

**REFORMS IN HIGHER EDUCATION AND
GENDER PARTICIPATION IN POST
INDEPENDENT UZBEKISTAN**

*Dissertation submitted to Jawaharlal Nehru University
in partial fulfillment of the requirements for the award
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MASTER OF PHILOSOPHY

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DECLARATION

I declare that the Dissertation entitled "REFORMS IN HIGHER EDUCATION AND GENDER PARTICIPATION IN POST INDEPENDENT UZBEKISTAN" submitted by me for the award of the degree of Master of Philosophy of Jawaharlal Nehru University, New Delhi, is an original work and has not been submitted so far in part or in full of any other degree or diploma of any other University.

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CERTIFICATE

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DEDICATED
TO
MY PARENTS

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Sravanee Banerjee
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PREFACE

Uzbekistan, one of the five Central Asian Countries got independence in 1991. The achievement of independence had marked influence on the social, economic and political scenario of the country. Uzbekistan saw slow but gradual and consistent development in the socio-economic and cultural system since the nascent stage. The independence of the country ushered in several economic reforms which paved the way for the development of the higher education system and the involvement of the citizens in the higher education system.

This research study is divided into six chapters. Chapter one deals with the background and rationale of the research. A detailed study of the area, socio-economic changes, education reforms and gender participation is pointed out in the first chapter.

Chapter two assesses the Uzbek economy specially the major economic transformations or reforms which catered to the drastic development in higher education system.

Chapter three shows the main characteristics of the education sector and empirically analyze higher education system.

Chapter four points out the gender participation and understand the demand based need for higher education of the country.

Chapter five gives an idea about the different initiatives taken by government and several other NGOs in bridging the gap between male & females in higher education scenario.

Chapter six gives a summary of major research findings.

Thus the six chapters provide a vivid idea about the higher educational reforms and implementation of the reforms in the Republic of Uzbekistan.

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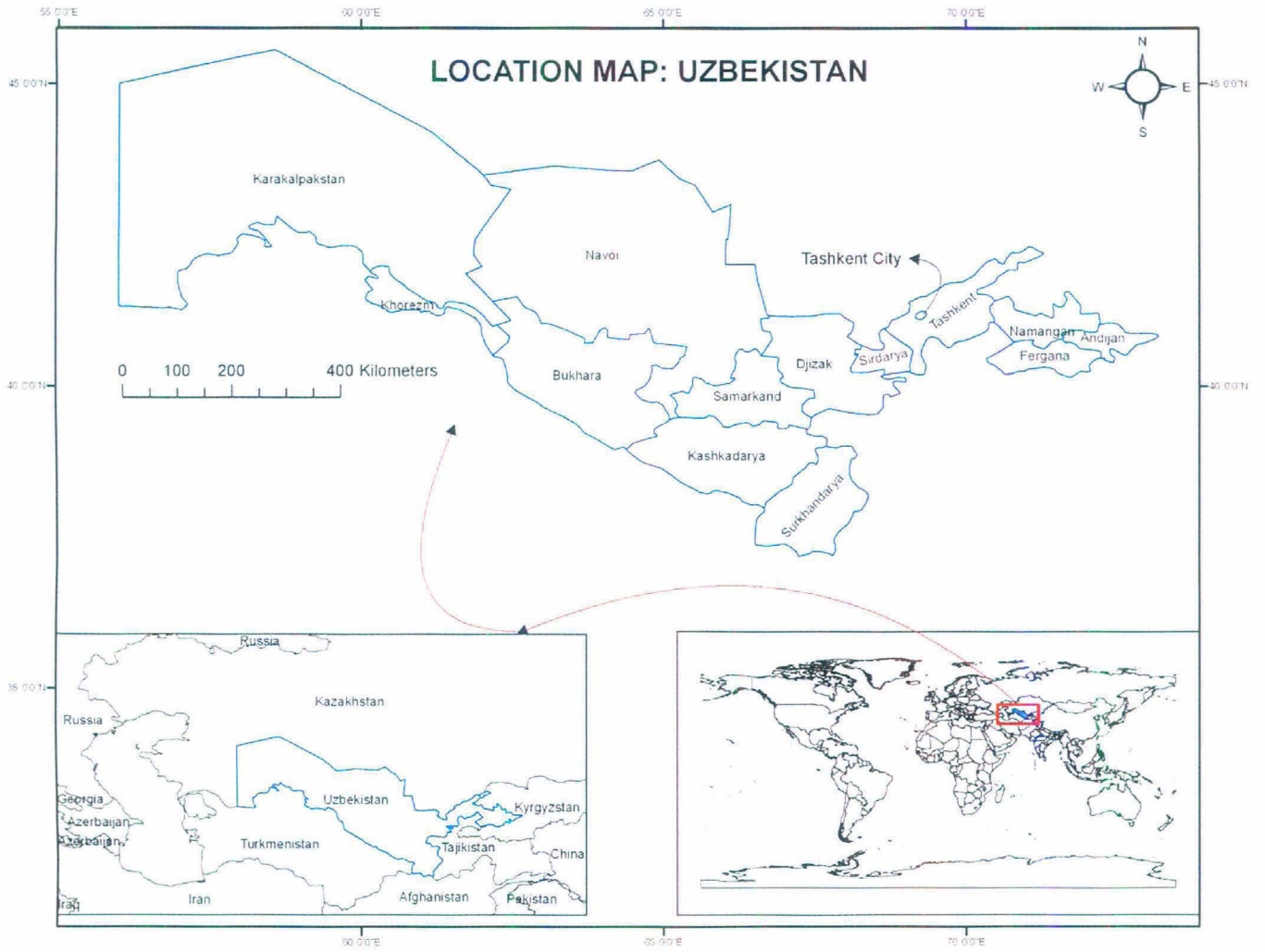
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CHAPTER ONE

INTRODUCTION

1.1 Background

Education and gender participation is the foundation of democratic societies and globally competitive economies because education is the first and foremost factor that affects human potential. It is the basis for reducing poverty and inequality, improving health, enabling the use of new technologies and creating and spreading of knowledge. Higher education and gender participation are the prominent factors that affect socio-economic development thereby ushering in demographic changes & political transformation. Lack of educated population can become an impediment to any country's economic development and hence to the living standard of the people. Thus encouraging the growth of higher education sector by larger investment becomes mandatory for the overall development of the country.

Uzbekistan got its independence in 1991. Since independence, Uzbekistan had the enormous task of constructing its economic and social development policies and building a democratic state for an open civil society paving its way towards a socially oriented market economy. The immediate outcome of independence in Uzbekistan witnessed an outburst of a severe economic crisis resulting in a high rate of inflation, a decline in the production and a rapid increase in employment (Gidadhubli, 1995). While at the time of independence, other CIS countries rushed forward to open up their economies to promote policies oriented towards an era of globalization, Uzbekistan was slow in adopting such initiatives. The primary objective was to achieve self-sufficiency in certain consumption goods particularly that of wheat and energy products. At the beginning of the transition period, Uzbekistan emphasized 'stability at any cost rather than proclaiming economic growth as its main goal' (Spechler, 2000). The economy of Uzbekistan is mainly based on agriculture, which accounts for 35 percent of the GDP and 40 percent of the total employment. Currently, Uzbekistan is a major producer of gold, natural gas and mineral resources like uranium and cotton. Uzbekistan's importance can be very well judged from the fact that it used to account

for about one-third of the Soviet gold production at a time when Soviet Union ranked third in world gold production (Ruziev et al, 2005). Uzbekistan is amongst the ten largest producer of gas and fifth largest exporter of cotton in the world. It has a vast reserve of oil and natural resources like uranium, natural gases etc.

During the post-independence period Uzbekistan's reconstruction process involved, social and economic development within a democratic setup. New economic policies were ushered in. These new economic reforms had a tremendous impact on the education system. The education system was reoriented towards meeting the common national interest and ensuring a better position in the competitive world market. Expenditure on the education sector in Uzbekistan is one of the highest amongst the transition countries and forms 8.8 percent of the GDP. Half of this expenditure is mainly spent on basic education. On the other hand, the higher education receives hardly 5.4 percent out of the total education budget (Dutta, 2007).

Uzbekistan was one of the 189 state members to have adopted the UN's Millennium Development Goals. It became a member of the international community and has been keen to develop a modern system of education and improve the gender participation ratio. Thus reforms in higher education and gender participation needs to be intensely studied for bringing in an overall socio-economic development and political transformation in post independent Uzbekistan.

The republic of Uzbekistan, located at the heart of the Central Asian region is a doubly land locked country and lies between the rivers of Amu-Darya and Syr-Darya. Uzbekistan is the second largest newly independent state in the Central Asian region. It is the most populous of the Central Asian Republics with a population of more than 26 million people. The Republic of Uzbekistan is famous for its great ancient civilizations, historic cities, cultural achievements and architectural splendors. Apart from the region consisting of the Republic of Karakalpakstan and the 12 viloyats Uzbekistan also includes some of the ancient Silk route's main centres such as Samarkand, Bukhara and

Khiva. The country's territory reaches the Caspian Sea and it also includes the southern part of the Aral sea. Covering an area of 447.4 thousand-sq km, Uzbekistan is the second largest newly independent states in the Central Asian region. It covers about 11% of the geographical area of Central Asia. Out of 12 administrative regions "Karakalpakstan" is the largest in area while "Andijan" is the smallest.

The physiography of the country is much diversified. Although a large part is occupied by the extensive desert of Kyzyl-Kum, some of the world's richest irrigated oases also exist in a narrow band of densely populated area in the east. The most important of oases is the Ferghana valley. Important cities are Tashkent, Andijan, Bukhara, Khiva, Kokand, Samarkand etc.

