadagopal.

The chance reading of an article in 1994 by the late Prof. Ohkawa Kazushi,[1] who had taught and guided me in the early 1980s when I was a researcher at the International Development Center of Japan, was the original stimulus that kindled my interest in pursuing issues relating to the role of education in economic development. Since then, I have published a few articles on the role of education in economic development in the case of a number of countries in Asia, in a comparative perspective. I have also touched upon gender issues in education in these countries and in this study, I have utilized a number of these works.

By a happy coincidence, I discovered that my colleagues were also interested in matters relating to education. This led to a large number of interesting discussions and led to a seminar presentation which ultimately resulted in a joint publication.[2] I have learnt much about education by reading the works of Jandhyala Tilak. Over the years, on a number of occasions, I had discussions with him and he was very generous in sharing his knowledge. He also shared useful material as well as gave critical comments on what I wrote. I was to realize high rates of return from the time invested in seeking his advice.

The Institute of Developing Economies (IDE) made it possible for me to write this monograph by extending a Visiting Research Fellowship to me lasting for a period of eight months from June 2006. I would like to express my sincere gratitude for this. At IDE, my counterpart, Murayama Mayumi ensured that I had an easy stay as well as willingly helped me with all my

[1] Okhawa, Kazushi 1986.

[2] Balatchandirane. G. Rajiv Ranjan and Sreemati Chakrabarti 2001.

queries and made useful introductions. Yonemura Akio was kind enough to give me the benefit of his knowledge on matters relating to education as well as introduce me to scholars in the field. Kaneko Motohisa, Hijikata Sonoko and Kobayashi Masayuki of the University of Tokyo clarified a number of issues for me. Other researchers at IDE who helped me academically or otherwise at various points of time include Arai Etsuyo, Ito Seiro, Kondo Norio, Kubo Kensuke, Makino Momoe, Nakamura Masashi, Oda Hisaya, Ota Hitoshi, Sato Yuji, Shigetomi Shinichi, Shimane Yoshie, Uchikawa Shuji and Yamaguchi Mami.

The staff of the International Exchange Division at IDE offered exemplary help every time I approached them; Kanenari Yoko, Harada Naomi, Hokinoue Kayo, Zakimi Hajime and Sanada Takayuki made the stay in Japan and work at IDE smooth by taking care of problems, big and small, with the first named bearing the major brunt of my demands. They, along with the researchers Makino Kumiko and Mochizuki Katsuya, made the Study Tours most enjoyable and rewarding.

While the library collection at IDE is superb, what added to the pleasure was the courteous and ever willing staff manning it. They could always track down any book or article I was interested in, whether it was available at IDE or not.

The Visiting Research Fellows from different countries were willing to exchange ideas and discuss; they offered mutual commiseration, being kindred souls in the same boat, along with exclamations of *gambate, ne* when it was time to write the report! Colleagues at the Department of East Asian Studies, University of Delhi were supportive, and suggested corrections and improvements. I would like to place on record my sincere gratitude to everyone mentioned above.

One takes the support given by one's family for granted. For bearing with my absence for a long time and keeping the fires going and for providing long distance support, I place on record my appreciation to Rama, Kalpi and Mano.

Preface

I have named this work as “Gender Discrimination in Education and Economic Development: A Study of Asia” and one can argue that I am actually talking about the education of girls and women and not on gender issues as it is usually understood. As I am covering both girls’ and women’s education, “female education” might be the correct label, but is certainly scabrous. What I have written may not be in the strict realm of gender studies - which itself seems to have stepped out of its earlier rigid boundaries to enlarge and turn increasingly amorphous and make excursions into other disciplines as well as tolerate others entering its own turf. Aware as I am of the sociological implications of the term “gender”[3], I deal with the education of girls and women in Asia and not with gender issues *per se*. With this caveat, let me state that I am more comfortable with the current title.

There is however, a much stronger reason why the term “gender” is used. The term “gender” serves better than the term “woman” as an analytical tool in the study of inequality and discrimination.[4] Amartya Sen puts the issue lucidly thus:

> *“ … the importance of gender as a crucial parameter in social and economic analysis is complementary to, rather than competitive with, the variables of class, ownership, occupations, incomes, and family status. The systematically inferior position of women inside and outside the household in many societies points to the necessity of treating gender as a force of its own in development analysis.*
>
> *Development analysis cannot really be divorced from gender categories and sex-specific observations.”*

Sen makes out a case on why such an approach is particularly relevant in the context of developing countries, which is what much of Asia is. Further, the relative deprivation of women vis a vis men is higher in Asia compared to other regions of the world.[5] While there are about 106 women

[3] According to the World Bank, “Gender refers to socially constructed roles and socially learned behaviors and expectations associated with females and males.” World Bank 2001a.

[4] Jain, Devaki 2005. p.157.

[5] Sen, Amartya K. 1990b.

per 100 men in Europe and North America the figure is only 97 women per 100 men in LDCs; also, in Asia the survival rates of females are much lower compared to males.

I have not embarked on a study in which it is easy to show that the hypothesis is correct with statistical accuracy. Further, I am trying to grapple with the larger picture which involves a number of countries and hence this necessarily would not end up with crisp conclusions put in place with the backing of precise figures. Also it is not always easy to establish direct linkages between rises in gender education and the impact on some economic variable which might be obvious but could be difficult to establish. The availability of data and the comparability among different countries is another issue. These issues, along with the scale of the enterprise, which I had obviously underestimated, at times made things look quite daunting, but I was foolhardy to persist. I would be the first to admit that many things are wanting in the report the way it is. A scaled down version would have been easy and possibly more attractive but would have not have captured the “big picture” which is what is attempted here. Suggestions and comments are most welcome.

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GENDER DISCRIMINATION IN EDUCATION AND ECONOMIC DEVELOPMENT: A STUDY OF ASIA

- G. Balatchandirane

" … societies that discriminate on the basis of gender pay a significant price … in terms of higher poverty, lower quality of life, slower economic growth, and weaker governance. …
Educating girls is strategic for achieving development."

- Elizabeth King[6]

Introduction

In this study we look at the denial of access to education that girls and women faced (and continue to face) and how this impacts on the modernization processes of a number of Asian countries. Every country started its modernization process with the share of the population that had had some access to education being quite limited, with the female half of the population being much worse off. Thus it is not a surprising find that there has been discrimination against women in educational matters in every country. One starts with this fact as a given. What might be of interest is to see how each society strove to reduce the gender discrimination in education and how quickly it was able to show substantial progress. It might be relevant to look at the way a society benefited by educating its girls and women; simultaneously one can look at what was lost by not educating the girls and women in society. Thus what concerns us here is the elimination of gender discrimination in education. We will cover mostly the primary sector of education, and possibly in larger detail, as this is the crucial sector in the initial stages of modernization as well as the sector that posts the largest rates of return. The secondary and tertiary sectors too will be touched upon, these being important when we talk about participation in the labor force. These two become increasingly important as modernization proceeds beyond a point.

There is no shortage of works, theoretical and empirical, to show that

[6] King, Elizabeth. 2001.

education plays an important role in the economic development of any country that has embarked on its modernization drive. In the initial stages of economic development primary education should be accorded more importance than higher levels of education. For a country at a low level of economic development, the way to maximize returns is to target the primary sector of education first; the base of the education triangle has to be widened as rapidly as possible first and then efforts should be concentrated on the secondary and then the tertiary sector. While this is fairly well accepted, the issue of ensuring gender equality in education and the contribution of women to economic development has become an important area of enquiry relatively recently.

What is of interest to us is the speed with which the gender discrimination in basic education was reduced to zero or to negligible levels in the modern period. Linking this with the subsequent rates of economic growth or the favorable impacts this led to, and raising comparative issues would be a profitable line of enquiry. It would be interesting to see whether we can correlate a rise in the share of educated women with the subsequent development. Likewise it might be instructive to see what was foregone because women were not educated as speedily and as well as they should have been. The additional intention is to derive instructive issues from the experiences of the countries of Asia through intra- and inter-regional comparison as well as inter-country comparisons. We also attempt to look at India in some detail in an intra-country perspective, as the levels of educational development in the various states are widely different.

The individual countries of South, East and South East Asia embarked on their modernization drives at different points of time in history. We keep in mind the basic fact that the countries of both East Asia and South Asia are at different levels of economic development seen from both the inter and intra regional perspectives. There is ample justification in the literature for comparing and learning from the experience of countries that are at a higher stage of development even if the lesser developed country had started late and faces a slightly changed set of internal and external conditions.

Just as the countries of Asia are at different levels of educational and economic development, likewise gender discrimination as seen in education is also at varying levels in these countries. Thus Asia provides a rich area for raising comparative issues of gender discrimination in education and how this impinges on the economic modernization. Countries in East Asia and to a lesser extent those in Southeast Asia are far superior to countries of South

Asia (with the possible exception of Sri Lanka) when it comes to lessening the initial discrimination against women in education. Gender disparities in education in South Asia are the largest in the world. An average six-year-old girl in South Asia can look forward to spending just six years in school, which is three years less than what a similarly placed boy can expect.[7] How the countries of the dynamic East Asian region responded to the challenge of educating their girls when they embarked on their modernization drive would be instructive.

For the sake of convenience, we cover the different countries of Asia under the divisions of South Asia, East Asia and Southeast Asia. As would be readily obvious, while the intra country comparisons of their educational experiences provides a rich set of meaningful issues and lessons, intra regional comparisons are also a useful pursuit. There are similarities between the countries in a region like South Asia for instance, in their colonial experience, cultural ties etc; but as they have had different experiences in their educational development and their promotion of gender equality in education, and are situated at different levels of economic development, they offer a rich canvas for comparative analysis.

Under the classification of South Asia we cover Bangladesh, India, Nepal, Pakistan and Sri Lanka. The East Asian region is defined as comprising of the People's Republic of China, Japan and South Korea. The Southeast Asian region would include Indonesia, Malaysia, Philippines, Thailand and Vietnam. Singapore, Hong Kong and Taiwan were excluded as their populations are relatively small compared to the other countries in question; the scale of the problem encountered by the others was of a different order. Paucity of data and materials were the reasons why a number of other countries like Bhutan, Cambodia, Laos, Myanmar and North Korea could not be included.

Methodology

Our basic idea is to study the gender discrimination in education in each country and correlate its trend with the economic development. There are a number of methods used to measure the gender inequality in education. One would be the gender gap which is a simple difference (of literacy rates for instance) between the male rate and the female rate; Gender Parity Index (GPI) which is the value of the indicator for girls divided by that for boys is also

[7] Asian Development Bank 2001.

used, as in a number of UN studies. Much more sophisticated indices can be seen in the annual Human Development Report and World Development Report of the World Bank[8].

For our purposes, the degree of the discrimination against girls and women can be measured by the Becker's coefficient of discrimination.[9] This is given by the value of the variable in the case of males divided by the value for females minus one. Though theoretically the value of the Becker's coefficient can be between zero to infinity, very large numerical values are highly improbable. Even a value of four would be highly unlikely as this would indicate a situation where the men are better off compared to women by a factor of five as indicated by any chosen variable. A zero value shows that there is absolutely no discrimination against women. Becker's coefficient of discrimination would normally be between zero and about 2.0 or so (3 would be extreme) once the initial high discrimination that exists when the country starts to modernize, wears off. How rapidly this figures comes down is the interesting issue. As we will discuss towards the end, the rule of the thumb seems to be that when the coefficient comes down below the value of 0.2, gender discrimination in education has by and large been corrected; this is indicative of a situation where the indicators for women are about 85 percent or more for that men. Though a simple measure, Becker's coefficient of discrimination is a powerful explanatory one. For our purposes it is eminently suitable.

The literacy rates of males and females can be used to calculate this coefficient; alternatively, the enrollment ratios can be used. The net enrollment rates are better compared to the gross enrollment rates. While the latter includes all the children in say at the primary level, the former includes only those in the relevant age group. The attendance ratios are even better as they indicate the actual state of affairs; it is possible for boys and girls to be enrolled but they may not be attending school. Thus while the enrollment rates might be large and impressive, the attendance rates would indicate the reality on the ground. Another good variable that can be used is the mean years of schooling for boys and girls. Data sources from the country concerned are better compared to those provided by multilateral agencies like

[8] More measures of gender equality indices are available in Unterhalter, Elaine, Chloe Challender and Rajee Rajagopalan 2005. Though it is related, the discrimination index we use is a little different compared to the equality indices as our idea is to see the existing discrimination, not the equality level that has been achieved.

[9] Becker, Gary S. 1971.

the UN. However, data for the countries and time periods we are interested in are not always easily available. So wherever we are not able to calculate the coefficient using the values for the variables we listed above, circumstantial evidence will be relied upon.

As the *World Development Report 2006* pointed out measuring inequality in education is a difficult task especially when we make inter country comparisons. While it might be possible to gather data relating to years of schooling, the quality of education or how it might vary among individuals cannot be captured. A comparison of years of schooling across countries might also not be a meaningful exercise as those years might mean (and most certainly do so in the Asian context) something that is quite different from country to country.

What we propose to do is to build the Becker's coefficient of discrimination times series using data on the variables listed above for the countries of Asia. Then we will try to find pathways of influence and linkages between the educational spread among women and economic development. In short, we will try to find if there are factors that link the speed with which the discrimination against women in education was eliminated had an impact on the speed with which economic development took place in these countries. Finally we will attempt to derive instructive lessons for these countries from their mutual experiences and what it means for those who are laggards in eliminating gender discrimination in education.

One good way to see the way education impacted on girls and women is to look at the female labor force participation rate and see how it performed as the educational gender discrimination was being reduced. However there can be a large number of problems with the female labor force participation rates in terms of data availability, comparability and reliability and we see these issues in a little detail later. We take recourse to using other evidence, where possible to buttress the point that we wish to make.

As should be obvious by now, what is being attempting is not going being to be easy. Studies which focus on one region or one country or just between two countries in terms of gender education abound. They are able to come to certain conclusions with some degree of confidence. Our enterprise might not be easy; further we may not be able to come to conclusions based on specific figures. And yet a peek at the larger picture might be interesting.

Survey of the literature on education and economic development

"The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature, as from habit, custom, and education."

- Adam Smith 1776[10]

Thinkers have for long recognized the useful role of education in shaping up society. There is wide acceptance in the literature that education contributes substantially to economic development though there are debates on the exact extent to which it contributes. Since the time of Adam Smith, economists have talked about the role of education in economic growth. The rediscovery of the seminal role of education in economic growth took place in the mid twentieth century and there has been a veritable flood of writings on this subject since then. The earlier theories failed to account for over half of the growth when they attempted to explain it on the basis of conventional factors like labor and capital. This ultimately led to the discovery of the role of education in economic growth. Schultz's influential contribution[11] was to identify education as an investment, placing education at the centre stage in the debates on development. Education increases the stock of skills and productive knowledge embodied in people; it is to be treated as an investment in human capital.[12] Once the changed perception of education took root, the returns to education, an investment, were investigated, spawning a large number of studies.

The surge of studies on education and economic growth has been covered periodically in useful surveys. Mary Jean Bowman had compiled possibly the earliest of the detailed surveys.[13] This was followed by Tilak's fairly exhaustive survey which summed up the erstwhile research on the impact of education on economic growth, poverty and income distribution averring that the earlier research " … clearly establishes that:

a. education contributes to economic growth quite significantly, returns to education being fairly comparable with, if not more than those to investment in physical capital;

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[10] As quoted in Sen, Amartya 2003.

[11] Schultz, Theodore W. 1961.

[12] Venniker, Richard 2000.

[13] Bowman, Mary Jean. 1980.

b. the contribution of education is also significant in reducing poverty and improving income distribution, transferring sometimes resources from higher incomes groups to lower income groups;
c. both with respect to growth and income distribution, the contribution of primary education is more significant than that of higher levels of education;
d. even when we measure education's contribution in non-monetary terms, and measure it in terms of physical productivity, say in agriculture, the positive and significant relationships hold good;
e. the contribution of education is higher in developing countries compared to developed countries; and
f. the contribution is higher from investment in education of socio-economic weaker sections compared to investment in their respective counterparts."

In addition, a whole set of non-measurable, non-economic returns to education that positively impinge of society were noted. Education was "a great transformer".[14] In a latter study, Tilak extensively surveys the literature on the role of education in poverty reduction. He points out that basic education alone would not be enough for poverty reduction strategies. Secondary and higher education too have to diffuse if a country were to post meaningful reduction in poverty levels. This is due to the fact that only at this level can the gains from the primary education be consolidated. Secondary and higher education help in innovating technology and sustaining growth, provides skills so that one can enter the labor market, and raise people permanently above poverty line.[15]

Lewin goes through a large number of studies and analyses the research evidence on education and development. He finds that many of these demonstrate the positive links between investments in education and economic growth. Those that deny the positive links are few and fewer still talk of a negative link. He holds that "It would be pessimistic in the extreme to suggest that the widespread faith in educational investment as a component of economic development was an aberration that could persist so extensively for so long if it did not contain elements of truth no matter how difficult these are to demonstrate."[16] The difficulty of directly demonstrating and measuring the beneficial impacts of education on economic development is an issue that many have had to grapple with.

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[14] Tilak, Jandhyala B. G. 1989.

[15] Tilak, Jandhyala B. G. 2006.

[16] Lewin, Keith M. 1997.

Walter McMahon specifically addresses the issue of measuring the benefits of education as seen in the economic and non-economic benefits to society. He attempts to quantify the difficult-to-measure aspects of education which contribute to human welfare both in monetary and non-market returns at the economy-wide level. He finds that the overall returns to investment in education are huge and can be seen in areas such as reduction of infant mortality, increase in life expectancy, reduction in fertility rates, promotion of democracy, human rights, political stability, reduction of poverty and inequality, reduction in pollution and lowering of crime. The indications are that despite the rapid progress of the techniques of measuring the benefits of education, it is still underestimated. One important implication is that better measures of education which point to the extent and range of benefits that accrue through investment in education will enable policy planners, who might have been unaware of such huge externalities of education, to take cost effective measures relating to education, which will benefit their societies immensely.[17]

Lopez and others provide a brief but useful review of literature on education and economic development and also try to tackle the issue of why the empirical evidence is not in consonance with what theory would indicate, namely, the existence of strong causal links from education that should lead to growth.[18] There are other notable studies by the UN organizations.[19]

Some studies have surveys covering the Asian context.[20] The internal effect of human capital refers to rises in total production and economic growth brought about by an increase in an individual's productivity due to investments in education. Simultaneously, an individual's human capital also impacts on the other factors of production also; this would be the external effect of human capital. Tilak finds that education has been contributing significantly to economic development as seen in both the internal and external effects of human capital in the context of Asia.[21]

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[17] McMahon, Walter W. 1999.

[18] Lopez, Ramon, Vinod Thomas, and Yan Wang 1998.

[19] For example Haddad, Wadi D., Martin Carnoy, Rosemary Rinaldi, and Omporn Regel 1990.

[20] Adams, Don 2002.

[21] Tilak, Jandhyala B. G., 2004.

Pathways of influence of Education on Economic Development

A society that is in the initial stages of development is, by definition, lacking in advanced industrial technology. The inefficiencies in the conversion of the raw materials into consumables that are in demand would pose major obstacles in the modernization process. To overcome this, the country would be importing a number of technologies from advanced countries. Technology transfer is effective when the imported technology diffuses and is absorbed. One essential requirement for the absorption and assimilation of technology is that the workers should have been educated at least at the basic level. The ability to read and write helps when a new production process is explained to the workers. Further education makes them receptive to new and outside ideas. There can be substantial resistance to new concepts, ideas and know-how if workers are uneducated.[22] Further what Dore calls as a "training in being trained" is imparted to workers; namely, people who are exposed to disciplined learning processes through basic education are more likely to respond to further training. This could be the imbibing of a new agricultural technique or the learning of a modern industrial production technology.[23]

The positive fallout of spreading literacy and basic education in a country that starts modernizing is that the social rules of advancement are rewritten. A society that places importance on merit is created. A person's lineage no longer determines the degree to which he can advance in life. As modernization progresses, increasingly larger and varied economic opportunities are created. If a person has the capability to respond to such opportunities, he stands to gain. The primary input for the creation of such a set of capabilities and skills is education. What matters in such a society which throws up more avenues for it citizens to earn their livelihood is not their family background, but the skills-set that they possess. The better or the more relevant the skills-set that they possess, the better they are able to make economic gains and participate as useful members of the society, as well as raise their social standing. Thus, increasingly emphasis tends to be laid on merit which is determined by the capabilities and skills one has. Merit takes centre stage and in the meritocracy that is created all that matters is how much a person can achieve using his skills which accrue primarily through education.

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[22] Balatchandirane, G. 1995.

[23] Dore, R.P. 1984 pp. 292-4.

With access to education widely available, the hitherto underprivileged classes of society naturally turn to education as a key to upward social mobility.[24]

Of all the investments made to combat poverty reduction, those made in education have the highest return.[25] Educated people have higher income earning potential; they are able to improve the quality of their lives better. A range of social services can be utilized by people who have had education at least at the basic level. They are less likely to be marginalized in the society. Education is the key to empowerment and helps people become proactive, gain control over their lives and widens the range of available choices. With increased earning ability, political and social empowerment and a larger capacity to take part in community governance, people are easily able to break the poverty cycle.[26]

An important aspect of the current globalization trend is that the local markets and getting integrated with the world markets. For any country to register substantial economic growth, a large share of the population has to have education at least at the basic level, as otherwise integration with the world markets becomes quite difficult.[27] Education has a strategic role to play and can enable them to avoid the "Low-Skill, Bad-Job" trap they are likely to

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[24] A particularly striking example on the links between education and social mobility would the Korean case. (Kim, Kyong-Dong 1988 pp.207-8. and Lee, Jisoon 2001) In the Japanese context, education was looked upon as a means of rapid enhancement of prestige and self-respect as well of improvement of one's material well being. It was easy to build a society based on "go-getting competition". Education acted as an "important mechanism of social ascent". (Dore, R.P. 1984)

[25] Thus the heavy emphasis the World Bank has been laying on education in the recent past. For example, " …the Bank's emphasis in the area of girls' education has increased and gender equality has been integrated as an important component of the Bank's poverty reduction mission."
http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTEDUCATION/0,,contentMDK:20298916~menuPK:617572~pagePK:148956~piPK:216618~theSitePK:282386,00.html
Accessed on 29 Dec 2006.

[26] Asian Development Bank 2001 and 2002a.

[27] The Asian Development Bank considered this as critically important that it had a "Special Chapter – Education for Global Participation" in one of its recent annual publication of the *Key Indicators*. See Asian Development Bank 2003. Countries of East Asia came in for praise for their high quality primary and secondary education systems as well as the way they could build on this advantage and participate increasingly in the global economy; the contrasting experience of South Asia was also pointed out.

fall into. What this basically means is that when countries that attempt to exploit their comparative advantages based solely on their low labor costs by holding down wages end up in a vicious circle of low productivity, deficient training, and a lack of skilled jobs and thereby they are never able to compete in the international markets for skill-intensive products. Cheap, semiskilled labor provides only an important entry point into global value chains. Unless countries quickly upgrade technologically and move up the value chain, they get caught in the cycle of low skills, low wages, depressed productivity and low levels of technology. Boosting the educational base is clearly the way to break out of this cycle.[28]

There is another factor that has to be considered under globalization. The existing inequalities in educational achievement would translate into inequalities in utilizing new economic opportunities leading to two implications. First, the *overall* scale of expansion of employment-generating modern production suffers. The low spread of elementary education can severely hinder successful integration with the world market. For instance, the nature and range of goods exported by South Korea since the 1970s or by China from the 1980s show clearly how crucial basic education is in catering to the world market, with production specification and quality control. Second, there is also a failure on the *distributive* front. The smaller the share of the population that is educated, the less participatory would the growth process be. Only a small section of the nation would find that its income-earning power has been enhanced. The lack of basic education can hamstring the attempts to modernize rapidly.[29]

Basic education leads to higher productivity in activities that increase household welfare; schooling of girls led to reduced fertility and infant and child mortality rates, as well as improved household health through better nutritional and health care practices.[30] There are a large number of concrete and tangible pathways through which education empowers girls and women and unleashes the potential represented by half of humanity; this can result in major economic and social gains.[31]

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[28] Asian Development Bank 2003.

[29] Sen, Amartya 1996. For more on this and the role played by basic education in the case of India, China and Japan, see Balatchandirane. G. Rajiv Ranjan and Sreemati Chakrabarti 2001. For more on the role of education, economic growth and social change particularly from an Asian perspective see Adams Don 2002.

[30] World Bank 1997 p.39.

[31] Balatchandirane. G 1998, 2003, 2004 and 2007a.

To recapitulate, the first identifiable way by which education impacts on modernization is through the creation of a society that values meritocracy. The second major pathway of influence of education on economic development is that it gives “training in being trained” and facilitates the diffusion and absorption of imported technology which is crucial for economic development. The third major contribution of education is that it is a key input for poverty reduction. The fourth major contribution of education to economic development is that in the increasingly globalizing world it ensures employment generation as well as helps in the mitigation of economic inequities in a country. The fifth major pathway of influence is that education even at the basic level has additional favorable impacts on society in terms of the health of the population. The sixth important contribution of education is that it can make an effective impact on the reduction of inequities, especially gender inequity.

In concrete terms how does education, the dominant component of human capital, contribute to economic growth? Identifiable links exist between the income levels and the education levels of a population. Just the injection of literacy alone has been found to be beneficial to economic growth. Clear correlations between literacy levels and GNP per capita have been established. No country has been able to have significant growth in the last century without first attaining an enrolment ratio of 10 percent at primary level. When literacy levels increased from 20 to 30 percent, real GDP levels rose by 8 to 16 percent for a number of countries. A whole range of studies brings out the positive impact of education on economic growth and development. “The core of the human capital theory lies in this thesis that education increases productivity of the labor force leading to economic growth.”[32] Other studies on the returns to education assert that there are tangible and measurable returns to investment in education.[33]

Becker, the economist who popularized the term “Human Capital” implied that expenditures on training and education should be seen as investments in human capital which would lead to rises in productivity and earnings; this was similar to investments in physical resources like plant or equipment which are directly involved in the production process.[34] In other words, human capital represents the productive investments that lead to a

[32] Tilak, Jandhyala B. G. 1989.

[33] Psacharopoulos, George 1993 and 1995 and Psacharopoulos, George and Harry Anthony Patrnos 2002.

[34] Becker, Gary S. 1964.

buildup of the knowledge and skills of the labor force of a country. It is essentially the quality of labor resources, which can be improved through investments in education, training and health. The rises in the labor productivity that can be brought about by investing in education, training and health would result in productivity gains which would impact on economic growth favorably. It is education which is the crucial input in raising the stock of human capital. The greater the educational spread and the higher the educational level of the population, the larger is the stock of human capital. The larger the stock of human capital the faster will economic development, and hence modernization, take place.

Some relevant aspects of Education in Economic Development

When we look at the actual creation of an education system in a country attempting modernization, it pays for it to invest more in the primary sector of education initially. The resources are scarce as the country is yet to develop. The scarce resources have to be invested in the primary sector so that large sections of the population get some basic education and turn literate to enable the industrialization growth in the country. While the agricultural sector would be the mainstay,[35] industry is the one to target, as by definition economic development refers to the fact that people have access to more goods and choices while being able to afford them. The growth of industry requires human capital with a minimum level of skills. The second reason why the primary education sector should receive more attention is because of the fact that the rate of return is the highest in it, followed by the secondary sector and the tertiary sector, in that order.

So it is rational for any country attempting modernization to try to create a large base of the population that has been invested with basic education, to begin with. The share of the population that proceeds to secondary education would be quite low in the initial years of modernization, as even with primary education, a large share of the population would be able to find gainful employment. As the country progresses economically and as industry

[35] Economic histories of a number of countries show that agriculture would be the largest employer (around 70 percent of the total labor force) as well as the largest contributor to National Income (almost half or more) at the early stages of modernization, as typically seen in South Asia immediately after World War II or after the Meiji Restoration of 1868 in the case of Japan.

matures, the secondary education sector would develop in part due to the demand for higher human capital needs and in part because people with basic education and income earning capacity would try to raise their skill levels further. The tertiary education sector, the universities, colleges and higher institutions would be the last to develop. This would be the natural progression.

Stated differently, an education triangle with a large base comprising of a large section of the population educated at the primary level, with a smaller layer over it possessing secondary education qualifications and an even smaller layer at the top with skills in higher education would be what any country would attempt to have in the beginning. As economic development proceeds, the percentage of people who proceed from the primary to secondary education will increase; likewise those moving from secondary to tertiary education also would increase. With development, the country would be able to afford the set up the higher educational institutions which consume much larger amounts of resources. Meanwhile almost the entire population will turn literate and people would keep raising their skill levels in consonance with the rise in development levels. Empirical support for this is available in a study which analyzed educational impact on economic development in various countries of Asia and concluded that " … early increases in higher education enrolments are not effective as a strategic means of increasing growth."[36]

The foregone does not negate the existence of a tiny tertiary education sector right from the time of the beginning of the modernization drive, as there would be some industry to start with and the country would not be able to wait for the long time it takes for a substantial share of the population to be invested with secondary education first. Further a large number of teachers would be required in the primary and secondary sectors with educational qualifications preferably at the tertiary level. Moreover, as the histories of many countries that were under colonial rule shows, the powerful elite who garner political power after decolonization are usually able to ensure that some very good higher education institutions are created right at the outset to take care of their interests.[37] The issue that any policy planner would have to solve is: what is the combination of varying weights of the three sectors of education that has to be promoted taking into account issues of social equity and budget constraints as well as the current level of economic development? The other important factors to consider would be the expected demand for human capital taking

[36] McMahon, Walter W. 1999. p.50.

[37] India and Pakistan would be noteworthy examples.

into account the overall development paradigm and specific sector development plans.

The other point to be noted is that education does not automatically guarantee economic growth. However, with out raising the educational level of its population no country can hope to have significant economic growth. In other words, while education is a necessary condition for economic growth, it is not a sufficient one. Second, after modernization has progressed to some extent, it might be difficult to know which leads to which: education to economic development or the latter to a demand for more of the former. Needless to state, any modernizing society would aspire to have this healthy spiral.

Returns to Education

Education and training have been identified as the important sources of human capital accumulation[38] and the person undergoing education and training is affected positively. A number of researchers have attempted to measure the quantum of the impact. Mincer looked at how much additional income was traceable to each additional year of schooling. A state-of-the-art kind of survey is provided by Psacharopoulos in which he found the primary education continued to be top investment priority in the developing world. Educating females was found to be marginally more profitable than educating males.[39] This study was updated by a later work which covered major theoretical and country-specific works.[40]

This study confirmed a number of trends observed in the earlier works on rates of return analyses. Taken together, Table no. 1 and Table no. 2 indicate firstly, that the returns to education fall as one goes up by the level of economic development. Second, returns to education fall by level of education. Returns to education in Asia have values around the world average. Private rates of return are concerned with the returns that accrue to individuals or households from investment in education while the social rates of return consider the overall returns to society. The low and middle-income countries record higher social rates of return compared to the high-income countries. The rates decline as one moves up the educational ladder, that is primary education has the largest rate of return followed by secondary

[38] Becker 1962 and 1964; Mincer 1974.

[39] Psacharopoulos, George 1993.

[40] Psacharopoulos, George and Harry Anthony Patrnos 2002.

education with tertiary education having the lowest rate of return among the three. The social rates of return are usually larger than the private rates of return. Where the reverse is true, this can be explained by two factors: one, the government subsidies for education and two, the fact that typical rates of return estimates are not able to include social benefits.[41] Significantly, it has been found that both from the private and social points of view education is a very attractive investment opportunity.[42]

Table no. 1
Returns to Investment in Education by level, Regional Averages, %

Region	Social			Private		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Asia	16.2	11.1	11.0	20.0	15.8	18.2
Europe/Middle East/North Africa	15.6	9.7	9.9	13.8	13.6	18.8
Latin America/ Caribbean	17.4	12.9	12.3	26.6	17.0	19.5
OECD	8.5	9.4	8.5	13.4	11.3	11.6
Sub-Saharan Africa	25.4	18.4	11.3	37.6	24.6	27.8
World	18.9	13.1	10.8	26.6	17.0	19.0

Source: Psacharopoulos, George and Harry Anthony Patrinos 2002

The utility of the rate of return analysis in inter-sector planning has been questioned as it fails to take into account the externalities. However it is useful for making intra-sector planning and allocation of resources between the primary, secondary and tertiary sectors of education. The rate of return analysis is a very useful approach as it has been found to be highly useful not only as a tool of efficient allocation, but also in the context of economic equity too. Social returns to education in Asian economies have been found to be at least as high as any reasonable measure of the opportunity cost of capital. Investing in human capital, particularly in education, could be more conducive to economic growth as compared to investment in physical capital. It was

[41] Psacharopoulos, George and Harry Anthony Patrinos 2002.

[42] Psacharopoulos, George 1993.

also found that the more developed the country is, the lower are returns to education at all levels. It has also been conclusively found that human capital, which is created through investment in education, was a crucial factor that contributed to development. In fact, it was found that human capital accumulation or in other words education was 3-4 times as important as raw labor in explaining output growth. Growth in total factor productivity was found to be strongly related with the initial level of human capital. A number of these conclusions were found to be particularly true in the countries in East Asian region.[43]

Table no. 2
Returns to Investment in Education by Level,
Averages by per capita Income Group, %

Per capita income group	Mean per capita (US$)	Social			Private		
		Primary	Secondary	Higher	Primary	Secondary	Higher
High Income ($9,266 or more)	22,530	13.4	10.3	9.5	25.6	12.2	12.4
Middle Income (to $9,265)	2,996	18.8	12.9	11.3	27.4	18.0	19.3
Low Income ($755 or less)	363	21.3	15.7	11.2	25.8	19.9	26.0
World	7,669	18.9	13.1	10.8	26.6	17.0	19.0

Source: Psacharopoulos, George and Harry Anthony Patrinos 2002

To recapitulate, it is possible to state the following aspects about the rate of return to education: firstly, investment in human capital (education) may be more conducive to economic growth than investment in physical capital. Second rates of return decline as we ascend the educational ladder. Third, the more developed the country, the lesser the rate of return for education. Finally, private rates of return are higher compared to social rates of return.

[43] Tilak Jandhyala B G 1987 and 2004.

Survey of Literature on Gender Education and Economic Development

There is an immense amount of work on the links between gender education and economic development that is available now. What started as a trickle in the early 1970s is a veritable flood now. Also in a large number of writings that would fall under the rubric of gender studies there is ample coverage of women's education and the economic consequences; the posing of the problem and the way it is handled sometimes blurs the borders of what used to be called as "gender" studies. There are some useful surveys on the literature on women's education and economic development.[44] There are also useful annotated bibliographies covering different regions of the world on this issue.[45]

The first major detailed study on the significance of the contribution of women in economic development is less than four decades old.[46] Important studies which followed dealt with the importance of, and returns to, the investments in women's human capital.[47] The large potential contribution that women could make to economic development was highlighted in these studies, resulting in increasing attention being paid to the possibility of raising the economic growth rates in the developing world by tapping this potential.[48] The crux of the matter was the obstacles that girls and women faced in gaining access to education. Once these were overcome, and they were educated, their contribution to the society would be quite large.

How do investments in gender education help in the economic development? Firstly, the rate of return on investments in female education, as seen in economic productivity, is at least as high as the rates of return on investments in male education. Second, there are important positive effects of female education on non-market factors that are related to human resource development (namely, health, nutrition, and children's education) and population growth (namely reduction in fertility and infant and child mortality). Educated women process information better and use goods and services effectively. Further they are better prepared to provide health care, educate

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[44] For instance Benavot, Aaron 1989; Knowles, Stephen, Paula K. Lorgelly, and P. Dorian Owen 2002; and Lorgelly, Paula K. 2000.

[45] Hulton, Louise with Dominic Furlong 2001.

[46] Boserup, Ester 1970.

[47] Woodhall, Maureen 1973a and 1973b.

[48] Kelly, Gail P. and Carolyn M Elliott. eds. 1982.

their children and reduce their fertility to the desired levels. Third, this leads ultimately to a more equitable society. Typically in any society the control that women wield over resources is less compared to men. Female access to education is an important way of reducing the inequities. Additionally, increased access to education increases women's productivity and strengthens their bargaining position.[49]

Summers pointed out how the low expectation of economic contribution from girls once they are educated, ended up as a self-fulfilling prophesy in developing countries. The way out was to rapidly raise the educational attainment of the girls which would yield "enormous economic and social benefits". Importantly, he pointed out that the resources required for educating girls was not high and was easily affordable.[50]

The studies till now tended to highlight the *economic* gains and losses when gender education was taken care of. They also tended to focus on economic reasons that operated against the girl child and women in denying them education. However there are strong impediments posed by cultural factors that lead to the under enrolment of girls. The strong cultural practices and not just poverty *per se* was identified as an important reason why lesser number of girls than boys enrolled in school. Unless these were overcome the gender inequalities in education would persist even if incomes rose.[51] In our study we highlight mostly the economic aspects of what a society gains or loses by promoting or neglecting gender education. However, the other non-economic effects are no less important.

A strong case has been made for the increased role of public investment in basic education, with a bias in favor of girls and women. This is because the social returns to education indicate that larger public investments should be made in women compared to men in areas like South Asia where school investments in women are lesser compared to that for men.[52] In addition, governments should invest more in women not only for reasons of equity, but because that is the way to maximize social output. The social returns to educating women are greater than the returns for men. As women in the developing world have less education than men, and as returns tend to be higher at lower levels of schooling, the returns to schooling for girls in developing countries tends to outstrip that for boys. Second, the social benefits

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[49] Behrman, 1993, pp. 394-5.

[50] Summers, Lawrence H. 1994.

[51] Colclough, Christopher, Pauline Rose and Mercy Tembon 2000.

[52] Schultz, T. Paul. 1993a.

or positive externalities are higher in the case of schooling of the mother than the father. Third, the increased schooling of women increases the participation of women in the market labor force and widens the society's tax base.[53]

Other studies have convincingly established that female educational capital has a greater impact on economic growth than male human capital stocks.[54] Ramya Subramanian covers the issues of gender inequalities in education and the factors that contribute to them. She covers the attempts of the donors to tackle this issue and posits it against the household decisions that matter. She covers the policy discourses on gender inequality as it relates to education in some detail, arguing that an approach based on ensuring equity should override the priorities for efficiency in terms of policy implementation if the gender inequalities in education are to be truly eliminated.[55]

In addition to the studies by United Nations organizations and academic researchers a number of international NGOs have contributed quite useful studies and surveys and bibliographies. Notable studies have been done at the behest of international aid donors.[56] There are a quite large number of websites devoted to gender issues and these too provide useful information.[57] A major milestone marks the release of the World Bank Policy Research Report entitled *Engendering Development: Through gender equality in rights, resources, and voice* in 2001, putting the issues related to gender in the center of discussions on development. The Report went into how poverty or the lack of development leads to gender disparities and how the existing gender disparities in access to schooling and the like slow development. The immense cost paid by a society that failed to wipe out gender discrimination was highlighted.

The tendency of researchers and the United Nations organizations to make their studies available on the internet means that one can have access to a large number of recent studies on a theme which has been occupying the attention of the world in the last two decades or so, and so gets immediate notice. Anyone researching on this area would complain of a surfeit and not a shortage of studies to fall back on.

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[53] Schultz, T. Paul 2002.

[54] Lorgelly, Paula K. 2000 and Yamarik, Steven and Sucharita Ghosh 2003.

[55] Subramanian, Ramya 2002.

[56] for instance, Baden, Sally and Cathy Green, 1994.

[57] See for a representative collection in Boezak, Sonja, Ra'ida Al-Zubi, Paola Brambilla, Elena Krylova and Emma Bell 2002.

Gender issues and the UN Organizations

The UN had shown sensitivity to the women's issues way back in 1949 itself. It had launched a study in that year to see how far the opportunities for women in education were realized. The *Yearbook of United Nations 1956* maintained, "… equality in educational opportunities was closely linked to equality in political, economic, civil and social matters. Education for girls should be compulsory and the curricula for boys and girls should be identical".[58]

Almost three decades back, the UN had embarked on a long-term program for the improvement of the status of women. The ensuing policy debate accorded pivotal importance to female education and employment. On the 7th November 1967 the General Assembly of the UN proclaimed the resolution 2263 (XXII) titled "Declaration on the Elimination of Discrimination against Women" which laid out in concrete detail the elimination of discrimination against women in various facets of life. Article 9 covered issues relating to education.[59] The year 1975 was designated as the International Women's Year. UNESCO was to declare that it was education which will be the most effective channel that would ensure full participation of women in development. A spate of studies followed and women's education and its significance for economic development got to be highlighted. Various United Nations organizations showed interest in the issue of how the barriers that girls and women faced in acquiring education could be overcome and how they could be educated so that they could contribute to development. World Bank for instance has come up with a number of useful studies.[60]

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[58] Jain, Devaki 2005. pp. 30-31.

[59] The article read as follows: All appropriate measures shall be taken to ensure to girls and women, married or unmarried, equal rights with men in education at all levels, and in particular: (a) Equal conditions of access to, and study in, educational institutions of all types, including universities and vocational, technical and professional schools; (b) The same choice of curricula, the same examinations, teaching staff with qualifications of the same standard, and school premises and equipment of the same quality, whether the institutions are coeducational or not; (c) Equal opportunities to benefit from scholarships and other study grants; (d) Equal opportunities for access to programmes of continuing education, including adult literacy programmes; (e) Access to educational information to help in ensuring the health and well-being of families.

[60] Bellew, Rosemary and Elizabeth M. King. 1991 and World Bank. 1994.