The spatial location of Uzbekistan has both advantage as well as disadvantage of being a landlocked country. Situated at the heart of Central Asia it is an integral part of Central Asian Regional Cooperation programme. Located at the cross-roads of Russia, Pakistan, China, Iran and Turkey and being the reservoir of vast energy and water systems it helps to form an important link between the Republics of the region, acting as the bridge between the west and the Islamic world.

1.2 Population Distribution

As mentioned earlier Uzbekistan is the most populous of the Central Asian Republics with a population of more than 26 million people in 2006. This nation is known for its multiethnic, multi-religious and multilingual population. Uzbekistan contains the largest number of native Turkic people, overwhelmingly outnumbering the other ethnic groups.

Table 1.1**Regional Distribution of Population in Uzbekistan (2006)**

Regions	% of Population
Karakalpakstan	6
Andijan	10
Bukhara	6
Djizak	4
Qashqadaryo	11
Navoiy	3
Namangan	9
Samarkhand	12
Surxondaryo	7
Sirdaryo	3
Tashkent	11
Ferghana	12
Khorzm	6
Uzbekistan	26,032300 (100%)

Source: Dutta Mondira (2007, a)

The population distribution in Uzbekistan is unevenly spread.

Maximum population is concentrated towards the south and the eastern part of the country. Almost a quarter of the total population of Uzbekistan is located in the Fergana Valley and Samarkand regions. Other densely-populated regions include those of Tashkent, Andijan, Qashqadaryo and Namangan (Refer Table No 1.1).

The Republic of Uzbekistan has an added advantage with 54% of the population in the working age group (Refer Table 1.2). Another 39% of the total population is younger than the working age group. The remaining 7% are senior citizens. In Uzbekistan the sex ratio is high. There are 98 males for every 100 females. Though women constitute

more than half (51.4%) of the population of the country, but the male – female work participation ratio in Uzbekistan is hardly balanced. The total labour force of the country registers more than 53% for males in comparison to 47% females (World Bank, 2002).

Table 1. 2
Population Distribution According to Age -group,
2004

Working age	54%
Less than working age	39%
Senior citizen	5%

Source: Dutta Mondira, (2007, a)

Uzbekistan is experiencing an accelerated decline in the trend of overall population growth, fertility and mortality. The demographic development of the country in terms of infant mortality rate, life expectancy at birth shows a positive picture (Refer Table No 1.3). Better life expectancy in women has been observed. The children also have greater chances of survival. Crude death rate has decreased over the years (Refer Table No.1.3).

Table1.3
Uzbekistan – Demographic Components

Year	Life Expectancy at Birth			Infant Mortality Rate (IMR)	Crude Death Rate (CDR)	Sex Ratio
	M	F	T			
1950 - 55	53.1	59.9	56.4	98	13.9	93.4
1970-75	60.6	67.4	64.1	63	9.2	95.6
1995-2000	64.3	70.7	67.5	43	6.6	98.4
2000-2005	64	71	67	37	N.A.	98.5

Source: United Nations, 2006

1.3 Economy

The breakdown in the traditional links of Uzbekistan with other states of Former Soviet Union (FSU) deeply entrenched interdependence of technology, industrial & agricultural production causing a decline in the GDP. As a result Uzbekistan as well as for the Commonwealth as a whole, the National Income Index (NI index) of 1992 became 61 points and the GDP fell to the level of 1977 which was almost 88.9 (Vassiliev, 2001).

Post independence, Uzbekistan adopted mixed economic structure with public and private partnership. Uzbek's economy has been heavily dependent on agriculture, mineral resource, manufacturing of machinery and heavy equipments. Besides cotton, there is a large production of rice, beet sugar, vegetables and fruits. The country's mineral resources include metallic ores such as copper, zinc, lead, tungsten and gold. Since the Soviet period, Uzbekistan has been the major producer of gold. Today Uzbekistan has the sixth largest reserve of gold in the world. Gold also happens to be the second largest export item after cotton and it earns about one fifth of country's foreign revenues.

Uzbekistan along with other Central Asian countries today represents one of the world's last great frontiers for geological survey and analysis. It offers opportunism of investment in the discovery, production, transportation and refining of enormous quantities of gas and oil resources. This country possesses substantial reserves of natural gas, oil and coal. Production of oil increased from 36 thousand barrels per day in 1992 to 74 thousand barrels per day in 2001, while production of liquid natural gases increased from 42,800,000 barrels per day in 1992 to 63,100,000 barrels per day in 2001 (Europa Publications, 2004).

Uzbekistan is rich in manufacturing industry. It is Central Asia's major producer of machinery and heavy equipments. The manufactured products include machines and equipment for cotton cultivation, harvesting and processing, and for use in textile industry, irrigation and

road construction. Cement, textile, chemical fertilizers and tea packaging are some of the other industries.

The country exports cotton, natural gas, oil, silk and fruits as well as manufactured goods such as machines, cement, textiles, fertilizers etc. Uzbekistan is a reservoir of vast energy; water resources and some agricultural produce mainly cotton. It is located on the cross-roads of Russia, Pakistan, Iran, Turkey and China. This helps to form an important link in the neighbourhood and between the other republics of Central Asia. The country is nearly self sufficient in energy resources and in agricultural products. The slow transformation in the economic structure and growth has brought about a stage commonly referred to as the 'Uzbek Puzzle' or 'Uzbek Paradox' (Ruziev et al, 2005).

1.3.1 Economic Reforms

After the demise of the former Soviet Union (FSU) in 1991, Uzbekistan now lurches towards a profoundly different world. Post independence Uzbekistan has adopted a western style democracy and market economy. Independence also brought massive population movement and inter-ethnic tension in Uzbekistan. The migration of skilled agricultural and industrial laborers, as well as the brain drain of highly trained engineers, doctors, teachers etc from the country, the macro economic structure had been severely affected and reduced the productivity in agricultural and industrial sector. Uzbekistan also witnessed an outburst of a severe economic crisis resulting due to transition from Soviet model into market economy. The recession of the economy during the crisis period affected the social sector badly. The share of GDP in education had declined. As a result the development of education system hampered. In addition to this the partial dependence on Moscow for educational funding also contributed to the deteriorating condition of the education system (Evertt-Heath, 2003).

Uzbekistan's structural changes in the economy gave rise to recession. The depth of this was determined by the difficulties in adopting the disproportionately developed, over centralized post soviet economic

machinery to market conditions. High inflation rates, decline in the production and rapid increase in unemployment were the most serious trends within the economy (Karimov, 1997).

Currently Uzbekistan's economy is mainly based on agriculture and it accounts for 35 percent of the GDP and 40% of the total employment. Through comprehensive reforms in agricultural sector, industrial sector, consumer prices and trade policy, Uzbekistan has been strengthening its economy. The year 1995 was the last year of general economic recession in the country (Rumer, 2002).

The GDP of Uzbekistan decreased by just 1.2% compared to 1994, whereas the overall average fall in the CIS was 5%. Therefore it is clear that the fall in the GDP of Uzbekistan was small in comparison to other CIS countries which imply that Uzbekistan's economy was in a stable condition compared to other CIS countries. After 1997, the macro-economic stability was strengthened in the country and conditions were created to enhance economic growth. Thus stability in the economy permitted the Uzbek government to invest in the social sector.

Table No. 1.4
Periodical Reform Types

Phases	Type of Reform
1992-1993	slow
1994-96	accelerated
1996-2001	stalled

Source: Pomfret, 2001

Thus the Uzbek model of transition and economic development path can be divided in three distinct phases: the period of slow and limited reform (1992-93), the period of accelerated reforms (1994-96) and the period of stalled reform (1996-2001) (Pomfret, 20001)(Refer Table No 1.4) . During the first phase (slow reform) there was large scale privatisation and introduction of effective corporate governance. As such no reforms were initiated. During the period of 1994-96, Uzbekistan was in good terms with International Financial Institutions (IFIs) which accelerated the reform process. The stalled reform period were not based on any coherent strategy. The fourth phase is still ongoing.

1.4 Education

Higher education and gender participation policies got redefined in Uzbekistan. The education system has been reoriented towards meeting the common national interest and ensuring a better position in the competitive world market. As mentioned before, expenditure on the education sector in Uzbekistan is one of the highest amongst the transition countries and forms 8.8 percent of the GDP. Half of this expenditure is mainly spent on basic education while higher education receives only 5.4% of the total education budget.

The democratic setup and new economic system brought drastic changes in all aspects of Uzbekistan society and in the individual lives and relations within regions, local community and families. It also transformed the social, demographic and political condition of the country. All these entailed the radical reform of education system in Uzbekistan.

Post independence, the gradual reform in the economy and growth in GDP permitted the Uzbekistan government to develop the education sector of the country. Presently the education system has been reoriented towards meeting the common national interest and is in a better position in the world market. Expenditure on education in Uzbekistan is provided by funding agencies such as the Asian Development Bank (ADB), European Union (EU), UN agencies, British

Council, Soros foundation and various other NGOs. Countries like Japan, U.S.A, and Germany are providing financial help for the up gradation of education and gender participation in Uzbekistan. The pattern of education system is considered as an index of the pace at which the socio-economic transformation of the Uzbek society is taking place.

1.4.1 Soviet Period

Until the early 1990s education was based on the Soviet model but gradual reforms were introduced, including a greater emphasis on Uzbek history and literature. The medium of education system was changed and Latin script got introduced (Europa Publications, 2003). Moreover during the Soviet period, the higher education system was based on the socialistic approaches which regarded education as a reflection of or being in correspondence with the class relations of production. As compared to the western societies U.S.S.R had different education system. Here the government had a monopoly over educational provisions as there were no private educational institutions. Soviet education had attempted to bring down the barriers which deprived the marginalized social and national groups from higher education. Soviet government also gave priority to equal gender participation in education. Higher education in Uzbekistan has shifted from supply driven to demand driven education system. Beside economic growth, the development of education systems in the republic also became one of the priorities in the agenda of the Five Year Plans. Before the advent of Soviets in Uzbekistan, the literacy rate of the country was very poor even less than 3%. In the year 1917 the literacy rate was almost 5% but due to Soviet Government's policy Uzbekistan achieved the universal literacy of nearly 100% in 1970 (Sabahi , 2004).