The World Bank had initiated a popular discourse in 1995 through its statement of priorities in educational policy in which basic education especially that of girls, became the first priority. The roots of this new discourse are to be seen in the debates about Women in Development (WID) in the early 1970s. In the immediate post war understanding of development, women's role was not addressed. As wives and mothers they were the passive recipients of welfare policies. The concept of WID, which emphasized women's active productive contribution to development, challenged this view by constructing an alternative discourse. It used arguments of their economic efficiency to divert scarce resources to women. In doing so it focused on what women did for development, rather than what it did for them. Firmly within the framework of classical liberal economics, the Bank's statement argued that investing in the education of girls would yield externalities in reduced fertility rates and improved child health. This was to make education of girls the top priority for donor agencies, governments and non-government organizations.[61]

In September 2000, at the United Nations Millennium Summit 187 nations adopted the Millennium Declaration. There are eight Millennium Development Goals (MDGs) with 18 quantifiable targets that are measured by 48 indicators. Goal 2 relates to the achievement of universal primary education and Goal 3 to the promotion of gender equality and empowerment of women. As clear-cut measurable targets have been setup, and indicators identified, a lot of studies have tried to see how much of the goals have been met by the year 2005 which had its specified goals that were to be achieved. While a number of countries have defaulted, the MDGs have brought increased awareness of the failings of each country in achieving what would be considered a basic requirement. More than ever it has put each country's performance under the lens. Two Task Forces on Education and Gender Equality have been constituted with this end dealing with education and gender issues. While these two comprehensively summarized the issues as well pointed out where the world stood with regard to the targets that had been set, and what needed to be done to achieve two of the Millennium Development goals, namely universal primary education and gender equality

[61] Heward, Christine. 1999a. For a detailed exposition of how the UN philosophy towards development was affected by feminists and how the various UN organizations took initiatives to include women's issues in the study of development issues see Jain, Devaki 2005. and Kuiper, Edith and Drucilla K. Barker eds., 2006. Unterhalter, Elaine 2005 gives the various frameworks of analysis that have been basic to the UN approach to to the issue of gender education and development.

in education.[62]

The other noteworthy aspect is that with the World Bank and other United Nations organizations attaching importance to education in the 1980s as a antidote to poverty and economic backwards and their identification of gender education as a crucial input in the economic development efforts has resulted to a spate of very useful micro level studies which has enriched theory of late immensely. Much attention has been focused on Asia and there are a large number of country-specific studies and some useful comparative studies. One underlying theme has been the issue of how educationally backward regions like South Asia can learn from East Asia. The attention has of course not been uniform on the various countries of Asia.

Loss to society if girls and women are not educated

Let as approach the issue looking at the losses to a society which neglects to educate its girl child. Economic growth clearly suffers in such a society. A society that has a preference for not investing in girls pays a price for it in terms of slower growth and reduced income.[63] Gender inequality in education has a direct impact on economic growth through the lowering of the average quality of human capital. While the productivity of a country is raised when gender gaps in education are closed, the continuing educational gender gaps tend to slow economic development.[64]

Another major way through which gender inequality in education has been found to slow economic growth is through the distortion of incentives and indirectly through its impact on investment and population growth. The loss has been substantial. It is estimated that South Asia would have had 0.9 percent of faster economic growth per year had it promoted gender-balanced growth in education starting from a more balanced educational system since 1960.[65]

Discrimination against women in the labor market (which could exist if they are undereducated) has two major effects. Firstly, this discrimination brings down the equilibrium wages for both female and male workers and hence leads to reduced investment in human capital by both. Second, the

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[62] Grown, Caren, Geeta Rao Gupta and Aslihan Kes 2005 and Birdsall, Nancy, Ruth Levine and Amina Ibrahim 2005.

[63] Dollar, David and Roberta Gatti 1999.

[64] Knowles, Stephen. Paula K. Lorgelly, and P. Dorian Owen. 2002.

[65] Klasen, Stephan 1999.

average talent level of managers tends to be lower, which leads to reduced innovation in the economy; this tends to lower the average productivity of the workers. Both these factors lessen economic growth. Were policies and education that underline the value of women in society and in particular in the labor market promoted, this problem can be averted and economic development can be faster.[66]

The nature of poverty has to be understood to appreciate the all-embracing effect it has on the education for women. One of the linkages between education and poverty is that poverty acts as a constraint to educational achievement both at the macro and micro levels. At the macro level it acts as a constraint; we find poor countries have lower levels of enrollment. At the micro level children of poor households get less education.[67] The other striking feature of poverty is that it affects women more than men. Female poverty has its own distinctive traits and degrees of manifestation. Linked as it is to poverty, the level of gender inequality in a society has been brought about by various customs and values. The resulting inequalities tend to restrict women's access to resources, control over decision-making and participation in public life. The resultant inequalities have led to what has been termed as 'poverty feminization'. This refers to the facts that firstly, women account for seventy percent of the world's poor and second, to the fact that the proportion of female population that lives in rural areas in conditions of extreme poverty has risen by fifty percent in the last twenty years lending urgency to this issue. What stands out in female poverty are that poverty hits women more often and for a longer time than men and female poverty shows very high degrees of intensity and is often chronic. Lack of access to schooling is an important reason that leads to women's poverty.[68]

As education invests woman with an increased income earning potential, it acts as a key input of poverty reduction. In fact education has been found to be the best means of poverty reduction. This coupled with the fact of the "feminization of poverty" only points to the crucial role that education play in the elimination of low economic status of women. Others too have found that investing in women's education is the best poverty counter measure.[69]

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[66] Esteve-Volart, Berta 2003.

[67] Baden, Sally with Kirsty Milward 1997.

[68] Binelli, Chiara 2003.

[69] for instance, Oxaal, Zoe. 1997.

Barriers to Gender Education

The denial of *access* to education, or the creation of conditions that discourage girls from continuing in school, ultimately lead to educational inequalities between men and women. Countries with low girls' enrolment are also those where overall gross enrolment rates are low. In other words, smaller the proportion of primary school children in school, the larger the gender gap in enrolments. Second, the dropout rates are higher for girls than boys. Third, adult illiteracy rates are usually much higher for women than men.[70]

When a person faces the disadvantage of being a woman and also being poor, the gender differences are increased further. While eighty percent of girls from households in the top twenty percent complete grade eight, only 9.5 percent from the poorest forty percent are able to do so.[71] Families look upon the direct and indirect costs of sending daughters to school as being prohibitive in terms of provisions for books and stationery, uniforms and clothing as well as the foregoing of vital help at home and on the land. In India it has been found that wealth and gender disparities can combine to create a huge disadvantage for girls and women in the poorest stratum of society.[72]

The way education is provided can itself act as a deterrent. The difficulties in accessibility, lack of resources and low teacher quality and morale, lack of women primary teachers in rural areas, difficulties in synchronizing the schooling terms with the time dictates of seasonal activities of the local economy and similar factors tend to discourage girls from participating in education.[73] Of late, significant gains have been made in women's education in which global advocacy and donor pressure have had their role to play. However these fragile gains are vulnerable to changes in economic and social environments.[74]

The literature suggests that families might consider the economic returns of girls to be lesser than that of boys. Or it could be an expectation that sons could be providing old age security. Households further have fewer

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[70] Lewin, Keith M. 1997. p.30.

[71] Filmer, Deon and Lant Pritchett. 1998.

[72] Filmer, Deon. 1999.

[73] Baden, Sally and Cathy Green. 1994, Lee, W. O. 2002, Hulton, Louise and Dominic Furlong 2001 and Bahn, Gautam 2001 pp.40-1.

[74] Subrahmanian, Ramya. 2002.

incentives to invest in the education of girls' education as their labor market returns are lesser compared to men. Or it could be due to religious factors.[75] Thus the causes of educational deprivation for girls are many. Aspects like household resources, parental motivation, returns to child labor and school quality affect it.[76]

Economic Effects of Educating Girls and Women

Impact on the individual

Turning to the positive side, what are the actual effects on society when girls and women who have been denied education have equitable access to it? For the sake of convenience we can look at the impact directly on the individual and the household and that on the economy and the society. Looking at the individual, she benefits directly through the potential to have higher earnings through the higher knowledge and skills that have been acquired through education. Second, she has better control over resources. Third, her awareness of hygiene, basic health and nutrition improves and she is able to take care of herself and her children better. Fourth, education can increase the "voice" of women. She increasingly takes part in family decisions, be it the number of children to have or the kind of school the child should go to. She also gain some say in the way the household income is spent.

While it is quite well established in the literature that imparting literacy to the mother is much more beneficial to the children compared to imparting literacy to the father in an illiterate household, the interesting recent finding is that the female recipient of literacy is the more efficient one compared to the male recipient in that she is better able to absorb the benefits of literacy in the household.[77]

Educated women process information better and also use goods and services more effectively. Such women are also in a better position to provide health care, educate their own children and bring down their fertility to desired levels. Women's productivity is increased, their bargaining position is strengthened and the options open to them increase when they have access to education. In a study on the sociological effects of literacy campaigns, it was

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[75] Rammohan, Anu and Peter Robertson 2001.

[76] Dreze, Jean and Geeta Gandhi Kingdon 1999.

[77] Basu, Kaushik, Ambar Narayan and Martin Ravallion. 1999.

found that the majority of the neo-literates had achieved a high level of political consciousness, social awareness, scientific temper and functionality and health awareness. The significant finding was that the sociological impact was much greater in the case of women.[78] It has been shown that female education accounts for substantial reductions in infant mortality and significant increases in longevity. Education of females improves the effectiveness of family planning clinics threefold.[79]

Impact on the household

A mother's education has an important influence on the number of children she will have. It is also the single most important variable that impacts on the child mortality.[80] As much as half of the reduction in child underweight rates in 90 percent of the developing countries population between 1970 and 1995 is accounted for by the increases in women's education and status within the household. This factor was even more important than improvements in food availability, which contributed only a quarter to the reduction in child underweight rates.[81]

It has been clearly established that educated women have healthier children. When women are educated it has a great impact on the children's health and education than when men are educated. There is a close correlation between infant mortality and the ratio of women's secondary education to men's. Educated women also have fewer children, and hence better ones as they are able to allocate their scarce resources among fewer children. In South Asia about two decades back women with no education tended to have on an average, as many as, seven children.[82]

While schooling does have an effect in reducing fertility, there is a minimum amount of schooling that is required before appreciable effect on fertility is seen. Primary schooling alone is not sufficient; the effect is clearly seen once women have undergone secondary schooling.[83] Educating girls is particularly important in developing countries for improving the nutrition and health of the population as well as to bring down population growth rates.

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[78] Chandan Sengupta, and M.N.Roy 1996.

[79] McMahon, Walter W. 1999. p.91.

[80] Cochrane, Susan H. 1986.

[81] Quisumbing, Agnes. 2002.

[82] Birdsall, Nancy. 1993.

[83] Jeffery, Roger and Alaka M. Basu 1996.

The impact an educated mother has on the health of children is far more than that of the educated father. The educated mothers tend to have even more educated children. When women are educated, the population growth is slowed by the creation of new economic opportunities that compete with childbearing and child care. Education of women can lead to reduction of poverty, improvement of productivity, easing of population pressure, and the creation of a better future for the children.[84]

Children of literate mothers in India were found to spend two more hours per day studying than the children of illiterate mothers. The investment in the education of the present child is rendered more effective in an environment where there is a lesser gender disparity in education.

Education increases the ability of women to have income earning capacity. When the income is in the hands of the mother, it had a four time greater impact on the children's height-for-age than the situation where the income was in the hands of the father. Mothers' priorities in spending are different from that of fathers' and biased in favor of the welfare of the household. Who controls the income makes a big difference.

Impact on the economy

If the non-market factors like health, nutrition, and children's education, which are related to human resource development and other factors like fertility, infant and child mortality, which have a bearing on population growth are taken into account, these add up to a sizeable outcome arising out of women's education. In other words, if we were to look upon the impact of education on women outside of the narrow criterion of economic productivity, then the returns to investment on female education will outstrip those on male education.[85]

Despite the female participation rates being lower than that for males, the impact can be substantial on the general levels of education, health status, and population growth. These have an indirect and ultimately beneficial impact on productivity and hence growth. It has clearly been established that female education has a statistically significant positive effect on labor productivity; the same could not be said for male labor.[86] An analysis of the state level data in India shows the strong inverse correlation between

[84] Herz, Barbara, K. Subbarao, Masooma Habib and Laura Raney 1991.

[85] Behrman, Jere R. 1993.

[86] Knowles, Stephen, Paula K. Lorgelly and P. Dorian Owen. 2002.

educational gender gap and indicators of social and economic development.[87]

When we see the historical trends, the bearing and rearing of children was a time intensive process. Labor productivity has been continuously rising due to technological progress and increasing physical and human capital. The value of time thus rose and children became increasingly costly in relation to consumption goods. What mattered was the productivity of women as they had the primary responsibility of bearing and rearing of children. The rising physical capital substitutes for human strength, and eliminates the differential between the productivities of male and female labor. Opportunity cost of children is raised. Educated labor is increasingly in demand as the consumption demand is increasingly for sophisticated goods. The rising return to education would lead to an increased investment in education. One important result of this is that parents with higher incomes choose to devote more resources to each child. This raises the cost of each child and leads to fewer children.[88] Economic development along with investments in education and increasing access to education for women are the basic prerequisites.

One of the most significant effects of education in a woman's life, in an underdeveloped country where women's lot is taken to be inferior to men's, is that education ultimately invests economic independence in the woman who now finds that her capacity to earn money is vastly enhanced. It has now been conclusively proved that raising female educational attainments raises the subsequent rate of growth of real GDP per capita. Further there are gender-separate human capital effects on economic growth. Importantly, the female educational capital stock has a larger impact on economic growth than male educational capital stock.[89] Most importantly, investing in women's education has been found to be an excellent poverty reduction strategy.[90]

The economy benefits through better technology absorption and diffusion with a population that is increasingly educated. It gains through a rise in productivity. Countries today are better able to produce goods to export and participate in the increasingly globalizing world when the majority of their women force is educated.

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[87] Balatchandirane, G. 1998.

[88] Lee, Richard 2003.

[89] Lorgelly, Paula K. 2000.

[90] Oxaal, Zoe 1997.

Returns to Women's Education

With the increasing emphasis on, and realization of, the fact that the fundamental goal of economic growth is not economic development *per se*, but an improvement of human welfare, namely human development, the concept of social development increasingly took center stage. The high returns that accrue in a number of areas when women were educated tended to be highlighted. These relate to the above-mentioned favorable effects on the health, education and development of the children. For instance, after reviewing the earlier research on Korea, Japan, China and other economies, it has been found that female education has a very important positive effect on child survival and health conditions.[91]

The share of human capital investments that enhance women's productivity has increased in the last century in most countries. One explanation for this is that the private rates of return to investment in women's human capital have risen compared to the private returns on other investment possibilities, one of which is investing in men's human capital. The social returns or external benefits that flow from women's human capital is larger compared to men's.[92] Rates of return to primary education were found to be higher for men than for women; it is the reverse in secondary education. But, overall, it was found that women receive higher returns to their schooling investments. This is a significant finding in the light of the fact that the returns to schooling are a useful indicator of the productivity of education and also act as an incentive for individuals to invest in their own human capital.[93]

A high return to the investments in female education at the primary level has been borne out. The returns at the secondary level investments have been found to be no less important. Substantial reductions in fertility and infant morality were realized when health and family planning programs were combined with female education at the secondary level.[94] Despite the female participation rates being lower than that for males, the impact can be substantial on the general levels of education, health status, and population growth. These have an indirect and ultimately beneficial impact on

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[91] Tilak, Jandhyala B G. 2004.

[92] Schultz, T. Paul 1993b.

[93] Psacharopoulos, George and Harry Anthony Patrnos 2002.

[94] Subbarao, K. and Laura Raney 1993.

productivity and hence growth.[95]

In the Indian context it has been found that the rates of return to women at all levels were higher than that for men. From a strictly economic point of view, it might be more advantageous to invest in women's education than in men. Further, if the non-market works done by women were taken into account, this would raise the private and social rates of return to their education. The reason why the rates of return was higher for women was due to the fact that the costs of educating women were lower as the direct costs were somewhat lower and opportunity costs were much lower. The pertinent conclusions are that the rates of return for women were greater than the returns for men in most levels of education. Since the costs of education are lower, despite lower average earnings, the returns for women are higher compared to men. Were the labor force participation rates for women and men to be similar, the returns to women's education would be higher or at least not be less than the returns to men's education.[96]

Investing in women's education was found to have very high returns in environmental protection as it reduces the clearing of forests by offering better work options to women as well as improving the ability of women to manage natural resources. The overall high returns to investing in women's education along with health, sanitation and other programs, that have been found to have mutually reinforcing positive consequences, would be pursued by the soft-hearted but also make eminent sense to the hard-headed who looks at things from the economic returns point of view.[97]

The emphasis on female education in the recent development initiatives can be explained in terms of economic efficiency and social welfare arguments. Economic arguments based on the rate of return and the efficient allocations of resources are the clinching factors that call for investment in education. The private gains to education are found in the increased earnings and improved productivity. But there are also social benefits or externalities, which do not go to the individual. This fact would justify the state subsidies in education. Such an argument would be particularly valid in the case of state subsidies in female education as the social benefits to female education are more than that for male education.[98]

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[95] Knowles, Stephen, Paula K. Lorgelly and P. Dorian Owen 2002.

[96] Tilak, Jandhyala B. G. 1987 pp. 90-106, 166-167.

[97] Birdsall, Nancy 1993.

[98] For a contrary view that questions whether the private and social rates of return to women are high, see Ramya Subrahmanian 2002.

Table no. 3 gives the values for some of the Asian countries covered in this study. While it might be difficult to find a trend from just the numbers given above the following Table no. 4 might be more indicative.

Table no. 3
Returns to education by level of education and gender

Country	Year	Educational Level	Men	Women
China	1985	Overall	4.5	5.6
India	1978	Overall	5.3	3.6
Malaysia	1979	Overall	5.3	8.2
Philippines	1988	Overall	12.4	12.4
Singapore	1998	Overall	11.1	15.2
Sri Lanka	1981	Overall	6.9	7.9
Thailand	1972	Overall	9.1	13.0
Vietnam	1992	Overall	3.4	6.8
Taiwan	1982	Primary	8.4	16.1
Indonesia	1982	Primary	19.0	17.0
Indonesia	1982	Secondary	23.0	11.0
Indonesia	1986	Secondary	11.0	16.0
South Korea	1971	Secondary	13.7	16.9
Sri Lanka	1981	Secondary	12.6	35.5
Indonesia	1982	University	10.0	9.0
Indonesia	1986	University	9.0	10.0
Japan	1976	University	6.9	6.9
Japan	1980	University	5.7	5.8
South Korea	1971	University	15.7	22.9

Source: Psacharopoulos, George and Harry Anthony Patrinos 2002

The returns to women's education have generally been found to be equal to that of men's or more. In the case of female education, the social rates of return are highest at the primary level, followed by the secondary and tertiary levels.[99] Other studies have found that the rates of return to women at all levels were higher than that for men in India. From a strictly economic point

[99] Schultz, T. Paul. 1993b.

of view then it might be more advantageous to invest in women's education than in men's. There is enough evidence to show that the social returns to female education have been underestimated so far. They may in fact be more than so far believed, though quantification of some of the factors that raise the social rate of return to female education may not be easy.[100] Not everyone is in agreement on this, however.[101] The overall high returns to investing in women's education along with health, sanitation and other programs, that have been found to have mutually reinforcing positive consequences, would indicate that any enlightened approach to the elimination of gender inequality in society would go in for massive investments in the education of girls and women.

Table no. 4
Returns to Education by Gender, %

Educational Level	Men	Women
Primary	20.1	12.8
Secondary	13.9	18.4
Higher	11.0	10.8
Overall	8.7	9.8

Source: Psacharopoulos, George and Harry Anthony Patrinos 2002

On comparing countries at different levels of Economic Development

The individual countries of Asia embarked on their modernization drives at different points of time in history. The countries of South Asia, Southeast Asia and East Asia are at different levels of economic development seen from both the inter- and intra- group perspectives. There is ample justification in the literature for comparing and learning from the experience of countries that are at a higher stage of development even if the lesser developed country had started late and faces a slightly changed set of internal and external conditions.[102] There are a large number of case studies that

[100] See for instance, Herz, Barbara, K. Subbarao, Masooma Habib and Laura Raney. 1991.

[101] Baden, Sally and Cathy Green 1994.

[102] Ohkawa, Kazushi and Hirohisa Kohama. 1989 and Ohkawa, Kazushi, in collaboration with Katsuo Otsuka and Bernard Key. 1993

have thrown up interesting lessons using his approach.[103] Recourse to this approach with the specific intention of looking for pointers and lessons from the experiences of various countries of Asia in their attempt to attain gender equity in education might be an useful attempt.

[103] International Development Center of Japan. Various years; Klein, Lawrence and Kazushi Ohkawa. ed. 1968 and Ohkawa, Kazushi and Gustav Ranis. eds. 1985.

Country Studies

South Asia

This region is identified as one in which the gender discrimination is the largest in the world, sometimes rivaling even Africa. More than 100 million children of primary school age are not in school in Asia with south Asia accounting for one of the worst shortfalls with girls being disproportionately affected. Completion of schooling is a major problem. While enrollment has been increasing, many children drop out before finishing the fifth grade. In south Asia 74 percent of children (and just 63 percent of girls) complete primary school.

The colonial experience is a common feature for all the countries in this region except Nepal. Blaming the colonial rulers for the neglect of the educational development can no more be a valid exercise as over half a century has passed by since the counties of this region attained independence. The progress during the post Independence phase has been mixed. The initial decades were “lost” with not much urgency attached to this issue initially. The honorable exception has been Sri Lanka.

Bangladesh

The seventh most populous country in the world with a population of about 147 million, Bangladesh currently has a population growth rate of around 2 percent per annum. It had a life expectancy at birth of 62.5 years in 2006 with almost no difference between the male and female figures and the infant mortality rate is 61 deaths for every 1000 live births. The sex ratio is 1.05 males per female and the total fertility rate is high at 3.11 children per woman. The GDP for the year 2005 was US$ 63.5 billion at the official exchange rate and 304 billion on a Purchasing Power Parity (PPP) basis. The GDP per capita on a PPP basis was US$ 2100 in 1995, holding the rank of 178 in the world. For the year 2004 agriculture and industry accounted for 20 percent each of the GDP and services accounted for 60 percent. 63 percent of the labor force was in agriculture and 11 percent in industry and 26 percent in services for the financial year 1995-96. 45 percent of the population has been estimated to be below the poverty line in 2004. The literacy rate (for those over15 years of age who can read and write) for the total population was 43.1 percent for the year 2003; the literacy rate for males was 53.9 percent and those for females was

31.8 percent. In 2003 its military expenditures accounted for 2.6 percent of GDP while the public spending on education was 2.4 percent of GDP.[104]

English language schools modeled after the British schools had been introduced in the beginning of the nineteenth century in the region which constitutes Bangladesh today. Like elsewhere in the subcontinent this gave rise to a small elite class that was to provide clerical and administrative support to the colonial administration. Mass schooling did not develop. The need to develop schools for the masses was keenly felt during the time Bangladesh was East Pakistan (1947-71). Reforms to bring about mass and technical education were planned but not much was done.

Public allocations for education have always been quite low in Bangladesh. In 1981 the overall literacy rate was just 19.7 percent with urban areas registering 35 percent and rural areas 17 percent. Female literacy rate was 13.2 percent or half of the figure for men, which was 26 percent. In the rural areas only 11.2 percent of women and 23 percent of men were literate.

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[104] For this basic information on the different countries I have depended on The World Factbook of the CIA for uniformity. See https://www.cia.gov/cia/publications/factbook/geos/bg.html Accessed on 1st November 2006. Note that a nation's **GDP at purchasing power parity (PPP)** exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States. This is the measure most economists prefer when looking at per-capita welfare and when comparing living conditions or use of resources across countries. The measure is difficult to compute, as a US dollar value has to be assigned to all goods and services in the country regardless of whether these goods and services have a direct equivalent in the United States (for example, the value of an ox-cart or non-US military equipment); as a result, PPP estimates for some countries are based on a small and sometimes different set of goods and services. In addition, many countries do not formally participate in the World Bank's PPP project that calculates these measures, so the resulting GDP estimates for these countries may lack precision. **Total fertility rate** is the figure for the average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given fertility rate at each age. The total fertility rate (TFR) is a more direct measure of the level of fertility than the crude birth rate, since it refers to births per woman. This indicator shows the potential for population change in the country. A rate of about 2.1 children per woman is considered the replacement rate for a population, resulting in relative stability in terms of total numbers. Rates above two children indicate populations growing in size and whose median age is declining. Rates below two children indicate populations decreasing in size and growing older. Figures for spending are generally for 2000-02 and taken from UNDP 2005 or for 2001 from United Nations 2005

By 1988 the literacy rate for women had risen to 18 percent and for men to 39 percent. The estimated 1988 student teacher ratio was fifty four to one in primary schools, twenty seven to one secondary schools and thirteen to one in universities.

The education system of Bangladesh comprises of five years of primary education followed by seven years of secondary education. Higher education can be for two or five years. The primary education for five years is mandatory. The secondary education is divided into junior secondary for 3 years, followed by secondary for 2 years and higher secondary for another 2 years.[105] The government made attempts to raise enrolments and improve the quality. It strove for universal primary education, raising access to school, improvement of teacher training and the like. Thus primary education accounted for half of the educational allocations by the mid 1980s. In the event, the results have been mixed. While enrolments rose, dropout rates remained high and literacy rates did not go up to the extent envisioned. The progress in literacy rates is given in Table. No.5

Table no. 5

Adult (15+ Year) literacy rates in Bangladesh 1980-1995, %

Year	Adult Literacy Rate		
	Male	Female	Total
1980	43	20	32
1985	43	22	33
1990	47	22	35
1995	49	26	38

Source: Chowdhury, A Mushtaque R., Rasheda K. Choudhury and Samir R Nath (eds.) 1999.

The government had nationalized all primary schools in 1973 but started allowing new schools in the private sector from early 1980s. The registered and non-registered privately managed schools, which now enroll about 15 percent of primary school-going children, are increasingly playing important roles. The third highest in relative enrolment are the schools run by NGOs which enroll about 8.5 percent of primary school going children. Free

[105] Ali, M.M.1995.

education for girls up to Class VIII was to be given under the National Children Policy enunciated in 1994. The Compulsory Primary Education Act was passed in 1990. Since 1991 Bangladesh has made five years of primary education free and compulsory for all the children. By law, parents can be punished if they do not send their children to school.

The ratio of boys to girls in primary schools had improved to 53:47 by 1995. Female teachers in the primary school system increased from 20 percent in 1989 to 27 percent in 1995. According to government claims, the gross enrolment ratio for the country had reached 95 percent in 1999. In 1998 the government reported a literacy rate of 51 percent. Within 12 months it said the rate was 56 percent, raising the issue of credibility. The other aspect is that the quality of this literacy is suspect. Some of the districts which the government has declared to be 'illiteracy free' show mixed results when tested with various efficiency indicators.[106]

When 949 defaulting families in one district in 1995-96 were analyzed, it was found that firstly, the average size of the defaulting families was a little larger than the national average and had two children in the age group of 5-10 with two thirds of the families being those of landless labor. Second, in eighty percent of the families both the parents were illiterate. This figure rises to 98.6 percent if the criterion considered is changed to just one parent being illiterate. Third, only 12 percent of the homes were located at a distance of less than a mile from the school. 85 percent of the homes were located 1-2 miles from the school. Fourth, just over a third of the families were aware of the law which made it mandatory for the parents to send their children to school. Fifth, the main reason for not sending the children to school was that primary schools were expensive (30.3 percent). Books had to be bought (though officially they were to be given free) and there were other expenses like clothing, pocket money etc. 15 percent held that the income the children generated by working was needed. Sixth, all the defaulting parents without exception want to see their children turn literate. The reasons they cited for the son were that a literate adult son would be more knowledgeable, have decision making power, increased earning capacity, better ability of understanding business and property documents etc. The advantages they listed for a literate daughter were that it would be easier to marry her, she would have income earning capacity, would be able to manage her home and educate her children. Further a literate woman has greater security, privacy

[106] Chowdhury, A Mushtaque R., Rasheda K. Choudhury and Samir R Nath eds., 1999.

and independence.[107]

Bangladesh has been able to show spectacular progress in getting the girl child to stay in school after primary level. One important policy of the government which seems to have been a success is the Female Secondary School Stipend (FSSS) program initiated by the government in 1994. Under this initiative, the government gives a cash incentive or stipend to those households sending girls to school in grades 6–10 to cover part of school expenses. The money is paid into an account for each girl in a bank. The girls have to pay various school fees out of this. More money is paid as the girl proceeds to higher classes. The forerunner of this program was the Female Stipend Program (FSP) which was introduced first in 1982 on a pilot project, the results of which were very encouraging.[108]

The main motive was to enroll girls in secondary education so that marriage was delayed thereby bringing down the total fertility ratios. There was also increased use of contraceptives due to a rise in awareness levels. As the program was very successful, it was extended from the initial six areas to larger areas of Bangladesh in 1994. While primary education in Bangladesh is free, secondary education is free for girls only. There has also been a rise in the number of female teachers creating a favorable environment. The FSP which sought to keep adolescent girls in secondary school to delay their marriage and motherhood has led to the following results. Firstly, it succeeded in increasing the secondary school enrolment and retention. There has been a dramatic surge in these. Second, there is evidence of positive impact though limited on delaying marriage. Third, it has been found that women are entering formal employment sector in large numbers.[109] Every additional year of stipend program duration was found to increase female enrollment in secondary schools by a considerable amount.[110]

The government has also attempted to raise the number of female teachers in secondary schools. It also provides occupational skills training to girls who are about to pass out. Schools also provide a safer and healthier

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[107] Farouk, A. 1996.

[108] This is one of the most studied aspects of female education in Bangladesh as it has been a success. Among others see Raynor, Janet 2005, Raynor, Janet and Kate Wesson 2006, Khandker, Shahidur R. Pitt, Mark M., and Nobukiho Fuwa 2003, Fuwa, Nobuhiko 2006 and Mahmud, Simeen 2003

[109] Raynor, Janet and Kate Wesson 2006.

[110] Khandker, Shahidur R. Pitt, Mark M., and Nobukiho Fuwa 2003 and Fuwa, Nobuhiko 2006.

setting for girls. The other programs of the government that seem to have positively affected female schooling (though they were not targeting girls) are the Food-for-Work program and the Vulnerable Group Development program. It is felt that these two programs have the net effect of releasing girls from time consuming household chores ensuring their higher school attendance. Put together, these initiatives of the government's have been very successful in both raising the number of girls entering secondary school as well as in retaining them and ensuring that they complete their schooling.

Because of the government policies, Bangladesh seems to have made remarkable gains in reducing gender disparities in both primary and secondary schooling. Bangladesh has notched up great success in eliminating gender gap at the lower levels of education. It stands out among countries of South Asia in this regard. The ratio of females to males in primary schools has increased from 83 percent in 1991 to 96 percent in 2000. There are of course large regional variations. In secondary schools more girls than boys are enrolled. This is attributed to the FSSS program. Of the 7.65 million children enrolled in secondary schools in 2000, 4 million were females implying a 112 percent female to male ratio. Nearly 73 percent of girls aged 11-15 and 80 percent in ages 6-10 were enrolled in secondary and primary school. Bangladesh has one of the highest primary school enrolment rates in the developing world.

When the pattern of children school attendance by age is seen, till the age of 9, more or less the same proportion of boys and girls attend school. After the age of 9, females attending schools are consistently higher and this trend is seen till age 18. This surprising trend is at variance with the South Asian trend as well with other countries that are at a similar level of GDP per capita. When Bangladesh is compared with India, it is seen that between ages 10 and 18, age-specific attendance rates for boys are higher in India than in Bangladesh. In the case of girls, between ages 7 and 18, the pattern is the exact opposite. Namely, a larger share of girls in each age category attends schools in Bangladesh than in India.

In Bangladesh it has been clearly established that rising household income reduces the household gender bias in the preference for boys over girls, or in other words, this increases girls' schooling attainment proportionately more than boys'. However, increasing the mother's education is found to have a larger effect on both the school participation and the schooling attainment of girls and thus reduces the gender gap even more. When more schools are built and they are more proximate, there is increased

school participation, especially for girls. Deploying more female teachers improves the girl child's schooling more than that of the boy child's especially at the secondary level. Likewise increased availability of toilet facilities and water supply contributes more to the schooling attainment of girls. Better roads and rural electrification tend to increase the school participation especially of girls. Mother's education has a larger impact on the education of the girl than that of the boy.[111]

Gender disparity differs significantly by the sex of the household head with the female-headed household encouraging the larger participation of girls in schools. Where the head is male, the ratio of females to males in primary and secondary is 96 percent, but where the head is female, this figure rises to 108 percent. The gender gap is disappearing in completion rates. Girls' completion rate is higher and dropout rate is lower than boys. Girls also attend school more frequently than boys. However boys did better in the tests to assess how good they were in the Assessment of Basic Competencies (ABC) tests.[112]

Access to infrastructure seems to be associated with higher ratios of females to males in primary and secondary school. Specifically the access to tap water, electricity, and a bus station are all associated with significantly lower gender disparity in schooling. Availability of tap water frees girls from the water collecting duties which are time consuming and frees them for school. The establishment of a bus transport facility ensures easy commutability to the secondary schools which are usually located outside the village. Buses also take care of the safety concerns of the parents.

School quality as measured by lower student teacher ratio impacts on gender disparity. In villages where the primary school had less than 50 students per teacher, there was a significantly higher ratio of females to males in primary and secondary schools as compared to those primary schools which had more than 50 students per teacher. The implication is probably that parents feel it is not worthwhile to send their daughters to overcrowded classes

Girls have a significantly higher probability of attending school, and a lower likelihood of dropping out, than boys in the age group of 10-17. Bangladesh has already achieved the MDG related to gender disparity in schooling opportunities, as the ratio of females to males in primary and secondary was 97 percent in 2000. There is a parity of enrolment namely equal number of boys and girls are in school. The FSP also had a positive

[111] Khandker, Shahidur R. 1996.

[112] Chowdhury, A Mushtaque R., Rasheda K. Choudhury and Samir R Nath eds., 1999.

impact on raising the enrolment of girls in primary school. Girls are educated in the belief that they can go for employment or to become better wives and mothers and benefit society as a whole. The larger issue is that once more and more girls get educated, the society's view of education as well as that of women itself is bound to change.[113]

Bangladesh has already attained the goal relating to elimination of gender disparity in schooling opportunities. It is the only country in South Asia other than Sri Lanka to have achieved parity in male and female enrollments not just at the primary level[114] but also at the secondary level. This is an impressive achievement for a country that is one of the poorest in the world, with a per capita gross national income of only US$ 1,700 in PPP terms in 2002.[115] This means that the low per capita level of income cannot serve as an excuse by other countries that are similarly placed in terms of per capita national income.

Like elsewhere in Bangladesh too, female education has been found to reduce the demand for children by lowering the infant and child mortality. As the cost of rearing children goes up, the perceived benefits from children decrease greatly. The inverse relationship female education and fertility has been found to consistent in the case of Bangladesh.[116] Although schooling related fertility differentials may be due to greater participation of educated women in the workforce in urban areas, in rural areas educated and uneducated women do not have radically different time use patterns. Married women spend most of their time in housework regardless of their educational attainment, and educated women have a somewhat lower probability of engaging in income earning activities.[117] In rural Bangladesh, a strong statistical association is observed between education and fertility levels. But this is seen only at or beyond secondary level education. What are the pathways for this causation? These are believed to be the impact of education through later age at marriage, enhanced female autonomy, greater workforce participation, and empowerment through promoting women's assertiveness regarding fertility desires and control.

However problems do remain. Women going to work are not looked upon with favor. The importance of education is rarely acknowledged for

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[113] Raynor, Janet 2005.

[114] Chowdhury, A. Mushtaque R., Samir R. Nath and Rasheda K. Choudhury 2002.

[115] World Bank 2005a.

[116] Sohail, Mohammad 1997.

[117] Amin, Sajeda 1996.

women. The rate of enrollment of girls in primary schools rose from about 45 percent in 1990 to about 48 percent in 1998. But drop out rate remained high at secondary level. While 61 percent of boys enrolled at the primary and secondary levels of school completed eight years of schooling in 1995 only 51 percent of girls managed to do so. Around 1995, 20 percent of teachers in primary education were women. Figure for secondary education was 11.3 percent and for higher education it was 12.6 percent.[118] However with more girls and women getting educated, this should change.

A disturbing trend is girl's declining performance compared to boys in final examinations. What is now needed is look beyond access issues to quality and gender inclusion issues such as educational processes and achievements. Boys did better in the tests to assess how good they were in the Assessment of Basic Competencies (ABC) tests.[119]

The Food for Education program in Bangladesh was very successful at getting poor students enrolled in school, particularly girls. However as not much was invested in school construction, class sizes have increased. While this might mean that quality deterioration would be a concern, It has been found that class size was not the reason why the quality was affected. Thus building more schools may not be solution, but increasing the quality of teaching might be.[120]

There are some more problem areas. A recent study which covered rural secondary schools in Bangladesh found the following. On average, school quality measured by test performance of students was very low in rural Bangladesh. Second, girls had a lower test score than boys. Children attending religious schools fares worse compared to secular schooled students. Class size was not important in raising learning outcomes. Girls who got government stipend did not have a higher test score compared those not receiving stipends.[121]

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[118] JICA 1999b.

[119] Chowdhury, A Mushtaque R., Rasheda K. Choudhury and Samir R Nath eds. 1999; Raynor, Janet and Kate Wesson 2006.

[120] Ahmed, Akhter U. and Mary Arends-Kuenning 2006.

[121] Asadullah, Mahammad Niaz, Nazmul Chaudhury and Amit Dar 2006.

India

"There cannot be an educated people without educated women. If general education had to be limited to men or to women, that opportunity should be given to women for then it would most surely be passed on to the next generation."

- Sarvepalli Radhakrishnan[122]

"The state should defray the entire cost of the education of its people in order that there might be no backwardness in the spread of enlightenment among them, that by diffusion of education they might become better subjects and public servants and that the reputation of the state might be enhanced thereby."

- Gowri Prvathi Bai, the Rani of Trivancore, in 1817[123]

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The second most populous country in the world with a population close to 1.1 billion in 2006 and the seventh largest in land area, India dominates South Asia. Others countries of South Asia, namely, Pakistan, Bangladesh, Sri Lanka, Nepal and Bhutan together account for about a third of India's population and a little over a third of its land area. The population growth rate was 1.38 percent per annum in 2006. Indians had a life expectancy at birth of 64.71 years (almost the same as the world average of 64.77), with the male life expectancy at 63.9 years and that for females at 65.57 years in 2006. The infant mortality rate is 54.63 deaths for every 1000 live births in the year 2006. The sex ratio is 1.05 males per female and the total fertility rate is 2.73 children per woman (world average is 2.59). The GDP for the year 2005 was US$ 719.8 billion at the official exchange rate and 3,611 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 3300 in 2005, holding the rank of 158 in the world. For the year 2005 agriculture and industry accounted for 18.6 percent of the GDP and industry had a share of 27.6 percent while the figure for services stood at 53.8 percent. 60 percent of the labor force was in agriculture and 17 percent in industry and 23 percent in services for the year 1999. 25 percent of the population has been estimated to be below the poverty line in 2002. The

[122] In the Report of the University Education Commission (December 1948 – August 1949), Vol.I, Ministry of Education, Government of India, 1962 as quoted in Kirpal, Prem ed., 1989. p.307.

[123] This Travancore rescript significant as it is by a female ruler predates the famous Meiji Education law of 1872 by 55 years. Quoted in Shah, Shekhar and Manu Rani 2003.

literacy rate (for those over15 years of age who can read and write) for the total population was 59.5 percent for the year 2003; the literacy rate for males was 70.2 percent and those for females was 48.3 percent. In 2005 its military expenditures accounted for 2.5 percent of GDP (world average 2.0 percent of GDP) while the public spending on education was 4.1 percent of GDP.

If we go by the reports of a missionary to the Governor General of India, in the early years of the nineteenth century while 100,000 schools could be counted in the two provinces of Bengal and Bihar, not one of them was for girls. In the 1820s, schools for girls were opened by missionaries in Calcutta. In the year1901-02, female students in public schools numbered 444,470 which was less than one ninth of the figure for male students.[124] The Indian population was around 250 million at this time, so put together, boys and girls in school accounted for less than 2 percent of the population.

Turning to girls' education, the British rulers, " … were not opposed to women's education so much as apathetic about it." Women's organizations that were built by upper caste women or women from upper class urban centers raised the need for women's education especially after the 1930s. However the growth of women's education had limited success. In 1947, at the time of independence, just about 8 percent of women were literate; only 25 percent of the relevant age groups were in elementary class and only 5 percent were in middle school. The total number of women in higher education classes was about 18,675, which was 10 percent of the total enrollment.[125]

There was not any major effort on the part of the rulers during the colonial period to spread education or literacy among the masses.[126] Educated Indians by and large, it is held, did not seriously oppose the neglect of the girls' and mass education and went along with the selective education that was practiced as it suited them. Thus the colonial administration could just pay lip service to the education of girls and get away with allocating little funds for the purpose. No concerted effort for the expansion and advocacy of girls' education was done. Even social reformers and educationists considered the girls as potential wives or mothers only.[127] Like elsewhere, a tiny elite class was cultivated to interface with the population and to administer

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[124] Ghosh, Suresh Chandra, 1995. p.125.

[125] Desai, Neera 1993. See this for the policies of Indian government relativng to the promotion of women's education in independent India. For more on the education of women in the pre Independence 20th century India, see Channana, Karuna 2001.

[126] Kumar, Krishna 2005.