1.4.2 Current Scenario

The present educational system in Uzbekistan is composed of different levels: primary, secondary and higher education. In post independent Uzbekistan the radical reform process in education started since 1997 with the adoption of new law on education and the National Programme

for Personnel Training (NPPT). The NPPT has reinforced a multilevel higher education system in the country: graduation level and post graduation level. The higher education is also based on secondary specialized education (academic lyceum) and vocational specialised education (professional colleges). Higher education in Uzbekistan is mainly coordinated and funded by the Ministry of Higher and Secondary Specialised Education (MHSSE). Since 1999/2000 the system of higher education and gender participation shows a close relationship although with slow growth.

Though the Uzbek government has started the reform process in higher education with the help of international organization and NGOs, but the higher education sector is still counted as a neglected field of the society. This can be revealed by the mere fact that the Gross Enrolment Rate (GER) in primary general education is more than 98%, at the secondary level GER is 26.48% but by the time of higher education, the GER falls to less than 6 percent.

On the basis of the various stages of transition in education, Uzbekistan can be referred to as area of universal literacy because this country has almost 100% literacy rate for both men and women (UNESCO Statistical Year Book, 2001). Further 82% of the employed population has completed basic education and 34% have higher education. The higher education in Uzbekistan has a century old record with the first university, the Turkistan State University opening in 1920.

Drawbacks in the reform process of higher education can also be identified through the isolated distribution patterns of higher educational institutes in Uzbekistan. The distribution of population in Uzbekistan is mostly concentrated in the south and the eastern part of the country, namely Ferghana and Samarkand, followed by the regions of Qashgadyo and Tashkent. However in comparison, the distribution of the higher educational institutes is mostly concentrated in and around Tashkent City followed by Samarkand to some extent, and rest of the country has very few higher educational institutes.

1.5 Gender Participation

Although literacy rate in the country is high for both sex but the higher education attainment among women seems to lag behind as compared to men. In terms of gender participation within the higher educational system it has been mainly a domain of the men. Being a patriarchal society, the roles of women is circumscribed within the four walls of the house (Dutta, 2006) and they are not allowed to participate in the higher education programme. Out of 254.4 thousand students studying in higher education in 2003, 38.8% were women and 61.2 % were men (State Statistical Committee Report, Uzbekistan, 2004).

In terms of economic performance, the women lag behind the men. Woman constitute more than 50% of the population in Uzbekistan but their share in the income is less than 40% with salaries being 30% less than men. Thus the imbalance in gender participation in higher education and economic sector has had a series of cascading impact on the nation resulting in eroding the future quality of population. Though in the level of economic activity, the participation ratio is not equal among women and men, but due to reforms in higher education and gender participation, the percentage of women employed has been increasing from 43% in 2000 to 44% in 2004 (State Statistical Committee Report , Uzbekistan, 2004).

Thus even after 17 years of independence, the regional cooperation in higher education and gender equality is yet to take off especially at the grass root level. Socio-economic tussles, terrorism, gaps in the information sharing mechanisms, controlled centralized systems and deep rooted traditional strong hierarchical structures within the family, community and society; create major hurdles in the process of establishing a competitive and productive higher education system in Uzbekistan. In such circumstances, to compete with a highly technical and competitive world, extension of education opportunities for both men and women need to be incorporated through a series of education reforms.

According to the Millennium Development Goals (MDG), gender empowerment and gender equality is an important element and needs to be achieved for an over all development of the region. Needless to mention that the involvement of both men and women in the higher education sector must be carefully studied, analyzed and new policies be framed in order to achieve gender equality in terms of Higher Education. Such concerns need to be urgently addressed if the Millennium Development Goals are to be achieved by 2015. It needs to be mentioned that the Central Asian countries including Uzbekistan is a signatory of the Millennium Development Goals.

Reforms in higher education and the role of gender in post independent Uzbekistan has special importance because it is directly linked to reducing poverty and inequality, improving health, enabling the use of new technology and creating and spreading knowledge. It will also impact the demographic condition as well as improve the education prospects of next generation. It will be an important means to enhance the cultural relations of the people in the society and also reduce the imbalances between societies, between rich and poor, between urban and rural area, between different ethnic group and between men and women (UNESCO, 2001).

1.6 Objectives

The present study has the following objectives:

- To understand the education reforms and the present structure of the education system.
- To analyze the distribution pattern of population especially of the concerned age group.
- To identify the Higher Education Institutes of Uzbekistan and study their distribution pattern.
- Assess the role of gender and its participation in Higher education
- Examine the educational opportunities for the population in Uzbekistan and highlight the need-based demands.

1.7 Hypotheses

- Reforms in higher education lead to greater gender participation.
- Distribution pattern of Higher Education Institutes do not cater to a need based demand.

1.8 Literature Review

Though literature in this field has been slender but there exists a rich large-scale spatio-temporal data pertaining to Higher Education in Uzbekistan published by the Ministry of Higher and the Secondary Specialised Education (MHSSE).

The Turkistan Autonomous Soviet Socialist Republic (ASSR) had proclaimed vast regions of Central Asia in April 1918 (Europa World Year Book, 2000). Studies (Pottenger, 2004) reveal that Soviets had brought about much change in the socio-economic conditions of Uzbekistan. Scholarly works (Allworth, 1967), (Rahul, 1997), (Kaushik, 1970) (Akbarzadeh, 1996) (Ro'i, 1984) (Vidushi, 2006) (Hunter,1996) clearly depict that the main problem before the Soviet power was to transform a technically backward, partially patriarchal and natural peasant economy into a large scale mechanized collective socialist economy.

During the Soviet era, Uzbekistan was the least industrialist among all the CIS countries. The five-year plans were so oriented so as to enhance the economic conditions of the nation. Its main objective was of liquidating the exploiting classes and establishing socialism. The Uzbek economy was specialized in agricultural production. Cotton, referred as to "white gold" was and continued to be the primary agricultural crop and was the strongest base of Uzbek economy during the Soviet period (Gidadhubli, 1995) (Kaushik, 1976). The country produced more than 61 percent of the cotton fabric in the Soviet period and also accounted for approximately 75 percent of the national income (Stringer, 2003). These facts have also been attested by (Akiner, 1983), (Lane, 1985) and (Rahul, 1996).

Beside cotton production industrialization was also given much importance (Luong, 2002). A large some of money was also invested in Uzbekistan to develop the power production for promoting the textile industry, metal industries and others. Scholars (Capisani, 2000), (Atabaki and O'Kane, 1998) have repeatedly emphasized the Soviet style of development was to give priority to the production of non-consumption goods over consumption goods in the industrial sector. Heavy industry accounted for almost half of industrial production followed by light industry and food processing industry. Uzbekistan was also far richer in natural resources and was also the third largest producer of natural gases (Ruziev et al, 2005). Studies such as (Anderson, 1997) (Capisani, 2000) (Gidadhubli, 1987) (Akiner, 1983) (Smith, 1992) (Bacon, 1966) reveal that an abundance of energy raw material together with manpower paved the way for Soviet's to implement their strategy for economic development in Uzbekistan.

After the demise of the Soviet Union, the Uzbek authorities announced their adherence to market oriented reforms. They emphasized on the stability rather than proclaiming economic growth. During the transition period output in the case of Uzbekistan fell for the time being but retained a more or less positive and persistent economic growth subsequently. The socialist economy got transformed into the market economy. The policies adopted by the Uzbek government helped the country to achieve its pre-transition output level (Antony, 2006) (Evertt-Heath, 2003). By 2001 self-sufficiency occurred in oil, natural gas, wheat and a number of consumption goods (Europa publications, 2004). The development in the economic sector gave a boost to the development of the education sector.

Works of (Allworth, 1990) (Mikhailov, 1948) show that during the eighteenth and nineteenth centuries education in Uzbekistan was given mainly in *madrassahs* (seminaries) and *maktabs* (primary schools). Most of these learning centres were situated in Bukhara, Khiva and Ferghana valley. But historical studies and geographical studies were excluded from the lessons. So most of the educated men did not have a

good grasp of geography, neither did they have a good knowledge of maps. Higher learning included astrology mixed with astronomy. After the Uzbeks were subjected to Soviet rule, they found their institutions and methods of learning such as their technologies as backdated. This created their eagerness towards the source of knowledge and initiated search for new methods to improve their conditions. Indigenous Muslim *Jadidlar* or *Jadids*, as they were called, were the reformists. They undertook to popularize several important reforms. They founded their own institutions, the *Usul-i-Jadid* or New Method Schools. The *Jadids* for enhancing reforms took the help of six instruments. They were reformist education, historiography, literature, press and publishing, religion and theatre with drama. Cities like Samarkand, Khiva, Bukhara and Tashkent became the centre for the new learning. The reformists specially emphasized on historiography. History writing got a new zeal because history writing was thought to bring about historical awareness among population. Geography also gained popularity and importance gradually because according to *Jadids* history and geography were interconnected. There were various subdivisions under geography. They were natural science, mathematics, mineralogy, botany and politics. Astronomy was also taught. Literary innovations in forms, style, subject, language began to take the place of old-fashioned writings. Poems, tales and informative essays were included in the new method school books. Pupils had to spend nine additional hours a week for studying and copying moral lessons, supplemented by precepts for courtesy and decorum. The curriculum of the 'New Method Schools' offered reading, writing in Turki or Farsi besides giving strong attention to the religion of Islam. Religious treatises were also taught. The initiatives made by *Jadids* had two goals in education - accelerating training and countering old school enrollments.