[127] Dutt, Shushmita Chatterji 2001.

it. The colonial administration had in effect brought together the entering and advancement in government service to academic education; the colonial approach was to contribute to the legacy of an education system which was designed to preserving the position and the prerogatives of those that were more privileged. Upward mobility of the elite few was assured and kept out the masses.

Table no. 6
Literacy Rates in India, Selected Years, 1881-2001, %

Year	Literacy Rate			
	Total	Males	Females	Gender gap
1881	6.3			
1911	7.3			
1931	9.3			
1951	18.3	27.2	8.9	18.3
1961	28.3	40.4	15.4	25.1
1971	34.5	46.0	22.0	24.0
1981	43.6	56.4	30.0	26.6
1991	52.2	64.1	39.3	24.9
2001	65.4	76.0	54.3	21.7

Note: Literacy rates for 1881-1931 are for persons 10 years olds and above, rates for 1951-71 are for persons 5 years old and above, and rates for 1981 and later are for persons 7 years old and above.

Source: World Bank, 1997 p.16. and Government of India 2001.

This legacy continued after independence. In the immediate years after independence the political economy of development ensured that the vested interests of the ruling and powerful classes were well taken care of. The Indian elite bureaucratic and ruling classes made sure that their own offspring did not suffer for want of good quality higher educational institutions and so were very favorably inclined towards their creation. Thus at a time of scarce resources, the higher education sector did not suffer for want of funds. In the normal progression of development, the State should have invested the scarce resources more in the primary education sector so that the base of education triangle was widened as rapidly as possible. The second reason which prevented the creation of a large base of the education triangle has to do

with the economic model that India was following in the initial decades of development. Huge sums of money were invested in State owned public sector undertakings. The economic models that India tried to follow gave the policy planners indications on how much highly qualified skilled professionals would be required in each sector were required. This meant substantial investments had to be made in the higher education sector. However a large share of human capital thus created could not be usefully utilized as the original plans went awry. These two reasons meant that the higher education sector got more than what would be considered a fair share in the context of a country at the initial stages of modernization. It has to be remembered that the pie was small; large investments in higher education necessarily meant that the primary education sector suffered. For the money spent on educating one student at university in 1950-51, 96 students could have been schooled at the primary level.[128] Table no. 6 gives the literacy rates in India from 1881 to 2001.

Since the time of Independence, there has been an attempt to have a common structure of the education system all over the country. A 10+2+3 pattern has been recommended by the Education Commission of 1964-66 and this has been adopted. This system aims at having a common school curriculum up to Class X. Vocational and technical courses would start at the secondary stage. Other professional courses would begin after the two years of senior secondary course. The schools are of extremely varying quality. The “public schools” patterned after the British schools offer high quality education. The government rural or municipal schools lack resources and offer education of low quality. Between these two are a large variety of private schools.[129]

Today India has a fairly large schooling system in the world. The primary, middle, high schools put together number close to a million. There are about 202 million students in these with 45 percent of them being girls. Around 5.5 million teachers (40 percent of whom are women) are engaged in them, implying an overall student teacher ratio of 36 to 1.[130] And yet it is home to about two fifths of all the illiterates in the world despite having just a sixth of the global population.

In relative terms the movement of literacy rates in the post-independence period would seem impressive compared to what had

[128] Gounden, A M Nalla. 1987.

[129] Bordia, A. 1995

[130] Government of India. 2005.

happened before India became independent. Public primary schools have been rapidly set up in the latter period. Now there are nearly 600,000 of these schools all over the country. There are about 185,000 secondary schools and about 100,000 high schools. If we see the growth of the school going population, as of 1997, over 108 million students were enrolled in grades 1–5. Over 39 million were enrolled in grades 6–8 and about 18 million were enrolled in grades 9–10. As many as ninety five percent of the primary schools exist within a walking distance of 1 kilometer. Adult literacy rates have grown from eighteen percent in 1951 to sixty five percent in 2001, a more than threefold increase. Around the time of Independence there were 20 universities and the colleges numbered a little less than 500 and about 200,000 students were enrolled in them. Today there are about 348 Universities and 17,625 colleges and the student enrollment in higher education is around 10.5 million.

Table no. 7
Coefficient of Discrimination in education in India from 1950-1 to 2001
(As seen in literacy rates)

		1950-1	1960-1	1970 -1	1980-1	1990-1	2001	Average annual growth rate 1970-1 to 2001
Literacy rates (%)	Female	9	15	22	30	39	54	3.0
	Male	27	40	46	56	64	76	1.6
Improvement in decadal literacy rates (in percentage points)	Female		6	7	8	9	11	
	Male		13	6	10	8	12	
Gender gap (in percentage points)		18	25	24	26	25	22	
Becker's Coefficient of discrimination		2	1.67	1.09	0.87	0.64	0.41	

Computed from data in Table A.6 of Jean Dreze and Amartya Sen, 2002.
Note: Till 1971 population over 5 years and from 1981 onwards over 7 yrs is considered.

When India became independent in 1947, the overall literacy rate in India was eighteen percent and the female literacy rate was just nine percent. The Gross Enrollment Ratio at the primary stage (classes i-v) was forty three

percent and for girls it was just twenty five percent. At the upper-primary level (classes vi-viii) only one out of every eight children was enrolled; the corresponding figure for girls was one out of twenty. Six decades later, while the total literacy rate is sixty five percent, it is just fifty four percent for women while for men it is seventy six percent. Four out of five children in the age group six to fourteen are in school. Female literacy has shown a dramatic rise from the level of just nine percent at the time of independence. In the decade spanning the period between the latest census and the earlier one, about 13.4 percent of the Indian population has turned literate - a population that exceeds the entire Japanese population. Thus, this would be an impressive achievement by any standards. However there are also huge issues to be tackled. India is home to the largest number of illiterates in the world. Two thirds of its adult women population is illiterate.

As Table no. 7 makes it clear, the discrimination against females in education as seen through the Becker's coefficient has been considerably reduced, but is still fairly high. The Becker's coefficient is almost zero in the case of the model state of Kerala as shown in Table no. 8, reflecting the near absence of gender discrimination in education in that state.[131]

Table No. 8
Coefficient of Discrimination in education as seen in literacy rates in Kerala from 1961 to 1991

		1961	1971	1981	1991
Literacy rates (%) 5 yrs and above	Female	38.9	54.3	64.5	75.4
	Male	55.0	66.6	74.0	80.9
Coefficient of discrimination		0.41	0.23	0.18	0.07
Literacy rates (%) 7 yrs and above	Female			75.7	87.0
	Male			87.7	94.5
Coefficient of discrimination				0.16	0.09

Computed from data in p256 of Jean Dreze and Amartya Sen, eds., 1996.

[131] Detailed presentation of the various factors that led to the educational development of Kerala and the role of public action in ensuring this is available in Ramachandran, V.K 1996.

Table No. 9

Female Literacy Rate and Social Indicators

15 Major States of India, 1991

STATE	LITERACY RATE OF FEMALES	FEMALE LIFE EXPECTANCY	MALE LIFE EXPECTANCY	INFANT MORTALITY RATE	MATERNAL MORTALITY RATE
Rajasthan	20.4	57.8	57.6	84	938
Bihar	22.9	58.3	NA	72	813
Uttar Pradesh	25.3	54.6	56.8	98	931
Madhya Pradesh	28.9	53.5	54.1	111	535
Andhra Pradesh	32.7	61.5	59.0	71	402
Orissa	34.7	54.8	55.9	120	778
Haryana	40.5	63.6	62.2	71	435
Assam	43.0	NA	NA	76	1028
Karnataka	44.3	63.6	60.0	73	415
West Bengal	46.6	62.0	60.5	66	551
Gujarat	48.6	61.3	59.1	69	355
Punjab	50.4	67.5	65.4	57	NA
Tamil Nadu	51.3	63.2	61.0	58	319
Maharashtra	52.3	64.7	63.1	59	393
Kerala	86.2	74.4	68.8	17	234

Source: Compiled from data in Appendix Table A.3 of Dreze, and Sen, 1996, pp. 217-8.

Notes: Literacy rates far for people in the 7+ age group, 1991.

Life expectancy at birth for years 1990-92

Infant mortality rates are for years 1990-92 per 1,000 live births

Maternal mortality rate figures are estimates for 1982-86, per 100,000 live births.

The enrollment of the girl child has been given a boost by many states in India; however, a number of them have not been able to reduce the dropout rates for the girl child. There is a definite decline in the dropout rate for girls of late. However, it is estimated that around eleven million girls within the age group six to eleven are still not enrolled in school, and this number accounts for eighty eight percent of all the children not enrolled in this age group. In the eleven to fourteen age group, the corresponding figure is sixteen million; this

accounts for fifty eight percent of all children in this category. There are a number of factors that impede the education of girls. Firstly, it is the absence of effective early childhood education programs; this results in girls having to taking care of younger siblings and not being able to go to school. Second, the absence of middle schools within easy reach in the village where they live too acts as an impediment. Thirdly, the absence of sufficient number of women teachers also discourages the parents from sending their daughters to school.[132]

In the Table no. 9 we give the literacy rate of females in the 15 major states of India sorted in ascending order. A strong association with a rise of female literacy with both female and male life expectancy is found. Likewise with few exceptions the infant mortality rate and the maternal mortality rates show a negative association.

In the Table no. 10 we have used the data from the earlier table but have calculated the gender gap in literacy (male rate minus the female rate) and sorted the states in the decreasing order. Here also a strong association with a fall in gender gap and a rise in both female and male life expectancy is seen. Similarly, with few exceptions the infant morality rate and the maternal mortality rate falls as the gender gap in literacy falls.

[132] Govinda, R. 2002.

Table no. 10
Gender Gap in Literacy and Social Indicators
15 Major States of India, 1991

STATE	GENDER GAP IN LITERACY	FEMALE LIFE EXPECTANCY	MALE LIFE EXPECTANCY	INFANT MORTALITY RATE	MATERNAL MORTALITY RATE
Rajasthan	34.6	57.8	57.6	84	938
Uttar Pradesh	30.4	54.6	56.8	98	931
Bihar	29.6	58.3	NA	72	813
Madhya Pradesh	29.5	53.5	54.1	111	535
Haryana	28.6	63.6	62.2	71	435
Orissa	28.4	54.8	55.9	120	778
Gujarat	24.5	61.3	59.1	69	355
Maharashtra	24.3	64.7	63.1	59	393
Karnataka	23.0	63.6	60.0	73	415
Tamil Nadu	22.5	63.2	61.0	58	319
Andhra Pradesh	22.4	61.5	59.0	71	402
West Bengal	21.2	62.0	60.5	66	551
Assam	18.9	NA	NA	76	1028
Punjab	15.3	67.5	65.4	57	NA
Kerala	7.4	74.4	68.8	17	234

Source: Same as for Table no. 9

What has been the progress since then? This is captured in the Table no. 11, which gives the literacy rates in major states of India for the year 2001 and has been sorted using the male-female gap in literacy rates. As seen in Table no. 11, the gender gap in literacy is a low of six percent for Kerala, the best performing state and a high of thirty two percent for Rajasthan, the lowest performing state, with the overall Indian gender gap in literacy being around twenty two percent. We can point out certain striking features. First, the states which have a better record for both male and female literacy rates have lesser gender gap in literacy. In other words, the higher the total literacy rate for a state, the lesser is the gender gap. Likewise, states that have a low overall literacy rate have the highest gender gaps in literacy. Second, the decadal increase in female literacy rates has been higher than the decadal increase in male literacy rates uniformly without any exception and this shows

that progress is being made on this front. Third, some states which have a poor record overall (both male and female) have notched up notable progress in female literacy rate improvement. Also the decadal progress for the entire country has been better in the case of females compared to males.

Table no. 11

Literacy rates in major states, 2001, %

State	Male	Female	Male-Female Gap	Decadal Increase Male	Decadal Increase Female
Kerala	94.20	87.86	6.34	0.58	1.69
Punjab	75.63	63.55	12.08	9.97	13.14
Goa	88.88	75.51	13.37	5.24	8.42
Assam	71.93	56.03	15.90	10.06	13.00
West Bengal	77.58	60.22	17.35	9.77	13.66
Tamil Nadu	82.33	64.55	17.78	8.58	13.22
Himachal Pradesh	86.02	68.08	17.94	10.61	15.82
Maharastra	86.27	67.51	18.75	9.71	15.20
Karnataka	76.29	57.45	18.84	9.03	13.12
Andhra Pradesh	70.85	51.17	19.68	15.72	18.45
All India	**75.96**	**54.28**	**21.68**	**11.83**	**15.00**
Gujarat	80.50	58.60	21.90	7.11	9.68
Haryana	79.25	56.31	22.94	10.16	15.84
Uttaranchal	84.01	60.26	23.75	11.22	18.63
Jammu and Kashmir	65.75	41.82	23.93	NA	NA
Orissa	75.95	50.97	24.98	12.86	16.29
Chattisgarh	77.86	52.40	25.46	19.79	24.87
Madhya Pradesh	76.80	50.28	26.52	18.26	20.93
Bihar	60.32	33.57	26.75	8.95	11.58
Uttar Pradesh	70.23	42.98	27.25	15.40	18.61
Jharkhand	67.94	39.38	28.57	12.14	13.86
Rajasthan	76.46	44.34	32.12	21.47	23.90

Data source: Visaria, Leela and Vimala Ramachandran, 2004. p. 52

India can learn as much from itself as it can from other countries.

This is because there are a wide variety of performances in educational development as well as in reduction of the gender discrimination *among* the Indian states. A comparison between the states of Uttar Pradesh, a low performer and Kerala, a star performer, as given in Tables no. 12 and 13 might be instructive.

Table no. 12
Health and educational outcomes and basic service use

	Kerala	Uttar Pradesh	India
Female school enrollment (6-17 years)	90.8	61.4	66.2
Male school enrollment (6-17 years)	91.0	77.3	77.6
Rural girls (10-12 years never in school)	0.0	31.7	26.6
Rural women (15-19 years never in school)	1.6	49.3	38.7
Infant mortality rate (per 1000 live births)	16.3	86.7	67.6
Total fertility rate (per woman)	1.96	3.99	2.85
Sex ratio (women per 1000 men)	1058	902	933
Immunization coverage rate (12-23 month)	79.7	21.2	42.0
Skilled delivery care (% of births)	94.0	22.4	42.3

Source: Shah, Shekhar and Manu Rani 2003.

Uttar Pradesh is a large state with a population of 175 million in 2001; there were only five countries in the world with a population larger than it. Kerala at 32 million is much smaller. Women in Kerala have a life expectancy that is 20 years more than that for their counterparts in Uttar Pradesh. Kerala's infant mortality rate is just one sixth of that of Uttar Pradesh. While Kerala has universal enrolment, fully a third of the girls in Uttar Pradesh have not seen the insides of a school. Kerala's fertility rate is 1.7 which is on par with the figure for high-income European countries, but is lower than the US figure of 2.1. Uttar Pradesh records a figure of close to 4, substantially above the Indian average of 2.85 and that of 3.1 for the low-income countries. In the case of Kerala, there were historical factors that gave it a lead when it was formed in 1955. But the noteworthy point is that what it achieved afterwards is the reason why it is so different from Uttar Pradesh. Between 1950 and now, adult literacy rose from 50 percent to 90 percent, life expectancy from 44 years to 74, and the birth rate from 32 to 18 now.

Table no. 13

Access, quality, and demand for education ad health services

	Kerala	Uttar Pradesh	India
Percent of rural population living in villages with selected facilities			
Primary School	90.1	75.1	79.7
Middle School	87.1	31.9	44.6
Primary health center	74.2	4.4	12.9
Connected with all-weather road	79.1	46.0	49.2
Total medical expenditure per hospitalization in public facility (Rs)	1,417	4,261	1,902
Women reporting that provider respected need for privacy	93.0	64.0	68.2
Women reporting health facility was clean	77.2	31.0	52.1
Do not consider skilled attendance at delivery necessary	1.4	42.5	61.3
Girls should be given as much education as they desire	56.5	33.7	30.8
Percent of households among poorest 20% that prefer a public facility if ill	55.7	9.5	32.8

Source: Shah, Shekhar and Manu Rani 2003.

What are the reasons that Kerala has shown such an impressive performance compared to Uttar Pradesh in social indicators? One important reason for this progress was the early promotion of primary education and female literacy in Kerala after independence. Second, gender equity and the agency of women played a major role in Kerala's success. Uttar Pradesh, on the other hand has always been oppressive towards women. Moreover, more than 70 percent of primary-school teachers in Kerala are women as compared to 25 percent in Uttar Pradesh.[133] Invariably as Table no. 13 shows these factors impact on other indicators of social development.

[133] Shah, Shekhar and Manu Rani 2003.

Table no. 14

Selected Indicators for 16 major Indian states

State	Literacy female	Lit racy male	Life expectancy at birth Female	Life expectancy at birth male	Infant mortality	Maternal mortality	Death rate	Birth rate	Fertility rate	Fem/Mal ratio
Bihar	35	62	58.4	60.4	68	513	9.4	31.0	4.4	926
Rajasthan	44	76	60.1	59.1	83	580	8.7	31.6	4.2	922
Uttar Pradesh	44	71	56.9	58.1	84	737	10.4	32.7	4.8	902
Andhra Pradesh	51	71	63.5	61.2	65	283	8.4	22.2	2.5	978
Madhya Pradesh	51	77	55.2	55.6	93	700	10.8	30.9	4.0	937
Orissa	51	76	57.0	57.1	97	597	10.9	25.4	3.0	972
Assam	56	72	57.1	56.6	76	984	9.9	27.7	3.2	932
Haryana	56	79	64.6	63.7	69	472	8.0	27.6	3.4	861
Karnataka	57	76	64.9	61.6	56	480	7.7	22.3	2.5	964
Gujarat	59	81	62.9	60.9	63	596	7.8	25.5	3.0	921
West Bengal	60	78	63.6	62.2	53	458	7.4	21.5	2.5	934
Punjab	64	76	68.8	66.7	53	n/a	7.5	22.4	2.7	874
Tamil Nadu	65	82	65.1	63.2	53	195	8.2	19.2	2.0	986
Himachal Pradesh	68	86	65.2	64.6	63	n/a	7.7	23.0	2.4	970
Maharastra	68	86	66.6	64.1	48	380	7.5	22.2	2.7	922
Kerala	88	94	75.9	70.4	14	n/a	6.3	18.1	1.8	1058

Data Source: Jean Dreze and Amartya Sen, 2002. Statistical Appendix Table A.3.

Note: Only states with over 5 million, J& K removed for paucity of data

We do another exercise with data for the year 2001 and this is presented in the Table no. 14. The correlation between the female literacy rate and the relevant social indicators are once again obvious. With a rise in the female literacy rate, the male literacy rate also rises. Life expectancies at birth for both males and females rise with a rise in the literacy rate for females. Likewise with few exceptions, the infant and maternal mortality rates, the death rate and birth rates and fertility rates show a falling tendency with a rise in female literacy rate. The female to male ratio in the population improves as

the female literacy rate rises.

We assigned ranks to the values in the above Table no. 14 to see whether our contention is correct. The data in the earlier Table no. 14 has been used in the Table no. 15 to assign ranks to each state on its performance in a particular variable. Then using the literacy rate column we have sorted the rankings and results are produced in Table No. 15. Omitting the column for female literacy, the total number of entries for the variables is 144. Of these only 40 entries are not in conformity with the ranking of female literacy column by over three ranks. In other words about 72 percent of the data is in conformity with the ranking given to female literacy column, showing the important impact this variable has on the rest.

Table no. 15

Rankings for the selected Indicators for 16 major Indian states

State	Literacy female	Life expectancy Females	Life expectancy males	Infant mortality	Literacy male	Maternal mortality	Death rate	Birth rate	Fertility rate	Female Male ratio
Bihar	16	12*	11*	10*	16	7*	12*	14	15	10*
Uttar Pradesh	15	15	13	14	15	12	14	16	16	14
Rajasthan	14	11	12	13	10*	8*	11	15	14	12
Orissa	13	14	14	16	9*	10	16	9*	9*	4*
Madhya Pradesh	12	16*	16*	15	8*	11	15	13	13	7*
Andhra Pradesh	11	9	9	9	14*	2*	10	5*	5*	3*
Haryana	10	7	5*	11	6*	5*	8	11	12	16*
Assam	9	13*	15*	12*	13*	13*	13*	12*	11	9
Karnataka	8	6	8	6	9	6	5	6	6	6
Gujarat	7	10	10	8	5	9	7	10	10	13*
West Bengal	6	8	7	5	7	4	2*	3	4	8
Punjab	5	2	2	3	8	n/a	4	7	8	15*
Tamil Nadu	4	5	6	4	4	1	9*	2	2	2
Maharastra	3	3	4	2	3	3	3	4	7*	11*
Himachal Pradesh	2	4	3	7*	2	n/a	6*	8*	3	5
Kerala	1	1	1	1	1	n/a	1	1	1	1

Note: Where more than one state has same value it gets the same rank

* represents the situation when the rank assigned to the state is not in

conformity with the female literacy rank for the state by over 3 positions.

We take a look at the mean years of schooling of population based on the economic level of the household as seen in the expenditure data in Table no. 16. Clearly, the educational attainments of the population increase as one moves up the economic level of household. At no economic level of household do women possess more education than men. The urban educational attainments are always better then the rural ones in whichever sub group one might look at. As one moves up the ladder from the poorest to the richest group, the discrimination again girls' education reduces both in the urban and rural areas. In other words the poorer stratum of the society a woman belongs to, the larger would be the chances that she faces educational discrimination. The most privileged is the urban male in the richest quintile and the least privileged is the rural female in the poorest quintile. The mean years of schooling of the former, compared to the latter is a whopping 12.6 times. The Becker's coefficient moves in tandem with the trends described.

Table no. 16
Mean years of schooling of population (15+),1995-96 and Becker's Coefficient of Discrimination

Household expenditure quintiles	Overall	Rural				Urban			
		All	Male	Female	Becker's coefficient	All	Male	Female	Becker's coefficient
0-20	2.30	1.79	2.75	0.86	2.20	3.77	4.78	2.75	0.74
20-40	3.19	2.40	3.49	1.31	1.66	5.37	6.47	4.19	0.54
40-60	3.81	2.92	4.04	1.76	1.30	6.39	7.51	5.14	0.46
60-80	4.77	3.65	4.82	2.41	1.00	7.96	8.91	6.92	0.29
80-100	6.42	5.14	6.31	3.84	0.64	10.21	10.84	9.47	0.14
All	4.26	3.29	4.43	2.13	2.08	6.97	7.98	5.85	0.36

Computed using data from: Tilak Jandhyala B G, 2002.
Note: The original source is NSSO data.

The trends shown in Table no. 17 which uses attendance rates, are similar to the ones we saw for the mean years of schooling. The girls/women attendance rates are always lower than boys/men in all the quintile groups and also in both rural and urban areas. The urban attendance rates of the girls

are better than the rural rates for each and every quintile. The attendance rates of the girls/women increase as we move from the poorest to the richest quintile group. What comes out clearly is that the rural female child is the most educationally deprived and this deprivation is the larger the poorer it is.

Table no. 17

Attendance rates by household expenditure quintiles 1995-96 for the age group 5-24, %

		Household expenditure quintiles					All
		Poorest	Second	Third	Fourth	Richest	
Rural	Male	42.1	49.1	54.6	56.8	63.4	53.3
	Female	26.6	33.3	37.1	45.0	50.0	38.1
	All	34.5	41.6	46.3	51.4	57.3	46.1
Urban	Male	47.8	58.0	64.7	69.2	75.9	62.9
	Female	42.2	54.7	60.0	67.3	76.2	59.1
	All	45.0	56.4	62.5	68.3	76.0	61.1
All		37.2	45.2	50.3	55.4	61.7	49.8

Source: Same as for Table no. 16

There are very large variations in the gender gap seen between the extreme groups in terms of privilege, namely in the gap in attendance rate between the urban male child and the rural female child, in the different states. But what stands out is that the gender gap in attendance rates is higher in the states with the larger incidence of poverty. Table no. 18 has been made sorting the data starting with the largest gap between the urban male and the rural female in the age group 6-10 for the various states of India. The first striking feature is that the lower the overall attendance rate, the larger is the gender gap. In other words the educationally backward states tend to have the largest gender gaps. Second, states with the largest gender gap in 6-10 age group tend to have even larger gaps in the 11-13 age group; one reason could be that girls are most discriminated against as they climb up the educational ladder. But as the gender gap decreases among states in the 6-10 age group, this trend shows a slight reversal but then changes again to conform to the starting pattern when we reach the states with the best performance in gender gap. Third, the states that are backward economically are seen to be having larger gender gaps than the ones that are better

performers economically. Though this relationship is not absolute, it is indicative of the impact of the large mass of uneducated girls and women being an obstacle to the development of the state.

Table no. 18
Age-specific attendance rates in school education, 1995-96, %

State	Age Group 6-10				Age Group 11-13			
	All	Rural Female	Urban Male	Gap	All	Rural Female	Urban Male	Gap
Rajasthan	58	37	83	46	64	36	88	52
Bihar	43	32	66	34	58	40	85	45
Mizoram	71	64	97	33	88	76	97	21
Madhya Pradesh	64	54	82	28	67	52	88	36
Orissa	63	54	80	26	66	54	81	27
Uttar Pradesh	61	49	73	24	66	46	80	34
Jammu and Kashmir	69	53	76	23	82	73	94	21
Andhra Pradesh	75	68	90	22	60	46	80	34
Karnataka	75	65	86	21	70	53	90	37
West Bengal	67	61	79	18	74	67	83	16
Arunachal Pradesh	65	71	89	18	82	81	85	4
Manipur	69	61	78	17	87	85	92	7
Megalaya	69	72	88	16	94	90	97	7
Harayana	83	77	92	15	87	80	95	15
Tripura	81	77	91	14	84	74	97	23
Gujarat	80	73	86	13	77	65	91	26
Assam	73	73	86	13	80	82	93	11
Punjab	85	80	92	12	86	81	89	8
Nagaland	71	69	81	12	85	86	88	2
Maharastra	88	83	91	8	85	74	94	20
Tamil Nadu	91	85	92	7	74	64	82	18
Himachal Pradesh	91	90	96	6	94	90	95	5
Kerala	97	97	98	1	97	98	97	-1
Sikkim	77	80	79	-1	90	87	86	-1
Goa	99	99	97	-2	89	85	83	-2

Computed from Same source as for Table no. 16

The average annual growth rates for female literacy at three percent, is nearly double that for male literacy. While the female literacy rate rose by nine percentage points in the 1980s, it rose by as much as fifteen percentage points in the 1990s. The female literacy rates have been consistently rising in the last fifty years and the gender gap in literacy rates have been in the range of twenty four to twenty six percentage points since 1960. The decade of 1990s however witnessed this gap at a lower level of twenty-two percentage points. There is thus the clear emergence of a trend of narrowing of gender gap in literacy. The female literacy rates in India are not only rising consistently but are also catching up with the male rates whose rise has been of a zigzag nature since 1960. There is a distinct inverse correlation between the gender disparity in literacy rates and the overall literacy rate in the Indian states.[134] Among others, one important reason why the gender gap in literacy is falling is because of the fact that the education of girls is seen more and more as basic human right in addition as a crucial input for national development. The investment in female education is now considered by the government as a development imperative and as something that makes economic sense.[135]

What are the remaining obstacles to girls' entry into school? In rural India there are important factors that dissuade girls from enrolling. Firstly, parental education is one reason and mother's education is comparatively more important. Secondly, wealth is an also important determinant. Even for houses with the same level of expenditure, enrollment rates vary significantly for boys and girls. However with the increase in per capita household expenditure, the enrollment of girls catches up with that of boys. Once the per capita monthly expenditure exceeds Rs.225/-, there is no difference in the enrollment of boys and girls.[136] However, possession of livestock tended to dissuade girls being enrolled.[137] The reason is that girls had to look after the upkeep of livestock.

The World Bank believes that much of the existing gender gap in literacy in India can be traced to the differentials in enrollment and retention rates for boys and girls; both of these have narrowed in recent decades.[138] The gross enrolment rates of boys and girls are positively correlated and the

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[134] Varshney, Hemant Kumar. 2002.

[135] Nayar, Usha. 2002.

[136] Haq, Mahbub & Khadija Haq, 1998.

[137] Filmer, Deon and Lant Pritchett. 1998; Dostie, Beniot and Rajshri Jayaraman 2006.

[138] World Bank 1997.

gender disparities decline as the overall enrolment rate increases. The enrolment and retention rates for boys and girls rise and the gender disparity in both rates fall as the economic status of households improves.[139] Girls are presented with poorer economic incentives to invest in schooling compared to boys as they get lower labor market returns to education than boys and this plays a role in India.[140]

What are the reasons that make a girl child drop out? Financial constraints are more important in the case of the poorer households and explain why they are not able to send girls to school.[141] The unattractive school environment is an important reason why the drop out rate is high. The inability to cope with studies is a more important reason for the richer quintile than the poorer ones as to why the child drops out. Lack of interest in studies on the part of the parents and the girl is cited more frequently as the reason for the dropout of girls than in the case of boys. Compared to boys the girls' dropout rate is higher as they are withdrawn for attending to domestic chores. Shortcomings of the school seem to be more important than economic reasons for the dropouts. Education is not really free and this is a major reason why the poorer sections drop out of school.[142]

Table no. 19

Dropout rates for Boys and girls, 1960-61 to 2003-04, %

Classes		1960-61	1970-71	1980-81	1990-91	2000-01*	2003-04
Classes I - V	Boys	61.7	64.4	56.2	40.1	39.7	33.7
	Girls	70.9	70.9	62.5	46.0	41.9	28.6
	Total	64.9	67.0	58.7	42.6	40.7	31.5
Classes I - VIII	Boys	75.0	74.6	68.0	59.1	50.3	51.9
	Girls	85.0	83.4	79.4	65.1	57.7	52.9
	Total	78.3	77.9	72.7	60.9	53.7	52.3

Data Sources: Government of India, 2002 and 2006.

[139] Vaidyanathan, A. and P.R. Gopinathan Nair ed., 2001.

[140] Kingdon, Geeta Gandhi 1997.

[141] Krishnaji, N. 2001.

[142] Tilak Jandhyala B. G. 2002.

Note * Estimates

As seen in the Table no. 19, while the overall dropout rates have been declining, girls' dropout rates have come down much faster than that of boys in the Classes I-V group. It is equally impressive in the I-VIII Classes. The dropout rates would seem to indicate that India has moved to a level where only marginally more number of girls than boys drop out. It is tempting to hypothesize that the influence of factors that lead to the much of the solution to the 'drop out problem' maybe less gender related now that let us say, a decade back. Factors, economic or otherwise, that affect boys and girls equally, or in other words, gender neutral factors could be contributing more to existing level of dropouts.

However, the reality is that as girls face significantly different treatment in the intra-household allocation of education, there is high gender gap in schooling attainment. This differential treatment of sons and daughters when it comes to education can be due to the perceived lower economic returns to girls' education than to boys. There could be other reasons for this kind of differential treatment of boys and girls. Firstly, it could be due to the entrenched beliefs about the gender division of labor. Second, it could be because parents value only the return to a child's education that comes back to them and a daughter's does not after her marriage. Finally it could be to the larger opportunity costs and or direct costs in educating girls. In the Indian states, where girls perform much worse than boys in educational outcomes, household expenditure on girls' education was found to be significantly lower than that on boys' education. Thus the lower educational inputs could be an important reason why girls' educational outcomes are lesser compared to boys'.[143]

Parental opposition or apathy to the education of the girl child is receding, even in the traditionally male-dominated states of northern India. Given the right infrastructure – schools located in the neighborhood, preferably with female teachers – parents would allow their daughters to study "as long as they would like to". A number of factors may have contributed to this change of heart, and reforms may be the most important of them. Many state governments have been providing added incentives towards girls' education. The age of marriage is going up. And girls themselves are keen to get educated, often much more so than their brothers. However, higher education need not necessarily get translated into easing the process of labor market network. In some communities, sending their unmarried girls for paid

[143] Kingdon, geeta Gandhi 2002 and 2005.

work is as yet not acceptable, although there may not be such a strong taboo on sending the wife for factory work. The extra money brought in by her helps. In some other communities, however, especially in urban and semi-urban areas, young girls are getting into paid work of all varieties, and some degree of education is needed for landing a job. All in all, the mindset on girls' education appears to be undergoing a transformation, even in the traditional Hindi-speaking north Indian states.[144]

It has been conclusively established that in India female education is the single most important determinant of any improvement in living standards in health and education. The effect of female education has an "all encompassing" effect. In the Indian context, female education accounts for all the improvement in infant morality in the period 1983-1999. The effect of other factors such as state expenditures, growth in income and the role of institutions and civil society is either insignificant or perverse.[145] Likewise, it has been found that the impact of female education on fertility is huge.[146] Currently however in India, with the education of girls increasingly viewed as a basic human right and a crucial input for national development, a new conceptual shift seems to have taken place among the policy planners.[147]

The gender gap in literacy in India is largely due to the differentials in enrollment and retention rates for boys and girls; however, both of these have narrowed in recent decades.[148] The gross enrolment rates of boys and girls are positively correlated and the gender disparities decline as the overall enrolment rate increases. Both the enrolment and retention rates for boys and girls rise and the gender disparity in both the rates fall as one climbs up in terms of the economic status of households.[149]

What are the implications? Possibly this indicates that if a massive push is attempted to raise the literacy rates in the country, after a point of time, there will be some self sustaining movement that would carry forward further the drive to impart literacy to the entire population. Beyond a point, the financial investments in imparting literacy and educational attainments to the girl child and uneducated women would be less and less burdensome.

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[144] Mukhopadhyay, Swapna 2003.

[145] Bhalla, Surjit S., Suraj Saigal and Nabhojit Basu 2003.

[146] Dreze, Jean and Mamta Murthi 2001.

[147] Nayar, Usha. 2002.

[148] World Bank 1997.

[149] Vaidyanathan, A. and P.R. Gopinathan Nair 2001.

Nepal

Land-locked Nepal, the only Hindu country in the world, has a population of over 28 million and a population growth rate of 2.17 percent per annum. It has a life expectancy at birth of 60.18 years (for males 60.43 years and for females 59.91 years) and the infant mortality rate is 65.32 deaths for every 1000 live births. The sex ratio is 1.06 males per female and the total fertility rate is high at 4.1 children per woman. The GDP for the year 2005 was US$ 6.655 billion at the official exchange rate and 39.9 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 1400 in 2005, holding the rank of 198 in the world. For the year 2005 agriculture and industry accounted for 38 percent of the GDP and industry accounted for 21 percent while services showed a figure of 41 percent. 76 percent of the labor force was in agriculture and 6 percent in industry and 18 percent in services. 31 percent of the population was below the poverty line in 2003-04. The literacy rate (for those over15 years of age who can read and write) for the total population was 48.61 percent for the years 2000-04; the literacy rate for males was 62.7 percent and those for females was 34.9 percent. In 2005 its military expenditures accounted for 1.5 percent of GDP while the public spending on education was 3.4 percent of GDP. Topographically, Nepal can be divided into three ecological zones, the mountains, the hills and *terai*. The shares of population settled in each of these zones are 7.8, 45.5 and 46.7 percent respectively.

Nepal was ruled by the Ranas for a century up to 1950.[150] They kept the public deliberately uneducated as they feared that an educated populace would not tolerate the feudal order. Only members of higher castes or those well to do had access to education. Barring a tiny elite class, the masses were kept illiterate as a matter of policy. Public schooling of any sort was opposed and formal instruction was imparted to the children of the rulers so that they could run the government. English education had been favored by the ruling elite and this led to English education assuming a superior position compared to the traditional Sanskrit-based education. In the late nineteenth century the Durbar High School was formed to teach the ruler's children. When at the beginning of the twentieth century, the Prime Minister attempted to open the school to commoners and introduce other reforms, he was

[150] The historical account is based on the website http://www.country-studies.com/nepal/education.html which contains the on-line versions of books previously published in hard copy by the Federal Research Division of the Library of Congress under the Country Studies/Area Handbook Program sponsored by the U.S. Department of Army.

overthrown. However some Nepali language primary schools were started and some English middle and high schools were opened before World War II. A few of the elite families sent their children to Indian universities. After returning to Nepal some of these students took part in the movement which ultimately overthrew the Ranas in 1951. Around this time, Nepal had 310 primary and middle schools, eleven high schools, two colleges, one normal school and one special technical school. The literacy rate was 5 percent, with the figure being 10 for males and less than1 for females. A single child out of 100 attended school around this time.

Attempts to create a national system of education began only in the second half of the twentieth century and thus Nepal has one of the youngest education systems in the world. The National Education Planning Commission was set up in 1954 and in 1971 the New Education System came into operation as a part of the Fourth Five Year Plan of 1970-75 integrating educational needs of the individual and the society in the overall matrix of national development. The public response to schools was lackadaisical in a society which had not known formal learning and education for long. Children joined school at late ages and most left after completing a single year. Female enrollments were very low as educating girls was felt to be unnecessary. While new schools were being established, the quality of schools away from the capital was very low.

The current education in Nepal is conducted at three levels namely, primary, lower secondary and secondary. Primary is from classes 1 to 5. Lower secondary level (Middle School) comprises classes from 6 to 8 catering to children of 11 to 13 years of age, the secondary level comprising classes 9 and 10 for age group 14 and 15. Higher secondary comprises grades 11 and 12 (age 16 and 17). The first government recognized girls' school, Padma Kanya School, was opened in Nepal in 1947. The first girls' college was established in 1953 and was known as the Padma Kanya College.

Primary education for five years from the age six of a child was made free and compulsory in 1975. Secondary education was for another five years. By 1984, 52 percent of school age children (70 percent school age boys and 30 percent school age girls) had enrolled in school. Secondary school enrollment was only 18 percent of the relevant age group (27 and 9 percent of the relevant age boys and girls respectively). The government was responsible for providing school facilities, teachers and educational materials through the Ministry of Education, which also oversaw private schools which received State funds. 24 percent of the population was literate in 1981(35 for

males and 11.5 percent for females) and 33 percent in 1990. Likewise there was a big rural urban divide. Literacy rates for males and females were 33 and 9 percent in rural area and in the urban areas 62 and 37 percent.

Over the past five decades, the educational system in Nepal has successfully concentrated on increasing the access to primary schools to 65 percent of the children in the relevant age group, and on developing the foundations of secondary and tertiary education. Literacy has increased from five percent to over forty percent of the population. These achievements indicate only the first phase in the educational development of the country. As the pressures to further expand the system intensify, so do concerns over its equity and the quality of the education which is provided.

Table no. 20

Literacy Rates gender wise in Nepal, 1952/54 – 2001, %

Year	Male	Female	Total	Gender gap (male-female)
1952/54	9.5	0.7	5.3	8.8
1961	16.3	1.8	8.9	14.5
1971	23.6	3.9	14.0	19.7
1981	34.0	12.0	23.3	22.0
1991	54.5	25.0	39.6	29.5
2001	65.1	42.5	53.7	22.6

Source: Government of Nepal 2005.

With a per capita income of only US$ 220 per annum the country is the ninth poorest in the world.[151] Nearly half of the population remains below the poverty line. In Nepal, as elsewhere there is a strong correspondence between educational attainment and individual and household earnings; likewise this correspondence exists between mothers' education and fertility rates, child nutritional status and morbidity. Any effective development strategy would have educational programs too that play a role in raising the productivity of labor force and improve the quality of life of the population especially that of women.

From the situation in 1951 when there were only 321 primary schools,

[151] I depend on World Bank 2001b for the following description.

11 secondary schools and 250 university graduates, currently there are over 3.4 million children enrolled in 23,000 primary schools, 360,000 students in about 3,300 secondary schools and over 80,000 students enrolled at the tertiary level. Of the population aged fifteen years and over in 1995, 81 percent of females and 46 percent of males were illiterate. Only 23,000 of the 129,000 tertiary level graduates are women. Only one in every three adults is literate. Literacy rates vary substantially by geographical/ecological area and income levels. In the mountains, less than one in four persons is literate, including less than one in ten women.

High repetition and dropout rates throughout the system are wasting valuable resources. Less than half of all children complete the primary cycle and only 20 percent of those entering grade 1 reach grade 10, and often after repeating several times. Out of 100 children enrolling in Grade I, only around 18 complete the cycle five years later and less than 50 complete eventually. Two thirds of those who complete will have repeated at least one grade. On average, those who graduate take two years more than the prescribe time. In secondary also a similar picture emerges. About 25 percent of the students enrolled at Tribhuvan University do not attend classes and less than 25 percent of students in the arts and humanities complete a degree level without failing once. High repetition and dropout rates have a number of consequences. Repetition leads to higher class sizes, which in the first two grades of primary schooling can often be over 70 pupils. For children who drop out within a cycle, much of the potential benefit of schooling which has been received is lost.

The government expenditure on education which was around 1.4 percent of GDP in 1980/81 rose so that it was around 2 percent of GDP in the 1980s and around 2.4 to 2.7 percent of the GDP in the 1990s. Primary sector allocations were about 36.3 percent of the total in 1980/81 and rose since then. In 1985/6 it was 41.6 percent and reached 55% in 1990/1. In the 1990s it was most of the time over 50 percent of the total allocations for education.

The system does not serve the labor market well. The wage labor force is still undereducated with an average of only 3.9 years of schooling, and 62 percent have no schooling at all. Estimates of social returns (based only on monetary benefits) are below 10 percent for secondary and higher education graduates I employment, and are lower for the self employed. For primary school graduates, they are around 15 per cent though this is likely to be a significant overestimate for recent graduates. Compared to the social rates of return of several other low income countries, those for Nepal are

probably low. However this does not provide an argument to restrict the expansion of the education system. The benefits, to both the individual and to society go beyond the monetary ones. As the level of women's education rises, the various life indicators improve as Table no. 21 shows.