Adoption of new school curricula and new techniques of instruction led to the preparation of new kind of teaching materials. Though the number of new books lithographed and the number of readers remained small as compared to the number of old method pupils at the beginning but yet this institutions made huge impact on the society of Uzbekistan.

The textbooks of new method schools encouraged new forms of geographic and ethnic identity as well. Local newspapers and journals were also published in order to reach the common man. Though these initiatives of opening up of new schools, introduction of modern school books and newspapers appealed to the common mass, they left many issues unaddressed. The gradual increase in the Jadid schools bothered the old fashioned mullahs. So the schools were gradually closed.

Before the advent of Soviets in Uzbekistan the literacy of the country was very poor, i.e. less than 3 percent. The Soviets were aware about the need for implementing an education policy in order to uplift the country. The aims of industrialization, technological development will be of no use in the midst of illiteracy and ignorance. Thus an emphasis on education system came about. Until early 1990's education was based on the Soviet model. They introduced an education system on similar lines to that of Western Europe. Some changes were subsequently introduced, including a greater emphasis on the Uzbek history and literature and study of Arabic script (Europa Publications, 2004). The education system had five main aspects which were physical education, aesthetic education, mental education, polytechnic education, and moral education. In the rural areas of the non Russian Republics instruction was usually given in native language. Studies (Bilinsky, 1962) (Lane,1985) show that in the cities the parents were given a choice to select Russian or non-Russian Schools for their children. The Russian schools were well equipped. So the students who wanted to go for higher studies outside the Republic or join some renowned colleges within the Republic were taught in Russian. At schools where Russian was not the basic language of instruction, Russian was taught as a much required subject. On the other hand in Russian Schools, the language of the Republic was taught.

Studies (Medlin and Cave, 1964) (Patnaik, 1996) show that scientific and technical progress has been accepted as a major aim of culture by Uzbekistan. Formal education played a key role in bringing about a cultural revolution. Republic and public agencies of public education

were established with control over all but the clerically administered schools which got closed after 1927. Adult schools for eradicating illiteracy organized in native language as well as Russian, reorganization of primary secondary schools, special boarding schools were the principal forms of educational innovations (Khidayatov, 1997).

By the final decade of Soviet Union adult literacy was practically universal, with a high school-enrollment. The drop out rates for both boys and girls varied with further education opportunities being widely available. These were in sharp contrast to the situation in the region in the early decades of twentieth century. Literacy rates were low to the tune of 3 percent in 1917 (Rahul, 1997) which became nearly universal in the 1970s and finally became nearly 100 percent in contemporary Uzbekistan (Sabahi, 2004).

During the post independence period a reduction in the funding for education hampered the development of education system. The educational innovation had to depend upon external funding. Partial dependence on Moscow and on the richer parts of the former Soviet Union was replaced by a reliance on the shifting policies of the aid agencies like UNDP, UNESCO, and UNICEF etc.

To have a thorough and overall view about the current education scenario of Uzbekistan, the World Bank identified eighty indicators at the micro level, for assessing the knowledge economy. Different indicators have been used to categorize different levels like the meso level and the macro level which vividly gives an idea of the present education level of Uzbekistan.

The composite picture of the Knowledge Economy Index (KEI) of Central Asian countries showed a low index of the overall knowledge economy (World Bank, 2005). So it is clearly seen that the present picture of the education sector in Uzbekistan is rather grim (Dutta, 2007, a). Research shows that despite the governmental initiatives, internationalization of education and NGO intervention, education sector continues to be the most neglected fields of the society. With an annual expenditure of 9

percent of the GDP, the country's expenditure is higher than that in any other country in the region. Half of this expenditure is spent on the basic education sector. The higher education sector remains neglected and receives hardly 5.4 percent of the total education budget (Dutta, 2007, b).

The new concept of National Programme for Personal Training is organized which aims at enhancing the profile of vocational education in the republic through introduction of new types of Secondary Specialized Establishment (SSE). The education system is composed of different levels; primary, secondary and higher. The last three years of secondary education system are obtained in two types of secondary educational establishment - the professional colleges or through the academic lyceums (MHSSE, 2005).

Studies (Allworth, 1990) shows that the higher education system in Uzbekistan was introduced almost a century ago was through the first real university - the Turkistan State University which was opened in 1920. It was later renamed as the Tashkent State University and in 1999 it became the National University of Uzbekistan. Today Uzbekistan can boast of having 63 higher educational institutions including the state universities in each of the regional centres. The Ministry of Higher and the Secondary Specialized Education (MHSSE) plays a major role in coordinating and funding the higher education. 34 higher educational institutions are being directly regulated by the MHSSE, according to the National Programme for Personnel Training. Higher education is based on the secondary specialized education (Academic lyceum), vocational specialized education (Professional College) and also includes bachelor's and master's degree programmes. Studies in computer science, business administration and English language have been given importance and are gradually expanding. Another significant feature of the period since independence has been the re-emergence of Islamic education in the country. Universal access to primary and secondary school education has resulted in the soaring of literacy rate to almost 100 percent for both men and women. It can be well said that the

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society of Uzbekistan along with other Central Asian Republics is undergoing modernization through education. The several illiteracy-eradication programmes and several education policies which was responsible for giving boost to modernization process is further continued by the Uzbekistan Government. Among the five Central Asian republics, Uzbekistan follows Tajikistan (100%) and Kazakhstan (99.5%) in Total Literacy Rate, while Kyrgyzstan has the lowest level. While highest enrollment at primary school level is found in Kyrgyzstan (104%), Uzbekistan can boast of having highest enrollment at secondary level (Human Development Reports, 2005).

The upliftment of any country necessitates equal participation of men and women in each and every sector (Agosin, 2003), (Sengupta, 2000). Women seem to have been marginalized earlier to the Soviet period. These have been attested by (Lane, 1985) (Gidadhubli, 1995) (Bilinsky, 1962). Central Asia being a patriarchal society introduced the regressive *purdah* system, which institutionalized the practice of cutting the womenfolk from the main stream of the society. They were not allowed to go outside their homes on their own. Beside this polygamy and child marriage were responsible for deteriorating the condition of women.

The Central Asian women accepted pain and agony as part of their lives as they were brought up as such throughout. This in turn shackled the healthy development of women. There was an invisible glass ceiling on the higher education sector, which the women from the Central Asian region were rarely able to breach. They were simply discouraged to go for higher education (Falkingham, 1997). The women who wanted to go for higher education or join the workforce could not get an equal footing with the men because they were also responsible for child rearing, cooking and taking care of household activities. These responsibilities prevented them from taking the plunge in the fields of professional work, politics and other activities (Goldman, 2000).

Before the advent of the Soviets, only 2 percent of all women in the age group of nine to forty-nine in Central Asia were literate. Changes were brought about by the Soviets wherein emancipation of women became a

priority and was targeted (Timmerman, 2000). They made different education policies and made primary education absolutely necessary for both men and women. By opening up of educational opportunities and by creating occupational roles for women the Soviet government tried to drive a wedge into old cultural norms and provide mobility for the Uzbek women. (Goldman, 2000) shows how the Soviets recognized that women should be at par to men and thus tried to bridge the gap that existed. The Soviets were aware that by passing women could mean dispossession of half of the human capital. They believed that if women did not participate in cultural and political scenario of a country, their relations with men could not be based on mutual respect. So women, who were considered as the weaker sex and were dominated by men, gradually started taking active part in the education system. The level of education attainment gradually soared and in 1970, the figure was around 99 percent literates.

Currently although the literacy rate in Uzbekistan is high, the gender equality of educational attainment among the women seems to be wide. Studies such as (Kaw, 1999) (Antony, 2006) (Megoran, 1997) (Mesamed, 1996) (Mohan, 2006), show gender inequality has seriously affected the economic conditions of the women. In most of Central Asian Republics the overall sex-ratio is high unlike many other developing countries such as India, Pakistan, and Bangladesh.

Due to the lack of higher education women cannot get proper jobs. They are totally dependent on the men of the family who are the breadwinners. Women are forced to work for meager amount of wages to support their families. They also become a prey to human trafficking in search of jobs outside their country. About 80% of imprisoned sex worker women in UAE are from Uzbekistan (IOM, 2005). Lack of proper jobs has made the women desperate to earn money through any means. It has been seen that there is a gradual increase in the crimes committed by women. The crimes are especially economic crimes which include production and sales of drugs, thefts, frauds and hooliganism (Statistical Bulletin 2000-2004). Lack of proper education and poverty

have made the Uzbek women less conscious about their well being leading to health problems , increase in prenatal mortality rates etc . So the imbalance in the education system has had a series of cascading impact on the nation resulting in the eroding of the future quality of population.

1.9 Database and Methodology

The present study will be studied on the basis of secondary sources of information. Reports published by the Ministry of Higher Secondary Specialized Education (MHŞSE) will be utilized to assess the current situation of Higher Education in Uzbekistan. In addition, results will be compared with data from the Human Development Index published by the United Nations, the Asian Development Bank, and other data published by the World Bank, Human Rights Watch and other secondary sources of information.

An analysis of the information collected will be classified to support the theoretical framework and tabulated in the form of simple tables. Simple statistical tools and techniques like averages for comparison and establishing relationships among the variables wherever possible will be applied. Cartographic tools for presentation of maps and graphical and diagrammatic representation of data will be utilized.

1.10 Organization of the Study

The present research has six chapters.

Chapter I: Introduction

This chapter deals with the background and rationale of the research. It covers a detailed analysis of the area, highlighting the socio-economic changes, education reforms and gender participation. It presents the literature review, objectives, database and methodology and the organization of the study.