Table no. 21
Quality of Life Indicators by Level of Women's Education

Indicators	No Education	Primary	Secondary
Total fertility rate	5.1	3.8	2.5
Ideal number of children	3.1	2.5	2.1
Under five mortality (per 1000 births)	149	99	61
Children receiving full set of vaccinations (%)	38	56	72
Children chronically malnourished (%)	23	14	7
Children severely malnourished	52	40	28

Source: World Bank 2001b

Seventy percent of the children whose mothers have no schooling are severely or chronically malnourished compared to 54 percent of children whose mothers have had a primary schooling. A full set of vaccinations among the latter group of children is also much more frequent. The effects of primary schooling on these measures are strong. They are equally strong for a secondary schooling and it is evident from the data that this level is required for the full and sustained change in behavior to occur. Other social indicators, including child labor and aspects of gender discrimination and women's empowerment, are also correlated with levels of literacy. As Table no. 22 indicates the overall literacy rate of a district is very strongly linked with the reduction of child illiteracy and child labor. It significantly improves the gender balance in literate adult population and in raising the share of girls enrolled at the primary level.

Expansion of enrollments has been a major accomplishment in Nepal over the past three decades, in particular. In absolute figures, primary school enrolments grew significantly, from around 400,000 in 1971 to almost 3.5 million in 1997 covering 65-70 percent of the appropriate age group, plus many

over and under age children. Twice as many males as females have at least a primary schooling (43 percent and 21 percent). The primary school gross enrollment ratio is officially recorded as 124 percent and the net enrolment ratio as 70 percent for 1998. Within the region, the coverage of primary schooling compares favorably with Pakistan but unfavorably with Sri Lanka, India and Bangladesh. Across adult population, the spread of education is very low and for rural women in particular, exceedingly low.

Table no. 22

Correlation Coefficient of District Level Social Indicators with the Overall Literacy Rate(OLR) of Districts

Social Indicators	Correlation with the OLR
Child Labor rate	- 0.90
Child illiteracy rate	- 0.96
Child marriage rate	- 0.37
Gender imbalance ratio among the literate adult population	+ 0.86
Gender imbalance ratio among the non-agricultural occupations	+ 0.56
Percentage share of females in literacy programs	+ 0.87
Percentage share of females in Non-agricultural occupations	+ 0.67
Percentage share of females in primary level teaching	+ 0.67
Percentage share of girls' enrollment at primary level	+ 0.85
Infant mortality rate	- 0.53
Contraceptive prevalence rate	+ 0.73

Source: World Bank 2001b

In helping to change behaviors which have an impact on the quality of life within the household, such as through better health and nutritional practices, and which reduce rates of fertility, the impact of education in Nepal as elsewhere is strong. While the average primary schooled woman has lower levels of fertility and healthier children than the unschooled woman, the differences tend to be significantly greater if *most* of the women in the locality have that level of education. In none of the Nepal's five regions is the female

literacy rate above 25 percent. Put simply, there appears to be a threshold of the spread of schooling beyond which the benefits accelerate and in most localities in Nepal that level has not been reached.

As of 1993 the number of teacher in Nepal was 106,000 and that of female teachers was about 16,000 or 15% of the total. The percentage of female teachers among elementary school teachers was 8.2 percent in 1975, but it was increased to 23 percent of all the teachers in 1997 due to the efforts to raise the numbers of female teachers so that more girls get enrolled. There is low teacher training which affects the quality of education that is imparted.[152]

Educational gender gaps in Nepal changed little in substantive terms during the period 1965 to 1979 despite educational expansion. Among school-aged children, gender continued to strongly condition entry into schooling. However, girls who did enter school progressed at an equal rate with boys through the primary grades. Equally striking are the facts that more highly educated household heads and higher positions in the caste hierarchy, characteristics associated with increased educational participation, were not associated with decreased discrimination against girls. Nor was urban residence – a variable associated with improved access to higher quality schools and teachers and greater interaction in with the modern economic sector – is associated with improved relative opportunities for girls. Rather, boys disproportionately shared in the improved educational opportunities of urban residence. These findings run counter to expectations in the gender and development literature, and they highlight the dangers of generalizing expectations across nations characterized by ethnic diversity.[153]

In 1995, of the 928 thousand children not enrolled in schools, approximately two-thirds were girls. Of the total number of children enrolled at the primary level, 60 percent were boys compared to 40 percent of girls. High dropout in schools and repetition rates have been caused due to reasons like household work burden of children, irregularity of school operation, income poverty, physical distance to school, low perceived relevance of education, caste and ethnic discrimination etc. 84,399 girl students studying at different levels got scholarship in FY 1997/98. The number rose to 101,395 for FY 1999. As girls trail boys in literacy rates, the government offers various incentives to the girl child to enroll and complete primary and secondary education through scholarships. In some places free food and text books are given to all the children. The traditional attitude towards the girl child is still

[152] JICA 1999c.

[153] Stash, Sharon and Emily Hannum 2001.

persistent and there is a widespread belief that it is not necessary for her to go to school.[154]

Of the nearly one million primary school age children not in school, two thirds are girls, which figure translates to about 40 percent of all primary school aged girls. The percentage of girls drops with increasing grades. Dropout and repetition rates are alarming for both boys and girls. Nearly one in four girls dropout of Grade 1 and nearly 40 percent repeat their first year. Only 37 percent of girls and 38 percent of boys are expected to complete the five primary grades. Multiple repetitions are common with only 10 percent of children completing the five primary grades without repeating a year.

The government's plans for primary education goals specifically directed toward gender equity in the period 1998-2002 included: increasing the net enrollment ratio of primary age girls from 58 percent to 85 percent; ensuring one female teacher per school and ensuring that a primary school is in walking distance of each village. 4,250 female primary teachers were recruited and trained in 1992-97. This still left 40 percent of primary schools without female teachers. The Ministry of Education (MOE) had plans to increase the female teachers from 21 percent to 30 percent by 2003. The MOE is very centralized and the planning process excludes the front line experience of district education officers and their supervisors. Also excluded are non government organizations which are the primary delivery agents for non formal education, the private sector which provides primary education to eight percent of Nepal's primary students and most important, and the communities. Most school management and village education committees are dysfunctional.[155]

Repeated grades and poor attendance lengthen the number of years spent in primary school by many children. National repetition rates were high, but for girls it was always less than boys, indicating a better completion rate Dropout rates were high despite compulsory education laws and educational subsidies. Out of pocket expenditures are a considerable barrier to schooling.[156] However, the bright aspect is that there seems to be a large amount of benefits for women who participate in literacy programs. Their awareness levels and participation in income earning activities as well as political and community activities is significantly high. Women's economic

[154] Dahal, Ram Kumar, 2001.

[155] Pennells, Linda 1998.

[156] Stash, Sharon and Emily Hannum 2001.

empowerment was found to be raised considerably.[157]

Girls are educationally so disadvantaged compared to boys that there are very few educated women available to be trained as teachers. This tends to perpetuate girls' educational disadvantages. Projects for girls are popular with donors supporting education in Nepal. While they concentrate on female students and teachers, these projects do not challenge the existing system in any meaningful way. While they try to improve the system, the institutions and mechanism of educational delivery are left intact and unreformed. The male dominated power base that controls the education system is not affected by 'project for girls'. What is needed is that women be placed at the centre of development initiatives so that they are equal to men.[158]

Pakistan[159]

The sixth most populous country in the world with a population of about 165 million in 2006, Pakistan currently has a population growth rate of around 2 percent per annum. It had a life expectancy at birth of 63.4 years (62.4 years for males and 64.44 years for females) in 2006 and the infant mortality rate is 70 deaths for every 1000 live births. The sex ratio is 1.05 males per female and the total fertility rate in 2006 was a high figure of 4 children per woman. The GDP for the year 2005 was US$ 89.55 billion at the official exchange rate and 393.4 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 2400 in 2005, holding the rank of 172 in the world. For the year 2005 agriculture accounted for 21.6 percent and industry accounted for 25.1 percent of the GDP and services accounted for 53.3 percent. 42 percent of the labor force was in agriculture and 20 percent in industry and 38 percent in services for the year 2004. 32 percent of the population has been estimated to be below the poverty line in fiscal 2000-01. The literacy rate (for those over15 years of age who can read and write) for the total population was 48.7 percent for the year 2004; the literacy rate for males was 61.7 percent and those for females was 35.2 percent. In 2005 its military expenditures accounted for 3.9 percent of GDP while the public spending on education was 1.8 percent of GDP.

It is believed that before the British colonial attempts there were about 300,000 pupils in the indigenous schools in Punjab in the undivided India prior

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[157] Burchfield, Shirley, Haiyan Hua, Dyuti Baran and Valeria Rocha 2002.

[158] Sibbons, Mo 1999..

[159] For a brief but useful survey of the important recent literature on education in Pakistan see Rahman, Tariq 2004a.

to 1849. After the colonial conquest, around 1860 the number had dropped to one fifth of that figure. Persian was substituted by English and Urdu was introduced. This led to a new basis for socioeconomic stratification. The very poor continued to be illiterate as there were no schools where they lived. *Madrasahs* or religious schools, which did not charge any fees was their only option. While the elite went to the English schools, vernacular medium schools were for the masses. The medium of instruction roughly corresponded to one's position in the wealth and power hierarchy.[160] During the colonial period, neither the position nor the participation of women in society had improved. The British policy of promoting education was for the clear purpose of using the educated class to enable them to administer the country. Towards this end they created a small educated urban class which was alienated from the masses. Improving the educational levels of the masses was not a priority of the British.

The Right to Education was one of the first issues taken up by the Muslim women in the Women's Reform Movement around the early years of the twentieth century. Women attached importance to the issue, believing that education would lessen the control men exercised over them. The struggle for women's rights coincided with the nationalist struggle in which Indian men were trying to get their rights from the colonial masters and probably because of this women's demand for their rights did not face much opposition from men of their own class. The question of Muslim women's education had been first raised by men in 1886, though this should not be construed to mean that Muslim men were active in promoting the cause of women's education. In 1911, just 0.2 percent of the Muslim women were educated and this figure rose to 0.4 percent over the next decade. By 1924 it had reached 3 percent.[161]

Table no. 23

Gross Participation Rates in West Pakistan, 1949-50, %

Level	Gross	Male	Female
Primary (Grade I-V, age 5-9 yrs)	15.8	25.7	4.4
Secondary (Grade 6-10, age 9-14	9.4	14.4	2.7

Data compiled from: Jalil, Nasir 1998.

[160] Rahman, Tariq 2004b.

[161] Mumtaz, Khawar and Farida Shaheed 1987.

Around this time, Muslim leaders were concerned about the low educational spread among Muslims in undivided India. Mohammed Ali Jinnah, the founder of Pakistan and its first Governor-General, was scathing in his attacks on the British in the 1910s and 1920s for their abysmal neglect of education. One would hardly argue with the statement, "If the Muslim men were educationally backward, their women were even further behind". Leaders like Jinnah however foresaw that "… women have a most valuable role to play" in the building of the nation. The educational situation in Pakistan for women around the time of its independence is captured by the Table no. 23. The progress since then for the educational system and women is given in Table nos 24 and 25.

Table no. 24
Number of Educational Institutions by Kind, Level and Gender, 1947 to 1996

Year	Primary Schools		Middle Schools		High Schools		Arts and Science Colleges		Professional Colleges	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1947-48	6864	1549	2037	153	344	64	35	5	0	0
1959-60	14641	3260	16931	218	866	203	94	32	35	5
1969-70	30120	11170	2700	860	1475	520	205	85	54	5
1979-80	39449	17771	3826	1407	2437	924	311	119	91	8
1989-90	80556	29966	5003	3055	5289	1895	365	210	91	8
1995-96	82949	32795	6625	3961	7352	2305	451	256	148	9

Source: Ali, Karamat 2001.

Pakistan emerged as an independent country on 14th August 1947 with the division of the Indian subcontinent along religious lines into India and Pakistan. Pakistan comprised of East Pakistan and West Pakistan physically separated by an intervening mass of 1600 kilometers of Indian territory. After a bloody strife, the eastern part broke off from the western to become independent Bangladesh in 1971.

Table no. 25
Enrolment in Educational Institutions by Kind, Level and Gender, 1947 to 1996, '000

Year	Primary Schools		Middle Schools		High Schools		Arts and Science Colleges		Professional Colleges		Universities	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1947-48	660	110	200	21	51	7	13	1	4041	327	588	56
1959-60	1520	370	359	63	126	23	`64	12	10583	1851	3314	778
1969-70	2880	1030	724	175	275	62	130	45	29414	4219	12177	3298
1979-80	3537	1676	1046	345	351	125	175	78	59273	13206	36098	5712
1989-90	7058	3342	1835	771	649	264	304	165	56636	18674	60372	10310
1995-96	6960	4347	2325	1019	906	373	458	265	108342	23569	53635	16628

Source: Ali, Karamat 2001.

In the initial years in independent Pakistan, education was however viewed by planners as a social service and not as a productive sector. The economic value of education was not recognized in the First Plan (1955-60), in which only small allocations were made for education. Education accounted for 4.3 percent of the Public Sector allocations. One third of this went for tertiary education and less than one fifth for primary education. Over half of the allocations were taken up by the secondary and higher levels of education. The skewed nature of allocations and the attempts to create an inverted educational pyramid where primary education occupied less space is an aspect that is difficult to miss.[162] Much like in India, the powerful elite ensured that the investments were tilted in favor of higher education though a proper allocation of scarce resources for a country at the initial stages of modernization would have favored the lower levels of the education sector more, ensuring mass participation and the creation of an educational triangle with a large base. The primary education sector allocations became the largest share of the total allocations for education only during the Sixth Plan (1983-93) period, reversing the neglect of this sector.

School education in Pakistan is unequal, clearly differentiated along three classifications, the hazy outlines of which had been laid out during the

[162] Behrman, Jere R. and Ryan Schneider 1993; Jalil, Nasir 1998.

colonial period. On top are the European type schools (including the armed forces schools) that impart education in English, catering to the needs of the rich and the powerful. This elitist schooling system which existed during colonial times continued despite the establishment of independent Pakistan and the avowed policy of the government in favor of mass education. Those who get educated in English tend to look down upon the vernacular education system.[163] As both the military and the higher bureaucracy came from the elite sections of society, the elitist schools multiplied as the professional middle-class started expanding in the 1960s. Needless to add, as those passing out of the elite schools tend to dominate the ruling class and bureaucracy, this tendency gets perpetuated and the inequalities in the schooling systems get entrenched.

Next in the hierarchy are the schools teaching in Urdu (and in some places Sindhi) and meant for the masses; the quality of these schools is quite low and this is one reason why the drop out rates for children in these schools is high. This is followed by the third tier represented by the *madrasahs*.[164] While the English medium schools catered to the rich and the powerful, the vernacular medium schools were for the deprived and the *madrasah* institutions took care of the very poor and marginalized sections of the society. With the continuous withdrawal of State from education, these educational apartheids have increased and become more rigid and the unequal schooling system stands firmly in place.[165]

The education system is a 10-year one consisting of elementary school for 5 years aimed at children in the age group of 5-9 years. This is followed by middle school for 3 years and a secondary stage for 2 years. This is followed by a 4 year study to get a degree in higher education. To complete an honors course another year's study is essential. To get a masters' degree a student has to put in another 2 years of study.[166]

While education in Pakistan has suffered from low allocations, these have been compounded by weak delivery systems and highly inefficient implementation mechanisms. The allocations for education were low in the

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[163] Shaheed, Farida and Khawar Mumtaz 1993.

[164] It might be mentioned that despite the great attention that these schools have attracted recently, they account for less than 1 percent of all enrollments in the country and there is no evidence of any dramatic increase in the number of these schools in the recent years. See for instance, Andrabi, Tahir, Jishnu Das, Asim Ijaz Khwaja and Tristan Zajonc 2005.

[165] Rahman, Tariq 2004a.

[166] Ghafoor, A., and R.A.Farooq 1995.

initial three decades or so rising to about 13.4 percent of the public sector development expenditure in the eighth plan (1993-8). The literacy rate has gone up from 16 percent in 1951 to 51.6 percent in 2003. During the same period the number of primary schools has gone up from 8000 to 170,000 and the enrolment in these from 0.77 million to 20 million. 43.5 percent of people of 10 years and above are educated. The enrolment ratio is 35.98 percent and for males it is 41.19 and for females 30.35 percent. In urban areas it is 49.71 and in rural areas 29.11 percent. The Census for 2001 gives the figures in Table no. 26.

Table no. 26
Share of population with various levels of schooling

Level	Percentage of Population
Below primary	18.30
Primary (class-5)	30.14
Middle (class-10)	20.89
Matriculation (class-10)	17.29
Intermediate (class-12)	6.56
Bachelor's (13 &14 years of education)	4.38
Masters (15 &16 years of education)	1.58
Others	0.44

Source: Government of Pakistan *Census for 2001.*

The Report of the Commission on National Education of the Government of Pakistan in the year 1959 had clearly laid out the course the education sector was to take in the future: "Good education is expensive, and educational expansion means more expense. The people must accept the fact that since it is they and their children who benefit most from education, the sacrifices required must be borne primarily by them"[167] This is clearly articulated in various policy documents and a recent one[168] echoes the same. Much like the Indian State, the Pakistani State too seems to have abdicated its role in the provision of education to the masses. But it is probably near crisis proportions in Pakistan with " … *the ability of the state to provide or administer*

[167] page 9 as quoted in Rahman, Tariq 2004a.

[168] Government of Pakistan. 1998.

quality education has diminished to the point that it is incapable of delivering on its promises."[169]

The progress of literacy over the years, gender wise is given by Table no. 27. Substantial progress has been made with over half of the population turning literate from just one sixth about four decades back. While the rise in the literacy levels of women is impressive, men have done even better. The gender gap in literacy has increased from about 18.4 percentage points to about 24.5. If we see the trend of gender gap in literacy, it had held steady at about approximately 20 percentage points from 1972 for the next two decades. In the third decade the gap has only widened. This took place despite the fact that literacy rates of both boys and girls have been rising.[170] For the three decades from 1972, the gender gap in literacy rate has increased. This is a surprising trend as with rise in the overall literacy rate, the gender gap tends to decrease.[171] This could be indicative of strong cultural barriers that prevent the easy spread of literacy among women as well as the low availability of schools for girls. When we see the trend between urban and rural areas the gender gap in literacy has fallen in the urban areas, while that in the rural areas has greatly *increased*.

Table No. 27

Literacy levels by area and gender in Pakistan, 1961 to 2003-04

Year	Urban			Rural			Total		
	Female	Male	Both Sexes	Female	Male	Both Sexes	Female	Male	Both Sexes
1961	21.3	44.9	34.8	2.2	18.0	10.6	6.7	25.1	16.7
1972	30.9	49.9	41.5	4.7	22.6	14.3	11.6	30.2	21.7
1981	37.3	55.3	47.1	7.3	26.2	17.3	16.0	35.1	26.2
1998	55.2	70.0	63.1	20.1	46.4	33.6	32.0	54.8	43.9
1999-00	59.6	74.5	67.4	20.6	51.1	36.1	33.3	59.0	46.5
2001-02	29.3*	75.5	67.8	25.	55.0	40.5	36.9	62.2	50.0
2003-04	62.5	76.5	69.7	26.6	56.3	41.6	39.2	63.7	51.6

Compiled from: Government of Pakistan. 2006.

[169] Emphasis in original, Hoodbhoy, Pervez 1998.

[170] Social Policy and Development Centre 2003. p.5.

[171] Balatchandirane, G 1998.

Note: * This figure is obviously wrong.
Literacy is for population of age 10+

Table no. 28
Becker's Coefficient of Discrimination in education for Pakistan, 1961 to 2003-04 (using literacy rates)

Year	Urban	Rural	All Pakistan
1961	1.18	7.18	2.75
1972	0.61	3.81	1.60
1981	0.48	2.59	1.19
1998	0.27	1.31	0.71
1999-00	0.25	1.48	0.77
2001-02		1.20	0.69
2003-04	0.22	1.12	0.63

Compiled using data from the Table no. 27

Using the data from the earlier Table no. 27, we construct a table for the Becker's coefficient of discrimination and present it in Table no. 28. What stands out is the very large educational discrimination against women around 1961. While the urban situation was a little better, the rural areas were highly discriminatory towards women. The discrimination levels against women in education in rural areas have come down to a level comparable to what existed in urban areas a half century earlier. Overall the discrimination is still high, with rural areas accounting for much of the discrimination against women in education in Pakistan today as seen from the two tables. The coefficient constructed using Mean Years of Schooling might be a more reliable indicator and these are presented in Table no.29.

Table no. 29

Becker's Coefficient of Discrimination constructed using Mean Years of Schooling, 1975-2004

Year	Mean Years of Schooling			Becker's Coefficient
	Male	Female	Total	
1975	2.2	0.5	1.4	3.4
1980	2.7	0.6	1.8	3.5
1985	3.2	0.9	2.1	2.26
1990	3.4	1.0	2.3	2.4
1995	3.9	1.4	2.7	1.79
2002	8.2	3.4	3.0	1.41
2004	8.8	4.8	3.3	0.83

Data source: Social Policy and Development Centre. 2006.

Note: Mean years of schooling refers to the average number of years of schooling received per person aged 25 and above.

What are the factors that have been preventing a larger spread of education in Pakistan? For the family, the ability to send children to school is determined by economic criteria. The basic decision to enroll children into schools is largely determined by household income and parents' income. If the parents are Illiterate and poor the chances are that the offspring end up being illiterate and poor.[172]

Quality is a major issue. This refers to both who teach and who are taught; in some schools it can be abysmal. In the 1970s and 1980s the growth rate of the number of schools was more than that of the number of teachers implying that the quality of education has been deteriorating in that period.[173] Further teacher absenteeism is a major issue. A survey conducted in 15,000 schools in the Punjab area of Pakistan found that in 4000 of them no teacher was present.[174]

The low enrolment rates could be attributed to the lack of good schools.[175] While this is the case, it may not be practically possible to rapidly

[172] Ali, Karamat, Abdul Hamid and Naheed Zia Khan 2001, Holmes, Jessica 1999.

[173] Ismail, Zafar H. 1996.

[174] Economist 2006.

[175] Ray, Ranjan 2000.

expand the number of schools in the face of high population pressure. An analysis of educational waste in the Punjab schools in the first half of 1990s finds that the rational option would be to optimally utilize the existing schooling facilities. The high wastage rates (dropouts + repeaters) in the Punjab region was indicative of the fact that among other things the schools were not functioning efficiently. Overall wastage rates were high especially in the middle and high school classes. The students were not sure of their future prospects after about five or six years of schooling.[176] The perceived irrelevance of curricula is cited as a reason for the high dropout rate.[177]

The abdication of its responsibility by the state is glaring. The allocations for educations have been consistently low and privatization has been allowed to rampantly flourish. The share of GDP spent on education is 2%. The education secretary himself concedes in a recent official document in the field of education there has been "… an unprecedented history of producing excellent documents of plans and policies which could not be implemented." Further "Lack of political commitment, centralization of authority and absence of public participation" are "the main reasons for the failure of any policy or program." However the government makes no bones about who should pay for education. "Since expenditure on education is now being considered as an investment rather than consumption, there is a strong feeling among the public that private sector should participate actively to supplement the resources of the government for the development of human resources."[178] Public spending as a percentage of gross national product remained a low of an average 2.7 percent from 1990 to 1996. The overall average for low income countries was 3.8 percent during the same period.

What are the issues related to gender education in Pakistan today? What are the factors that have been preventing a larger spread of education among girls and women in Pakistan?

Policies and pronouncements since the early 1950s give an idea of the views of the state on the role of women in economic development and about the kind of education that was to be imparted to them. It was repeatedly emphasized that Home Economics and Domestic Sciences were the most suitable subjects for female education. In the 1950s the recommendation was that girls be taught home crafts, needle work, embroidery and 'other suitable hand work of an artistic kind'. Skills that were considered feminine

[176] Rafiq, Muhammad 1996.

[177] Ghafoor, A., and R.A.Farooq 1995.

[178] Government of Pakistan 1998.

were based on practice and repetition and needed little conceptual thought.[179] The document *National Education Policy 1998-2010* does not even have a separate section on girls' and women's education.[180] Nowhere does it deal separately and in a major way with the question of educating the female half of the population.

The second factor has to do with the strong concept of dichotomizing, "inside and outside", in Pakistan. Women are restricted to stay in their homes, the "inner space", and their labor outside the home has been regarded in a negative way in general. Women's labor in the informal sector is rare, therefore, and their production activities are accepted as a part of their duties as wives rather than as an economic contribution. Educational policies linked motherhood with nation-building and character-building. Mothers were responsible for the creation of ideal citizens. Women, it was held, were naturally more capable of taking care of children. Women were to develop the elementary skills required by a wife and mother. The same kind of official pronouncement about women's education and its expected role is seen in the 1970s with additional exhortations to become better housewives by learning to read the Holy Quran. Though unstated explicitly, the obvious message was that man was to operate in the public sphere and woman in the private.

Other cultural customs such as purdah and early marriage obstinately remain in poor households, and have become the prime factors for blocking women's education.[181] With the state projecting the kind of differentiated education for women and positioning their role into specific roles based on their gender, it is hardly any surprise that women in Pakistan have hardly had equal access to education. The social division of space into public and private which had cultural and religious sanctions and which the State acquiesced, if not favored, with women expected to operate in the private space was to prove to be a major obstacle in the attempts to educate the girl child.

The female literacy rate is quite low with just 29 percent of adult women aged 15 and older literate. The male literacy rate is 57 percent. Adult women's low literacy levels primarily reflect extremely low attainments in female schooling among the country's older generations. While both male and female literacy rates increased throughout the 1990s, the gender gap is literacy rates did not diminish. The gross enrolment rate for girls is 61 percent.

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[179] Saigol, Rubina 1995.

[180] Government of Pakistan 1998.

[181] JICA 1999a; Saigol, Rubina 1995.

The net enrolment rate is only 46 percent for girls, which indicates delayed school entry and grade repetition. The net enrolment rate in post primary grades 6 and beyond is only 27 percent for girls. The gross enrolment ration gap has remained around 20 percentage points during the 1990s. There is a narrowing now but this is not because the female rate has gone up but because of the fact that the boys' rate has come down. The improvements in the primary net enrolment ratio over the last decade were accounted for by the richer groups of the population.

As the population growth rate has been three times the literacy growth rate, a large section of the population remains illiterate. In absolute numbers the illiterate people have increased from 28 million in 1972 to 46 million in 2002. The worrying fact is that the proportion of females in this illiterate population has risen from about 52 percent in 1972 to 61 percent in 2002. Despite official claims that there is an increasing emphasis on increasing girls' enrollment, the net primary enrollment rates for girls have been stagnant for girls at 37 percent throughout the 1990s. For boys it has been between 46 to 49 percent and the total net primary enrollment rate has been around 42 to 44 percent in this period. The net secondary school enrollment rate for girls in 2002 was 7 percent and boys it was 13 percent.

Dropout rate, defined as the percentage of student who dropout from school before reaching grade 5, is high in Pakistan. This not only results in reduced enrolments but also lead to internal inefficiency in the education system by increasing the unit cost of producing school graduates. Dropout rates are not only high but have been increasing over time. For the public primary schools, the dropout rates increased from 40 percent in 1996-97 to 54 percent in 1999-2000. Again it is girls who fare much worse. Dropout rates are higher among girls and are increasing at a higher pace relative to boys. The dropout rate within public primary schooling clearly indicates inefficiency. Private schools in comparison have done better.

Availability of public schools has worsened during the last decade. In 1992-93 one public school was available for 248 children in the 5-14 age group. This increased to 264 children 1999-2000, indicating that the growth rate of schools was behind that of the population. It is not just availability but access to schools that is important for girls whose families generally do not allow them to attend school unless it is situated within or very near their village. Only 66 percent of villages had a school for girls within one kilometer of the village centre. Better accessibility rates are seen in North West Frontier Provinces and Punjab at 84 and 80 percent respectively while for Sindh and Balochistan

it was 45 and 34 percent respectively. In other words, over half the girls in rural Sindh and two thirds in rural Balochistan do not have a school facility within in kilometer of their village center.

Table no. 30
Ratio of boys to girls and the percentage of female teachers in Pakistan, 1975 to 2004

Year	Ratio of boys to girls		% of female teachers	
	Primary	Secondary	Primary	Secondary
1975	2.2	3.3	34.1	41.7
1980	2.1	2.9	34.9	42.8
1985	2.1	2.7	31.7	45.0
1990	2.0	2.4	33.4	31.9
1995	1.6	2.0	31.1	31.6
2002	1.5	1.5	44.6	53.4
2004	1.4	1.5	45.1	55.9

Data source: Social Policy and Development Centre. 2006.

The student population to teacher ratio, including the female student population to female teacher ratio, declined between 1993 to 2000 indicating a slight improvement. The role of female teachers in primary education is widely acknowledged and gains more importance owing to socio-cultural factors in Pakistan. However, the student teacher ratio is substantially worse for female students and teachers as can be seen from the fact that the ratio of female to male teachers in public schools is quite low at 53 percent. Further, while the student population to teacher ratio is 66, female student population to female teacher ratio is 165. However, there has been some improvement in all three ratios recently.

A review of the physical conditions of public schools shows that 16 percent of them are without a building, 55 percent without a boundary wall, 79 percent without electricity, 44 percent without water and 60 percent without a latrine. Province-wise, the most dismal situation appears to exist in Balochistan. Over three fourths of the schools in Balochistan are bereft of the most basic physical facilities and a meager 7 per cent have electricity. Gender wise, the physical condition of girls' schools appears to be significantly better than that of boys' schools, barring a few exceptions. However in

Balochistan, 91 percent of the rural girls' schools and 79 percent of urban girls schools are without electricity. About 40 percent of girls' schools in the rural areas do not have water or latrine.[182]

Table no. 31
Labor Force Participation Rates in Pakistan, 1975 to 2004

Year	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
1975	69.6	3.5	79.8	7.6	76.7	6.4
1979	70.3	5.3	80.1	14.3	77.3	11.8
1985	71.1	4.1	79.8	10.7	77.1	8.7
1991	66.6	8.6	73.6	14.8	71.3	12.8
1995	64.3	7.0	71.3	13.3	69.1	11.4
2000	65.0	8.8	73.1	16.1	70.4	13.7
2002	66.9	10.0	72.2	16.8	70.3	14.4
2004	67.1	9.4	72.6	19.5	70.6	15.9

Data source: Social Policy and Development Centre. 2006.

Although there are more girls in school compared to earlier periods, a substantial gender gap in enrolment remains and worsens significantly as girls transition from primary to middle school. In the labor market, lower educational attainments coupled with social norms that restrict mobility confine women to a limited range of employment opportunities and low wages. Education has not made a significant impact on the labor force participation rates of women which have shown only a slight increase as shown in Table no. 31. The force of the cultural and religious factors in preventing women from taking up jobs seems to be very strong in the case of Pakistan.

Adult literacy rate for women is around 25.4 percent, approximately half of men's. Women's educational level is lower than that of men because of a number of reasons. The general overall discrimination against women is particularly pronounced in Pakistan with the status of Pakistani women considered to be lower than that of women in other South Asian countries. Educational deprivation is only a part of the overall deprivation they face in the society as seen in their access to food, health and medical care services.

[182] Social Policy and Development Centre. 2003.

Parents hesitate to send their daughters to school if the teacher is not a women, especially after the girls are over 12 years of age. This aspect has been repeatedly pointed out by many and the state of late is responding to this issue. Increasing the number of women teachers, who account for 34 percent of the number for men teachers for primary education and 41 percent for secondary education, is an urgent necessity for the improvement of girl's enrolment rate. The shortage of women teachers for specific subjects like science and mathematics can be acute.[183] In the context of Pakistan's rural areas, it is difficult for a woman teacher to stay alone in the village. A woman staying alone can become suspect in the eyes of the rural folk and personal safety is a major worry for many of the women teachers. This coupled with the fact that teachers posted in rural areas tend to have lesser overall pay and that no transportation allowance is paid for home travel, acts as major deterring factors. Many woman teachers thus tend to avoid rural postings and stick to urban areas.[184]

Table no. 32
School enrolment rates by income groups in Pakistan

Income quintile	Net Enrolment Ratio		Ratio of Girls to Boys
	Boys	Girls	
1	21.0	13.9	60.9
2	27.2	20.4	70.2
3	31.6	23.4	67.3
4	35.9	31.8	82.7
5	45.1	44.7	89.4

Source: Social Policy and Development Centre. 2003

School enrolment is definitely related to the income level of the family as Table no. 32 highlights. As much as 40 percent of the boys and 26 percent of girls in the age group 10-18 who never attended schools cited that education was unaffordable for their families and that is why they were never in school. As against this boys citing "parents didn't allow" were 3 percent but girls answering so were 36 percent. The table shows a progressive increase in

[183] JICA 1999a.

[184] Warwick, Donald P. and Haroona Jatoi 1994.

boys' and girls' school enrolment rates with the increase in income level. The enrolment ratio for boys in the highest income quintile is more than twice that of boys in the lowest quintile. The ratio for girls is three times as much. Significantly the share of girls to boys increases as income levels rise.[185]

The gender gaps in education get compounded by geographical gaps in education environment and literacy rate. In Balochistan, the most deprived province of all, there are forty eight girls per teacher.[186] In Balochistan, the female literacy rate is about 5 percent and in the NWFP it is not more than 15 percent. The gap in the initial enrolment of boys and girls is not so great but the dropout rate among the females is much higher.[187] When the most advantaged and the most disadvantaged are compared, the differences can be stark. While the Sindh urban male adult literacy rate for 2001-02 was 74 percent, it was less than one tenth of it at just 7 percent for the Balochistan rural female.[188] In really backward areas, parents have to be convinced of the importance of education for girls. As many as 45 percent of girls in rural Balochistan and 23 percent in rural North West Frontier Provinces who had dropped out before completing primary education gave the reason that "parents didn't allow".[189]

The dropout rates for boys and girls at each level rise as they progress from class 1 to class 5. The girls' rate is less than the boys' rate but slowly rises to become level with it in Class 5. But in class 6 the girls' dropout rate takes a jump and is larger than the boys' rate by a large margin. (This could be because girls attain puberty around this time and the parents stop sending them to school.) When we see the dropout rates in urban and rural areas, in class 6, the female rate is *slightly less* than the male rate, but in the rural areas, the dropout rate for girls is about 20 percentage points higher than that of the boys.[190]

The safety of females in public spaces is a constant worry for urban and rural families alike. A mother may keep her daughter from attending school so that she does not have to walk alone. School attendance for girls is very sensitive to school proximity with the importance attached to the school proximity rising as the girl child ages. Qualitative studies suggest that

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[185] Social Policy and Development Centre. 2003.

[186] Rahman, Tariq 2004a.

[187] Khan, Akhtar Hasan 1997.

[188] Social Policy and Development Centre. 2003.

[189] Government of Pakistan. 2002.

[190] Khatoon, Naushaba, Muhammad Sabir and Iffat Ara 2005.

concerns over safety and norms of female seclusion are the primary factors behind the precipitous drop in enrolment beyond age 12.[191] Simultaneously the underutilization of schools were quite high and this was more prevalent in rural than in urban areas. Girls' schools were more underutilized than boys' schools in both urban and rural areas, which was again reflective of the disadvantage girls faced as well as the reluctance of parents to send their daughters to school.[192]

Girls from poor households drop out of school to enter the labor market. The lack of good schools in Pakistan along with the consequent discount that parents place on the value of their children's education may explain this behavior. The gender differential in this respect is quite revealing, with Pakistani girls experiencing a much sharper reduction in their schooling than boys when their households fall into poverty. The close complementarities between girls' and women's labor in Pakistan is consistent with the negative impact that rising women's wages have on child schooling. In other words, when women's wages rise, working mothers tend to pull daughters out of school and take them along to work.[193]

The first major study which had attempted to quantify the growth losses that Pakistan had undergone because it failed to invest adequately in educating its girls and women is by Birdsall and others. There have been three major findings. Firstly, Pakistan's per capita income in 1985 would have been higher by 15 percent than its actual value only if female enrolment rate in 1960 was of the same level as that for males. It would have been even higher if Pakistan had overall enrolments comparable to the contemporary East Asian levels. Second, increasing primary-school enrolments for girls would have been just as effective in stimulating growth as increasing primary enrolments for boys. Third, while Pakistan paid a huge price in not having educated its girls to the extent it did to its boys, the actual cost of educating girls would have been minimal. It was not just that substantial incomes were foregone by Pakistan because of it low investments in education; it also lost a whole lot of other social improvements that would have flown from educating girls - namely, lower infant mortality, lower fertility and other social benefits.[194]

Later research has confirmed these conclusions. As human capital accumulation is a primary source of economic development, the school

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[191] World Bank 2005b.

[192] Rafiq, Muhammad 1996.

[193] Ray, Ranjan 2000.

[194] Birdsall, Nancy, David Ross, and Richard Sabot. 1993.

attainment variables are significantly related to the growth rate of real per capita GDP. The international comparisons reveal that economic growth in Pakistan is seriously affected by low levels of investment in human capital. This is especially true for the loss of social benefits, which can be directly related to the low level of women's education.[195]

Other things remaining constant, the chances of a woman to be a paid and productive member of the society increases with education and improves significantly the better educated the woman is. Educational attainment is significant in increasing the age at marriage as most educated women tend to delay getting married.[196] However the focus on women's education is not only important to start the virtuous cycle of higher human capital, lower fertility, better care of children, etc., but is an investment to push forward the boundaries of the country's production possibility curve and have a higher GDP.[197]

Given that education enhances income-earning capacity, the relationship between equity in education and in income is explained by the returns associated with education. In the current global scenario, the nature of technological change is manifested by a rapidly rising relative demand for technically skilled workers. If the demand for skilled labor expands at a higher rate than that for unskilled labor, wage inequalities are likely to increase. Further, if there are disparities in education between upper and lower income groups, upper income households are enabled to capture a disproportionately large share of the benefits of growth in national income. As a result, educational inequalities are likely to exacerbate income inequalities and vice versa.

A district level analysis, undertaken to measure educational disparities confirms the relationship between inequality in education and developmental levels in Pakistan. This was done by the construction of two indices. The first, the District Education Index was constructed to measure the educational status, as seen in enrollment and literacy levels. The second, the District Development Index, measures the status of developmental variables other than those relating to education like extent of mechanization and modernization of agriculture, housing quality, access to basic residential services, and development of transport and communications. It is evident that disparities in literacy rates are correlated with the level of development.

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[195] Sawada, Yasuyuki 1997.

[196] Gangadharan, Lata and Pushkar Maitra 2000.

[197] Naqvi, Zareen F. and Lubna Shahnaz 2002.

As the coefficient of variation between adult literacy rate and female literacy rate is decreasing, development levels are rising, implying that as the inequality level in the literacy rate falls, development levels rise. Urban males were found to rank highest in terms of educational endowment and rural females the lowest. In all the provinces, women's educational attainments lagged behind men's. Overall the analysis shows the starkness of the pattern of regional inequality in educational endowments.[198]

The 1998 population Census puts the sex ratio at 108 males to 100 females in Pakistan. In a world with no excessive female mortality the sex ratio would be 95 males per 100 females. The difference between this benchmark and the actual ratio translates to the number of "missing women",[199] that is the women who would have lived but did not because of premature death. Taking 95 as the benchmark, Pakistan's sex ratio of 108 implies almost 8 million missing women. The women are missing due to the surfeit of female mortality in parts of the developing world, notably South Asia. Because there is little evidence of prenatal sex selection in Pakistan, the prevailing sex ratio reflects relatively poor treatment of girls after birth, rather than female infanticide. This has been called "extended infanticide" where girls have an elevated mortality rate in childhood because they may be denied inputs like food, nutrition, and health care. Pakistan risks losing an average of 0.4 percent points in its annual economic growth between 2005 and 2015 if it does not work to achieve its Millennium Development Goals. The potential negative social effects of failing to achieve universal education include between 0.1 to 0.6 more births per woman, 2.4 percentage points greater incidence of underweight children under age five, and up to 32 per 1000 higher child mortality by 2015.[200]

The effect of female schooling on fertility is largely confined to the urban areas of Pakistan. This is not to say that female schooling does not have any influence in rural areas; but that firstly, there are fewer opportunities to get schooling there and then secondly, the avenues through which this can influence fertility, eg., employment off the farm, or greater autonomy in extra-household decisions, etc., are also limited.[201]

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[198] Social Policy and Development Centre. 2003.

[199] This term and concept has been introduced Amartya Sen. See Sen, Amartya 1990a. For refinements on the number of "missing women" and coverage of the debate Sen sparked off see Klasen, Stephan and Caludia Wink 2005.

[200] World Bank 2005b.

[201] Sathar, Zeba A. 1996.

There are several plausible reasons why women with some education display lower fertility rate patterns than uneducated women. Firstly, high opportunity costs of childbearing could be involved. Second, educated women who are more likely to send their children to school are more conscious of the quality of education and are prepared to bear the cost of schooling. Third, education induces the economic empowerment of women, which is likely to lead to a reduced need for children as old age security. Fourth, women's education is associated with lower infant and child mortality, reducing the desire to bear children for replacement. Where one or both the parents have some degree of education, the number of children is invariably smaller.

One reason why education may operate through these channels is that schooling enables a woman to read and write, thus increasing her knowledge about the outside world and providing her with certain skills that enhance her productivity. In addition, a woman's position relative to a man's may also be improved by education. It is important to note, however, that the decision on family size is a joint one, even though in traditional societies the husband commands the major decision-making authority. Thus the woman's 'decision-making autonomy' is likely to depend to a large extent on community norms and institutional structures.

The inverse relationship between fertility rate and the educational attainment of married women is found to be true in the context of Pakistan. Fertility rate declines as education level rises. Although the attainment of primary education reduces fertility, a more pronounced impact is visible at secondary and tertiary levels. This is also partly true because of the effect of delayed marriage. Infant mortality rates decline to almost half when the mother has post-secondary qualifications. Similarly, higher levels of mothers' education are associated with lower levels of morbidity in the population, especially in rural areas with the impact being higher there. Schooling of mothers is strongly associated with an increase in immunization. Mothers with higher education fully immunize their children, compared to only 65 percent of the uneducated mothers who do so.

Another benefit associated with the education of females is delayed marriage and childbearing. Adolescent marriage and motherhood have health, social and economic implications. Early marriage prevents girls from obtaining further education, as they are less likely to be allowed to go to school once they get married. There is a strong association between the level of education of a woman and her age at marriage. Women who complete at least primary education tend to be married later than those who have had no

education. 82 percent of the girls who were married at age 18 or below had no education.[202]

What do the foregone indicate? First and foremost the availability of schools for girls has to increase. Studies have shown that only a tiny share of the girls is not sent to school because of work at home. The more important issues pertained to the lack of schooling facility, relatives looking on the education of the girl child with disfavor, poverty and the like. Thus the work argument that is frequently cited as a reason for nonattendance does not stand scrutiny in the face of empirical evidence.[203]

It would be facile to conclude that parents' decision about schooling is always determined by adhering to cultural norms. It seems that a combination of cultural norms and poverty is the cause. It can be shown that the parental decisions are based on rational consideration of costs and benefits. Thus when a family becomes rich owing to, for instance, money sent by the male earner who has gone to the Middle East, it defies custom and sends its girl child to school even after the age of puberty, which it would not have if it were in the earlier economic status. This it does in the face of the "psychic" cost of rejection by its relatives or others in the village.[204]

Both transitory poverty as well as absolute poverty may be seriously affecting the human capital investments of farmers. The typical household in the rural Pakistan is credit constrained and thus unable to undertake human capital investments. Parents seem to prefer educating sons, particularly the eldest. Schooling of children is significantly related to a household's risk coping behavior under credit market imperfections. Several policies might be supported to enhance human capital investment in rural Pakistan. First, state subsidies such as food and income transfers at bad harvest seasons would enhance schooling performance. Rural credit policy contingent on schooling attendance especially for female children would also be effective. An efficient form of such a policy might include scholarship money for primary education and free school meal plans, together with various forms of financial market development policies.[205]

Without good schools and satisfactory day care arrangements, mothers who work have to put their children to work as well. It is here that the Japanese historical experience of providing day care centre for babies so that

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[202] Social Policy and Development Centre. 2003.

[203] Shah, Nasra M. 1986b.

[204] Farah, Iffat and Kazim Bacchus 1999.

[205] Sawada, Yasuyuki 1997.

girls could bring siblings to school and continue their studies holds an important clue.

While the discrimination against girls and women in education has greatly reduced what stands out starkly is that, in the rural areas while the overall situation seems to be making progress, the gender gap has greatly *increased*. This again points out to the urgent necessity to raise the supply of schools for girls. As we tried to point out the cultural arguments do not hold water. It is rather the economic capability of a family to pay for education as well as the provision of quality schools along with women teachers (by the government) that are more relevant. As of 2003-04, 55.1 percent of all primary schools were for boys and only 32.3 percent were for girls with the rest 12.6 percent being mixed. In the case of middle schools the figures are 49.3, 47.0 and 3.7 percent. However for high schools the trend is again tilted against girls with the relevant figures being 66.9, 30.3 and 2.8 percent.[206] Lest it be thought that the situation as regards the middle schools is more equitable, it needs to be pointed out that as against a total of 133,952 primary schools, there were only one tenth their number of middle schools (13,668) and 8868 high schools. The precipitous drop in the availability of schools in the post primary stage is one reason why girls (and boys) are invested with little education.

The appointment of local female teachers boosts female enrolment significantly[207] and this points to the need for even more government attempts than at present to provide incentives to female teachers as well ensure their security in the rural areas. Further it has been found that hiring more female teachers not only improves the chances of rural girls entering school, but it also ensures that they stay enrolled or in other words, it cuts down the drop out ratio for girls.[208] In the year 2003-04, the percentage of women teachers in the primary schools were 36 percent of the total number of teachers. For middle schools the figure was 48 percent and for high schools it was 33 percent.[209]

As seen elsewhere in Pakistan too, parental education was found to be a significant determinant of both boys' and girls' schooling. Mother's education exerted a larger impact on daughter's education. It has been established that the likelihood of a girl leaving school declines with a rise in

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[206] Government of Pakistan, 2006.

[207] Kim, Jooseop, Harold Alderman and Peter Orazem 1998.

[208] Sawada, Yasuyuki and Michael Lokshin 2001.

[209] Government of Pakistan, 2006.

mothers' education.[210] As the percentage of school age children with mothers who are educated or parents with sufficient income is very low, children do not complete primary school and the cycle of poverty and unequal opportunity is perpetuated. Thus the crying need for schools especially for girls.[211] In the face of rampant privatization, - in urban Punjab, government schools now educate less than half of the children in primary schools – the public primary system is on the decline in Pakistan. There is a large difference in both enrolment and dropout rates based on household incomes, with the poorer households having lower enrolments and higher dropouts. This only emphasizes the importance of the active role of the government in the provision of quality schools.

What reduces the probability of dropout for girls is the availability of post primary schooling in the community, or having a mother who has attended school or the higher consumption levels in the household.[212] An important aspect to consider is that girls' enrollment in rural Pakistan is highly responsive to the presence of an all-girls public school inside the village. But it is not only the presence of the school that matters; parents care about quality – at least certain elements of quality that are meaningful to them. Even something as basic as "share of teachers residing in the village" has a large impact on primary school enrollment of girls.

The important point to note is that parents do go in for private schools just because they are private. They seem to go in for quality. Quality considerations significantly affect the enrollment of girls in primary schools as seen in the fact that girls' enrollment in rural areas go up when an all girls private school comes up. But when the parental expectations of quality are not met, parents do not sent their daughters to the private schools. Thus increasing the availability of public girls' schools and improving their quality in villages where all-girls public schools already exist can have an enormously beneficial impact on the primary enrollment of girls.[213] This is the answer to solving the "apparently intransigent gender gap in access to education provision at all levels".[214] What is called for is a one time "big push" from the government especially as the achievement of universal primary education with a particular emphasis on girls' enrollment is claimed to be a top priority.

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[210] Hamid, Shahnaz and Rehana Siddiqui 2001.

[211] Sathar, Zeba A. and Cynthis B. Lloyd 1994

[212] Lloyd, Cyunthia, Cem Mete and Monica J. Grant 2006.

[213] Lloyd, Cyunthia, Cem Mete and Zeba A. Sathar 2005.

[214] Heward, Christine. 1999b.

Sri Lanka

The island nation of Sri Lanka had a population of a little over 20 million which was growing around 0.78 percent per annum in 2006. It has a high life expectancy at birth of 73.41 years (males 70.83 years and females 76.12 years) and the infant mortality rate was a low of 13.97 deaths for every 1000 live births; even here the female infant mortality rate was much lesser than the male infant mortality rate which was contrary to the trend in South Asia. The sex ratio is 0.96 males per female, Sri Lanka being the only South Asian country to have more females than males in the population and the total fertility rate is a low of 1.84 children per woman (below the replacement rate of 2.1 children per woman and much below the world average). The GDP for the year 2005 was US$ 21.62 billion at the official exchange rate and 85.34 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 4300 in 2005, holding the rank of 178 in the world. For the year 2005 agriculture accounted for 17.8 percent of the GDP while industry registered a figure of 27.6 percent with the services holding a share of 54.5 percent. 38 percent of the labor force was in agriculture and 17 percent in industry and 45 percent in services for the year 1998. 22 percent of the population has been estimated to be below the poverty line in 1997. The literacy rate (for those over15 years of age who can read and write) for the total population was the highest in South Asia at 92.3 percent for the year 2003; the literacy rate for males was 94.8 percent and those for females was 90 percent. In 2003 its military expenditures accounted for 2.6 percent of GDP while the public spending on education was 1.3 percent of GDP.

In the sixteenth century the Portuguese missionaries had set up 100 schools for spreading Roman Catholic culture. The Dutch who took over in 1656 set up a system of primary schools. By 1760 there were about 130 schools with 65,000 students. When the British took over many Dutch schools closed. In 1870 there were less than 20,000 students. Education in the traditional system in Tamil and Sinhalese proceeded apace.

From 1870 onwards the education system in Sri Lanka expanded. State run schools rose in number and the government gave grants for private schools that met official requirements. By 1900, there were 200,000 students. While private schools were run mostly by Christian organizations and taught in English, they were in southwest and had a majority of Christian and Tamil students. By 1921 female literacy rate was 50 percent for Christians, 17 percent for Buddhists, 10 percent for Hindus and 6 percent for Muslims.

Modern educational institutions were established in Sri Lanka under British colonial rule in the nineteenth century. Privileged groups enjoyed an elitist education, which led to remunerative employment in the colonial economy. In the 1940s a package comprising of free education and health services and subsidized food was introduced and the demographic transition to low mortality and fertility rates followed. These reforms were instrumental in giving relatively high physical quality of life indicators in a low income country with low economic growth. Free education at primary, secondary and tertiary levels was introduced in 1945. Scholarships, free midday meals and subsidized transport were incentives given to poorer families.[215]

Since independence in 1948, the government has taken an active role in education. As private institutions did not receive grants now they had to charge fees while competing with free state-run schools. By 1960s, Sinhalese or Tamil were the primary medium in all government secondary schools. By the 1980s 93 percent of male students and 99 percent of female students at the primary level were in government-run schools.[216]

Today Sri Lanka has a primary system of 9 years which is compulsory. Expenditure on education as a proportion of the GNP increased through the 1950s from 3 percent in 1952 to 4.8 percent in 1960. It rose to 4.9 percent in 1965 and remained between 4.0 and 4.9 percent up to 1972. In 1973 it was 3.4 percent and fell to 2.8 percent in 1977 and 2.48 percent in 1984 and rose to around 3 percent in late 1980s.[217] The government spent 3.4 percent of GNP on education in the years 1995-97. From 1995 onwards women have begun to outnumber men in the population which comprised of 51% women against 49% for men. Labor force participation of women rose to 37% in 2000.[218]

Net primary school attendance in Sri Lanka is 96% with approximately the same percentage of boys and girls in the age group 6-10 years attending school. Sri Lanka had attained the net primary attendance of 95% by 1990/91 to rise to 96% by 2002. Net primary completion rates by 2002 were 95% both for boys and girls. The high net primary school attendance and completion rates and near gender parity in enrollments can be attributed to the strong household demand for schooling and progressive government policies. The government established a complete network of tuition free public schools which provide access to primary schooling for all children within 3 kilometers of

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[215] Jayaweera, Swarna 1999.

[216] Caldwell, Bruce 1996.

[217] Ranaweera, A.M. 1995.

[218] JICA 2002a.

their homes, free school uniforms and subsidized transport and enrollment drives at grade 1 to draw out-of-school 6 year olds into the school system. Strong household demand is seen as while the bottom consumption quintile registered a primary school enrollment for both boys and girls of 95% while the top quintile registered a figure of 97 percent.[219]

Table no. 33

Literacy by sector and gender Sri Lanka 1946-1991, %

	Census 1946	Census 1953	Census 1963	Census 1971	CF&SE Survey 1981/82	Census 81	LF&SE Survey 1985/86	HI&E Survey 1991
Total	62.8	69.0	76.8	78.5	85.4	86.5	84.2	86.9
Male	76.5	80.7	85.6	85.6	89.9	90.5	88.6	90.0
Female	46.2	55.5	67.1	70.9	81.1	82.8	80.0	83.8
Urban								
Total	76.2	82.6	87.7	86.2	89.7	93.3	89.1	92.3
Male	84.5	88.5	91.8	90.3	92.9	95.3	92.4	94.0
Female	65.7	74.1	82.7	81.5	89.8	91.0	86.1	90.6
Rural *								
Total	60.1	66.4	70.1	76.2	86.0	84.5	84.6	87.1
Male	74.7	79.0	83.9	84.1	90.1	89.0	88.5	89.9
Female	43.0	52.4	63.6	67.9	82.1	79.9	80.7	84.3
Estate								
Total					64.8		59.4	66.1
Male					78.0		74.5	79.0
Female					52.6		45.9	52.8
Becker's coefficient of discrimination	0.66	045	0.28	0.21	0.11	0.09	0.11	0.08

Source: Jayaweera, Swarna 1999.

Note: * Estate sector included in the category 'Rural' in Census

CF&SE Survey: Consumer finances and Socio-economic Survey, Central Bank of Ceylon

[219] World Bank 2005d.

LF&SE Survey: Labor Finance and Socio-economic Survey.
HI&E: Household Income and Expenditure

Co-education schools were the norm, accounting for about 89 percent in 1963 and 96.5 percent in the 1980s. Gender differences in access to educational have been virtually eliminated in Sri Lanka. In 1991 average years of schooling were 10 years for male and 9.7 years for females among the most affluent and 5.4 years for male and 5 years for female among the poorest. 8 percent of students never entered the system.[220] Table no. 33 gives the progress. As is readily obvious from the figures for the Becker's coefficient of discrimination, Sri Lanka started with a relatively small amount of gender discrimination compared to other south Asian countries; but what stands out is how the remaining gender discrimination was rapidly eliminated. The high primary education (grades 1-5) and junior secondary education (grades 6-9) enrolment rates are the outcome of several complementary and mutually reinforcing policies, such as tuition free schooling, special education programs for disadvantaged students, free textbooks, free uniforms and subsidized transport, and of strong household demand for education. Far sighted 'social' policies that focused on the extension of educational opportunity to all social strata have produced a relative literate female population which has had access to health and family planning services extensively. Due to the rising educational levels of women, there have been a steep decline in death rates to 6 per 1000 and a fall in infant and maternal mortality rates. The population growth rate fell from 2.3 percent in the 1950s to 1.2 percent in the 1990s. Life expectancy has risen to 70 years for men and 74 for women. Women's participation in education and employment has delayed marriage to an average of 25 years for women. And rising educational levels have increased contraceptive use, contributing to reducing family size. Female labor participation rate increased from 25.8 percent in 1980 to 39.4 percent in 1990.[221]

Sri Lanka has already attained the numerical goals relating to universal primary enrollment and completion as far back as 1990-91. Ensuring good quality primary education and sharp regional disparities in learning are areas of concern. Sri Lanka shows no gender disparities in schooling opportunities at the primary or secondary level but there is considerable evidence of intra-household discrimination against girls in the allocation of nutritional inputs

[220] Jayaweera, Swarna 1999.

[221] Jayaweera, Swarna 1999.

and health services. This is seen in the higher rates of infant mortality for females than for males as well as in higher level of malnutrition in girls as compared to boys. While the discrimination against girls are widely observed in other parts of South Asia like Pakistan, India and Bangladesh its existence in Sri Lanka is surprising in view of the high levels of adult female literacy.

In consonance with the findings of numerous empirical studies from around the world, there is evidence of strong associations between female adult schooling and many of the Millennium Development indicators. For instance, female schooling, especially at the post-primary level, is strongly associated with poverty reduction and with lower child underweight rates in the Sri Lankan context. The country has attained high levels of primary school enrollment and completion as “Investment in education has been at the heart of Sri Lankan government policy for several generations …”[222]

Total fertility rate for Sri Lanka was about 2.5 in 1993, very low for its per capita income. It is not that higher educational attainments directly translate into a fell in total fertility. Schooling is associated with changes in society which have raised the autonomy of women. While high level of female autonomy provided the condition in which fertility could fall, but the principal linkage of female schooling to the decline in fertility is part of a much wider change in the position of the individual and the family within society.[223]

Investment in education produces a wide array of economic and social benefits in Sri Lanka, including higher human capital and earnings, improved occupational attainment and social mobility, increased female labor force participation, superior family health levels and child nutrition outcomes. The social rate of return to education is high, especially at the compulsory basic and senior secondary education grade cycles. Among men, social rates of return to education are 20% at the senior secondary schooling level and 15% at the compulsory basic education level. Among women, social rates of return to education are 20% at the compulsory schooling level and 18% at the senior secondary schooling level. These high returns to compulsory basic and senior secondary education suggest that Sri Lanka under-invests in education at these levels. Externality effects, such as health and nutrition benefits, are also strong among primary and secondary educated mothers. Tertiary education generates high private returns to individuals, 26% for men and 24% for women. However, social returns to tertiary education, at 11% for

[222] World Bank 2005d.

[223] Caldwell, Bruce 1996.

men and 10% for women, are considerably below the private returns and smaller than for compulsory basic and senior secondary education. This suggests that the benefits of tertiary education accrue chiefly to individuals as private gains.

Education exerts a powerful effect on poverty reduction and the economic welfare of the poor. The poverty rates of households fall sharply as the education level of the household head or principal income earner rises. The improvement in poverty rates is especially swift as household heads or principal income earners complete basic education and higher level courses. There is also a high degree of equity of government education investment across provinces, with progressively higher per student allocations for educationally disadvantaged regions. The broad range of policy measures to promote enrolment, attendance and school completion, especially at primary and compulsory basic education level, has enjoyed widespread success. Popular and successful policies, such as the norm-based unit cost resource allocation mechanism to distribute public resources to schools, have greatly enhanced the equity of resource distribution among schools. The allocation of public education spending across economic groups is progressive at the primary, basic and senior secondary education levels, with benefits relatively evenly distributed among all economic groups.[224]

Discussion on south Asia

What are the features common to South Asia? Historical legacies seem to unite them. Feudal rule in the case of Nepal and colonialism in the rest kept out the rapid spread of education and hence when these countries started on their modernization drive they started from a low base. The powerful elite all over South Asia with the exception of Sri Lanka appropriated the state apparatus and controlled the allocation of funds to higher education sector to ensure that their interests did not suffer. Again with the exception of Sri Lanka all the countries of this region neglected primary education when they began modernization, " ... considering it a social welfare programme for families, as it is still treated in these government budgets, rather than an essential investment …". Wasteful over-investment in higher and technical education led to an exodus of human capital and a large level of illiteracy in society.[225] The bias towards higher education persists while the crying need

[224] World Bank 2005e.

[225] McMahon, Walter W. 1999. pp.193-98.

of the hour is the rapid expansion of the base of the education triangle. This is all the more important with the current waves of globalization and the boom in the jobs in the export sector. Undereducated women labor force gets automatically excluded from getting gainful employment.

Gender disparity in education in South Asia is among the highest in the world. This means that South Asia has much learn from both Southeast Asia and East Asia. Second, the inter state differences in gender disparity in India and inter province differences in gender disparities in Pakistan and Nepal are substantial; these are larger than the differences found between different countries, indicating a much skewed distribution of education inside both India, Pakistan and Nepal. While educational deprivation of girls and women can partly be ascribed to poverty, there is no correlation between the per capita income and gender disparities in education outcomes. This implies that the absolute level of educational outcomes for girls is linked to economic conditions. However the existing gender disparities cannot be that easily linked to the economic conditions. An important implication is that a country need not necessarily have a high GDP per capita to eliminate gender disparity.[226] In all the countries of South Asia we find that there are positive impacts on the social indicators like infant mortality, maternal mortality, fertility rate, and the like when the level of education of the female half of the population goes up.

Despite starting from a low base, Bangladesh has shown rapid progress almost wiping out the gender inequality in education at least at the lower levels. This was achieved despite low levels of public spending on education. Like Pakistan, Bangladesh also spends just 2% of GNP on education. Also Bangladesh ranks very low when seen from the measure of GDP per capita. The basic reason for its success is the specific policies positively discriminating the girl child. The FSP and later the FSSS program in Bangladesh which has been a huge success, was not prohibitive in terms of resources for the government.

What has been achieved is not just the higher diffusion of education among girls. Their marriages got postponed and this in itself is bound to bring down their fertility levels; when we couple this with the fact that educated women have a stronger decision making power in family issues like the number of children to have, we can see an even more rapid fall in fertility levels. The heartening example should serve a pointer to others who are similarly placed. Bangladesh does show the way for Pakistan, Nepal and the

[226] Filmer, Deon, Elizabeth M. King and Lant Pritchett 1998.

backward states of India.

The answer to Bangladesh's better performance (than India) could be in the following: While the public spending on health as a proportion of GDP in the case of Bangladesh was lesser than that of India in 1990, in the ensuing decade this rose sharply while that of India stagnated. Likewise when we see the public spending of India on education between 1999 and 2001, it was 4.1 percent of GDP, more than the figure of 2.3 percent in the case of Bangladesh. But this figure had increased from 1.5 percent in 1990 to 2.3 percent in 1999-2001 which means that there has been a 50 percent increase. In the case of India the increase was just 5 percent. The other noteworthy aspect is that while Bangladesh is spending 45.1 percent of its total public expenditure on education at the pre-primary and primary level, the comparable figure for India is 38.4 percent. While India spends 20.3 percent of its public spending on the tertiary level the figure for Bangladesh is only 11.1 percent. So the rapid growth of public spending on education and the better balance across the sectors (with the bias clearly in favor of the lower levels) as compared to India could be explanatory factors as to why Bangladesh has done much better in reducing gender disparity than India in education.

One more factor could be the role of NGOs in Bangladesh. NGOs have been a vehicle of development and this is well developed in Bangladesh. Secondary education is almost entirely provided by the non government sector ie the NGOS, for-profit schools, and the *madrasahs*. The NGOs in Bangladesh are very large, very professional and different from the NGOs in the other developing countries.[227]

While the gains that accrue through the closing of gender discrimination in education are immense, likewise the losses a society incurs due to the neglect of women's education are also large. As was clearly demonstrated in the case of Pakistan the economic growth rate of these could have been much faster if only they had taken pains to reduce the educational discrimination against the girl child early. First, Pakistan's per capita income in 1985 would have been higher by 15 percent than its actual value only if female enrolment rate in 1960 was of the same level as that for males. It would have been even higher if Pakistan had overall enrolments comparable to the contemporary East Asian levels. Second, increasing primary-school enrolments for girls would have been just as effective in stimulating growth as increasing primary enrolments for boys. Third, while Pakistan paid a huge price in not having educated its girls to the extent it did to its boys, the actual

[227] World Bank 2005a.

cost of educating girls would have been minimal. It was not just that substantial incomes were foregone by Pakistan because of it low investments in education; it also lost a whole lot of other social improvements that would have flown from educating girls - namely, lower infant mortality, lower fertility and other social benefits. It is estimated that South Asia would have had 0.9 percent of faster economic growth per year had it promoted gender-balanced growth in education starting from a more balanced educational system since 1960.[228] The state's abdication of its responsibility is glaring in this regard.[229]

Sri Lanka has long been extolled in the development economics literature as a country that has achieved extraordinary success in attaining high levels of male and female literacy, school enrollments and health outcomes, despite having low levels of per capita income. What mattered in the context of Sri Lanka was the public, good quality education plus incentives. Up to the early 1990s Sri Lanka enjoyed the highest basic social development outcomes relative to per capita income among virtually all developing countries. This achievement was the result of strategic public policy decisions, over several successive generations, to invest resources in, *inter alia,* the education sector. The Sri Lankan policy-makers who designed the basic framework of the education system, in the 1930s and 1940s, were far ahead of their times in perceiving human capital as a promising investment with the potential to produce a wide range of important economic and social benefits.

The Sri Lankan education development has important lessons for others in the South Asian region. First, it has emphasized the importance of public financing and provision of basic education and secondary education to the entire population. This visionary emphasis, commencing in the 1930s and 1940s, was generations ahead of its time. Second, Sri Lanka limited public resources devoted to tertiary education, awarding emphasis to the basic and secondary cycles. The fruits of these policies have been reaped by subsequent generations, with basic education attainment, primary health outcomes and social development indicators close to levels observed in upper-middle income and developed countries.[230] It was not just the introduction of free education at primary, secondary and tertiary levels that were introduced in 1945; scholarships, free midday meals and subsidized transport were incentives given to poorer families.

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[228] Klasen, Stephan 1999.

[229] See Balatchandirane G 2000. for a case study of India and comparison with the Japanese case

[230] World Bank 2005e.

Bangladesh has already attained the goal relating to elimination of gender disparity in schooling opportunities. It is the only country in South Asia other than Sri Lanka to have achieved parity in male and female enrollments not just at the primary level but also at the secondary level. This is an impressive achievement for a country that is one of the poorest in the world, with a per capita gross national income of only US$ 1,700 in PPP terms in 2002.[231] This means that the low per capita level of income cannot be used as an excuse by other countries

What are the next issues that these countries need to address? These would be the introduction of more female teachers, the establishment of girls-only schools especially secondary schools, provision of schools within walking distance in rural and remote areas, free and compulsory education at primary and secondary levels and the public provision of good education. Incentives like the midday meals scheme in India (later tried by Bangladesh) have a great impact and need to be tried in many places. In the context of Japan, there were provisions in the schools a century back for the girl child to leave her young sibling, attend classes and then take the sibling back home. As taking care of younger siblings is one of the reasons that keeps girls out of school in the south Asian context (especially Nepal), this measure which worked in the Japanese context might be another useful experiment that can be introduced in south Asia too. Finally what becomes clear is that economic incentives do work. Poor families will send their daughters to school if education becomes affordable, more female teachers are employed and quality schools are available. The argument that parents do not send their daughters to secondary school because of cultural or religious beliefs is obviously misplaced. The other important reason why girls need to be positively discriminated with economic incentives is that public spending in the countries of South Asia, a clear example of which is seen in the case of Pakistan, is benefiting boys more than girls now.[232]

[231] World Bank 2005a.

[232] Sabir, Muhammad 2002.

East Asia

This is easily the best performing region in Asia in educational terms. This would also be the region that has done quite well compared to other regions of Asia in terms of reducing the gender discrimination in education. While more needs to be done by the countries falling in this region, the rest of Asia definitely has much to learn from this region. Be it the early start made by Japan well over a century back emphasizing near equality in educational spread between boys and girls as well as the priority it laid in basic education right from the beginning, or the rapidity and single mindedness with which South Korea pursued educational diffusion without gender discrimination after becoming independent, or similar attempts by China which had been initiated by the Communist Party of China for ideological reasons in the early 20th century and pushed forward vigorously with due accent on basic education after 1949, this region is a rich tapestry for the rest of Asia to learn from.

People's Republic of China

The fourth largest area-wise and the most populous country in the world with a population of about 1313 million, China had a population growth rate of around 0.59 percent per annum in 2006. It had a life expectancy at birth of 72.58 years (males 70.89, females 74.46) in 2006 and the infant mortality rate is 23 deaths for every 1000 births. The sex ratio is 1.12 males per female and the total fertility rate is 1.73 children per woman. The GDP for the year 2005 was US$ 2.225 trillion at the official exchange rate and 8.859 trillion on a PPP basis. The GDP per capita on a PPP basis was US$ 6800 in 2005, holding the rank of 115 in the world. For the year 2005, agriculture accounted for 12.5 percent of the GDP and industry (including construction) accounted for 47.3 percent of the GDP and services accounted for 40.3 percent. 49 percent of the labor force was in agriculture and 22 percent in industry and 29 percent in services for the year 2003. 10 percent of the population has been estimated to be below the poverty line in 2001. The literacy rate (for those over15 years of age who can read and write) for the total population was 90.9 percent for the year 2002; the literacy rate for males was 95.1 percent and those for females was 86.5 percent.

In China, in the 19th century while women could not sit for examinations, a large number of them in the gentry families were educated.

Women's educational attainments equaled that of men in some cultivated families. It would often be the case that girls attended class with their brothers till they reached their teens, to be taken off to learn women's work. Daughters and wives of small shopkeepers and craftsmen knew how to keep accounts. While some theater girls could read from the texts, some of the Buddhist nuns could read sutras. The basic point is that society was not against the concept of educating girls; however being seen in public was seen as behavior not befitting ladies. Secondly, it was felt that there was no economic advantage in educating a daughter. By the end of the 19th century, possibly 2 to 10 percent of females had some ability to read and write, while the literacy rate for males was in the region of 30 percent.

When plans for a girls' school was drawn up in 1897, the only modern public schooling open to girls was run by missionaries and catered mainly to the daughters of converts and to destitute girls. The Chinese schools opened for girls in the 1900s catered to extremes on the social scale. It was either the palace women or prostitutes and the very poor that entered school around this time. In the popular perception, though education was held in high esteem, the proper upbringing of girls was important and if they were sent to schools, their morality could be sullied. Echoing this, in 1904, the powerful official, Zhang Zhidong, disbanded a school for young women attached to Hubei's only kindergarten, and declared that females were to be excluded from public education as "in China's present circumstances, the setting up of schools for women would lead to numerous evils".

By the end of the nineteenth century, when intellectuals in China were advocating women's rights, the question of educating girls was raised in a major way. It was the private schools that started admitting women; the government created schools for girls only after 1907. After the revolution of 1911, gender equality was granted, but in reality access to education remained restricted for women. It is estimated that less than one percent of school age girls were actually attending school in the 1910s.[233]

Despite the official frown, the popularity and numbers of girls' schools grew. Mission boarding schools for girls in Wuchang were full by 1906. Public opposition to girls' schools was over the worry of misconduct from male teachers and was not against girls' education *per se*. The national school system made schooling for women an integral part in 1907. In that year regulations were issued for girls' primary and normal schools. However no girls' schools were to be set up unless female teachers and a headmistress

[233] Mak, Grace C.L., 1989.

could be obtained. Hiring of women teachers was a problem as few qualified women were available. One compromise was to have the men teach but the head of the school would be in classroom throughout. Respected men over fifty might manage the school affairs but their offices had to be separate from the school building.

After female education was sanctioned in 1907, separate primary schools and lower normal schools that could train primary school teachers were permitted. The Board of Education, created in 1905 felt education for girls was needed to perfect "women's virtue" which consisted of chastity, obedience, compassion and proper conduct; these would enable girls to assist their husbands in future. Separate curriculum was prescribed for boys and girls, in consonance with the conceived notions of gender differences and the roles expected of them.[234]

The aim of these schools was to train better mothers who would play their role in strengthening the nation and at the same time uphold the traditional female virtues. However, a number of women who passed out of these schools were to take the lead in the struggle for social equality of the sexes. In two decades there was a dramatic rise in the opportunity for girls to access education. Even attending university became possible. But this very access led to their espousal of the women's rights.[235]

As of 1918-19, 532 of the 1,819 county-level units had no girls' schools. It was rare to see coeducation schools. Around 1910, girls occupied just 1-2 percent of the student body in new schools. In 1909, 13,489 girls attended schools – roughly 7 of every 100,000 women. The possible emancipation through education of gentry women created far more tension among the elite than the extension of schooling to groups lower in the social scale.[236] This is understandable as in the existing milieu of 1910s education had been identified as a primary tool for the emancipation of women. The Chinese Communist Party formed in 1921 was actively supportive of increasing female literacy as it felt the illiteracy of Chinese women was the major stumbling block in the political indoctrination of them. However the 1930s just about 2 percent of the female population aged 7 years and above had attended school and only 1 percent could read a common Chinese character, whereas about 45 percent of males had attended school and 30 percent of them could identify a

[234] Detailed discussion on the debates on the content and type of education to be given to girls is available in Bailey, Paul 2004.

[235] McElroy, Sarah Coles 2004.

[236] Borthwick, Sally 1983.

common Chinese character. However, there was a rapid rise in the female literacy rates from the dismal 10 percent around liberation time.[237]

The literacy rate in China rose from 20 percent in 1949 to more than 40 percent by 1955 and was 70 percent in 1990. Before 1949, women did not have equal access to education. Hence the illiteracy rate for females was as high as 90 percent. The situation rapidly changed in the post 1949 period. In 1952, the proportion of primary students who were female was just 28 percent. This rose to 45.6 percent by 1988, in which year 95 percent of the girls in the age bracket 9 to 11 years were enrolled in school. The educational inequalities have not been completely eliminated. In 1988 there were 2.75 million who were not enrolled in school and 83 percent of these were girls. Of the 4 million primary school drop outs, 70 to 80 percent were girls. Between 1949 and 1987 108 million females became literate, but 140 million female illiterates still remained.[238]

At the time of Reform in 1978 China was fairly advanced in educational spread in that the gross secondary enrollment was 47%, a high figure compared to other low income countries. The per capita income doubled between 1978 and 1987 and once again doubled between 1987 and 1996. In the 1990s, literacy rate was to reach 85 percent of the population in the age bracket of 15 to 24 years. Average education level was to reach 4.5 years. Seventy percent of the illiterates were women.

The major elements that acted as obstacles to female access to education in China were the persistence of traditional social attitudes and patterns that assign an inferior role to females. Female inferiority is built into the Confucian ethic which held that “it is virtuous for a woman to be untalented” and “an educated woman is bound to cause trouble.” The persistence of these attitudes sometimes hampers the discrimination against women’s education.[239] The Chinese government introduced and educational reform movement in 1985 to achieve nine-year compulsory education and to reform secondary and higher education so that the labor demands of fast growing economy are met.

Today, Kindergarten schools admit preschool children from age 3 onwards. Primary schools last for 5 or 6 years and enroll children at the age of 6. Secondary education consists of lower-middle school which can be for 3 or 4 years. Upper-middle school is for 3 years. The Compulsory Education

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[237] Chakrabarti, Sreemati 1995.

[238] Shanghai Institute of Human Resource Development 1991. pp. 65-66.

[239] Hooper, Beverley 1991.

Act was adopted in 1986 and this Act stipulates that the years covering primary and lower-secondary or a total of nine years is compulsory. The undergraduate courses of higher education are usually for 4years.[240]

The returns to education have been found to be higher for the children of more educated mothers in China. Further more educated mothers prefer even more education for their children. There is a marked difference in the marginal effect of education between mothers and fathers. An additional year of mother's education results in larger investments in the child's human capital than an additional year of the father's education. Most importantly, mother's education does not have a strong, systematic gender bias in investments for the child. The more the current crop of girls are educated in China, the more equitable will the educational attainments will be of the future generation of boys and girls.[241]

What are the factors that explain the much better performance of China over India? The important factor explaining China's performance during the pre-reform period was "... the firm commitment of the Chinese leadership to the widespread and equitable public provision of basic education". Both the speed of the spread of education in China in this period was remarkable.[242] In the post-reform period, the rapid growth of private incomes was a reason why there was further educational improvement. In stark contrast to the Chinese case, the Indian government has not displayed an unwavering commitment to the provision of basic education through concrete actions. Second, while educational inequalities lead to social inequalities, they are also a reflection of social disparities. In the Indian context these would relate to caste, class and gender disparities. The overall low level of such social disparities in the Chinese context possibly led to the kind of achievements in literacy diffusion that India finds difficult to accomplish. Third, the much better consistent efforts at the rapid spread of literacy in the Chinese context seem to have been more effective in reducing the gender gap as compared to the Indian case.

While China has managed to impart literacy to almost the whole of the younger age groups, India continues to have a large problem of illiteracy among its younger age groups. The next most important difference seen in the field of basic education is the highly uneven distribution of educational attainments. Illiteracy is more among the disadvantaged groups. Thus

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[240] Teng Teng 1995.

[241] Brown, Philip H. 2006.

[242] Dreze, Jean and Jackie Loh. 1995.

women are more illiterate than men, rural areas are more illiterate than urban and scheduled castes and tribes are more illiterate than others. Further regional disparities are large. While the state of Kerala easily outstrips the achievements of all the Chinese provinces in aspects like adult female literacy and is in the league of advanced nations, some others like Rajasthan and Bihar have literacy rates which would put them in the company of some of the least developed countries of sub-Saharan Africa. While there are similar social and regional disparities in China also, they are not so pronounced. The rural-urban gap is not so high. The emphasis on the expansion of primary education is much larger in the case of China. With regard to the equity question in connection with whatever educational spread China and India have been able to achieve, China's performance is better.

Table no. 34
Proportion of Girls in Schools in China, 1952-92

	1952	1965	1980	1985	1992
Postgraduate Research	n.a	11.4	11.8	18.6	24.8
Tertiary	23.4	26.9	23.4	30.0	33.7
Secondary	23.5	32.2	44.6	44.8	46.0
Primary	32.9	35.0	44.6	44.8	46.0
% of Females in Population	48.1	48.8	48.5	48.3	48.5

Source: Leung, Yat Ming 1995. p.232.

As shown in Table no. 34, in the case of China the proportion of females in the overall student population has been lower than their share in the total population. While the participation rate in the paid labor force for Chinese women is one of the highest among the developing countries, the continuation rate of the female students however drops as one moves toward higher education. While social equity considerations would dictate the raising of the educational attainments of women in China, there is a very practical and pressing need for it. While the illiterate mothers had an average of 4.7 births according to the 1990 census, mothers who had done primary education had 3.8 births, followed by those with secondary education who had 2.4 and those with tertiary education with 1.9. It is estimated that one additional year of

schooling leads to a fertility reduction of 3.8%. Thus, raising the educational levels of women is exceedingly important if the burgeoning population is to be kept in check.[243]

Table no. 35
Distribution of Total enrollment by level of schooling and sex, 1980-1999,%

% Distribution of enrollment by gender	1980	1985	1990	1995	1998	1999
Institutions of Higher Education						
Female	23.4	30.0	33.7	35.4	38.3	39.2
Male	76.6	70.0	66.3	64.6	61.7	60.8
Regular Secondary Schools						
Female	39.6	40.2	41.9	44.8	45.7	45.9
Male	60.4	59.8	58.1	55.2	54.3	54.1
Primary Schools						
Female	44.6	44.8	46.2	47.3	47.6	47.6
Male	55.4	55.2	53.8	52.7	52.4	52.4

Source: Li, Danke 2004.

As is obvious from Table no.35, at all levels of schooling the female enrollments were lesser compared to the male figure. Second, the female participation in education falls as we climb up the educational ladder. Third, female enrollments have been continually rising. The non attendance rates are higher among females than males. In the early 1990s, two thirds of the 2.61 million children not enrolled in schools were girls with the majority from the poor rural areas. Likewise the majority of dropouts also are female. In 1997, 71 percent of China's 164 illiterates were women. In 1999, while less than 9 percent of males over the age 15 were either illiterate or semi literate the comparable figure for females was over 21 percent.[244] Table no. 36 gives the Becker's coefficient of discrimination based on the net enrolment rates. As is readily obvious, the coefficient is near zero levels.

[243] Leung, Yat Ming 1995 p. 232.

[244] Li, Danke 2004.

Table no. 36

Net Enrolment Rates in Primary Schools, 1992-2002

Year	Total	Boys	Girls	Gender gap	Coefficient of Discrimination
1992	97.2	98.2	96.1	2.1	0.02
1993	97.7	98.5	96.8	1.7	0.02
1994	98.4	99.0	97.7	1.3	0.01
1995	98.5	98.9	98.2	0.7	0.01
1996	98.8	99.0	98.6	0.4	0.00
1997	98.9	99.0	98.8	0.2	0.00
1998	98.9	99.0	98.9	0.1	0.00
1999	99.1	99.1	99.0	0.1	0.00
2000	99.1	99.14	99.07	0.07	0.00
2001	99.05	99.08	99.01	0.07	0.00
2002	98.58	98.62	98.53	0.09	0.00

Data Source: Zhang, Tiedao and Gao Shuguo 2003.

While nine years of tuition free education is given, there are expenses for supplementary fees, textbooks, supplies, clothing, food and other boarding costs that families should pay. The poorer households find this difficult and girls drop out because of this. For the bottom quintile of households in rural areas, education spending accounted for one fifth to one third of the total household spending. The other dissuading factor is the lack of qualified female teachers in rural areas which leads to reluctance on the part of the parents to send their daughter to school. Quality of schooling is another factor that works against the female child continuing in school.[245]

Gender gap in education persists in the remote and underdeveloped rural areas of west China despite the impressive progress China has made.[246] To take care of basic learning needs of children in disadvantaged western part of China, the central government launched a huge project between 1995 and 2000 investing about 1.2 billion dollars, the most intense allocation in the last 50 years. A number of policies some of them targeting the girl child have

[245] Li, Danke 2004, Li, Danke and Mun C. Tsang 2003.

[246] Quiang, Wang 2001.

been introduced.[247]

Among the 85 million illiterates in the country 78.4% of them are in the rural areas, and over 70% are women. While the gender gap of education has continually come down, the increased educational cost is a discouraging factor for poor families to send their children to school especially in the rural areas. In 1997, the government allowed the non government sectors to run primary and secondary schools, ending the government monopoly on education. By the end of 1999, there were 45,000 such schools with enrolment in excess of 6 million students.[248]

Although the majority of Chinese women are active in the work force, the positions they occupy could be at the bottom of the ladder and are found in jobs that are viewed as "women's work", and are typically textile or clerical workers or primary school teachers.[249] Once Chinese women get married this extracts a strong price in economic standing as compared to men. The share of the gender wage gap which is due to factors other than productivity is higher for married women than singles. The lesser educated the woman, the higher is the gap.[250]

Japan

> *"It is only by building up his character, developing his mind, and cultivating his talents that man may make his way in the world, employ his wealth wisely, make his business prosper, and thus attain the goal of life. But man cannot build up his character, develop his mind, or cultivate his talents without education – that is the reason for the establishment of schools."*
>
> - Preamble to Japan's Fundamental Code of Education, [251] 1872
>
> *"By educating our women we hope to secure greater intelligence in future generations."*
>
> - Ito Hirobumi, member of Iwakura Mission, in US, circa 1872.

With a population of about 128 million, Japan currently had one of the slowest population growth rates of around 0.02 percent per annum in 2006 and

[247] Zhang, Tiedao and Gao Shuguo 2003.

[248] JICA 2002d.

[249] Hooper, Beverley 1991.

[250] Hughes, James and Margaret Maurer-Fazio 2002.