Chapter II: Economy and Economic Reforms

The chapter will assess the Uzbek economy since independence. It will study the major transformations in the Uzbek economy after independence and identify the economic reforms that played an important role in bringing about transformation of the economy in the post - independent era.

Chapter III: Education Sector and Higher Education

The present chapter will study the education sector and highlight the main characteristics of Higher Education in post independent Uzbekistan. An attempt is made to empirically analyze The education sector on the basis of secondary sources of information.

Chapter IV: Gender Participation in Education Sector

This chapter will attempt in understanding the demand based need for higher education in the various regions of Uzbekistan. This will be correlated with data obtained from the secondary sources of information.

Chapter V: Initiatives towards Gender Parity in Education

This chapter will enumerate the major initiatives taken up by the Government, NGOs and civil society organization. Such initiatives will be studied in the light of Millennium Development Goals highlighting Gender Equality and Gender Empowerment in the context of higher education in Uzbekistan. It will highlight the major gender gaps existing in the sector of higher education and assess the policies and education reforms existing at present.

Chapter VI: Conclusion

Finally a summary of the major research findings will be presented.

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CHAPTER TWO
ECONOMY AND ECONOMIC REFORMS

2.1 The chapter will assess the Uzbek economy since independence. It will study the major transformations in the Uzbek economy after independence and identify the economic reforms that played an important role in bringing about transformation of the economy in the post - independent era.

The government of Uzbekistan adopted a new approach to address issues of structural rigidities existing in the economy after independence. The country was passing through a gradual transition from communist system of economy to macroeconomic and market system of economy. Dependence on primary and secondary sector of the economy was reduced and the economic structure shifted from labor intensive agriculture and mineral extraction to tertiary and quaternary sectors of the economy. The cotton monoculture has also been reduced and grain production increased (Gidadhubli, 2005). Unlike other CIS countries, the economic policy reform in the country since 1991 has been cautious and gradual. There have been respectable achievements in capital intensive production, privatization, competition between firms, market economy, financial sectors as well as in wage labor and extraction of surplus value.

Thus under the leadership of President Islam Karimov, through consistent reforms in economic policy a new economic system was evolved in Uzbekistan. This is known as the "Uzbek model of Development" (Gidadhubli, 2002). The following section deals in highlighting a brief historical background of the processes of economic development

2.2 Historical Background

Before the advent of Soviets, the primary economic activities of Uzbekistan were agriculture, trade and production of handicrafts like textiles, jewellery and domestic goods. From the later half of the eighteenth century, the Central Asian khanates were gradually incorporated into the Russian empire. Uzbekistan along with other Central Asian Republics was subjected to the grinding forces of

modernization as they made the painful transition from the traditional to an industrial society. Two main phases can be clearly distinguished:

1. The Pre-Revolutionary period (Before 1917 - During Tsarist Period)
2. The Soviet Period (as part of the USSR, 1922 - 1991)

2.1.1 The Pre-Revolutionary Period

During the pre-revolutionary period Uzbekistan was characterized by economic backwardness and it was treated as raw material appendage of Tsarist Russia. Being economically underdeveloped, the primary sector of the economy i.e agriculture and pastoral activities was the mainstay of Uzbekistan. During the Tsarist period the nature of agro-economy was mainly subsistence, though commercial farming was also practiced in the well settled areas of steppe, oasis and also in river valley areas of Syr-Darya and Amu-Darya. Major subsistence crops were grains (wheat, rye, oats, barley, sorgham), fruits and vegetables etc. These crops were cultivated by primitive methods (Pierce, 1960). During this period, Tsarist administration introduced commercial crops like cotton, potatoes, sugar beets in Ferghana valley, Tashkent, Andijan, Bukhara, Khiva, Kokand & Samarkhand areas of the country (Pierce, 1960). By the end of 1917, cotton became the most important source of the Uzbek economy. During the Pre-revolutionary period raw cotton and yarn accounted for about two thirds of the value of goods which Tsarist Russia imported from mainly Uzbekistan and other Central Asian countries (Pierce, 1960). The given data in Table (2.1) indicates that there was a gradual acceleration in the cotton price with the increase in the cotton export.

Table 2.1**COTTON EXPORT FROM CENTRAL ASIAN COUNTRIES****(1840-1890)**

Years	Cotton export (in Poods)	Price (in Rouble)
1840	100,00	500,000
1850	270,000	540,0000
1860	704,000	14080000
1870	750,000	15000000
1880	873,000	21825000
1890	2673,000	66825000

Source: Pierce, 1960.

Apart from farming, pastoral activities in the desert Steppe and mountainous pockets were also prominent in the economy of Uzbekistan during the Tsarist period. Thus during pre-revolutionary period the primary sector of the economy in Uzbekistan had been caught between a survival of semi serf conditions on one hand and modern capitalism with its commercial production and money obligations on the other (Simmons, 1947).

During this period the secondary sector of the economy i.e. industry, transport, trade and infrastructure, were primitive and poorly developed. Industrial activities of Uzbekistan during Tsarist period was confined mainly to light industry devoted to the processing of agricultural products such as handicrafts, wool washing plants, soap plants, meat industry and cotton ginning, oil crushing etc. About 85% of the industrial activity was connected with the initial processing of cotton and production of cotton seeds oil (Pierce, 1960). Brick making was also a prominent industry. Mining of non-ferrous minerals i.e gold, copper, silver from south Uzbekistan and ferrous minerals i.e. natural oil and coal from Ferghana valley were also the main industries in the country (Simmons, 1947).

The Tsarist administration also enhanced the infrastructural sector of Uzbekistan. The process of the development of rail-road construction,

river transport network, telegraph and postal services etc started during this period. Also the river transport system was well developed in Syr-Darya and Amu-Darya by the end of 1895. By 1917 telegraph and post stations had been located at the intervals of each 15 to 20 miles in the whole of Uzbekistan (Pierce, 1960). Thus during Tsarist period there was a significant correlation between the construction of railroads in Uzbekistan and extension of area sown to cotton & exports of cotton from the country to Russian industrial area and their connection within the World market. The tertiary sector of the economy such as services, banking, tax system and market based economy was in infancy stage in the country.

However the social sector mainly education and health condition was a neglected field of the economy. The condition of service sector was merely surviving. Overall the economic condition of Uzbekistan during pre-revolutionary period was not satisfactory. Tsarist administration had distorted the ancient old traditional economic structure which provided a balanced socio-economic growth to the country through the Silk route. The main motto of Tsarist administration was no doubt in exploitation of Uzbek resources and also the people for their own benefit. But a major paradigm shift in the economic sectors came about in Uzbekistan through the planned economy following the Bolshevik revolution in 1917.

2.1.2 The Soviet Period (1922-1991)

The economic system of Uzbekistan along with other parts of former Russian Empire was restructured under the leadership of Vladimir Lenin. This witnessed a transformation in the economic system of U.S.S.R from a privately owned to a publicly owned socialist system of economy. Thus from 1922 to 1991 as a prominent republic of Soviet Union, Uzbekistan had a socialist system of economy in which private ownership of the means and instruments of production was abrogated. The first step of economic development in the country thus started in 1921 under the New Economic Policy (NEP) (Simmons, 1947).

Under NEP land resources, natural resources, factories, large state organized agricultural enterprise as well as municipal enterprises and bulk of dwelling houses in the cities and industrial localities etc became the state property that used to belong to common mass (Rumer, 1998). Thus with the help of Russian technology and finances large scale economic transformation was brought about in Uzbekistan.

A revolutionary change in Uzbekistan's economic growth came about when Stalin introduced the Five Year Plans for building a socialist economy. From 1928 to 1991 the entire course of the economy in the country was guided by a series of Five Year Plans with a brief attempt of 'seven year' planning too. Based on a system of state ownership, the Soviet economy was managed through Gossplan (the State Planning Commission), Gossbank (the State Bank) and the Gossnab (State Commission for materials and equipment supply) (<http://en.wikipedia.org>). During the Soviet era there was a planned strategy for the development of backward economic condition of Uzbekistan.

With the launch of Five-Year Plans, several industries were setup or relocated in Uzbekistan. Rail - road links were forged with other parts of Soviet Union. Land reforms were enacted and modernization of agriculture was introduced in Uzbekistan. These were all accomplished with Russian technology and finances. This modernization process in Uzbekistan had lured a number of non indigenous skilled workers, engineers, technicians, technocrats, doctors and teachers from the western part of USSR (Olcott, 1996).

It was in the post-Second World War period that the process of reconstruction in Uzbekistan began in full swing. In 1950s during Khrushchev's "Virgin Land Campaign", special emphasis had been given to the development of agriculture sector (<http://en.wikipedia.org>). Up to mid-1960s, Uzbekistan witnessed tremendous development of irrigation system, transport system, power sector, industrial sector, agricultural sector, and mining. Thus throughout the Soviet period agriculture, industry and mining sectors had been the back bone of the economy in

Uzbekistan. The Soviet government consistently tried to increase the irrigated farmland area in Uzbekistan in order to produce maximum amount of cotton to meet the industrial demand of Moscow region. From 1950 to 1980 irrigated farmland had increased from 2276 to 3316 thousand hectares in Uzbekistan (Selsokoye, 1988).

Through a consistent support to cotton monoculture by the Soviet government, Uzbekistan became the largest producer of cotton among Central Asian Countries. Out of total cotton export from Central Asia, more than 70% cotton was exported from Uzbekistan (Gregory, 1975). Thus agro - economy dominated by cotton was the main source of income in Uzbekistan. Due to agro-economic growth Purchasing Power of common people increased. With the development of transportation facilities, oil and gas pipelines, the digging of irrigation canals, construction of hydroelectric stations and exploitation of natural wealth, the urban industrial sector started growing in Uzbekistan during the Soviet period. Under the Five Year Plans constant focus had been given to the agro-based industries like cotton textile industries, silk industries, leather industries, paper industries, food processing industries and ceramic industries (Shabad, 1951).