[251] The translated version is from Yoshida, Kumaji. 1931.

the tenth largest population in the world. It has the sixth highest life expectancy at birth of 81.25 years (males 77.96, females 84.7) in 2006 and the infant mortality rate is very low at 3.24 deaths for every 1000 births. The sex ratio is 1.05 males per female and the total fertility rate is 1.4 children per woman, which is below the replacement rate. The GDP for the year 2005 was US$ 4.664 trillion at the official exchange rate and 4.018 trillion on a PPP basis, the third highest in the world. The GDP per capita on a PPP basis was US$ 31,500 in 2005, holding the 20th rank in the world. For the year 2005 agriculture accounted for 1.7 percent of the GDP and industry (including construction) accounted for 25.8 percent of the GDP and services accounted for 72.5 percent. 4.6 percent of the labor force was in agriculture and 27.8 percent in industry and 67.7 percent in services for the year 2004. The percent of the population below the poverty line is negligible. The literacy rate (for those over15 years of age who can read and write) for the total population was 99 percent for the year 2002; the literacy rate for both males and females was 99 percent. In 2005 its military expenditures, the fourth highest in the world, accounted for 1.0 percent of GDP while the public spending of education was 3.6 percent of GDP.

Japan attached tremendous importance to education from the time it embarked on modernization after the restoration of Emperor Meiji to the throne in 1868. The Iwakura Mission which left to learn from the western countries in 1871 had the blessings of the Emperor Meiji who said that “After careful study and observation,” he was convinced that the most powerful foreign countries were that whose people had “most diligently cultivated their minds.” On women’s education, the Emperor said “We lack institutions of female culture… Our women should not be ignorant of those principles on which the happiness of life depends.” Educated mothers were responsible for the early education of children and for the inculcation of “those intellectual tastes which are of such vast importance.” So he suggested wives and sisters of the Mission members should be allowed to go with them in order that “they may learn the best manner of female education and introduce it in the country.”[252]

Japan got its basics right by going in for mass education at the primary level in the initial years of modernization as well as gender parity in education. While it did deviate slightly later so that women’s education was not exactly equal to men’s, with the conceptions about the idealized woman who would be a good wife and wise mother dictating policies that ensured that there was a reduced curriculum for women and with subjects that were deemed suited for

[252] As cited in Notehelfer, F.G 1994.

the creation of such an individual.

While it is the accepted norm in the literature to start with the Meiji Restoration onwards for the study of modernization, it would be worth our while to see the spread of education during the Tokugawa period, as this is the given with which the modernization of Japan began. There was a noticeable rise in the spread of mass education in the latter half of the Tokugawa period. A catalogue published in 1692 listed over 7000 books. There were over 300 book publishers by 1700 and over 400 by 1800. It was not unusual for books to sell over 10,000 copies at this time.[253] There were around 11300 to 15,000 *terayoka* (temple schools) at the time of the Meiji Restoration. These figures are definitely impressive compared to the situation existing in Europe around this time.

It is believed that more than half of the urban population had access to books. The broadsheets informed people of things that mattered to them like the flooding in rice-growing areas and natural disasters. Japanese society at the time of the *bakumatsu* period (the closing years of the Tokugawa period) was used to looking for information in printed form. By around this time, Japanese society was prepared for the Western technical, legal and other literature that flowed in.[254]

The Tokugawa education system was to provide the basis for the Meiji elementary school system. Further it ensured that a large section of the population was favorably inclined to the spread of education in the beginning of the modern period. It is believed that about 45 per cent of males and 15 per cent of females had been exposed to some kind of schooling just before the Meiji Restoration. We estimate that over 4 per cent of Japanese population was going to school in 1872.[255]

When we turn to female attendance rates, the rural - urban difference was great. Societal mores and the notions of what was befitting a woman around those times had their influence. One needs do no more than quote the Shogunal Chancellor during the period 1786 to 1793, Matsudaira Sadanobu, who held that, “It is well that women should be unlettered. To cultivate women’s skills would be harmful. They have no need of learning. It is enough if they can read books in *kana*. Let it be that way”.[256] Most samurai

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[253] International Development Center of Japan, 1978, pp.16-18, footnote 25.

[254] Bowring and Kornicki eds. 1993 p.74.

[255] Balatchandirane 1995

[256] *Kana* refers to the Japanese phonetic scripts which are very simple and easy to learn as compared to *Kanji*, the Chinese characters, which are very complicated and numerous. A

women were literate during this period. But it should also be kept in mind that the samurai accounted for a very small share of the population. In the immediate years preceding the Meiji Restoration, there was hardly any difference in attendance rates between the sexes in urban centers like Edo. But in the rural areas it was an entirely different situation. The estimated average attendance for girls during 1860-64 was about 39 percent of that of boys, with the Kanto area notching up a high of 42 percent and Tohoku a low of 5 percent.[257]

The Ministry of Education was established in 1871. A national school system to provide universal access to education was to prove a daunting task in view of the serious inadequacies in resources, infrastructure and personnel. Nearly 27,000 elementary schools and 107 middle schools were established throughout Japan, with community residents shouldering the construction costs in many cases. About 5000 teachers were invited from abroad. In case of teachers, until the normal schools began to turn them out in adequate numbers, the services of educated samurai, public-spirited citizens, and former *terakoya* (parish school) teachers were utilized.[258]

The problem of enforcing 4-year compulsory attendance was addressed sometimes with police help; the fee was high and hence there was a large public resistance to the system. The other irritant was that the school schedules did not take into account the farmers' need for the labor of their children. Compulsory education came under organized violent attacks in different parts of the country requiring mobilization of force on the part of the government to quell such movements, and subsequently warranting a new Education Ordinance of 1879 with contents that were more liberal, and which attempted on the one hand to be responsive to the popular sentiments of the day and on the other to overcome the problem of attendance which had started stagnating after an initial spurt.[259]

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person would need reasonable familiarity with the latter to be able to claim some amount of versatility in the language. The quote is from Passin, Herbert 1965.

[257] Passin, Herbert 1965, pp. 397-8

[258] Marshal 1994 and Passin 1958.

[259] Byron, Marshall K. 1994, p.47.

Table no. 37
Enrollment and Dropout Ratio to Total School Age Population of Japan, 1881 to 1940, %

	Males		*Females*	
Year	*Enrolment ratio*	*Dropout ratio*	*Enrolment ratio*	*Dropout ratio*
1881	69.0		34.3	
1885	73.0		41.4	
1890	72.0		38.8	
1895	86.8	28.8	58.8	57.8
1900	90.6	23.2	71.8	35.9
1905	97.7	10.6	93.1	27.3
1910	98.8	21.3	97.4	37.2
1913	98.7	16.8	97.5	27.8
1915		18.8		28.9
1920		11.7		19.3
1925		5.8		28.9
1930		8.7		19.3
1935		1.6		9.7
1940		0.2		10.5

Source: Ohkawa (1986).
Note: The table has been compiled using various Yearbooks of the government along with the author's own estimates for years for which data is not available. Enrollment ratios for the years after 1913 are not available, but are closer to 100.

Japan did not achieve what it did overnight. The enormous difficulties in the nation's institution-building efforts have to be appreciated. It took Japan the entire forty-five years of the Meiji Era to evolve a stable educational structure, although philosophical issues regarding the aims of education were resolved fairly early.[260] The performance of Japan as seen in the movement of the enrollment and dropout ratios for both boys and girls is presented in Table no. 37. and this is very revealing. The enrollment ratio for males was high at the beginning of the modernization period and increased steadily to

[260] Sumiya and Taira eds. 1979, p.229.

reach close to 100 percent by the mid 1910s. The female enrollment ratio was way behind the male ratio to start with. But it rose quite rapidly so that by around the mid 1910s, it had caught up with the male ratio and the 100 percent mark. The dropout ratio was not insignificant in the case of males, but substantial in the case of females. The figures for the latter are considerable till about the time of World War II. Table no. 38 provides evidence of the rapid improvement in the attendance rates for both boys and girls of school-going age. As the figures amply demonstrate, the performance of these variables is also highly impressive.

Table no. 38
Attendance Rate of School Age Children for Compulsory Education in Japan, 1886 to 1925, %

Year	*Total*	*Boys*	*Girls*
1886	46.33	61.99	29.01
1890	48.93	65.14	31.13
1895	61.24	76.65	43.87
1900	81.48	90.35	71.73
1905	95.62	97.72	93.34
1910	98.14	98.83	97.38
1915	98.47	98.93	97.96
1920	99.03	99.20	98.84
1925	99.43	99.47	99.38

Note: For later years all the three rates are above 99.50 per cent.
Source: Government of Japan 1980.

In the 1870s the government embarked on various measures to encourage children to attend schools. However the public was not necessarily enthusiastic. The reasons can be dissatisfaction with the content of education, or the high cost of education, of the perceived loss of labor which was contributed by children. The government took various counter measures.[261]

Initially, the Meiji government had shown little interest in the education

[261] Details of the initial public responses and government counter measures can be found in the companion paper, Balatchandirane.G., Ranjan, Rajiv., and Chakrabarti, Sreemati., 2001.

of girls and women leaving it to private initiative. Though the new system of education that was proclaimed in 1872 held forth about the equality of educational opportunity for men and women, "… the values that underlay the government's attitude toward the education of girls and women were anything but modern even by the standards of the nineteenth-century world. They were reactionary and feudalistic".[262]

Under the then existing conception of the role of women in family and society, women's education was to prepare them to fit into the family system founded on and molded by Confucian ethics. Education was to facilitate them attain their ideal which it was held lay in becoming "good wives and wise mothers" (*ryosai kenbo*). The Principles of Education (*Kyosoku Taishi*) of 1882 made this ideal explicit. Apart from being "good wives and wise mothers", women were to be loyal to the state and its sovereign. The secondary schools for girls were to have one-fourth of their instructional time to lessons in morals, sewing, and home economics. It was only after the aims of education for girls and women were decided upon in the way mentioned above, that a women's education system developed rapidly. Thus, once a social consensus crystallized, namely, that imparting of education to women should be for making them fit into their expected subservient roles and not to rock the nation's social stability based on the Confucian value-imbued family system was arrived at, progress in this area was quick.[263]

There were differences in the period and kind of education that the girl child was encouraged to have compared to that of the boy child. The secondary schools for girls were institutionalized on the pattern of secondary schools for boys around 1899. Six years of education in primary school was the entrance requirement. The attendance requirement for boys was held to be five years, while for girls it was to be four years.[264] Germane to our discussion is the fact that while the government attempts did not immediately improve the attendance rates, the discrimination against the girl child was much more as "... it was thought that education was unnecessary for them and that it would bring unhappiness rather than happiness".[265] A modern education system which emphasized basic education had been introduced in Japan in the year 1873, barely 5 years after the Meiji Restoration of 1868 - the year identified as the one when the modernization of Japan began. Four

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[262] Sumiya and Taira, 1979, p.240.

[263] Sumiya and Taira, 1979, pp.240-1.

[264] Japanese National Commission for Unesco, 1966, p.39.

[265] International Society for Educational Information, 1986, p.73.

years of education was made compulsory for both boys and girls in the year 1886. This was raised to six years in the year 1907 and to nine years in 1947. Table no. 39 gives an idea of the progress of education in Japan since the time it setout on modernization, in comparative perspective.

Table no. 39
Development of Education in Japan: 1873 to 1940

Year	Number of students (thousands)	Student-Population Ratio (%)			Enrollment Rate in Japan (%)		
		Japan	U.S.A.	U.K.	Male	Female	Total
1873	1,322	3.9	17.4	5.5	39.9	15.1	28.1
1880	2,447	6.8	19.9	11.1	na	na	41.1
1890	3,220	8.1	20.5	13.0	74.8	40.6	48.9
1900	4,926	11.3	22.3	14.7	90.6	71.7	81.5
1910	7,589	15.5	21.3	15.5	na	na	98.1
1920	10,424	18.6	22.1	15.0	99.2	98.8	99.0
1930	13,641	21.1	23.4	13.6	na	na	99.5
1940	17,241	24.0	21.9	na	99.6	99.7	99.6

Source: S. Hirashima, 2002, pp.167-183.

Boys and girls received the same education at the primary level. At middle school they were segregated according to gender. Girls could not proceed to tertiary level education. They could only go to girls' high school graduate course or girls' higher normal schools and medical schools. There was no way they could go to the universities as it was almost closed for them. However some private women's colleges that were run by Christian missionaries and other were deemed to have the status of universities.[266]

Table no. 40 provides the coefficient of discrimination using the enrollment ratios between 1881 and 1913, the crucial period that is generally identified with the industrial growth comparable to that during the Industrial Revolution in the West. The gender discrimination as seen through the enrollment ratios was rapidly brought close to zero during this period. What is particularly noteworthy from the table is the fact that the coefficient of discrimination rapidly falls in the ten-year period between 1895 and 1905.

[266] Godo, Yoshihisa and Yujiro Hayami 1999.

This can be explained, at least partly, by the improvement in the economic status of the population so that sending children to school was less of a burden; possibly more important was the strict State enforcement of school attendance and the introduction of the zero fee obligation.

Table no. 40
Coefficient of Discrimination in Enrollment ratios in Japan from 1881 to1913

Year	1881	1885	1890	1895	1900	1905	1910	1913
Boys' school Enrollment Rates	69.0	73.0	72.0	86.8	90.6	97.7	98.8	98.7
Girls' school Enrollment Rates	34.3	41.4	38.8	58.8	71.8	93.1	97.4	97.5
Coefficient of Discrimination	1.01	0.76	0.86	0.48	0.26	0.05	0.01	0.01

Computed using data from Ohkawa, Kazushi 1986.

The coefficient of discrimination calculated using the school attendance rates is provided in Tables no. 41 and 42. The data in Table no. 41 covers children who fall under the compulsory education category. Thus there is a slight jump in the discrimination coefficient, which shows a smooth declining trend from 1873 to 1885. The discrimination coefficient as shown in these two tables based on the attendance rates assume a larger value in the beginning but is eliminated by around 1910. In Table no. 42 we notice that the coefficient of discrimination rapidly falls at the close of the 19th century and by 1905 it has become a negligible figure, owing to the same reasons cited. In other words, the trend of movement of the coefficients of discriminations calculated using both the enrollment rates and the attendance rate indicate the same feature, namely, discrimination against girls' education was eliminated in Japan by the first decade of the twentieth century.

Table no. 41

School Attendance Rates Japan from 1873 to1885

Year	Total (%)	Boys (%)	Girls (%)	Coefficient of Discrimination
1873	28.1	39.9	15.1	1.64
1874	32.3	46.2	17.2	1.68
1875	35.4	50.8	18.7	1.71
1876	38.3	54.2	21.0	1.58
1877	39.3	56.0	22.5	1.49
1878	41.3	57.6	23.5	1.45
1879	41.2	58.2	22.6	1.49
1880	41.1	58.7	21.9	1.68
1881	45.5	62.8	26.8	1.34
1882	50.7	67.0	33.0	1.03
1883	53.1	69.3	35.5	0.95
1884	52.9	69.3	35.3	0.96
1885	49.6	65.8	32.1	0.91

Source: Computed using data from tables 2-4, 2-7 and table 4 in Statistics (I. Prewar System) in Government of Japan, 1980 and Japanese National Commission for Unesco ed., 1966 p. 66.

Table no. 42

Attendance Rate of Children for compulsory education in Japan from 1886 to1915

Year	Total	Boys	Girls	Coefficient of Discrimination
1886	46.33	61.99	29.01	1.13
1887	45.00	60.31	28.26	1.13
1888	47.36	63.00	30.21	1.09
1889	48.18	64.28	30.45	1.11
1890	48.93	65.14	31.13	1.09
1891	50.31	66.72	32.23	1.07
1892	55.14	71.66	36.46	0.97
1893	58.73	74.76	40.59	0.84
1894	61.72	77.14	44.07	0.75
1895	61.24	76.65	43.87	0.75
1896	64.22	79.00	47.53	0.66
1897	66.65	80.67	50.86	0.59
1898	68.91	82.42	53.73	0.53
1899	72.75	85.06	59.04	0.44
1900	81.48	90.35	71.73	0.26
1905	88.05	97.72	93.34	0.05
1910		98.83	97.38	0.01
1915		98.93	97.96	0.01

Source: Same as Table no. 41.

Recently time series for the average schooling, defined as the number of years of schooling per person in the working-age population, has been created. The relevant statistics are given in the following Table no. 43.

Table no. 43

Average Schooling in Japan for males and females, 1890 to 1990

Year	Age Group 15-64		Age Group 15-39		Age Group 40-64	
	Male	Female	Male	Female	Male	Female
1890	1.9	0.6	2.6	0.9	0.6	0.2
1990	2.9	1.1	4.1	1.6	0.7	0.2
1910	4.1	2.0	5.4	2.7	1.8	0.6
1920	5.4	3.1	6.6	4.2	3.3	1.2
1930	6.8	4.4	7.8	5.7	4.9	2.1
1940	7.5	5.6	8.3	6.7	6.0	3.5
1950	8.4	6.9	9.0	7.8	7.3	5.0
1960	9.4	8.1	10.1	9.1	7.9	6.2
1970	10.4	9.2	11.1	10.4	9.0	7.4
1980	11.2	10.2	12.2	11.6	9.7	8.5
1990	11.9	11.1	12.9	12.3	10.9	9.9
Growth rate (% per year)						
Whole period 1890-1990	1.9	2.9	1.6	2.6	2.9	4.2
Before Pacific War 1890-1940	2.8	4.4	2.3	4.0	4.6	6.4
After Pacific War 1950-1990	0.9	1.2	0.9	1.1	1.0	1.7

Source: Godo, Yoshihisa and Yujiro Hayami, 1999.

The growth of average schooling in Japan was 50 percent faster for women compared to men. The reason for this is that at the beginning of its modern economic growth Japan had a low initial level of female education. For example in the year 1890 the average schooling for Japanese females was just one third of male schooling. However this low level of average schooling of females rose faster than men. The gap in terms of average schooling persisted substantially till the end of the war.[267]

We can take the financial commitments and the measures to generate revenue for the purposes of financing Primary Education Act as an indicator of

[267] Godo, Yoshihisa and Yujiro Hayami 1999.

the state's political will and commitment towards basic education. Japan, however, does not display an unequivocal commitment in matters of financing in the initial phases of its educational growth and it was only after the First World War, when both the indicators of economy as well as of mass participation, represented by enrolment and attendance, showed a steep upward trend, that the State gradually took over more and more of the financial burdens. The very first order of Education of 1872 of Japan contained the principle of financing of education as payment for education by the beneficiaries of the education. That is, tuition fees from the students were to cover all the expenses and the shortfall were to be made up by the local district authorities by locally generated revenues. The State subsidies were to be limited to the wages of the foreign teachers, construction and maintenance of the school buildings, books and other materials for secondary schools and universities. It was in 1900, that for the first time, the exemption of tuition fees was put into effect, and a policy of public financing of compulsory education expenses was established for the first time, and from then onwards, gradually increased with time.

The Primary School order was revised in 1900 and again in 1907. The 1900 order unified the ordinary primary school with 4 years of compulsory school and recommended exemption of tuition fees. For the first time, a national subsidy system for educational expenses was established. In 1907, in response to the high rate of attendance, the number of years of compulsory education was extended from 4 years to 6 years and higher primary education to 2 years. With this order, the Japanese school education system was formalized till the reforms of the Occupation Period (1945-52).

Table no. 44 gives the Japanese performance against that of the United States over the long term. Starting from a low level of 20 per cent of that of the US in 1890, Japan showed a much higher growth rate in the average schooling in the following years. By 1990 the average schooling in Japan had reached the level of 85 per cent of that of the US. The closing of the educational gap had taken place mainly before World War II. The "… disproportionately high investment in education must have reflected the strong belief among leaders in Meiji Japan that the elevation of human capital to the Western level was a precondition for Japan to compete in terms of economic (and military) power with the West."[268]

[268] Godo and Hayami, 2002, p.964.

Table no. 44
Comparisons in Average Schooling between Japan and the United States, 1890 to 1990

Time frame	*Japan*			*United States*			*Japan/United States (US = 100)*		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
1890	1.3	1.9	0.6	6.5	6.7	6.3	20	28	10
1900	2.0	2.9	1.1	7.2	7.3	7.1	28	40	15
1910	3.0	4.1	2.0	7.7	7.8	7.7	39	53	25
1920	4.3	5.4	3.1	8.3	8.3	8.4	51	65	37
1930	5.6	6.8	4.4	9.1	9.0	9.1	62	75	48
1940	6.5	7.5	5.6	9.8	9.8	9.8	67	77	57
1950	7.6	8.4	6.9	10.5	10.6	10.5	72	79	66
1960	8.7	9.4	8.1	11.3	11.5	11.1	77	82	84
1970	9.8	10.4	9.2	12.0	12.3	11.7	82	84	79
1980	10.7	11.2	10.2	12.8	13.1	12.5	84	85	82
1990	11.5	11.9	11.1	13.5	13.8	13.3	85	86	83
	Growth rate (%/Year)						Ratio (US = 1)		
1890-1990	2.2	1.9	2.9	0.7	0.7	0.7	3.0	2.5	3.9
1890-1940	3.3	2.8	4.4	0.8	0.8	0.9	4.0	3.7	5.0
1950-1990	1.1	0.9	1.4	0.6	0.7	0.6	1.7	1.3	2.2

Source: Godo and Hayami (2002).

Note: “Average Schooling” is defined as the average number of years of schooling per person in the working-age population namely those between the ages of 15 and 64.

The rate of growth of average schooling in Japan was quite rapid for females as compared to males as can be readily seen from Table no. 44. It was about 50 per cent faster among women than men; the US does not display any such difference. One reason for this was the fact that the level of education for females at the beginning of the modernization drive in Japan was very low (one third that of males). Despite the rapid rise of female education,

the gender gap persisted till about the time of World War II.

Needless to add, this rise in the stock of the human capital in the case of Japan was to have a major impact on the economic development. When the growth rates of both educational and economic indicators of Japan and the United States are compared for the period between 1890 to 1990, there is a remarkable performance of Japan vis a vis the United States. Japan's GDP per capita when seen as a proportion of that of the United States, was just 29 per cent in 1890; this rose to about 85 per cent in the next 100 year period. Average schooling likewise rose from 20 per cent of the figure for the United States to about 85 per cent a century later. Similarly the capital-labor ratio was to move from six to 102 per cent of the comparable figure for the United States in the same period. The average schooling in Japan grew much more rapidly in Japan in the years before World War II. Likewise the capital-labor ratio too rose much more rapidly in relative terms in the pre World War II years. Godo and Hayami (2002) term this as "catch-up". This is probably the clearest recent proof of the way education impacted on economic development in the case of Japan.

Though the Japanese government started its plan of educating the masses in a concerted fashion, it was not that it was smooth sailing all the way. There were constant revisions of age, duration, and fee structure etc., related to the system of compulsory education. The government followed a policy of trial and error and the various attempts on the part of the government to reduce the gap between its policy on education.[269]

It is well known that the enrollment ratios in the case of Japan were very high. What is surprising to know is that the dropout ratios were also quite high. The stage of economic development of Japan which is comparable to the Indian period of 1950 to 1990 would be somewhere from 1885 to 1915 or so.[270] For the year 1885, the school enrollment ratio for boys was 73 percent and for girls it was about 41 percent. In 1895 this figure rose to about 87 percent for boys and 59 percent for girls. However the dropout ratios also were high being 29 percent for boys and over 50 percent for girls in the same year. In the year 1915, the enrollment ratio for both boys and girls was close to 100 per cent, but the dropout ratio was about 19 percent for boys and about 29 percent for girls. These figures indicate trends which are

[269] Ohkawa, Kazushi1986, p.6.

[270] It is possible to say this if one follows the paradigm of Kazushi Ohkawa set forth in his various writings on "phasing' and comparative analysis.

not dissimilar to those of the Indian experience or that seen in most developing nations of today. In the case of Japan societal discrimination against girls persisted even decades after it had embarked on a clear-cut program of educating the masses and here too it had done no better than the currently developing countries.

Thus, while it is true that in the initial stages the girl was discriminated against if one sees the school enrollment and the dropout ratios, this is not the whole story. The school enrollment ratios of girls rose rapidly to catch up with that of boys and both were around 100 percent by 1915. While the dropout ratio of the girls was high initially, it fell rapidly resulting in only a small gap in the dropout ratios between the boys and girls around the time of World War II. Thus while the discrimination against girls did exist in the beginning it was removed fairly rapidly in the field of education. When we see the differences in school attendance rates by sex, traditional notions of the role of women in society kept the attendance rates for girls low in the early part of the Meiji period, with boys' rate of attendance being 56 percent in 1877 compared to girls' 22 percent. This gap of about 34 percentage points rapidly declines to about 2 percentage points in 1907. Thus, in barely three decades this gender gap in attendance was almost wiped out.

The contribution of girls and women to the economic development of Japan is quite large.[271] The role of the female labor force, which facilitated technology transfer into Japan in the initial and also later stages of economic development, was very important.[272] Without the kind of education they did have it is difficult to imagine whether women could have contributed to the industrial development and hence the economic development of Japan. The important point to flow from the Japanese experience is that there is a solid relationship between education and development, but there is a time lag between expenditure and profits from the educational investments. [273]

What about the contribution of the female labor force, which was finally invested with literacy and educational attainments, to economic development? In Japan the majority of labor force in industry during the Meiji period (1868-1912) was female. Japan's era of industrial revolution is placed around 1890 to 1910 and around three fifths of the total industrial labor force around 1900 was female. During this period female labor was primarily engaged in industries where the typical operations involved were low-skilled, and the

[271] G. Balatchandirane, 1996 and others

[272] Nakamura, Masanori, ed., 1994

[273] Godo, Yoshihisa and Yujiro Hayami 1999.

overall technological level was low. The typical example of this is the textile industry. Women from farm households would work in textile factories for a few years to supplement the farm income, before their marriage. The turnover rate of this labor was quite high. Wages were very low as there was a seemingly endless supply of female labor from the impoverished villages and the technological level and value addition in the textiles industry was low. What needs to be noted here is that on the one hand, the school enrollment ratio of females and their literacy levels were low in absolute terms and in relation to males and on the other that female labor was the dominant part of the total labor force during this period and it was typically involved in low-technology industries. In such a setup it is difficult to talk of large increases in industrial productivity because of the spread of education.[274]

What merits attention is the fact that the percentage of both males and females who completed their compulsory education rises rapidly in the period 1900 to 1940. The gender gap during this period starts around 14.5 percentage points and rises to about 20 and subsequently falls to 12.5. However, the gender gap in the primary education completed category shows an almost falling trend during this period except for one abnormal year. Some detailed data on wages for males and females with various levels of educational attainments are available for this period. Correlating the wage rates determined by market forces with the economic quality of labor which is influenced by the level of education is not easy.[275]

After World War I, the need to support a growing population compelled the adoption of advanced technologies. The changes in technology encouraged and promoted the employment of women. In the modern economic growth period of Japan, we find that "... technological innovation and the female employment rate generally move along parallel lines. In fact, when advanced technology is adopted, women often become the core labor force.[276] This would hardy have been the case if the educational attainments of Japanese women were low. Their contribution to the economic development of Japan was not inconsequential.

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[274] Balatchandirane, 1998.

[275] For data on this see Appendix III and for the problems involved pp 14-16 of Ohkawa, 1986.

[276] Hayashi, 1994, pp. vii-viii.

Republic of Korea

The twenty fourth most populous country in the world with a population of about 49 million, South Korea had a population growth rate of around 0.42 percent per annum in 2006. It had a life expectancy at birth of 77.04 years (males 73.61, females 80.75) in 2006 and the infant mortality rate is 6.16 deaths for every 1000 births. The sex ratio is 1.01 males per female and the total fertility rate is 1.27 children per woman. The GDP for the year 2005 was US$ 801.2 billion at the official exchange rate and 965.3 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 20,400 in 2005, holding the rank of 49 in the world. For the year 2005 agriculture accounted for 3.3 percent of the GDP and industry (including construction) accounted for 40.3 percent of the GDP and services accounted for 56.3 percent. 6.4 percent of the labor force was in agriculture and 26.4 percent in industry and 67.2 percent in services for the year 2005. 15 percent of the population has been estimated to be below the poverty line in 2003. The literacy rate (for those over15 years of age who can read and write) for the total population was 97.9 percent for the year 2002; the literacy rate for males was 99.2 percent and those for females was 96.6 percent. In 2005 its military expenditures were around US$ 21 billion, the eighth highest in the world, accounting for 2.6 percent of GDP while the public spending of education was 4.2 percent of GDP.

Confucianism had strongly influenced Korea and under the Confucian order that was firmly in place in the late 15th to the early 17th centuries, the status of women became secondary and unequal. The notions of the right conduct for women excluded them from education. Education for women became an issue only in the late nineteenth century and modern schools were first introduced into Korea in the 1880s by Christian missionaries. A Royal Decree for Educational Reform in 1885 established modern state schools, including primary schools, and vocational schools in the capital and the provinces. However, during the Japanese colonial period from 1910 to 1945, Japanese education supplanted Korean schools and much of their identity was lost. Only 30 percent of children between the ages of 6 to 11 years were enrolled in schools at the time of liberation in 1945.[277]

Japanese had been taught during the colonial period, which started from 1910, and nearly fifteen percent of Koreans were fluent in Japanese at the time of independence in 1945. The basic intention of Japan during the colonial period was to create well-behaved imperial subjects with some

[277] Ihm, Chon Sun 1995.

Japanese skills and who would be good factory labor. Elementary schools could accommodate only thirty percent of all school age children. In the case of secondary schools only one out of every twenty children enrolled. As the opportunities for higher education were even more limited, students migrated to Japan for higher studies. For the few girl students who had a chance to study in Japan the traditional gender roles were altered.

After liberation there was a spectacular expansion in the number of schools. They increased from 3,000 to almost 20,000 in the following half-century. The student population rose from 1.5 million to 11.7 million. The Education Law of 1949, which was formulated under strong American influence, made six years of elementary education compulsory. This was implemented in right earnest after the Korean War of 1950-53.

The Constitution stipulates in Article 31 that it is the responsibility of parents and guardians to ensure that an elementary school education for their children aged six to eleven is provided; it also states that this education would be given by the state free. In 1969 South Korea made nine years of education compulsory. The emphasis was on raising the educational standards of the whole population and not on the creation of an elite class.[278] Education is compulsory between ages 6 to 14 and there is 100 percent attendance of children between these ages. Elementary education which is for 6 years starts when the child is 6 years old. Secondary education is for 6 years, with the first 3 years in middle school and 3 years in high school. Colleges and university courses at the undergraduate level are of 4 to 6 years duration.[279] Korea's secondary schools do well on many fronts. Access is easy and equitable: gross enrollment at the secondary level is at 90 percent, for both boys and girls. Schools are adequately funded – more than 2.4 percent of Korea's GDP is spent on secondary education, a third of that privately.

Table no. 45 gives the shares of the population by level of education for four decades following 1944. Through a massive national literacy campaign and the introduction of compulsory education system in 1948, Korea raised its literacy levels rapidly vastly reducing education inequality between 1970 and 1995. Korea initially emphasized literacy and numeracy and focused on primary education. Later it emphasized vocational education and still later graduate-level science and technology education. The important point is that these emerged and changed with the economy's changing needs.[280]

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[278] World Bank 2006.

[279] Shin, Se-ho 1995.

[280] Ranis, Gustav 1995.

Table no. 45

Population by Level of Education in Korea 1944 to 1985

Year	Higher Education	Secondary Education	Primary Education	Illiterate
1944	0.3	1.7	11.3	86.7
1960	2.6	17.5	36.2	43.7
1966	4.5	24.7	40.0	30.8
1970	5.6	31.8	39.2	23.4
1974	5.7	38.0	36.0	20.3
1985	7.4	48.7	32.3	11.6

Source: Ranis, Gustav 1995.

The relative preeminence of Korea, by contemporary standards in the field of education from the 1960s onwards stands out. Korea tends to excel in most of the standard indices of education. Education was a key determinant of industrialization with a well-educated population and a plentiful supply of trained engineers acting as critical inputs into the industrialization process.[281]

The opportunities for education were given to all citizens irrespective of gender, age or regional background and this has gone a long way in reducing social inequality and has led to an increase in upward mobility. Even after more than 40 years of heavy investment in human capital, Koreans are still "over-eager" towards education and are over-investing in education. There was so much expansion of elementary education that the 1950s is called a decade of elementary education and the 1960s one of middle school education[282].

Well over two thirds of the Korean Government expenditure on education was spent on primary and secondary schooling. In the forty-year period between 1960 and 2000, illiteracy was wiped out and the mean years of schooling doubled. The private sector's share of educational expenditure is about seven percent of the GDP, which is a high figure. This reflects on the way Korean parents feel about their children's education. More importantly it reflects on their perception about how high the effective private rate of return

[281] Amsden, Alice H. 1989.

[282] Lee, Jisoon 2001.

on education is.

Table No.46
Purposes of Educating Children in Korea, %

Parents education	Children's sex	Purpose			
		Cultivating character	Getting good jobs	Advantage in marriage	Others
Primary school	Son	29.1	51.4	7.0	12.6
	Daughter	33.4	22.1	32.5	12.0
Middle school	Son	39.2	41.0	8.6	11.1
	Daughter	45.1	15.4	29.2	9.8
High School	Son	51.5	34.0	9.9	4.6
	Daughter	9.2 (?)	11.6	25.2	3.9
College and beyond	Son	63.0	27.8	7.9	1.3
	Daughter	61.1	8.2	19.3	1.4

Source: Jisoon Lee, 2001. p. 8.
Note (?) is possibly a mistake. This should be close to 60.

Table no. 46 reproduces the results of a survey published by the Bureau of Statistics in 1994. The data is thus about a decade old and gives insights into the parents' idea of educating boys and girls at that time. Despite the rapid economic progress, the mindsets of people are yet to change. "Cultivating character" and "advantage in marriage" seem to be overriding concern of the parents as far as girls' education is concerned. Depending on their education level between sixty five to eighty five percent of parents assigned these reasons.

A recent study found that while about 85.5 percent of all parents would like their sons to have college level education or more, as much 79.4 percent of them would like their daughter to have at least college level education. If the parents had been to college, then as much 98 percent of them want their daughters to have at least college education. The one point which came out clearly was that parents always want their children to have more education than they themselves had. That there is no discrimination towards the girl child is easily brought out by these expectations of the parent's regarding their sons

and daughters.[283]

What are the major conclusions one can arrive at after looking at the role of education in South Korea in the post World War II years? "First, Korea's experience clearly indicates that education, or more generally human capital accumulation, is indeed extremely important for rapid economic development. Rapid accumulation of human capital is a necessary condition for fast and sustained economic development." Second, "…. Education seems to have been the most effective mechanism to improve equity among citizens. Education has been mostly nondiscriminatory as the opportunity to be educated was given equally to all."[284] Where did such achievements come from? First, building a strong education sector was part of Korea's economic development strategies as early as the 1950s. Dynamic and motivated institutions promptly implemented policies to expand education. Second, from the earliest days the focus was on access and quality for all, motivated by the desire to bring educated workers into the workforce. Third, parents contributed to the expansion's costs because of the high value they placed on quality education.

Korea focused on one education cycle at a time, starting with basic education. In the 1950s and 1960s, when public funds mainly targeted primary education, secondary schools financed almost half their expenses through parent teacher associations. However, the rapid expansion of primary education put enormous pressure on secondary schools, and student competition for good secondary schools increased. In preparation for entrance exams students often repeated grades, and families paid up to a quarter of their income for private tutoring.

In the face of criticism, the government implemented a national equalization program in 1968, eliminating entrance examinations and instituting a lottery for schools in high demand. Secondary school enrollment soared, and private providers stepped up to provide the needed capacity. The equalization program guaranteed any deficit in operating cost (but not in the capital cost) of all private schools. By 1971, most private schools were receiving direct financial assistance, subsidies, and tax exemptions. In return, they gave up control over key decisions (curriculum, tuition rates, and teacher salaries).[285]

Well over two thirds of the Korean Government expenditure on

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[283] Lee, Jisoon 2001.

[284] Lee, Jisoon 2001.

[285] World Bank 2006.

education was spent on primary and secondary schooling. In the forty-year period between 1960 and 2000, illiteracy was wiped out and the mean years of schooling doubled. It has one of the most impressive Lorenz curves for any country in the world, indicating that Korea's education has been most egalitarian.[286] The private sector's share of educational expenditure is about seven percent of the GDP, which is a high figure. This reflects on the way Korean parents feel about their children's education. More importantly it reflects on their perception about how high the effective private rate of return on education is.

While Pakistan and South Korea were almost equal in GNP per capita in 1960, whereas only 30% of the Pakistani children were enrolled in primary schools in that year, 94% of South Korean children were. Establishing a direct connection between this fact and later growth rates might not be easy, but the implications are hard to miss.[287] The heavy investments that South Korea made in education was to favorably impact on the subsequent economic growth. South Korea was able to record 9.4 percent growth rate in it GDP in the 1980s and around 7.2 percent between 1990 and 1995.

What are the major conclusions one can arrive at after looking at the role of education in South Korea in the post World War II years? Firstly, it is very clearly brought out by the Korean experience that education was exceedingly important for the rapid economic development that it experienced. Without the rapid accumulation of human capital it would have been impossible to have had the fast and sustained economic development. Second, education was the great leveler, the most effective mechanism that improved equity among citizens. Education was nondiscriminatory since everyone had equal opportunity to be educated.[288] Third, Korea stands out from the other countries in recent times in that it managed the fastest expansion in education coverage while recording the fastest decline in the education Gini coefficient.[289] Fourth, initially in the 1950s, it was the tremendous contribution of the parents who sacrificed a great deal to ensure that their children be educated; soon the government was to play a dynamic

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[286] Thomas, Vinod, Yan Wag and Xibo Fan. 2000. p. 15. The Lorenz curve is a graphic representation of the spread of inequalities seen against a situation of absolute equality represented by a 45 degree diagonal. The larger the inequality, the more the curve is away from the diagonal.

[287] Economist 1996.

[288] Lee, Jisoon 2001.

[289] Thomas, Vinod, Yan Wag and Xibo Fan. 2000.

and central role in fostering an efficient mass education system.[290] Fifth, while the educational inequality has been declining, simultaneously it has been found that the gender inequality is strongly associated with whatever inequality remains in education. In other words, the basic implication is that tackling the gender gaps in education in the most important issue when attempting to eliminate the inequality in education in the Korean context. While the total enrollment rates rose rapidly between 1953 and 1965 in Korea, this was faster for women than men.[291]

Discussion on East Asia

Japan which started the earliest among the three countries covered under East Asia, was the most systematic. It had clear plans on how to educate its people, what the relative weights of primary, secondary and tertiary levels were to be, as it embarked on its modernization drive in the 1880s. By then the Ministry of Education had its detailed plans ready. Most importantly for our discussion, the gender question was more or less solved. Despite some remaining inequality in terms of the contents of education to the girls, the basic issue of whether and to what extent girls should be educated was clearly a settled issue. The aiming of equal education for both boys and girls from the beginning was taken to be obvious. This wisdom is commonplace in the world today. Unfortunately, it was not in the last hundred years and that is the basic reason for the discrimination in gender education that remains today. Korea more than made up for its late start by its single minded pursuit of near equal education for boys and girls since the time of its independence. China, after an encouraging start in the early twentieth century, falters, but gives due importance to basic education along with gender equality in education after 1949. In the event it too has posted impressive results. The following points would stand out.

In all the three countries, the commitment of the State to the diffusion of basic education is impressive. Words were followed by deeds. This is in stark contrast to South Asia (with the exception of Sri Lanka). Ultimately the involvement of the State and its commitment is crucial when we talk of eliminating gender discrimination in education. The more so in the current globalizing world, where the privatization mantra has pervaded the portals of education and the “market mechanism” is seem as a cure-all for

[290] Ashton, David, Francis Green, Donna James and Johnny Sung 1999.

[291] Ranis, Gustav 1995. p. 519

development. Social sectors like education and health have to be nurtured by the State in the initial stages of modernization. This point comes out fairly well when we see the instance of East Asia.

The contribution of the educated girls and women was enormous in the case of East Asia. Much of the industrial labor force in Japan in the beginning of the modernization period was women, and their contribution to the later successes was immense. Much the same could be said in the Korean context and China in its current export driven development, where the educated female labor force enables the steady growth of the exports.

One lesson from the Japanese case is that it allowed girls to bring younger siblings, whom they were to tend to class. This enabled the girls to continue to go to school and take care of the younger sibling as well. If that had not been allowed they would have had to drop out. This is something practical and does not cost extra resources. Taking care of the siblings is one reason cited in the case of Nepal, Bangladesh and to a lesser extent Pakistan and certain states of India why the girl drops out of school. If some provision were to be provided in rural schools in these countries for some kind of day care facilities for young children, the dropout rates of the girl child would be further reduced.

Southeast Asia

Situated somewhere between East Asia and South Asia in terms of both educational and economic development, this region has countries (with the exception of Thailand) that had started modernizing after gaining independence after World War II. They also show variations in terms of economic and educational development as well as gender equity in education. We cover a little bit of this region to act as a referral region, while our main focus is on South and East Asia.

Indonesia

> "*Educate the women and you will find sturdy cooperators in the splendid and gigantic task of civilizing millions."*
>
> - Ms. Kartini, circa 1900[292]

The sixteenth largest area-wise and with a population of about 245 million in 2006, the fourth most populous country in the world, Indonesia currently has a population growth rate of around 1.41 percent per annum in 2006. It has a life expectancy at birth of 69.87 years (males 67.42, females 72.45) in 2006 and the infant mortality rate is 34.39 deaths for every 1000 births. The sex ratio is 1.0 males per female and the total fertility rate is 2.4 children per woman. The GDP for the year 2005 was US$ 270 billion at the official exchange rate and 865.6 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 3600 in 2005, holding the rank of 154 in the world. For the year 2005 agriculture accounted for 13.4 percent of the GDP and industry (including construction) accounted for 45.8 percent of the GDP and services accounted for 40.8 percent. 46.5 percent of the labor force was in agriculture and 11.8 percent in industry and 41.7 percent in services for the year 1999. 16.7 percent of the population has been estimated to be below the poverty line in 2004. The literacy rate (for those over 15 years of age who can read and write) for the total population was 87.9 percent for the year 2002; the literacy rate for males was 92.5 percent and those for females was 83.4 percent. In 2005 its military expenditures at US$1.3 billion accounted for 3 percent of GDP while the public spending of education was 1.2 percent of GDP.