During the sixth five year to the eighth five year plan period, a major emphasis had been given to the glass industry, cement industry, engineering industries and the aviation factory. Since 1960s to early 1980s industrial growth in Uzbekistan was positive while in the later part of 1980s industrial growth in the country became slow. As a result, during sixth to ninth five year plan period industrial growth rate per annum was around 8% while after the tenth plan this growth rate declined to nearly 4% (Rumer, 1998). Tashkent, Samarkhand, Navoi, was the major industrial centers in Uzbekistan. Apart from agriculture and industry, mining of ferrous and non-ferrous minerals i.e gold, diamond, copper, gas, oil and coal were prominent during Soviet period. Major mining centers were situated in the Aral Sea region and the western Ferghana valley area.

Efforts were also taken to enhance the service sector as well as social

sector in the country by the Soviet government. Mainly during Khrushchev's period special emphasis had been given to health sector, education sector and human development aspects. Thus for the development of the overall economic condition of Uzbekistan along with other Soviet Central Asian Republics, Central Soviet government promoted the Capital investment in the country (Liebowitz, 1992).

Till 1984 the overall condition of Gross National Product (GNP) as well as labor and capital productivity had increased in Soviet Uzbekistan. The consumption of goods as percentage of GNP had also been on the increase. Compared to rural area, the urban infrastructure had upgraded in more advanced manner (Lance David, 1985). But a new dimension in the economic growth came in Soviet Uzbekistan when Mikhail Gorbachev introduced Perestroika and Glassnost (openness) in 1985. Through Perestroika Gorbachev Government tried to restructure the declining economic condition of Soviet Union. After 1985 the soviet government promoted decentralization, and enterprises became self-financing. So they had to cover expenses such as wages, taxes, supplies and debt services through revenues. Unprofitable enterprises were closed (<http://en.wikipedia.org>), though in the initial stage Perestroika was well accepted but after few years it showed negative result. This new system bore the characteristics of neither Central Planning nor a market economy. By 1990 the government had virtually lost control over the economy (<http://forum.arbuz.com>).

During this period economic condition of Uzbekistan also went from stagnation to deterioration. The annual industrial growth rate of the country declined below 4% (Rumer, 1998). Also the GNP of Soviet Uzbekistan declined to nearly 5% (Liebowitz, 1992). Purchasing Power of the people declined drastically and the socio-economic condition became worse. As a result at the end of 1991 Soviet Union dissolved and Uzbekistan got its official birth as a new independent democratic nation.

Thus through Centralized planning and socialistic economic policy of Soviet Central government, Uzbek economy shifted from ancient and

primitive modes of technology to the path of modernization. Through consistent industrial, agricultural and infrastructural development the Uzbek society transformed from nomadic to modern and advanced society. But the overall condition of human development index was low in the ladder. Macro and micro economic condition was poor. During Soviet period the country experienced regional disparity in economic development between urban and rural areas. Rural society remained backward. Conditions of health and higher education were very poor. Social condition of women was bad and Gender Development Index (GDI) was not balanced. During Soviet rule the country suffered from a shortage of wide range of consumer goods including the basic necessities, which made the country totally dependent upon imports from outside. At the same time modern textile industry was not well developed. So the country had to export its raw cotton. In Soviet period Uzbekistan was a producer and exporter of raw materials and importers of finished goods. Uzbekistan was not able to mobilize its resources from within the republic and it was largely dependent upon the centre for the allocation of resources. Similarly highly technical and skilled labor forces engaged in the industry was mainly the Russians (Gidadhubli, 2002). Thus after independence Uzbekistan hurtled into the new post-Soviet era. It had lurched towards a profoundly different social development and new market economic policy (Kumar, 2006).

2.3 Economic Condition in Post-Soviet Period

Since independence in 1991, Uzbekistan followed a unique path of economic transition. The country's relatively rich resource endowment, a low degree of over industrialization and trade dependence, large share of agriculture and the predominance of cotton and other raw materials in exports pointed to a relatively better transition path to market based system. After independence through State controlled gradual transition strategy, Uzbekistan promoted stability and equality within its economy (Ranweera, 2003).

In the present times, the Uzbek economy is subsidizing employment, controlling prices on essential items, privatizing large enterprises and

attempting in self sufficiency of energy and food products. This unique economic system is referred to as the 'Uzbek model of economy' (Gidadhubli, 2002).

The economic condition of independent Uzbekistan can be studied under two sub-heads. These are:

1. Economic resources in independent Uzbekistan
2. Economic reforms since independence

2.3.1 Economic Resources

Basic economic structure of independent Uzbekistan is mainly endowed with natural resources, agriculture, industry and labor forces.

Uzbekistan is blessed with abundant natural resources of gold, energy and various other minerals. Gold is Uzbekistan's most abundant and strategic resources. Before 1992, Uzbekistan accounted for about one-third of soviet gold production at a time when the Soviet Union ranked third in the world gold production (www.mongabay.com). The Muruntan gold mine in Qizilqum desert is the largest gold mine in the world. In 1992 a reported 80 tons of gold were mined in Uzbekistan making it the eighth largest producer of gold in the world. In the year 2000, Uzbekistan produced almost 62,276 kg gold (World Bank, 2002). Uzbekistan has six largest reserves of gold in the world. At present gold is Uzbekistan's second largest export item after cotton and it earns about one-fifth of country's foreign exchange (EIU, 2005).

Copper, Zinc, lead, tungsten and molybdenum, are used in well developed metallurgical processing industries. Uranium is also mined and processed on the slopes of the Chatkal and Qurama ranges. Uzbekistan is rich in energy resources particularly natural gas and oil. The country was the third largest producer of natural gas in the former Soviet Union after Russia and Turkmenistan, producing more than 10% of the Unions natural gas in 1980 ([www. Mongabay.com](http://www.Mongabay.com)). In the year 2004 total natural gas reserves in the country was almost 1.9 trillion

cubic meters. This is almost 1% share of the total world gas reserves while it produced almost 55.8 billion cubic meters of gas which is about 2.1% of total world gas production (British Petroleum Statistics, 2005). Coal is also a prominent energy resource in Uzbekistan. It is mainly deposited in Angren river basin area. Coal is the primary fuel for Uzbekistan's thermoelectric power plants. Syr-Darya and Amu-Darya rivers provide opportunities for generating hydroelectricity in the country.

Agriculture is one of the prominent and large sectors of the national economy in Uzbekistan. Since the Soviet period, agriculture sector employed about 40% of the total labor forces and 60% of the country's population mainly living in the rural areas (<http://forum.arbuz.com>). At present agriculture employs about 28% of labor force and contributes about 24% of GDP (<http://en.wikipedia.org>). As mentioned earlier at present more than 4062 thousand hectares of land in the country are arable and out of these about 3565 thousand hectares are under permanent irrigated farming (UN, Statistical year Book, 2002). Uzbekistan has three types of agriculture which determine the agro-economic activities of people. They are extensive grazing, dry farming and intensive irrigation farming. Grazing of livestock is carried in the deserts and mountain areas. Dry farming of wheat and some other grains is practiced in loess covered foot hills. Under intensive irrigation farming wheat, cotton, rice, maize, barley, millet, grapes, potatoes etc are prominent crops (<http://www.Uzintour.>).

Uzbekistan is a prominent industrial country in Central Asia. More than a million people of the country are engaged in this sector of the economy (<http://www.Uzintour.>). At present the industrial sector accounts for about 27% of G.D.P (Refer Table 2.12).

Leading industries in the independent Uzbekistan are cotton cleaning, machine, building, textile, gas, precious metals, electronics, instrument making, aviation, oil processing, car making and agricultural processing etc. Among industrial sector machine building industries, mainly manufacturing machines & farming machines industries are growing

very rapidly in the country. At present there are more than 300 machine building and metal processing industries in the country (<http://www.Uzintour>). Silk and cotton textile industries are also very prominent industry in the country. Major textile industries are situated in Ferghana, Namangan, Bukhara and Khiva. After independence aviation, automobile and electronics industries are also emerging with foreign investment. South Korean Company Daewoo & JV Uzdaewooanto have jointly established automobile and aviation industry in the Asaka city of the Ferghana valley.

Among Chemical industries, chemical fertilizer, fiber and filaments are prominent industry. Currently oil and chemical industries are producing more than 20 kinds of goods. The Samarkand Super-phosphate enterprise is the prominent chemical fertilizer industry in the country (www.mongabay.com). Apart from this metallurgy, light industries, foot loose industries and I.T industries are also fast coming up in the country.

Uzbekistan is the most populated country in Central Asia. That's why the number of labor force is also highest among Central Asian countries. The soaring of the working age population has led to a constant growth of labor force in the country. Table No 2.4 shows the increasing trend of labor since 1980 to 2006. During 1980 the country had about 6.5 million labor forces which increased up to 14.8 million in the year 2006. At the same time despite relatively high average levels of education in the population, there is a shortage of skilled personnel in the country. Due to the forced out-migration of Russian and other non-indigenous workers engaged in secondary and tertiary sector of the economy, the country faced a scarcity of trained and skilled workers during the 1990s.

Table.2.4**Labor Force in Uzbekistan (in millions)**

Years	Labor Force
1980	6.5
2000	10.5
2006	14.8

Source: World Bank (2002 & 2007)

Due to a shortage of skilled workers industrial and service sector had shown negative growth trend in the early 1990s. Several industries in the country had been shut down (www.mongabay.com). Table No 2.5 shows that till 1996 due to a surplus labor force in the primary sector, agriculture had the highest percentage of labor force. But after 1996 due to consistent reform in the Uzbek economy, surprisingly the percentage of labor force in the service sector increased from 36.7% in 1990 to 51% in 2006 as shown in the table.