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[292] The daughter of a high Javanese official, she went on to open a school for the daughters of officials around 1900. Quote from Furnivall, J.S. 1978.

Western education was introduced in 1848 when the colonial government sanctioned an annual grant for schools among the Javanese "especially with a view to the training of officials." By 1928 nearly 20 percent of the native children in the primary and lower schools and in the missionary centers over a third, were girls; in the same year, in the case of Chinese schools, over 37 percent and in schools teaching Dutch around 40 percent of the students were girls. By 1938 about 2.2 million children were in both vernacular and western schools. However, there was lot of wastage with just one third of those entering vernacular schools completing the course. When Indonesia began its modernization, it achieved universal primary education relatively fast with a major national effort. It did not follow this up with the expansion of secondary education as other countries in the region did. Primary school education is for 6 years followed by lower secondary for 3 years and upper secondary for another 3 years.[293] There has been gender equity, by and large, in Indonesian education in primary and secondary education.[294]

Table no.47

Net Enrolment Rates, By Gender and Location in Indonesia, 2003

Education Level	Male			Female		
	Urban	Rural	Total	Urban	Rural	Total
Primary	92.3	92.6	92.7	92.0	93.0	92.8
Junior Secondary	72.5	56.2	60.9	73.0	58.8	62.5
Senior Secondary	56.9	28.5	38.8	55.2	29.0	37.7
Tertiary	16.0	2.1	9.2	14.9	2.1	8.3

Source: Asian Development Bank 2006b

Table no. 47 gives the figures for the net enrolment rates for the year 2003. As is readily obvious, Indonesia has been able to greatly reduce the disparity in access to education between boys and girls. Currently, the male literacy rate is 94% whereas that of females is 86%. The mean years of schooling for men is 7.6 years whereas that for women is 6.5 years.

In Indonesia, a large proportion of parents prefer to send their

[293] Moegiadi and Jiyono 1995.

[294] McMahon, Walter W. 1999.

daughters to *Madrasah* schools which are administered by the Ministry for Religious Affairs. One reason is that the schools offer an additional curriculum of religious education. But accessibility is also a consideration as *Madrasah* schools are usually located near communities in rural and backward areas, and parents find it safe to send their girls to these schools. At the primary level, the ratio of girls to boys in Madrasah schools is about equal but at higher levels more girls than boys attend these schools. These schools rank lower than the average public school in terms of quality; they have poorer facilities, less-qualified teachers, and lower revenues. However the above stated two reasons ensure that a large number of girls commute to these schools. One area needing attention is the appointment of female teachers. In 2001, the percentage of female teachers in public schools was 49% and for madrasah schools it was 38%. Further, the higher the level of education, the fewer there are female teachers.

It is usually the case that poorer the family, lower the proportion of girls enrolled in school; this, however, does not hold true in Indonesia. In 2002, the net enrolment rates for girls from the poorest quintile were about the same as, or higher than, those for boys at the primary, junior secondary, and senior secondary levels, demonstrating an impressive level of gender equality. Among the richest quintile, a higher proportion of boys than girls are enrolled at the secondary level. The gap between rich and poor in education enrolment is much bigger than the gap between girls and boys. While 72% of children in the richest fifth of the population were enrolled in 2002, for those in the poorest fifth only 50% were enrolled.[295]

Malaysia

Malaysia had a population of about 24.4 million and a population growth rate of around 1.78 percent per annum in 2006. It has a life expectancy at birth of 72.5 years (males 69.8, females 75.38) in 2006 and the infant mortality rate is 17.16 deaths for every 1000 births. The sex ratio is 1.01 males per female and the total fertility rate is 3.04 children per woman. The GDP for the year 2005 was US$ 122 billion at the official exchange rate and 290.2 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 12,100 in 2005, holding the rank of 77 in the world. For the year 2005 agriculture accounted for 8.4 percent of the GDP and industry (including construction) accounted for 48 percent of the GDP and services accounted for 43.6 percent. 14.5 percent of

[295] Asian Development Bank 2006b.

the labor force was in agriculture and 36 percent in industry and 49.5 percent in services for the year 2000. 8 percent of the population has been estimated to be below the poverty line in 1998. The literacy rate (for those over15 years of age who can read and write) for the total population was 88.7 percent for the year 2002; the literacy rate for males was 92 percent and those for females was 85.4 percent. In 2005 its military expenditures accounted for 2.03 percent of GDP while the public spending of education was 8.5 percent of GDP.

The Portuguese had conquered Malacca in 1511 and were replaced by the Dutch in 1641. From 1786 onwards after the British colonized it, they adopted a “hands-off” policy and did not try to westernize the Malay population, the intention being to have a stable colonial rule. The British followed a policy of bringing in foreign labor to help in the flourishing European trade and commerce. Initially the Chinese came in large numbers and after 1910 labor migrated from South India. The British kept these the races divided in distinctly different areas. The formal system of secular Malay education introduced during British colonial times tended to be influenced by the existence of these three different races.

The first Malay boys’ school was established in 1835 and about fifty years later, in 1883 the first Malay girls’ school was established to be followed by a second the next year. These were religious schools teaching prayers in Arabic. European missionary schools using English medium opened their schools to girls around this time. However not until 1907 did the first Malay girl enter the English medium school.

In 1870 a Committee was appointed to examine the position with regard to education and it found that boys from the lower standards could easily obtain jobs, and therefore left school with an imperfect knowledge of English; that the vernacular schools had done “little, or no good,” and the education of girls was very unsatisfactory. In 1900 it was estimated that about two-thirds of the Malay boys of school age attended school, though mostly for no longer than a year or two. Female education was still unpopular.

An active policy in education was begun with the appointment in 1901 of a Director of Public Instruction for the whole of the Straits Settlements. In 1908 the provisions for compulsory attendance, already applied in the States were extended to the Colony. By this time Malay rulers were looking to modern education as a means whereby their people could withstand Chinese and Indian competition. In 1902 it had been decided to open government schools for Tamils as this attracted Tamil immigration and planters came to recognize the advantage of opening schools on their estates. In 1900 there

were only some five hundred girls at schools in the States, and the Malay girls' schools in the Colony were very few and ill-attended. Chinese women started coming in large number after 1928 or so. At the census of 1931 the men were literate at 35.5 percent and 7.6 for women with 24.1 percent of both sexes being literate.

Around 57,000 Malay children were attending schools in 1938 and 27 percent of them were girls. Most of these schools were government assisted primary schools using Malay as the medium. There was a substantial gender gap in the colonial period. Educated Malay women invariably became teachers. These women teachers forced the government and ensured that education for girls which was available only till the primary level in Malay was extended by 2 more years around 1935. The Chinese population was not keen to send their daughters to school though after the Chinese Revolution in 1911 their resistance had become lesser. Indians sent their boys and rarely their girls to the schools providing primary education in Tamil.

Thus the three races had different degrees of exposure to education. Around the time of Second World War, primary education for six years was available in Malay, English, Chinese and Tamil. Secondary education for five years was available only in English and Chinese and post secondary education was available only in English. As Malays were educated only in Malay schools they could not proceed beyond primary level. Thus Malay girls received less schooling than any other ethnic group. Malays were also relatively at a lower social and economic position as higher levels of education were cornered by the minority ethnic groups.

The situation changed rapidly after independence. Malays gained political power, and they tried to improve raise their education levels for attaining upward mobility. This was to result in preferential policies in education favoring Malays. These included educational subsidies and loans, quotas, exclusive admission to certain institutions, use of the Malay language as a tool of instruction and guaranteed employment for Malays with appropriate credentials. The competition among the three ethnic groups has ramifications for gender equality. Malay girls who were most educationally disadvantaged became the primary beneficiaries of preferential policies favoring Malays. The gender gap in education attainment has almost disappeared among Malays by the 1980s.

Currently Malay girls attain about the same amount of formal schooling as Malay boys and more than Chinese or Indian girls. Gender relations have been more or less equal and this catalyzed the narrowing of the gender gap in

education among the Muslim Malays. The second factor to note is that the competition among ethnic groups indirectly promoted Malay girls' education. The government was largely controlled by Malays, who used formal schooling as a channel for Malays' upward mobility. While the government pushed for the betterment of all Malays regardless of gender and tried to ensure that they had at the minimum as much educational opportunity as any other ethnic group. This led to a situation where the Malay girls were not competing with Malay boys for educational success. They were competing with Chinese and Indian girls.[296]

Education is compulsory for a period of 9 years. Primary education is for a period of six years and starts at age six. Education is provided in all the three national languages of Bahasa Melayu, Chinese (Mandarin) and Tamil. Secondary education is for 5 or 6 years. The lower-secondary school is for 3 years and the upper-secondary is for 2 years. Students who have studied at the Chinese or Tamil primary schools spend a year in the Remove Class before they transit to the secondary schools. The idea is to make them gain proficiency in Bahasa Melayu, the medium of instruction in secondary schools.[297]

Though the enrolment of females at all levels of education has increased there is inequality still in terms of course/subject distribution between genders. Prior to 1950s, women were to focus on household skills in preparation for marriage and this is the reason why families did not consider schooling a priority. Once free primary education was introduced, family attitudes towards education changed and there was a significant rise in the enrolment of females in school. The current social and economic advancement of women in Malaysia is primarily traceable to the rapid expansion in educational facilities and the provision of equal access to these opportunities at all educational levels. Of late there has been a rise in the ratio of females in professions. For example in 1998 of the total number of Professors, Associate Professors and Lecturers 40.5 percent were women. The corresponding figure for 1999 was 41.2 percent.[298]

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[296] Pong, Suet-ling 1999.

[297] Aziz, A.A. and S. Mimunah 1995.

[298] JICA 2002c.

Philippines

Philippines had a population of about 89.5 million and a population growth rate of around 1.8 percent per annum in 2006. It had a life expectancy at birth of 70.21 years (males 67.32, females 73.24) in 2006 and the infant mortality rate is 22.81 deaths for every 1000 births. The sex ratio is 1.0 male per female and the total fertility rate is 3.11 children per woman. The GDP for the year 2005 was US$ 91.36 billion at the official exchange rate and 451.3 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 5100 in 2005, holding the rank of 129 in the world. For the year 2005 agriculture accounted for 14.4 percent of the GDP and industry (including construction) accounted for 32.6 percent of the GDP and services accounted for 53 percent. 36 percent of the labor force was in agriculture and 16 percent in industry and 48 percent in services for the year 2004. 40 percent of the population has been estimated to be below the poverty line in 2001. The literacy rate (for those over15 years of age who can read and write) for the total population was 92.6 percent for the year 2002; the literacy rate for males was 92.5 percent and those for females was 92.7 percent. In 2005 its military expenditures accounted for 0.9 percent of GDP while the public spending of education was 3.1 percent of GDP.

The Spanish created a Commission in 1855 to consider the improvement of education and, especially, the extension of the Spanish language. An Education Code was promulgated in 1863, which directed that at the headquarters of every township there should be at least one primary school for boys and one for girls. In large towns there were to be extra schools for each five thousand of the population. It mandated that attendance was to be compulsory and for the poor, education was to be free. No Filipino would be eligible for a government job without a knowledge of the Spanish language. In the girls' schools domestic training replaced the subjects of geography and history and agriculture. It is possible to trace two schools for girls from seventeenth century; some more were founded in the later half of the nineteenth century. In 1865 the Jesuits opened a Normal School. By the end of the nineteenth century the Philippines were far ahead compared to other countries in the Far East as far as educational facilities were concerned. The education of girls also was well spread compared to other countries.

After Philippines was colonized at the beginning of the twentieth century by the US, the American school system was promoted. American

government viewed education as a most effective way of suppressing forces of independence and nationalism. Education was used to inculcate the American economic and political values and Anglo-American ideals. American educated technocrats and bureaucrats tended to apply the vision of the West to the problems of the Philippines. The new educational system under the new colonizers served to reinforce gender role differentiation. Education for homemaking became formalized as home economics and education for women was deemed important to the extent that they could use their knowledge to impart societal values to their off springs.[299]

In the schools, admission policies were liberalized, enabling men and women of all classes to go to school. The military commanders opened about a thousand schools and the teachers were mostly soldiers. The civil government also participated by rapidly appointing native teachers to replace them. In 1902 there were 926 American school teachers, but by 1939 out of about 40000 teachers only 80 were Americans. Enrollment which was about 150,000 reached just under 1 million in about two decades. There was no resistance to the spread of English which was promoted early by the Americans. The Monroe Survey, produced by the Americans, gives the average period of school attendance as less than three years; 82 percent of the students did not go beyond the 4th grade and took five years to do it, and even then were only on the same level as pupils after the 2nd standard in the United States. There was no conflict from traditional schools as both Filipinos and Americans professed Christianity.[300]

During the colonial period, mass education was developed in the Philippines as American colonial interests perceived a need for it. While mass education was sought to be used to create a stable democracy, additionally it was felt that human resources, to be utilized for the agricultural and handicraft export industries, had to be developed. As agricultural exports were promoted from 1907 onwards, “relevant” educational programs were created. Likewise, industrial education was promoted from 1908 onwards as raising industrial exports was attempted.[301]

After Philippines became independent in 1946, the government opened schools even in the remotest areas. Unlike other countries in Southeast Asia, women have had greater equality in Philippines. Women had equal rights to family property for a long time. Literacy levels for women are

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[299] Torres, Amaryllis Tiglao 1993.

[300] Furnival, J.S. 1978.

[301] Foley, Douglas 1984.

just about the same as for men. Primary education is for a period of 6 years and it starts when the child is at age 7. This is followed by 4 years of secondary education and 4 to 9 years of higher education. Primary education is free and compulsory for children between ages 7 and 12. Secondary education is free but not compulsory.[302] Everyone who has completed four years of elementary school is counted as literate. Since 85% of public elementary and secondary school teachers are female, there is no specific policy for gender-oriented assignment of teachers. Equal access to boys and girls is guaranteed under the 1987 Philippine Constitution.[303]

Thailand

Thailand has a population of about 64.6 million and ranked as the 19th most populous country. The population growth rate was 0.68 percent per annum in 2006. The life expectancy at birth was 72.25 years (males 69.95, females 74.68) in 2006 and the infant mortality rate was 19.49 deaths for every 1000 births. The sex ratio is 0.98 males per female and the total fertility rate is 1.64 children per woman. The GDP for the year 2005 was US$ 183.9 billion at the official exchange rate and 560.7 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 8300 in 2005, holding the rank of 96 in the world. For the year 2005, agriculture accounted for 9.9 percent of the GDP and industry (including construction) accounted for 44.1 percent of the GDP and services accounted for 46 percent. 49 percent of the labor force was in agriculture and 14 percent in industry and 37 percent in services for the year 2003. 10 percent of the population has been estimated to be below the poverty line in 2004. The literacy rate (for those over15 years of age who can read and write) for the total population was 92.6 percent for the year 2002; the literacy rate for males was 94.9 percent and those for females was 90.5 percent. In 2003 the military expenditures accounted for 1.8 percent of GDP while the public spending of education was 5.2 percent of GDP.

In the olden days in Siam every village had a monastic school attended by all the boys. As the French and British were distrustful of each, they left Siam as a buffer state in between them. This is the reason why when the whole of Southeast Asia was colonized Thailand maintained its independence. In the mid nineteenth century the king of Siam engaged an English governess for his heir and allowed American missionaries to teach the ladies of his court.

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[302] Sutaria, M.C. 1995.

[303] JICA 2002b.

His successor tried to bring the monastic schools into a system of gender public education under a Ministry of Education as he was dissatisfied with their quality. The masses depended on the monastery for their schooling. In 1921-22 all children from seven to fourteen years of age were required to attend school. In 1935 the age limits were changed to eight to fifteen. By 1939, about 865,000 boys and over 700,000 girls were in either a municipal, local, government or a private school.[304]

Western style education had been introduced into Thailand in the late 19th century first into the Grand Palace. The experience of teaching western education in the Palace made the royalty confident of spreading such education throughout the kingdom. Even before this time commoner boys, but not girls, were expected to gain some competence in reading and writing. A steady supply of educated men to take up posts of clerks had obviated the need for the royalty to be extensively educated. Royal patronage towards education played an important role. A proper school was setup in the Palace grounds, though this was initially aimed at providing Thai education in the three R's for young princes and sons of noblemen who would through imbibing such education become better crown servants. The princes who were trained in this English school were to be in high level official posts in later years. Thai education was informal in nature and the exposure to formal schooling on the European pattern impressed the royalty. Education was given to the extent of "only training in reading and writing and handwriting sufficient for clerks" as well as knowledge of mathematics and the arts and sciences as might be "useful for the country".

Prince Damrong, the director of the Education Department, gave tremendous momentum to the cause of education. Government service now required higher levels of educational endowments and the school for the royalty and nobility was upgraded. In the late 1880s mass modern education became a concern of the government and schools in monasteries were promoted with government funding. The Education Department which was formed in 1885 was to lay the foundations of Thailand's modern education in the next seven years.

The initial concern with creating an educated class to serve as clerks and civil servants and which later enlarged to include masses to a limited extent, did not foresee the inclusion of the girls. An attempt in 1889 to start a girls' school fell through as no head mistress could be found. Despite the financial problems, a system of primary, middle and higher schools was sought

[304] Boonchay, T. and M. Siaroon 1995.

to be created. A school for girls was set up in 1890s for the purpose of instructing the young princesses. Another girls school called the Sunanthalai Girls' School was opened in January 1893, but as the tuition fee per moth was twenty baht, only daughters of upper nobility could join.

Impressed by what he saw on a tour to Europe in 1898, the king took interest in educational modernization. The great cost in educating the royalty in Europe ultimately led to the search for setting up of institutions of high quality education in Thailand. In the attempt to a set up quality education at home, a mass education system open to all was promoted. It is difficult to miss the parallels between Japan and Thailand, both of which attempted the institution of mass education at around the same time. The modernization of education in Thailand which like Japan was not a colony is similar in some aspects to the Japanese attempt. Thais were trying to "catch up" with the advanced west at least in the field of education by creating schools modeled on the west and aimed at the masses. The inadequacies in Thai system of education were identified and sought to be corrected.

While Japan attempted equitable education for girls from the word go, Thailand did not make similar attempts. Even the far sighted Prince Damrong who was influential in educational matters while giving his opinions on education, mentioned three principles in 1906 one of which was that "All males … of school age must be educated." Girls did not get equal treatment. The king who took a keen interest in spreading education even directed that a decree similar to the Japanese Imperial Rescript on Education of 1890 be made for Thailand with suitable alterations to fit the Thai situation. The Ministry of Public Instruction dragged its feet on mass education. The king died in 1910 and impetus was lost.[305] Thus there is not much surprise in the development patterns these two countries underwent in later years, with one having neglected the spread of mass education and the other persisting with it with considerations of gender equity. Today, in Thailand six years of primary schooling is compulsory and free. The lower- and upper-secondary schooling is of three years each and university undergraduate courses would take another 4 years or more.

[305] Wyatt, David K. 1969.

Vietnam

Fifteenth most populous country in the world with a population of about 84.4 million, Vietnam had a population growth rate of around 1.02 percent per annum in 2006. It had a life expectancy at birth of 70.85 years (males 68.05, females 73.85) in 2006 and the infant mortality rate was 25.14 deaths for every 1000 births. The sex ratio was 0.98 males per female and the total fertility rate is 1.91 children per woman. The GDP for the year 2005 was US$ 43.75 billion at the official exchange rate and 232.2 billion on a PPP basis. The GDP per capita on a PPP basis was US$ 2800 in 2005, holding the rank of 167 in the world. For the year 2005 agriculture accounted for 20.9 percent of the GDP and industry (including construction) accounted for 41 percent of the GDP and services accounted for 38.1 percent. 56.8 percent of the labor force was in agriculture and 37 percent in industry and 6.2 percent in services for the year 2003. 19.5 percent of the population has been estimated to be below the poverty line in 2004. The literacy rate (for those over15 years of age who can read and write) for the total population was 90.3 percent for the year 2002; the literacy rate for males was 93.9 percent and those for females was 86.9 percent.

Traditionally Vietnamese had high regard for education, as it provided a clear path to upward social mobility. The highest social respect was commanded by the mandarin and to become one, one had to excel in studies. During the colonial period, and till 1945, the path to success for Vietnamese men lay in passing the mandarin examinations. However, these notions of success were associated with men; women neither had equal access to studies nor could they sit for the mandarin examinations. During the French colonial period schools sharply declined in number. Education was not widespread and was limited only to the urban middle class. In 1913 there were no more than 3,230 girls in school, and in 1936-37, although the number had risen to 63,918 in public schools, 55,971 were in the elementary grade. It was under the socialist regime that men and women were considered equal.[306]

Later, in the years following World War II, the Democratic Republic of Vietnam tried to raise literacy and spread general education by building on the existing system of schools carried over from colonial times. The Vietnamese Communist Party made it clear that access to education was an issue it was committed to and mass education spread in the 1950s. Under the state

[306] Furnivall, J.S. 1978, Nguyen, Phuong An 2004a. and 2004b.

socialist regime, the state embarked on a large expansion of its education system increasing mass access tremendously. However, the education provision by the state was at the basic level, and the net impact was that the inequalities of access to overall education rose as the better education services came to be reserved for the elite. The finances for mass education were through the resources that the state socialist economy generated. When the finances were not forthcoming, the education system suffered and degenerated in the 1980s. While the state had borne the costs of education earlier, in the 1970s ad 1980s the households had to bear an increased share of the cost of education. Today, there is much greater access to mass education, but education has to be paid for.

The *doi moi* (renewal) refers to a set of market oriented reforms that began in the late 1980s. There was a fiscal crisis soon after and education was left to the market forces. Quality of education suffered and fees were introduced in 1989, limiting those that could access education. Enrollments dropped rapidly between 1989 and 1991 and would regain the mid-1980s level only by the mid-1990s. The state's withdrawal from its commitment to provide mass education was made clear as the new constitution of 1992 remained silent on this earlier commitment. What has emerged is a system that combines both state subsidies and market principles. While primary education is free, beyond that the people have to pay. Access had improved greatly but 70 percent of the total (both state and private) mass education expenditure is met by the people.

The primary school is for 5 years and starts when the child is 6 years of age. This is followed by 4 years of lower-secondary and 3 years of upper-secondary. Tertiary or professional education can be from 2 to 8 years. Education is compulsory up to the lower-secondary level that is for a period of 9 years.[307]

Increasingly, private players were permitted in the provision of education. By charging fees and controlling the issue of textbooks and raising the size of the class the state has embarked on various cost recovery measures. With rapid economic growth since 1989, the state revenues and household incomes have expanded and investments in education have risen. In 1989, for the first time school fees were applied to the fourth and fifth grades of primary school and all of the secondary grades. From 1993 onwards while primary school fees were done away with, students of both lower and upper secondary had to pay. From the early 1990s, Vietnam's annual state

[307] Bernard, D.C. and Le Thac Can 1995.

investments in education grew at a rate faster than the GDP growth rate. By the end of the 1990s, almost all of the Vietnam's 10,000 communes had a primary school. School enrollments posted impressive figures at the primary and secondary levels. What has become clear is the strong relationship between household's expenditure and its ability to access higher level education. In 1998, the wealthiest 15 to 17 year olds were to be 12 times more likely to be enrolled compared to the poorest quintile.[308]

Further, poverty is becoming concentrated among people with low human capital. The poor are trapped in a vicious cycle of poverty and low human capital. The illiterate tend to be poorer than the literate and this relationship between poverty and illiteracy has become stronger, especially among women. In the absence of specific policies targeting them, the poor will not be able to get out of poverty.[309]

Vietnamese entering the labor market each year number over 1.4 million. Workers with higher educational qualifications are continuously increasing. The lower secondary school completion rate increased from 25 percent in 1992 to 62 percent in 2002. The increase in the return to upper secondary and tertiary education relative to primary education between 1992 and 2002 points to an increase in the demand for workers who have qualifications at the upper secondary education level or higher.[310]

Currently, Vietnam has almost achieved gender equality of enrollment in general education, including primary and lower and upper secondary schools. The net enrolment ratios indicate that Vietnam has achieved a quite equal enrollment in basic education for boys and girls. Boys repeated classes more often than girls. Girls still contend with a complex mix of barriers to their right to formal education. For example, when a household's decision to send children to school is weighted against labor contributions, girls are often the last to be sent to school and the first to be withdrawn. In some instances parents are hesitant to send a girl for higher education as this investment will be lost when she marries into another family. Such beliefs indicate that gender equality is achieved only through integrating gender issues within all policies that deal with educational discrimination.

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[308] London, Jonathan 2004.

[309] Bhushan, Indu, Erik Bloom, Nguyen Hai Huu and Nguyen Minh Thang 2001.

[310] World Bank 2006.

Table no. 48

Mean of Selected variables in Vietnam, by sex, 1993 and 1998

Variable	Total		Males		Females	
	1993	1998	1993	1998	1993	1998
Age (years)	31.3	32.9	32.0	33.0	31.0	32.0
Years of Schooling	8.2	9.0	8.0	9.0	8.0	9.0
Years of Experience	17.1	17.9	17.0	18.0	17.0	17.0
Real earning per month ('000 dong)	342	570	383	620	279	493
Hours worked per week	46	47	47	48	45	47
Education level (percent)						
No education	22	21	21	21	24	23
Primary	27	26	29	27	24	24
Lower Secondary	28	25	29	26	28	23
Upper Secondary	16	20	14	18	19	22
University/College	7	9	7	8	6	9

Source: Nguyen, Nga Nguyet 2004a.

The Vietnamese labor force is relatively well educated, given its low income level, and there was a clear improvement in education level attained from 1993 to 1998 as seen in the Table no. 48. Overall, female workers are better educated than male workers. Despite having the same level of education attainment as seen in the number of years of schooling, the female work force is slightly better qualified. However, males' earnings were still 37 percent and 26 percent higher than females' earning in 1993 and 1998, respectively. In both years, a male worked earned 46 percent more than a female worker with the same (observable) characteristics. This differential decreased slightly by 1998, but it was still 40 percent. These results mean that there is still some kind of discrimination between males and females, and this keeps females' wages low.[311]

In spite of the economic dynamism that Vietnam has displayed of late, it continues to be a low income country. However its performance in

[311] Nguyen, Nga Nguyet 2004a.

education is much higher than that of other low income countries. The average (net) primary school enrollment rate for low income countries namely those with per capita incomes below US$755 was 76 percent in 1997, yet Vietnam with just US$ 390, registered 100 percent. Similar figures for secondary education are 51% for the low income countries and 55% for Vietnam.[312] Again, this is a pointer that the low per capita income of a country is no excuse why it has not diffused education among its masses.

Table no. 49
Mean Years of Education by social Group in Vietnam, 1998

Social group	Female	Male
Total	5.6	6.8
Poor	5.0	6.0
Rich	9.0	10.4
Ethnic Minority	4.5	6.0
Rural	5.1	6.2
Urban	7.4	8.5

Source: Asian Development Bank 2002c.

The correlation between education for women and reduced birth rates, improved nutrition, and health is now well known and Viet Nam's success in these areas is in part due to the focus on education for girls. Fertility rates are 53% lower and child mortality is 75% less for girls who have attended at least lower secondary education than for girls without schooling. On average, females have only 5.6 years of schooling compared to 6.8 for males as shown in Table no.49. The real disparities in education are not so much around the issues of gender as they are on the different level of achievement and performance of students in rural and urban areas, the rich and the poor. Within the rural poor and ethnic minority students, gender disparity is exacerbated, making women in this group doubly disadvantaged. The gap between girls and boys for the lowest income quintile is larger than for the top quintile. In the poorest quintile, the gap between girls and boys in primary school enrollments is pronounced at 5%, and reaches 12% in lower

[312] Glewwe, Paul 2004.

secondary.[313]

One gender difference which persists is seen in the smaller association between incomes and grades completed per year of school for boys than for girls implying that the perception that schooling for girls is a luxury as compared to boys is still prevalent.[314] It would be impossible to ignore the enormous importance of the cultural values when we talk of gender discrimination in Vietnam. The strongly entrenched Confucian values dictate that sons should provide security for their parents in thee old age. This means that the expected returns to sons' education would be higher. Hence the policy prescriptions advocating a reduction in the cost of education in terms of fees and the like would encourage investment in girls' education. Educational policies aimed at changing people's attitudes towards girls along with compulsory education are essential in order to wipe out the remaining differences in gender education.[315]

Discussion on Southeast Asia

The European powers that had held sway in Southeast Asia before these countries attained independence had forayed into the field of education with at least two motives. The first had to do with spreading Christianity and missionary schools provided the right medium and also tended to attract the native population, especially after the westerners had displayed their contempt for the native systems of education. Much as in south Asia, the colonizers required a class of natives who would be the clerks and lower level officials in the administrative machinery as well interface with the large native population and themselves. There is a surprising uniformity of viewpoint among the various colonial powers on this.[316] In the 19th century, the French in Cambodia for instance made an attempt to spread French rapidly and widely, "so that no Frenchman traveling anywhere should fail to find some one to whom he could convey his meaning."[317] The opening of the Suez Canal in 1870 led to a sudden rise in trade and a concomitant need for clerks. Education was thus promoted with the limited intent of meeting the

[313] Asian Development Bank 2002c.

[314] Behrman, Jere R. and James C. Knowles 1999.

[315] Liu, Amy Y.C. 2001.

[316] See for instance the educational histories of various countries in South and Southeast Asia in Furnival, J. S. 1978.

[317] Furnival, J.S. 1978 p.41.

requirements of the rulers. Mass education was not attempted.

In the event, it is the native attempts after World War II that enabled educational systems to be built up. In most of these countries, girls and women started with the dice loaded against them. On the one hand, the literacy among women was abysmally low and on the other, in a number of these societies women were placed much below men and hence education was not considered a priority for them. Some of the countries did extremely well while others were slow to pick up as far as gender education was considered. It is the accepted wisdom today among these countries that gender equality in education is to be sought. The ones that have been successful like Malaysia, for instance, have been able to usefully utilize their female labor force at a time of increasing globalization and expanding opportunities for export. Currently the biases against gender education are by and large gone, though there is quite some distance to be traveled before there is gender parity in education.

Labor Force Participation of women

The issues that confront us when we try to see the links between the educational attainments of women and their labor force participation is that first, data can be a problem. Data is not easily available for all the countries we are interested in. The data is not available in disaggregated form. Further the data may not be comparable across countries. The data for female labor force participation could include primary sector too where it could be unlettered women in the work force. Thus we can have the case of a country where most women are illiterate but the labor force participation rate is higher compared to another country which has higher female educational attainments but lower labor force participation rates. This is complicated by the fact that female labor *decreases* when educational attainments go up.[318] Data of women in the informal sector which is quite large in countries like India may not be measurable and hence not included.[319] With these caveats in mind, we take a look at the data that is available.

Table no.50
Share of Economically active population (15+) in Asian countries, latest year, %

Country	Year	Share of population economically active		
		Total	Males	Females
Bangladesh	2002-03	57.3	87.4	26.1
India	2001	58.6	78.3	37.7
Japan	2004	60.4	73.4	48.2
Korea	2004	62.1	75.0	49.9
Philippines	2004	66.5	82.9	50.2
Sri Lanka	2004	54.0	74.8	34.7
Thailand	2004	73.4	81.8	65.1

Source: International Labor Office 2005.

Labor force participation is defined in a number of ways: as involvement in wage earning activity, as participation in different types of

[318] World Bank 2001a.

[319] Were the the informal sector employment were to be taken into account, the positive relationship between educational attainment and labour market outcomes are clear. For instance see Michaelowa, Katharina and Marie Waller 2003.

employment, for example, participation in the formal sector or in self-employment or participation in the public sector versus the private sector or by occupational or other categories. The majority of studies find that the relationship between education and labor force participation is generally positive.[320] When we see the share of economically active population aged 15 years or more as given in Table no. 50, we get an idea of the gender differences. For all the countries, women are worse off compared to men.

Table no.51

Gender inequality in Economic Activity in Asian countries

Country	Female Economic Activity (ages 15 and older)			Employment by economic activity (%)						Contributing family workers (%)	
				Agriculture		Industry		Services			
	Rate (%) 2004	Index (1990=100) 2004	As % of male rate 2004	Women 1995 - 2003	Men 1995 - 2003	Women 1995 - 2003	Men 1995 – 2003	Women 1995 - 2003	Men 1995 - 2003	Women 1995 - 2003	Men 1995 - 2003
Japan	48.5	97	65	5	5	21	37	73	57	80	20
Singapore	50.8	101	66			18	31	81	69	76	24
South Korea	50.1	106	68	12	9	19	34	70	57	89	11
Malaysia	46.1	105	56	14	21	29	34	57	45	71	29
Thailand	65.4	87	81	48	50	17	20	35	30	64	36
China	69.2	95	84								
Philippines	53.8	114	65	25	45	12	18	63	37	56	44
Sri Lanka	35.0	78	45	49	38	22	23	27	37	70	30
Indonesia	50.7	101	60								
Viet Nam	72.4	98	93							71	29
Mongolia	53.9	97	66							70	30
India	34.0	94	41								
Cambodia	74.4	96	93							64	36
Myanmar	68.2	99	79								
Laos	54.0	101	67								
Pakistan	32.0	115	38	73	44	9	20	18	36	33	67
Bhutan	44.3	127	55								
Bangladesh	52.9	84	61	77	53	9	11	12	30	58	42
Nepal	49.7	103	63								

[320] Malhotra, Anju, Rohini Pande and Caren Grown 2003.

Source: UNDP 2006.

When we divide the economically active population sector wise we get a clearer picture as in Table no. 51. However the actual labor force participation rate which is defined as the number of persons in the labor force as a percentage of the working-age population, could be smaller compared to the figures for the share of the economically active population as Table no. 52 shows. The labor force participation rates have to be interpreted with caution as they may not be strictly comparable across countries.

Table no. 52

Labor Force Participation Rates in Asia, ages 15-64, 2003, %

Country	Male	Female
Bangladesh	88.6	68.4
China	88.8	79.2
India	86.6	45.2
Indonesia	84.7	59.5
Korea	86.2	77.6
Malaysia	81.4	51.9
Myanmar	89.3	68.5
Nepal	86.5	58.4
Pakistan	85.6	39.3
Philippines	82.6	52.0
Sri Lanka	82.6	47.8
Thailand	89.7	77.7
Vietnam	83.5	77.3

Source: Asian Development Bank 2005.

Women are by and large in the agriculture sector whose value added is low as shown in Table no. 53, and hence women's contribution could be low. Or they are in jobs that are not in the higher value added range or are not well paying. For instance, although the majority of Chinese women are active in the work force, the positions they occupy could be at the bottom of the ladder and are found in jobs that are viewed as "women's work", and are typically

textile or clerical workers or primary school teachers.[321] In rural areas the employment for women in China is temporary and seen by women themselves and employers as transitional work for young women before marriage without any career potential.[322]

Table no. 53

Value added per worker by sector in Asia in constant 2000 US$

Country	Value Added per Worker			
	Agriculture	Industry	Services	Year
Bangladesh	361	2,167	1,843	2000
China	530	4,351	4,133	2000
India	432	1,602	2,039	1999
Indonesia	662	4,612	1,692	2001
Korea	10,208	32,663	23,912	2001
Malaysia	4,647	15,271	7,929	2000
Nepal	270	1,061	1,292	1998
Pakistan	1,001	2,322	2,826	2000
Philippines	1,103	5,279	2,907	2001
Sri Lanka	1,106	2,645	3,493	1998
Thailand	688	8,211	5,662	2000
Vietnam	264	1,925	1,543	1997

Source: Asian Development Bank 2005

What about the earnings of women compared to men? Table no. 54 gives the figures. At best women's earnings are about 60 percent that of men.

[321] Hooper, Beverley 1991.

[322] Li, Danke 2004.

Table no. 54
Gender-related development indices for Asian countries

Country	Life Expectancy at birth (years) 2004		Adult literacy rate (% ages 15 and older) 2004		Combined gross enrolment ratio for primary, secondary and tertiary schools (%) 2004		Estimated earned income (PPP US$) 2004		
	Female	Male	Female	Male	Female	Male	Female	Male	Female/Male
Japan	85.6	78.6			84	86	18,130	40,885	0.44
Singapore	80.8	77.0	88.6	96.6			18,905	37,125	0.51
South Korea	80.9	73.7			88	101	12,912	28,036	0.46
Malaysia	75.8	71.1	85.4	92.0	76	70	5,391	15,015	0.36
Thailand	74.0	66.7	90.5	94.9	74	73	6,036	10,214	0.59
China	73.7	70.2	86.5	95.1	70	71	4,561	7,159	0.64
Philippines	72.8	68.6	92.7	92.5	84	79	3,449	5,763	0.60
Sri Lanka	77.0	71.7	89.1	92.3	64	63	2,561	6,158	0.42
Indonesia	69.2	65.3	86.8	94.0	67	70	2,257	4,963	0.45
Viet Nam	72.9	68.8	86.9	93.9	61	65	2,271	3,220	0.71
Mongolia	66.5	62.5	97.5	98.0	83	72	1,379	2,730	0.51
India	65.3	62.1	47.8	73.4	58	66	1,471	4,723	0.31
Cambodia	60.1	52.7	64.1	84.7	55	65	2,077	2,793	0.74
Myanmar	63.5	57.8	86.4	93.9	50	48			
Laos	56.3	53.8	60.9	77.0	55	66	1,328	2,579	0.52
Pakistan	63.6	63.2	36.0	63.0	32	44	977	3,403	0.29
Bhutan	64.6	62.2							
Bangladesh	64.2	62.5			58	56	1,170	2,540	0.46
Nepal	62.4	61.6	34.9	62.7	52	62	995	1,993	0.50

Source: UNDP 2006

However the current globalization, which is increasing integration of the world markets is throwing up a whole lot of job opportunities for women in developing Asia. Those with basic educational qualifications would be able to exploit the expanding opportunities for employment. Women are preferred over men in the simple assembly operations as seen in the Malaysian context

as they are found to be more diligent than men. Thus we find, that in Malaysia in the 1970s and 1980s and Bangladesh in the 1980s and 1990s experienced rapid increases in the labor force participation of young women, especially in some export industries. In Malaysia it was the electronics assembly sector that provided employment to women from rural areas. Likewise the garment sector in Bangladesh created lots of jobs for women at Chittagong and Dhaka. Thus we find women constituted 90 percent of the garment workforce in Bangladesh and the semiconductor assembly workforce in Malaysia. It was the first time that many of the women had got an opportunity to enter the labor force as seen from the fact that 93 percent of female workers in Bangladesh's garment sector and two-thirds of women in Malaysia's electronics sector had no previous work experience. Work in the garment sector meant higher wages and social status. Further the salaries of these young women enhanced their status within their families as well as benefited their families. Their wages could contribute up to 43 percent of household incomes in Bangladesh.[323] Needless to add, without basic educational qualifications which is a preferred prerequisite, these women would not have had the opportunity of finding jobs or would have ended up with low paying jobs, even if the export markets expanded.

One would tend to expect the share of women in the labor force to go up with the reduction in the educational discrimination they face. However the relationship may not be that straight forward. It has been found that the Labor Force Participation Rate (LFPR) in Asia varies dramatically across countries. A study covering Indonesia, South Korea, the Philippines, Sri Lanka and Thailand found that tertiary education has a large impact in all countries except in the case of South Korea which is the most developed of the five countries covered. Primary and intermediate education had little impact on participation; the exceptions were Indonesia which showed positive impact on participation, and Sri Lanka which showed a negative impact. Thus there is no uniform relationship between women's education and labor force participation in Asia. This fact points to the importance of taking the cultural context into account when we study the rise in women's educational levels and its impact on their participation in the labor force. Possibly the rigid definition of gender roles in South Korea and Sri Lanka does not automatically lead to a rise in the women's labor force participation rates. Countries like Philippines and Thailand which have less rigidly defined gender roles exhibit a stronger

[323] World Bank 2001a.

connection between women's education and their labor force participation.[324]

It has been found that in large parts of Asia education has the classic U-shaped relationship with participation in paid employment. This basically implies that paid employment is high for women with little or no education and then it falls for women who have some primary education to rise when women have high secondary and university education. Such a pattern has been found in Asia, especially in South Asia. One of the explanations is that with low level of education women may not want to bring down their social standing which would be the case if they went for market work in their societies. However when their educational levels increase (and incomes as well), more women may work as more education would have changed their outlook and ambitions, or as the rates of return to education have risen with education level, they have a greater incentive to work.[325]

The factors that need to be kept in mind are that, in parts of Asia, girls from poor households drop out of school to enter the labor market. Thus their entry into the labor market does not mean there has been a rise in education among girls. For instance, in Pakistan, girls from poor households, drop out of school to enter the labor market. The lack of good schools, along with the consequent discount that parents place on the value of their children's education may explain this behavior. The gender differential in this respect is quite revealing, with Pakistani girls experiencing a much sharper reduction in their schooling than boys when their households fall into poverty. The close complementarities between girls' and women's labor in Pakistan is consistent with the negative impact that rising women's wages have on child schooling. In other words, when women's wages rise, working mothers tend to pull daughters out of school and take them along to work.[326]

Second, not everyone in the working-age group would participate in the labor force. This is especially true in the case of South Asia, where women take part in labor force to a much lesser degree compared to women in other parts of Asia. What are the reasons for the low labor force participation rates of women from South Asia? Cultural barriers would be one important factor. In the case of Pakistan, for instance, less than 40 percent of the working-age women enter the labor force while other parts of Asia record nearly double this figure. The other aspect is that, in low-income countries, women are primarily responsible for household work which typically includes

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[324] Cameron, Lisa A., J. Malcom Dowling and Christopher Worswick 2001.

[325] Malhotra, Anju, Rohini Pande and Caren Grown 2003.

[326] Ray, Ranjan 2000.

producing goods and services that are provided by the market in richer countries. These include collecting water, firewood, knitting dress and the like. These duties do not enter the figure for formal employment and hence labor force participation rates.

Table no. 55
Women in Development in Asian countries

Country	Female Population % of total 2004	Life Expectancy at birth, 2004		Women in nonagricultural sector % of total 2003
		Male	Female	
Bangladesh	48.9	63	64	24.2
India	48.7	63	64	17.5
Nepal	50.4	62	63	..
Pakistan	48.5	64	66	8.7
Sri Lanka	49.2	72	77	43.2
China	48.6	70	73	39.5
Japan	51.1	78	85	40.8
South Korea	49.8	74	81	41.2
Indonesia	50.1	66	69	30.8
Malaysia	49.2	71	76	38.0
Myanmar	50.3	58	64	..
Philippines	49.7	69	73	41.1
Singapore	49.7	77	81	47.8
Thailand	50.8	67	74	46.9
Vietnam	50.1	68	73	51.8

Source: World Development Indicators 2006

Surprising as it may be, in some of the developing countries a rise in the education of women may not translate into a rise but a *fall* in the rate of Female Labor Force Participation. This could be due to one of the following reasons. Firstly, it could be due to the cultural outlook in the society where with a rise in education and a concomitant rise in the social status of the family, women may be withdrawn from the labor force. While higher status families might educate their daughters, they may not let them work. Second, educated women might want only white collar jobs and reject others. As the formal sector jobs are just 7 percent of all jobs in India, women may not get the

job they are looking for and hence might withdraw from the labor force. Both these factors operate in India and the second factor, the lack of employment opportunities, seems to be the more important cause.[327]

Thus in the case of state of Kerala which comes near the top of the table in literacy for states in India, women's work participation rates are very low and have been falling.[328] In the Korean context too it has been found that an increase in education led to a fall in the labor force participation rate of women as this is because the content of education for women encourages them to accept traditional roles. Access does not change very much unless the content of their education helps women to question traditional values.[329] Thus education and employment may not have played the transformatory role expected of them. These reasons might explain why the share of women in the nonagricultural sector is quite low as shown in Table no. 55

A primary reason for the increased participation of women in labor market is the increased demand for low-cost, semiskilled labor in developing countries' electronics manufacturing and other assembly industries like in the case of Malaysia for semiconductor products. This has had the effect of raising the demand for education by women at higher education levels. Globalization is definitely accentuating the demand of women to have more education. In addition to raising the returns to higher levels of education, globalization appears to have raised the return to women's education. While it is a fact that globalization pulls in more women into the labor force as they are paid less than men, and it is profitable for firms to hire women and pay them lower wages than men. However, this has been found to be driving up both the education level of women as well as the price of women's labor relative to men's.[330]

What needs to be done in the countries that show a large amount of gender discrimination in Asia, in view of the available knowledge on labor force participation rates for women? There is ample evidence to show that it is secondary and higher levels of education that are important when we talk about meaningful labor force participation for women. Firstly, higher levels of education increase the probability that women will engage in formal paid employment. Secondly, higher levels of education increase the gains from formal labor force participation more for women than for men. The rate of

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[327] Das, Maitreyi Bordia and Sonalde Desai 2003.

[328] Eapen, Mridul and Praveena Kodoth 2002.

[329] Lee, In-ho 1993.

[330] Asian Development Bank 2003.

returns for women is higher in secondary education compared to men, while it is lower in primary education compared to men. These are aspects that countries in South Asia especially may have to bear in mind as they are currently concentrating on basic or primary education which has been promoted in a number of high profile ways by the various UN agencies.[331]

The transition to secondary school is especially a problem for the poor. In Indonesia and Thailand, the poorest 40 percent experience a sharp drop in the proportion completing the transition from primary to secondary; in poorer countries the drop in completion rates begins earlier, before plunging even faster during the transition. In many countries, particularly in South Asia, gender differences tend to get accentuated in the transition to secondary school and remain large. Rising demand for post primary education and poor preparation for work comprise important challenges.[332] A strong correlation between education and levels of economic development is seen not at the primary but at the secondary level. This is borne out in East and Southeast Asia too. Secondly, the secondary school educated labor is absorbed across all industrial sectors and not just in manufacturing. So one should not emphasize only the link between the secondary schooling and the rise of manufacturing.[333] Thus any meaningful exercise to wipe out the educational discrimination against women should be planned at least up until the secondary education level if not later for women to meaningfully contribute to as well as benefit from taking part in the labor force, excluding the agricultural labor force. Finally, the demand for workers with post primary education, particularly tertiary education, is increasing as a result of skill-based technological change and the growing importance of knowledge.[334]

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[331] Grown, Caren, Geeta Rao Gupta and Aslihan Kes 2005; Tilak, Jandhyala B. G. 2006.

[332] World Bank 2006.

[333] Kaneko, Motohisa 1984.

[334] World Bank 2006. p.68.

Overall Discussion

" … regions of the world which have achieved the most economic and social progress over the past several decades are those … that have most successfully promoted equal educational achievements for men and women. … Conversely, regions that have lagged behind in their growth … have lagged badly in their relative investments in women's schooling, thus limiting women's contributions to economic and social progress."

- T. Paul Schultz[335]

"... on their own, the forces of development and modernization do not necessarily lead to a rapid reduction in gender inequalities"

- Dreze and Sen[336]

Education was not widespread, even at the primary level, before World War II in most countries of Asia. Much of it was under colonial rule and as we saw massification of education was never a priority of the colonial rulers. They however sought to have a tiny educated elite class which could act as the useful interface between the rulers and the ruled. Whatever educational spread was there was garnered, by and large, by men. Though there are notable exceptions, in most of the countries that we covered, massification of education is largely a post World War II phenomenon; likewise girls and women made tremendous progress in imbibing education largely after decolonization in the post World War II era when as sovereign nations they went for modernization.

There were of course significant differences in the way education spread in these countries before World War II. Primary education expanded rapidly in Japan, the Philippines, Sri Lanka, Taiwan and Thailand as seen from the enrollment rates. The progress was moderate in Hong Kong, Korea, and the Malaysian settlements and was even slower in the rest of Asia as table no. 56 depicts. What was the kind of educational spread that the colonial powers promoted, however small a share this accounted for, of the population? Belgium, Britain, the Netherlands and Portugal sought to create primary schools to train clerks, secretaries, craftsmen etc; France was more concerned about secondary-level schooling for the creation of an elite well versed in

[335] Schultz, T. Paul. 2002. pp. 207-225, 2002.

[336] Dreze and Sen, 1996, p.161.

French language and culture.[337]

Table no. 56
Primary enrollment Ratios for Asian countries, 1870-1940

Country	1870-75	1880	1890	1900	1910	1920	1930	1935-40
China						4.5	10.3	12.4
Hong Kong			16.4	12.0	10.6	16.7	26.2	22.9
India	1.9	3.6	4.4	4.7	6.5	7.8	11.3	12.3
Indochina (Laos, Cambodia, Vietnam)				0.5	1.0	2.8	6.9	10.8
Indonesia (Dutch East Indies)		1.0	2.0	2.5	3.7	7.0	12.2	13.3
Japan	19.7	30.3	34.5	49.3	59.2	60.3	60.9	60.5
Korea					1.1	3.8	10.8	23.4
Malaysia					7.5	8.9	19.4	24.6
Myanmar (Burma)	4.0	9.4	8.5	11.5	11.8	10.3	13.4	13.3
Philippines				19.3	28.4	35.8	32.4	44.8
Sri Lanka (Ceylon)	6.9	11.9	17.6	21.9	30.2	35.4	42.8	53.6
Taiwan (Formosa)				2.0	3.1	19.5	26.1	52.8
Thailand (Siam)			0.5		5.8	7.1	24.1	52.6

Data Source: Benavot, Aaron and Phyllis Riddle 1988.
Note: Indonesia, 1880, refers to pupils in Java and Madura only.
Indochina, 1910-20, excludes private pupils.
Malaysia, 1870-90, includes the Straits Settlements only; 1900-40 includes the Ferderated Malay States.
Myanmar 1870, includes enrollment in primary and secondary schools; 1920-40, involves an important redefinition of the primary school system.
Philippines, 1910, excludes some private pupils.
Taiwan, 1910-30, refers to the primary and secondary school enrollments combined.

[337] Benavot, Aaron and Phyllis Riddle 1988.

Why might it be important to look at education from a historical perspective? First, there is a high correlation between the past and the present. For instance, the correlation coefficient between primary enrollment in 1900 and average years of education in 1985–1995 was 0.79. Another reason is that historical experiences can influence present-day policy choices. Using data from the 1950s to the 1990s, it has been found that the districts in India where land rights and tax revenue collection were handed over to landowners by the British colonial authorities in the 19th century tended to invest less in health and education even after independence. Also, rather than focusing on institutions, it may be more productive to look at historical sources of polarizations and "self-perpetuating constituencies" among population subgroups, which could be the root cause behind the persistence of underdevelopment. In many instances, it is not so much the issue of what policies to pursue, but more one of finding ways of garnering the political consensus to pursue the appropriate policies.[338]

As the above discussion has emphasized, to understand some of the institutional weaknesses that may explain current education deficiencies, it may be necessary to take a broader view of past trends and "initial conditions." However, even though history can matter, several countries have defied these initial condition deficiencies.[339] Understanding how these countries overcame their disadvantages and deviated from the norm can yield important insights to guide policy makers. Following World War II, and as developing countries began to gain independence, governments in the region tended to progressively increase their involvement in the social sector. In 2000, the bulk of primary school enrollment in the region was public as was the share of overall education expenditure.

Colonial Origins of Sri Lanka's educational advantage over India is noteworthy. Sri Lanka's adult literacy rate was an impressive 90.7% and its net primary enrollment rate was 97.2% and the average number of years of education in the population was 6.1. In contrast, India's adult literacy rate was an abysmal 61.0%. This situation has improved recently. India's net primary enrollment rate is now a respectable 90%. Nevertheless, the population on average still has only about 4.8 years of education. The roots of these disparities can be seen as far back as 1900 when Sri Lanka was far ahead of India in enrollment rates. What explains the historical origins of

[338] Asian Development Bank 2006a.

[339] for example, Republic of Korea and Malaysia.

differences in education attainment between the two countries, and especially so given the fact that both were British colonies?

One important difference could be the extent of local democratic participation. Britain introduced universal adult suffrage in Sri Lanka in 1931. In contrast, in 1919, suffrage in colonial India was extended only to the relatively privileged classes, namely, the educated and those owning land. Even after independence one finds that public funds favor tertiary education over mass primary schooling in India. One argument is that India's local democratic institutions have made it difficult for the underprivileged to voice and influence policy changes. However, almost all the Asian countries made progress in the 1990s as seen in the following Table no. 57

Table no. 57
Youth literacy rates in Asian countries, 1990 and 2000
(Age group15-24)

Country	1990				2000			
	Literacy rate (%)			Gender gap (M-F)	Literacy rate (%)			Gender gap (M-F)
	Total	Male	Female		Total	Male	Female	
Bangladesh	44	55	32	22	51	61	40	21
China	95	97	92	6	98	99	96	3
India	64	73	54	19	73	80	65	15
Indonesia	95	97	93	3	98	98	97	1
South Korea	100	100	100	0	100	100	100	0
Lao PDR	55	72	38	35	70	83	58	24
Malaysia	95	95	94	1	97	97	98	0
Myanmar	88	90	86	4	91	91	91	1
Nepal	46	66	27	39	60	76	42	33
Pakistan	49	64	33	31	64	77	50	27
Philippines	97	97	97	0	99	98	99	0
Sri Lanka	95	96	94	2	97	97	97	0
Thailand	98	99	98	1	99	99	98	1
Viet Nam	95	95	95	1	97	97	97	0

Source: UNESCO 2002.

The recent basic economic indicators of the countries that we cover is given in Table no. 58.

Table no. 58

Size of the national economies in Asia, 2004

Country	Population Millions	Surface Area Sq. km	Population Density People per sq, km	Gross Nation Income		PPP Gross Nation Income	
				$ Billions	$ per capita	$ Billions	$ per Capita
Bangladesh	139	144	1,069	61.3	440	274	1,970
India	1,080	3,287	363	673.2	620	3,369	3,120
Nepal	27	147	186	6.6	250	39	1,480
Pakistan	152	796	197	90.7	600	330	2,170
Sri Lanka	19	66	300	19.5	1,010	82	4,210
China	1,296	9,598	139	1,938	1,500	7,634	5,890
Japan	128	378	351	4,734.3	37,050	3,809	29,810
South Korea	48	99	487	673.1	14,000	987	20,530
Indonesia	218	1,905	120	248	1,140	757	3,480
Malaysia	25	330	76	112.6	4,520	242	9,720
Myanmar	50	677	76				
Philippines	82	300	274	95.1	1,170	404	4,950
Singapore	4	1	6,329	105.0	24,760	116	27,370
Thailand	64	513	125	158.4	2,490	222	2,700
Vietnam	82	332	252	44.6	540	222	2,700

Source: World Development Indicators 2006

The basic indicators of education and the social indicators are given in Table no. 59.

Table no. 59

Performance on the education front and other indicators in Asia

Country	Primary Education completion rate %		Ratio of female to male enrollments in primary and secondary schools		% of children under age 5 who are underweight		Under 5 mortality rate per 1,000 live births	
	1991	2004	1991	2004	1989-94	2000-04	1990	2004
Bangladesh	49	73		106	68	48	149	77
India		84	70	88	53		123	85
Nepal	51	71	59	85		48	145	76
Pakistan				73	40	38	130	101
Sri Lanka	94		102	102	38	30	32	14
China	103	99	87	98	17	8	49	31
Japan	101		101	100			6	4
South Korea	98	105	99	100			9	6
Indonesia	91	101	93	98		28	91	38
Malaysia	90	95	101	105	22	11	22	12
Myanmar		72	96	99	31	32	130	106
Philippines	86	98	100	102	30	28	62	34
Singapore			95			3	8	3
Thailand			95	98	19		37	21
Vietnam		101		94	45	28	53	23

Source: Word Development Indicators 2006

The existing current inequalities in education are seen in Table no. 60. As is obvious, barring South Asia other regions as well as Sri Lanka have pretty much reduced the inequalities. In higher education women outscore men in Malaysia, Thailand and Philippines.

Table no. 60
Education at different levels and share of females for Asian countries, %

Country	Primary education		Secondary education		Tertiary education	
	Total	%F	Total	%F	Total	%F
Bangladesh	17,561,828	49.7	11,024,326	51.3	877,335	32.0
China	121,662,360	47.2	95,624,760	46.8	15,186,217	43.8
India	125,568,597	46.8	81,050,129	42.6	11,295,041	38.4
Indonesia	29,050,834	48.7	15,872,535	49.0	3,441,429	43.9
Japan	7,268,928	48.8	8,131,217	48.9	3,984,400	45.6
Korea	4,185,330	47.0	3,645,617	47.4	3,223,431	36.6
Malaysia	3,009,09	48.7	2,300,062	51.3	632,309	55.1
Myanmar	4,889,325	49.7	2,382,608	48.1		
Nepal	3,928,684	45.4	1,822,063	41.9	124,817	24.1
Pakistan	14,044,719	40.0	5,734,293	40.0	401,056	43.2
Philippines	12,970,635	48.6	6,069,063	51.5	2,427,211	55.3
Sri Lanka	1,764,300	48.9	2,344,960	50.7		
Thailand	6,109,642	48.3	5,365,554	49.3	2,205,581	52.9
Vietnam	8,841,004	47.5	9,265,801	47.4	797,086	42.8

Source: United Nations 2005

Table no. 61 gives the details inequalities of education in larger detail.

Table no. 61
Gender inequality in education in Asian countries

Country	Adult literacy		Youth literacy		Net primary enrolment		Net secondary enrolment		Gross tertiary enrolment	
	Female rate (% ages 15 and older) 2004	Female rate as % of male rate 2004	Female rate (% ages 15-24) 2004	Female rate as % of male rate 2004	Female ratio (%) 2004	Ratio of female to male 2004	Female ratio (%) 2004	Ratio of female to male 2004	Female ratio (%) 2004	Ratio of female to male 2004
Japan					100	1.00	100	1.01	51	0.89
Singapore	88.6	92	99.6	100						
South Korea					99	0.99	88	1.00	67	0.61
Malaysia	85.4	93	97.3	100	93	1.00	81	1.14	38	1.41
Thailand	90.5	95	97.8	100					44	1.17
China	86.5	91	98.5	99					17	0.84
Philippines	92.7	100	95.7	101	95	1.02	67	1.20	32	1.28
Sri Lanka	89.1	97	96.1	101	98	1.00				
Indonesia	86.8	92	98.5	100	93	0.98	57	0.99	15	0.79
Viet Nam	86.9	93	93.6	99	92	0.94			9	0.77
Mongolia	97.5	100	98.4	101	85	1.01	88	1.14	49	1.64
India	47.8	65	67.7	80	87	0.94			9	0.66
Cambodia	64.1	76	78.9	90	96	0.96	22	0.73	2	0.45
Myanmar	86.4	92	93.4	98	87	1.01	36	0.95	15	1.77
Laos	60.9	79	74.7	90	82	0.94	34	0.85	5	0.63
Pakistan	36.0	57	54.7	72	56	0.73			3	0.80
Bhutan										
Bangladesh					95	1.03	51	1.11	4	0.50
Nepal	34.9	56	60.1	75	73	0.87			3	0.41

Source: UNDP 2006

One important indicator that shows why the primary education system

developed or did not develop is the commitment that the state displayed towards the spreading of basic education. The allocations for education can be seen as an indicator of the commitment of the state towards education. Also the breakup in terms of primary, secondary and tertiary will give us an idea of priorities of the state. The relevant figures are given in Table no. 62.

Table no. 62
Public Spending on education in Asia

Country	Public expenditure on education				Current public expenditure on education by level (% of all levels)					
	As % of GDP		As % of total government expenditure		Pre-primary and primary		Secondary		Tertiary	
	1991	2002-04	1991	2002-04	1991	2002-04	1991	2002-04	1991	2002-04
Japan	...	3.7								
Singapore	3.1	...	18.2							
South Korea	3.8	4.6	25.6	16.1	44.5	35.6	38.6	40.8	7.2	14.7
Malaysia	5.1	8.0	`18.0	28.0	34.0	29.3	34.9	33.2	19.9	36.5
Thailand	3.1	4.2	20.0	40.0	56.2	...	21.6	...	14.6	
China	2.2		12.7							
Philippines	3.0	3.2	10.5	17.2		59.5		24.6		13.7
Sri Lanka	3.2		8.4							
Indonesia	1.0	0.9		9.0		39.6		41.6		19.2
Viet Nam	1.8		9.7							
Mongolia	11.5	5.6	22.7			43.3		31.9		19.4
India	3.7	3.3	12.2	10.7						
Cambodia		2.0								
Myanmar										
Laos		2.3		11.0		58.5		23.9		9.8
Pakistan	2.6	2.0	7.4							
Bhutan										
Bangladesh	1.5	2.2	10.3	15.5		39.0		49.5		11.5
Nepal	2.0	3.4	8.5	14.9		53.4		27.5		12.4

Source: UNDP 2006

Figures for Malaysia are quite impressive in terms of total allocations although now it is spending more on the tertiary sector. Barring Bangladesh, Pakistan and Indonesia all the countries covered are spending over 3 percent of their GDPs on education. With educational attainments of their population quite low, Pakistan needs to focus on more spending on education as well as move away from the over investments in the elite primary schools and higher educational institutions. Though Bangladesh has done well of late with regards to gender education through innovative schemes, it has miles to go. The Indian state has abdicated its responsibility towards education. Much of the achievements of the better performing states like Kerala, Himachal Pradesh can be traced either to the local government's initiatives or to historical or other factors. Additional indicators of education inputs are given in Table no. 63

Table no. 63
Education Inputs in Asian countries

Country	Public expenditure per student % of GDP per capita						Public Expenditure on Education 2004		Trained teachers in primary education % of total 2004	Primary Pupil-teacher ratio Pupils per teacher 2004
	Primary		Secondary		Tertiary					
	1991	2004	1999	2004	1999	2004	% of GDP	% of total govt expenditure		
Bangladesh	..	7.2	12.7	13.7	47.2	33.8	2.2	15.5	51.2	54
India			21.6		75.7					41
Nepal		12.7	13.5	10.7	144.9	72.7	3.4	14.9	30.5	40
Pakistan							2.0			47
Sri Lanka										23
China			12.7		99.2				96.8	21
Japan		22.2	20.5	21.7	14.9	17.1	3.6			20
South Korea	11.8	16.3	15.6	23.7	8.3	5.0	4.2	15.5		30
Indonesia		2.9	8.7	5.6	21.9	15.6	1.1	9.0		20
Malaysia	10.1	20.2	22.3	28.3	83.3	102.4	8.1	20.3		19
Myanmar			7.1		29.0				65.0	33
Philippines		11.1	10.7	9.2	15.0	14.5	3.2	17.8		35
Singapore										
Thailand	11.6	13.8	11.5	13.0	35.5	22.7	4.2	27.5		21
Vietnam							4.4	17.1	87.0	23

Source: World Development Indicators 2006

The one good measure about educational spread as well as gender parity is the figure for mean years of schooling. Unfortunately, we do not have the figures for all the countries. The available figures are given in Table no. 64. Sorting of the countries have been done on the basis of the value of the Becker's coefficient.

Table no. 64

Becker's Coefficient of Discrimination for Asian countries

Country	**Becker's coefficient**	Survey Year	Share of total population by years of Schooling				Mean Years of Schooling				
							By location			By gender	
			0	1-6 Yrs	7-12 Yrs	13 or above	Total	Urban	Rural	Male	Female
Nepal	2.18	2001	0.64	0.17	0.17	0.02	2.46	5.38	2.09	3.88	1.22
Pakistan	1.5	2001	0.59	0.15	0.21	0.05	3.51	5.95	2.43	5.05	2.02
India	0.82	1998/ 2000	0.41	0.20	0.31	0.08	5.03	7.78	3.93	6.50	3.57
Bangladesh	0.70	1999/ 2000	0.46	0.26	0.24	0.04	3.92	6.31	3.29	4.94	2.90
China	0.24	2000	0.07	0.33	0.55	0.05	6.54	8.53	5.18	7.22	5.82
Indonesia	0.18	2002	0.09	0.50	0.34	0.07	7.38	9.04	5.85	7.99	6.77
Vietnam	0.14	2000	0.06	0.34	0.57	0.02	6.96	8.48	6.44	7.43	6.53
Thailand	0.09	2000	0.05	0.47	0.34	0.15	6.89	8.97	5.79	7.19	6.62
Japan	0.04	2000	0.00	0.11	0.53	0.36	11.74	11.99	10.79	11.95	11.52
Philippines	-0.01	1998	0.03	0.32	0.46	0.19	8.77	9.94	7.41	8.71	8.84
Sri Lanka	-0.06	2002	0.00	0.25	0.57	0.18	9.22			8.94	9.47

Data source: World Bank 2005c.

Notes: a. Share of total population by years of schooling gives the percent of the population having completed the reported number of years of schooling at the time the survey was taken.

b. Mean years of schooling gives the arithmetic mean for years of formal schooling for the total population.

The "ranking" we get gives us some clue on where each country stands

with respect to the others.[340] Nepal being the worst performer should not be a surprise as it started almost from zero in the early 1950s. It had no legacy of even a bare educational system in place when it started. That Pakistan is way behind others has already been brought out and it is confirmed here. The surprise is that India should be next worser than Bangladesh, but this is closer to reality if we take the *entire* country of India. The weight of the poorly performing countries in India is quite high and they tend to eclipse the better performance of others. As one would expect, Japan posts a low figure. China's lead over India is well known and it is hardly surprising that it is better placed. While Indonesia posts a respectable ranking, it is Vietnam which gets the credit for doing extremely well in the last two decades. Thailand and Japan offer few surprises as their early start is well documented. One can only wonder how Thailand would have done if it did not falter for sometime after a promising start. Philippines with its legacy of widespread schooling and near absence of discrimination against girls in its recent history and Sri Lanka with the early and enlightened start in the early 20th century show *negative values* or in other words women have done even better than men. Neither country shows any ill effect caused by educational spending indicating that it is more than the will and commitment and absence of cultural impediments than a lack of resources, or the fact that the country is poor.

What does this mean for the modernization attempts of the countries in question? Answers to some of the relevant indicators are given in Table no. 65 which clearly shows that with increasing levels of education, women are able to contribute much more to the society. Clear correlations are seen with levels of women's education and infant mortality rates, under-5 mortality rates, fertility rates, use of modern conception, knowledge of HIV/AIDS, and increased health awareness.

[340] The data of various coutries are not strictly comparable as the years are different and there could be definitional differences as the World Bank cautions. *Broad comparisons* however should be possible. We also find that this ranking is roughly in correspondence with the picture we get using other evidence.

Table no. 65
Indicators of Maternal and Child Health by level of Women's Education in Asian countries

	Bangladesh (1999/2000)	India (1998/99)	Indonesia (1997)	Nepal (2001)	Philippines (1998)	Viet Nam (1997)
Infant Mortality Rate, per 1,000 live births[a]						
No Education	91.9	87.0	77.5	84.6	78.5	48.8
Primary	74.5	66.9	58.8	61.0	45.1	43.3
Secondary or higher	54.7	42.2	28.0	39.1	28.3	29.0
Under-5 mortality, per 1,000 live births[a]						
No Education	130.4	124.5	108.3	120.7	135.7	73.8
Primary	99.9	86.0	78.9	73.5	73.0	58.3
Secondary or higher	67.5	50.6	35.2	50.2	39.0	36.5
Fertility, average number of children ever born for women aged 40-49						
No Education	5.8		4.3	5.6	5.4	5.1
Primary	5.7		4.6	4.5	5.5	4.5
Secondary or higher	4.3		3.6	3.4	3.6	3.3
Current use of modern contraception, percentage of currently married women aged 15-49						
No Education	41.7	38.4	42.7	33.5	9.3	42.4
Primary	44.3	49.1	56.0	37.7	25.4	50.3
Secondary or higher	47.3	47.2	54.4	42.7	30.2	59.1
Knowledge of HIV/AIDS, percentage of women ever having heard of HIV/AIDS[b]						
No Education	6.4	16.5	13.6	36.1		53.9
Primary	17.1	45.7	42.6	74.1		84.0
Secondary or higher	59.2	80.2	88.0	95.1		96.5
No consultation for antenatal care, percentage of births in the 3 years before the survey						
No Education	75.2	50.5	20.9	60.4	32.4	70.8
Primary	62.2	23.6	7.6	35.7	14.0	43.4
Secondary or higher	35.5	9.5	1.4	13.3	3.6	17.0
Deliveries in health facilities, percentage of births in the 5 years before the survey						
No Education	2.9		5.1	3.7	4.7	
Primary	3.8		11.4	10.8	12.6	
Secondary or higher	13.3		41.1	30.9	46.9	

Data Source: Asian Development Bank, 2003.

Note: a. Infant (0-1 year) and under-5 mortality rates for the 10-year period preceding the survey.

b. For Bangladesh, data refer to 1997/98.

Table no. 66 presents the probabilities of being in the lowest 40% and highest 20% of the wealth distribution (as measured by a composite wealth index) given by the level of education of the head of the household. This clearly shows that education is strongly linked to family wealth. One aspect that clearly stands out is that when the household heads had completed secondary education their probability of being in the top quintile dramatically rises.

Table no. 66

Probability of Being in Poorest 40% and Wealthiest 20% by Level of Education of Head of Household for three Asian countries

	Level of Education of Head of Household					
	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Bangladesh (1997)						
Poorest 40%	56.7	39.3	30.5	22.4	11.4	3.4
Wealthiest 20%	7.3	12.8	23.0	30.1	48.4	69.31
Indonesia (1997)						
Poorest 40%	62.5	52.7	39.8	29.0	13.3	3.2
Wealthiest 20%	4.4	7.1	14.1	27.0	50.2	75.0
Nepal (1996)						
Poorest 40%	47.1	39.7	32.8	26.8	12.3	4.7
Wealthiest 20%	12.8	19.3	20.2	31.1	51.7	73.5

Data Source: Asian Development Bank, 2003.

What are the issues that flow from what we covered so far? Colonial neglect of education and the concomitant low base of educational attainments do not qualify as an excuse for the poor performance once modernization attempts began after World War II. The past cannot be an alibi for the poor performance in the present. A number of countries have shown that it is possible to post substantial progress in the diffusion of education along with gender equity, the outstanding example being Sri Lanka.

Availability or otherwise of resources is not the constraining factor. As Bangladesh demonstrated, it is possible to post exemplary progress with little money. The Stipend Program it adopted was not costless but was not financially crippling either. Likewise the Mid day Meal Scheme which was

begun in South India has shown excellent results and has spread to other parts of India and Bangladesh as well.

The commitment of the state is more important than the issue of whether resources are available.[341] Wherever we find the commitment of the state in spreading education, people have responded and released community resources. This is clearly seen in the Japanese context where we find initial opposition to education because either the contribution of child labor to agricultural operations was lost or because the fees were unaffordable. However, the opposition wears out very fast as the population came to realize that the state was committed to the cause of the spread of education and was not going in to budge. The state had stood firm in the face of protests as it was convinced of the importance of education in the modernization it had embarked on. Once people saw this they too were convinced and joined in the efforts opening up the community resources.

Cultural factors are important and need to be taken into account when attempts at educational spread with gender equity are made.[342] Cultural biases against the girl child are widely prevalent and surprisingly similar. In Bangladesh, investments in the girls child's education is looked upon as "watering a neighbor's tree" while in Vietnam girls are a "flying duck" as they are lost after marriage. The cultural perception probably account for the remaining gender discrimination in education in Vietnam as it has most certainly wiped out the gender gaps in enrollments at the primary level.

Educational attainment does not translate into larger gender participation in the labor market for girls and women. Education alone does not necessarily empower girls and women. While literacy levels are high, most women in Sri Lanka are subordinated in the domestic division of labor.[343]

Small incentives work. The prescription for spreading education in poorer districts or among the urban poor or to encourage the poor to send the girl child to school is to have policies that spread immediate pressures over time could be beneficial. For example, school fees that require continuous small payments rather than large payment may make it easier for parents to finance schooling. Second, programs that make schooling more attractive to students may provide a low-cost way to make it easier for parents to send children to school. For example, a school meals programme make school attendance attractive to children and can lessen the pressure on parents to

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[341] See Balatchandirane 2000 for a case study of Japan and India on this issue.

[342] Baden, Sally with Kirsty Milward 1997.

[343] Heward, Christine. 1999a.

constantly encourage their children to go to school. Cheap inputs that make schooling more attractive to children may have large effects.[344] School meals have a major positive effect on female school participation and are a definite incentive to attract them to school.[345]

There can be no “one-size-fits-all” kind of policy for eliminating gender discrimination in education. In large countries like India and China, this would be obvious. Even in Pakistan the differences between the well developed regions and the North Western Provinces are stark.

The state has a strong role to play. Public provisioning of education for the first nine years is a must. Education has to be both compulsory and free. Quality is an important issue. When the public provision of education is of good quality parents do not seek private providers. It is the failure to provide quality education that affects the girl child. In India as the rural parents find that the educational quality of government schools are poor, they send their children to private schools where they have to pay, but the quality of education is better. For the poor when there have to send a boy and a girl to school and pay, it is the girl who ends up staying at home or being sent to a government school.

In their comparative field studies of the Indian states, Jean Dreze and Amartya Sen have shown that growth-oriented polices do not improve the quality of education, particularly female education, in the absence of additional focused state action. Thus states such as Gujarat and Haryana that have done well in fostering economic growth often do quite poorly in basic education, and Kerala, whose economy has not grown well, can boast 99 percent literacy for both boys and girls in adolescence. It is intelligent state action that has delivered.[346]

Education is expensive to the poor. Educational expenses are high seen from the poorer families point of view. They however go to extraordinary lengths and sacrifices to keep at least one child in school. It is the girl child who loses when the public education is of low quality or is not available at an easy distance. For the poorest and the slightly better off the costs, both monetary and non-monetary of education are a great burden on the households and act as a significant barrier to education. There are a number of direct and indirect costs involved. Education might be free, but the schools still charge money in the name of development funds, contributions and the

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[344] Mullainathan, Sendhil 2006.

[345] Dreze, Jean and Geeta Gandhi Kingdon 1999.

[346] Nussbaum, Martha C. 2003.

like. When we see the burden of costs as a share of the discretionary household expenditure it was 32% in the case of Bangladesh and 17% in the case of Nepal. The poor make very sophisticated choices based upon how they view the quality of education, value for money and investment potential. Parents see quality primarily in terms of the availability and competencies of teachers.[347]

Much can be learned from one region from another. The East Asian and the Southeast Asian region offer a number of lessons for the South Asian one. In the overall policy matrix, the earlier two had expanded basic education rapidly in the postwar period and also improved its quality (in varying degrees). There were other steps taken, which led to a rise in labor productivity rise, changing household behavior, technological capability acquisition which combined with the rise in education helped achieve economic growth. As growth took place, demand for manufactured exports rose which demanded more skilled labor. This led to an increased level of investment in education, leading to a virtuous cycle. Broad based educational expansion ensured low levels of inequality to begin with; this led to rise in the supply of, and demand for education, creating another virtuous cycle.[348] Needless to add, the elimination of gender discrimination in education becomes very easy under such conditions. Thus while specific policies aimed at enhancing the participation of the girl child in school are of course important, the overall policy framework is also important as it can result in an environment where a number of facilitating factors are enabled.

One way which seems to work without fail is to ensure that there are rising incomes. This automatically leads to a reduction of gender inequality. An increase in income is found to lead to a reduction of gender inequality.[349] So any policy measure aimed at raising the income levels of the population, both male and female, itself will go a long way to the reduction of gender inequality including educational inequality.

In the Japanese experience we find that while there was some discrimination against the girl child when it came to imparting literacy and educational attainments, this was rapidly corrected. In fact if the Japanese had corrected the imbalance earlier, there could have been technology improvements in industries like the textiles which had the majority of labor as women. In the period preceding World War II, the female labor force was

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[347] Boyle, Siobhan, Andy Brock, John Mace and Mo Sibbons 2002.

[348] Birdsall, Nancy, David Ross, and Richard Sabot. 1993.

[349] Dollar, Devid, and Roberta Gatti 1999 ; Rammohan, Anu and Peter Roberson 2001.

associated with low-technology and low-wage industries like coal, textiles, silk-reeling etc. Employers were not keen on introducing technological improvements. In the post-War War II period, it is hardly an exaggeration to say that the distinctly high educational attainments of women helped the absorption of newer and newer technology. Female labor force came to replace male labor force in a number of fields. This would be indicative of the fact that even if countries like India do not seem be concerned about the girl child's education on grounds of ethics relating to equity, enlightened economic interest should be a motivating factor.[350]

One very important aspect that stands out from the Chinese experience is that the reduction of educational disparities was crucial in leading to the relatively more successful experience of literary expansion. That there is a lot of scope in this regard for India is seen from the fact that if we compare the literacy rates for the most privileged groups and least privileged groups in these two countries. The most privileged group namely, urban males, registered a literacy rate of 94 percent in China and 81 percent in India in 1990-91. The least privileged group, rural females, had comparable figures of 63 and 31 respectively. Thus between the two countries, while the difference in the most privileged group is minor, that between the least privileged is substantial. For India this is the area which has to be tackled on a priority basis.

In the case of China, the period preceding the economic reforms of the late 1970s was one of low income levels and slow economic growth. The rise of educational levels during that period was more a result of the strong policies of the Chinese government towards widespread and equitable dissemination of basic education. However in the post-reform period, the impetus came from the rapid growth of private incomes which came to provide the basis of further educational improvement. From this it is tempting to argue that for a developing country in the early stages of development, what is needed in the beginning is a serious effort on the part of government to attempt to provide widespread and equitable education to its population. After a threshold level of literacy rate attainment takes place, the income earning capacity of the population shoots up. This becomes the motive force for further educational attainments and rise of literacy rates in the country. Thus if the government is able to provide the initial impetus correctly in the sense of equitably then the momentum seems to be self building. The future inputs of the government may not be as large as the initial ones.

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[350] Balatchandirane, 1998.

However, a case can be made out to show that the political leadership in the Indian context has not been exactly in a hurry to impart education to all its citizens. Despite the obvious economic benefits, other considerations could come into play stymieing the efforts at rapid literacy diffusion.[351] Thus, popular pressure on the government has a crucial role to play.

There have been a number of studies that point out that there are positive externalities when a population is given primary education, while proving this has not been easy. This obviously does not mean that the external effects are small; nor do they mean that they do not exist just because measuring them is difficult. Nichoas Barr shows how it is not possible to measure educational outputs, educational inputs or the connection between them. Establishing the causal linkage between education and its outputs is not easy. He however holds that just because the large number of externalities cannot be measured does not lead to the conclusion that they do not exist.[352] And yet the external benefits of women's education have been found to be "overwhelming".[353]

Female education has a particularly important role to play in promoting economic development in a broad sense. It allows females to become part of the work force, to increase their productivity and contribute to economic growth. A number of studies show that countries with a large gender imbalance in their education have ended up growing slower than other countries. Educated women tend to have children who are better educated, children who are healthier, and also tend to have fewer children.[354] The benefits of educating the girl child are high. A country loses tremendously when it neglects the education of girls and women.

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[351] Balatchandirane.G., 2000.

[352] Blaug, Mark 1976, Boissiere, Maurice 2004, Barr, Nicholas 2000.

[353] Bhat, R.L. and Namita Sharma 2005.

[354] Klasen, Stephan and Claudia Wink 2005.

Conclusion

"As for the illiteracy among the women, its cause is not mere laziness and inertia as in the case of men. A more potent cause is the status of inferiority with which an immemorial tradition has, unjustly branded her. ... The result is a semi-paralysis of our society. ..."

-Gandhi[355]

The Becker's coefficient of Discrimination seems to accurately depict the gender educational discrimination. The literacy rates of males and females can be used to calculate this coefficient; alternatively, the enrollment ratios can be used. The net enrollment rates are better compared to the gross enrollment rates. While the latter includes all the children in say at the primary level, the former includes only those in the relevant age group. The attendance ratios are even better as they indicate the actual state of affairs; it is possible for boys and girls to be enrolled but they may not be attending school. Thus while the enrollment rates might be large and impressive, the attendance rates would indicate the actual state of the affairs. Another good variable that can be used is the mean years of schooling for boys and girls.

Irrespective of whether we use the literacy rates, enrolment rates, attendance rates or mean years of schooling, it clearly conveys the underlying gender discrimination. Though theoretically the value of the Becker's coefficient can be between zero to infinity, we rarely found values above 4. Even this value indicates an extreme situation where the men are better off compared to women by a factor of five as indicated by any chosen variable. A zero value shows that there is absolutely no discrimination against women. Interestingly, we did find two rare instances of negative values in the case of Philippines and Sri Lanka which record more mean years of schooling for women than men. Becker's coefficient of discrimination would normally be between zero and about 2.0 or so (3 would be very high) once the initial high discrimination that exists when the country starts to modernize, wears off. For countries like Japan, which is the trailblazer for diffusion of education and attainment of gender parity at the primary level in Asia, this value becomes close to zero around 1905. This rapidity in the decrease of the Becker's discrimination coefficient is indicative of the great gender equity that Japan

[355] In the *Harijan*, 18 Feb 1939 as quoted in Kumarappa, Bharatan ed. 1953. p. 80.

achieved in education a century back.

It is apparent that until the time the coefficient comes down below the value of 0.2, gender discrimination in education can be said to persist; this is indicative of a situation where the indicators for women are about 85 percent or more for that for men. Anything above 0.2 or so is high. In other words, the value for the female variable be it attendance rate or net enrollment rate should reach 85 % of the male rate value before we adjudge a country to be close to the elimination of gender discrimination in the access to education. Though a simple measure, Becker's coefficient of discrimination has powerful explanatory value.

We found no straightforward link between the women's education and their increasing labor force participation. The reasons are many. Some of the women do not enter the statistics working in the primary or informal sectors. There are factors which might dissuade women from taking up jobs despite being educated. In fact increased levels of education at the initial stage can lead to the withdrawal of women from the work force. But with more education the trend seems to be that women's labor force participation rates rise. Despite the difficulties of strict comparability between various countries we can hold the above to be true. The attainment of gender parity in education does not mean that labor force participation rates will equalize. But without parity in education, women's status in society is very low plus loss to the society very high.

There is much that each country in Asia can learn from others as well offer them. Without listing all that we discussed we can summarize the major issues. Countries that pushed forward with free (or near free) and compulsory education at the primary levels were better at eliminating gender discrimination. It is a myth that educating a population is unaffordably expensive for the government. Even small economic incentives go a long way in reducing gender disparities in education. Education is expensive for the poor even if it is given "free" as there are other associated costs. Policies specifically targeting the girl child in addition to general attempts to raise the educational level of the population should be attempted.

Every country in the world had sizeable gender discrimination in society and especially in the area of educational access, when it started its modernization attempts. Every country that positively attempted to reduce gender discrimination in education enormously benefited by such attempts, economically and otherwise and there is no exception to this. Again without exception, no country in the world has been able to show substantial progress

in modernization, economic and otherwise, without substantially reducing the gender discrimination in education or eliminating it.

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