Table. 2.5**Share of Work Force in Uzbekistan (in %)**

Years	Sectors		
	Agriculture	Service	Industry
1990	39.5	36.7	15.1
1992	43.5	35.4	13.9
1993	44.6	34.9	14.8
1996	43.5	36.3	13.6
2000	27.6	39.0	10.3
2006	28.0	51.0	13.1

Source: UN, Statistical year Book: Asia and Pacific New York 2002 & 2007

sectoral percentage of labour force in Uzbekistan from 1990 to 2006

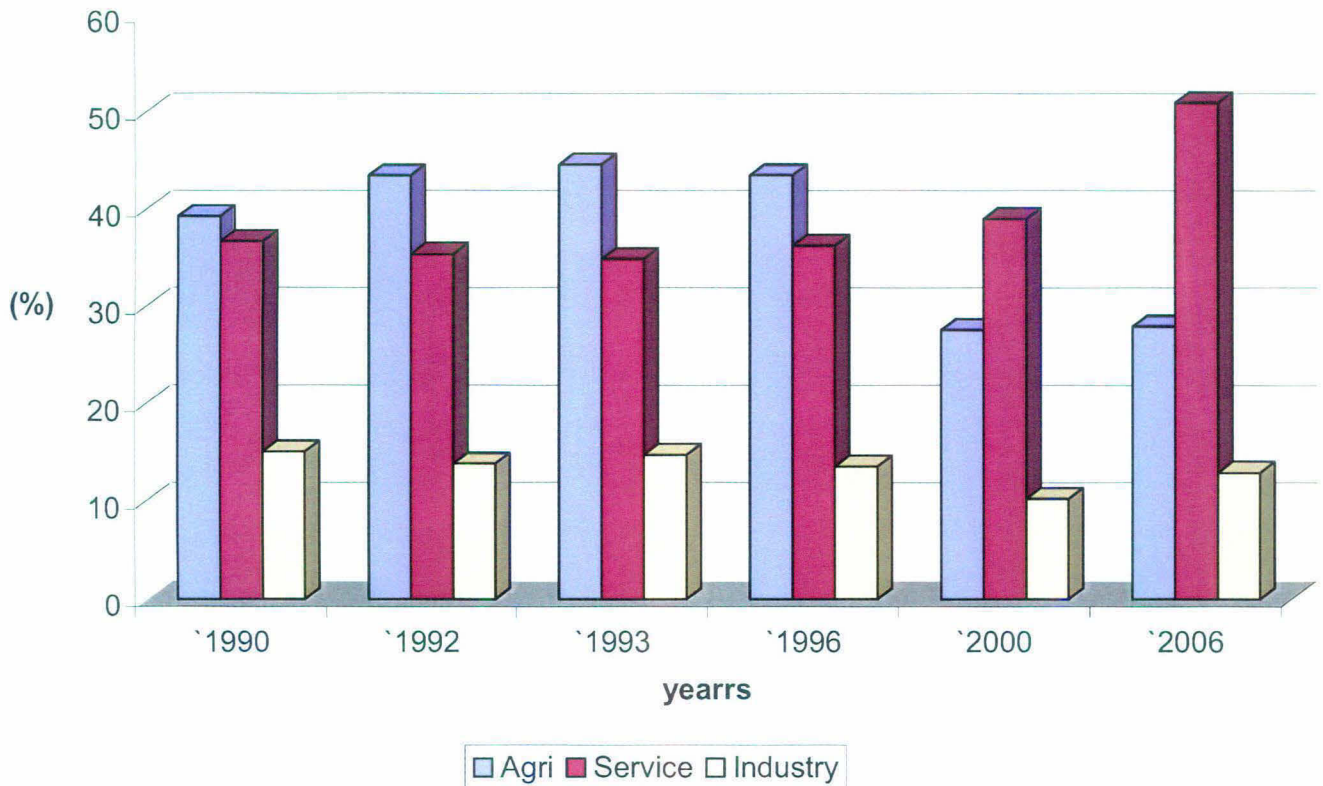


Fig. 2.1

2.3.2 Economic Reforms in Uzbekistan

With the collapse of the Soviet Union, Uzbekistan faced serious economic challenges. The break down of Central planning from Moscow and the end of a reliable system of inter-republican trade and payments mechanisms, production inefficiencies as well as declining productivity and loss of subsidies from Moscow collectively affected the Uzbek economy in negative manner. Thus these changes signaled that fundamental reforms would be necessary if the economy of Uzbekistan were to continue to be viable. As a result from the time of independence, Uzbekistan's political leaders have made gradual but positive commitments to develop the market based economy through economic reforms.

With the acceptance of Structural Adjustment Programme (SAP), Uzbek government has chosen the path of stage-by-stage reform in its economy. This process of economic reform is also known as "Uzbek Puzzle" (Ruziev et al, 2005). Thus after independence Uzbek economic reform process has passed through three distinct phases; first, the period of slow and limited reforms (1991 to 1994), second the period of accelerated reforms (1994-1996) and third, the period of stalled reforms (1996-2001) as referred in table no. 1.4. With the acceptance of the philosophy of the Millennium Development Goals (MDG) of United Nations (UN) in 2000, Uzbek economy is accelerating towards fourth phase of the reforms process since 2001 (Dowling , 2006).

During the first phase of reforms emphasis had been given on institutional changes of economy, price liberalization, unification of markets, introduction of new taxes, removal of import tariffs and privatization (www.mongabay.com). The main goal of the second phase of reforms was to limiting the decline of production, providing financial stabilization and ensuring economic growth by raising the standard of living condition of population and strengthening the market economy (Dowling, 2006). The third phase was the period of limited reforms due to growing restrictions on trade and access to foreign exchange (SCAP, 2006). The fourth phase of reform is currently on. The stage by stage economic reforms of independent Uzbekistan cover the following aspects:

- Reform in Gross Domestic Product (GDP) and employment.
- Macro-economic reforms
- Structural reforms
- Reforms in Social Sector

2.3.2.1 Reforms in Gross Domestic Product

GDP is a measure in monetary terms of the volume of all goods and services produced in Uzbekistan in a given period of time. Thus growth

in GDP is synonymous to the economic growth. After a period of dismal economic performance following the break up of the Soviet Union, Uzbek economy has shown a booming performance since 1995. Uzbekistan's GDP like that of all other CIS countries declined during the initial years of transition and then recovered after 1995, as the cumulative effects of policy reforms began to be felt (Refer Table No 2.6). In the initial five years economic growth in the country was negative (-3.4), but it has shown robust growth, rising by above 4% per year during the period 1997 to 2003 and accelerating there after to 7% to 8% per year (Refer Table 2.6).

Table 2.6

Growth Rate of Real GDP in Uzbekistan

Years	GDP Growth (%)
1992 - 1996 average	-3.4
1997	5.2
1998	4.3
1999	4.3
2000	3.8
2001	4.2
2002	4.0
2003	4.4
2004	7.7
2005	7.0
2006	7.3
2007*	6.5

*Showing the forecast figure.

Source: UN (2007), Economic and Social Survey of Asia and Pacific, New York

Table 2.7

GDP of Uzbekistan

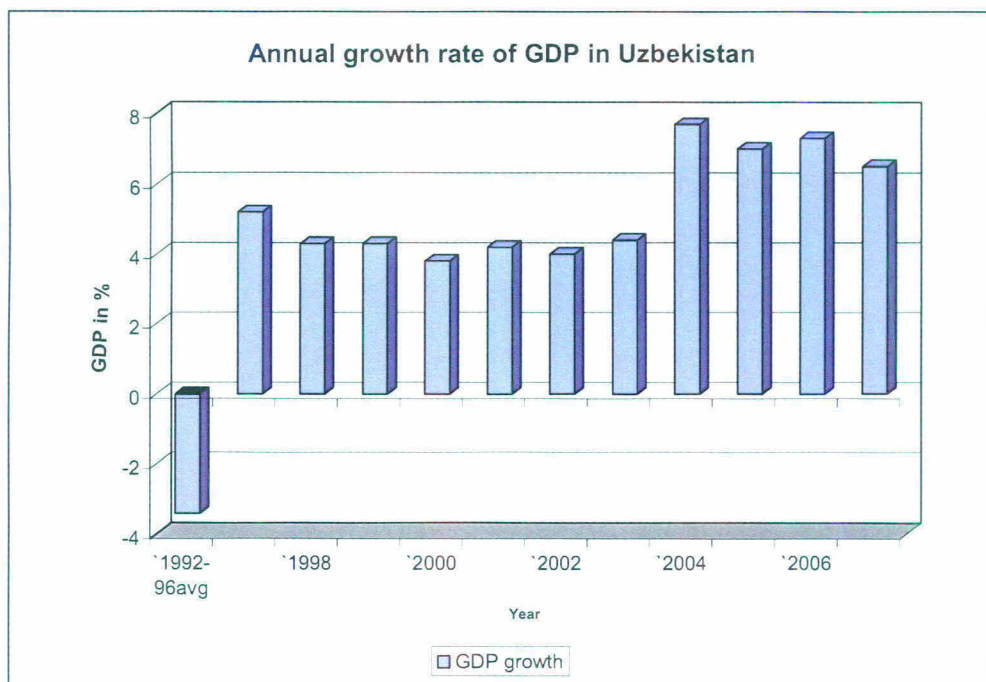
(at Constant Price, 1995)

Year	GDP in US \$
1992	330, 042
1995	302, 790
2000	356, 325
2003	402, 361
2006	497, 525

Source: UN, 2007 Economic and Social Survey of Asia and Pacific, New York.

The high growth in Uzbek economy in recent years is caused due to increasing export of natural gas, gold and agriproducts led by cotton. With the help of private funding and foreign direct investment (FDI) the out put ratio of service sector and manufacturing industries are also increasing gradually (Dowling et al, 2006).

Fig.2.2



The growing economic condition supplements the increase in

employment ratio of the country. The employed population rose from 8.5 million in 1995 to 10.5 million in 2006 (<http://en.wikipedia.org>). Though there is 25% increase in the labor force from 1995 to 2006 but the overall employment condition in the country is not healthy. Gender disparity in the employment sector is prominently visible. There is a higher concentration of employment in the agriculture sector (<http://en.wikipedia.org>).

2.3.2.2 Macro Economic Reforms

Through macro-economic reforms Uzbek government fixed a target for achieving financial stabilization. Macro economic reforms involve monetary credit policy, returning to low and stable inflation and sustainable fiscal adjustment, trade and current account balance, privatization and FDI inflow.

Uzbekistan was in the 'ruble zone' during the first stage of its economic reform. During first stage of reform the economy has remained quite low due to lingering memories of civil war disruption, poor government performance, large budget deficits and high inflation. During second stage of reform the government had introduced new national currency (the sum-coupon) which was established with an exchange of 1:1 against the former ruble (Dowling, 2006). Under monetary-credit policy the government provided financial assistance to enterprises, restricted the rise of prices on basic food stuffs and constantly indexed the money incomes of the population. Under this monetary credit policy government also made it possible to provide support to enterprises that had already experienced serious difficulties because of the disruption of economic ties with Moscow. Under new monetary policy several new educational institutions also got financial support.

After independence, break down of Central planning, reduction in trade and payments mechanism, declining productivity in primary, secondary and tertiary sectors as well as loss of subsidies from Moscow these all jointly supported the large budget deficit and high inflation. As a result during first phase of economic reform inflation rate surprisingly reached

well above 300% during 1995 (table 2.8). With a consistent reform in agriculture, industrial and service sector and by introducing fiscal and monetary discipline in the economy as well as by improving output and supply position, the inflation rate gradually declined and reached to its ever best condition at 1.7% in 2004 (table 2.8). After 2004 revolutionary increase in global oil price and gas exports and substantial increase in export revenues contributed to increase in inflation rate, as a result inflation rate reached near 7% in 2006 as shown in table 2.8

Table 2.8

Inflation Rates of Uzbekistan (in percentage)

Years	Inflation Rate
1995	304.6
1996	54.0
1997	58.8
1998	17.8
1999	29.0
2000	24.9
2001	27.2
2002	24.2
2003	13.1
2004	1.7
2005	7.8
2006	6.8

Source: UN (2007); Economic and Social Survey of Asia and Pacific, New York.

Fluctuating trend of Inflation rate in Uzbekistan

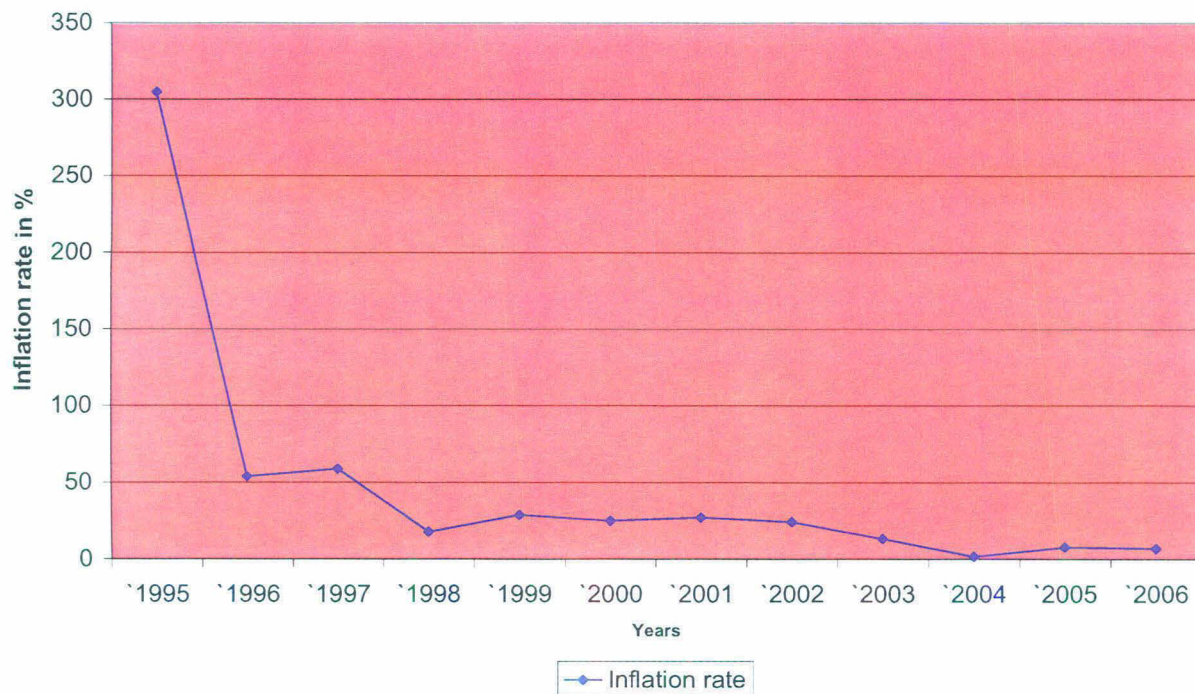


Fig. 2.3

Fiscal adjustment is necessary for dealing with the twin problem of high domestic inflation and large deficits in the balance of payments. Since independence to the end of 20th century, the fiscal performance in the country was bad. But from 2001 positive growth in mineral sectors and foreign direct investment (FDI) have contributed to improved fiscal performance in the last few years. Due to stable expenditure policy of Uzbek government, overall budget deficits accumulated in the mid 1990s have turned into fiscal surpluses and it reached up to 0.8% and 0.3% of GDP respectively in 2004 and 2006 respectively (UN, 2007).

After independence, Uzbek government adopted a policy of import substitution (Runner, 1998). Since 1996, the multiple exchange rate system and the highly over regulated trade regime has led to both import and export declines. Although imports have declined more than

exports as the government squeezed imports to maintain hard currency reserves. As a result of constant decrease in imports of both consumer products and capital equipment and promotion of exports the trade balance of the country has shown a surplus trend after 1996 and it reached around US \$ 1007 million by the end of 2006. Major export items of Uzbekistan are natural gas, gold, cotton and various other minerals. Uzbekistan's traditional trade partners are CIS states notably Russia, Ukraine, Kazakhstan and other Central Asian countries. Non CIS partners are EU, USA, S. Korea, Germany, Japan and Turkey (UNCTAD – 2007).

Despite large foreign funded investments in the mineral sector and industrial sector, the current account balance for the country a percent of GDP has progressed positively after 2002. But before 2001 it was passing through a constant deficit process.

After independence, Uzbek government has experimented with ownership changes within the framework of its broad economic strategies. In this process government has established significant ties with the west, including membership of the World Bank, IMF and Asian Development Bank (ADB) (Kumar, 2006). Since very first stage of its economic reform Uzbek government is trying to attract foreign capital through revamping of regulatory and taxation system (Kumar, 2006). As a result of government's investment friendly policy FDI inflows in the country have increased from US \$ 9 million in 1992 to US \$ 83 million in 2001, but in the last 4-5 years FDI inflows have dramatically decreased. Uzbekistan is receiving maximum FDI into sectors with large multiplier effects i.e. natural gas and oil sector, automobiles, electronics, textiles, chemicals, mining and agro processing industries etc. the country is receiving FDI mainly from USA, EU, Russia, India, China & S. Korea (Dowling, 2006).

2.3.2.3 Structural Reforms:

For the proper growth of the economy of independent Uzbekistan, apart from macro economic reforms it was urgent to bring structural transformation in the economy because structural reforms often add to macro economic stability. In the absence of structural reform in the longer run losses of public enterprise would continue to burden the budget which will finally affect the fiscal discipline of the country in negative manner (Misra & Puri, 2003). The main goal of structural reform in the country was to bring transformation in agriculture sector, industrial sector & service sector (Dowling, 2006). Uzbekistan accepted the Structural Adjustment Programme. Under structural reform in agriculture sector Soviet type collective farms have been restructured to Jointstock and other non-state agricultural entities. The share of non-state sector has increased in the total amount of agricultural gross product (www.uzintour.uz). Also several farm enterprises have been promoted under structural reform. Now changes in the structure of sowing crops have been brought and maximum emphasis has been given to food crops i.e. wheat and other cereals to eliminate the dependence on the import of most important food products. Policy of demechanization of cotton production has been adopted in the country. As a result of structural changes, the production of cotton has been declining and food grain production (dominated by wheat) has been increasing since 1992 (Refer Table 2.9)

Table 2.9**Production of principal crops in Uzbekistan (in 1992-2003) (in thousand metric tons)**

Years	Crops								
	Rice	Wheat	Maize	Barley	Potatoes	Seed Cottons	Cotton lint	Grapes	Tobacco
1992	539	964	367	286	365	4128	1274	439	9
2003	293	4682	142	157	828	2823	946	401	19

Source: UN: (2005), *Statistical Year Book of Asia And Pacific*, New York.

Under structural reforms in industrial sector, Uzbek government has given emphasis on the transformation and development of basic industries i.e. gas, oil, energy, gold mining and other resource based industries. Now privatization and foreign direct investment have been allowed in industrial sector. Also the development of automobile industry, engineering and electronic industries has been promoted under industrial reform policy. Due to constant industrialization and infrastructural development through private and public partnership service sector of the country is also growing very fast. As a result of constant reform in service sector from 1990 to 2006 the GDP share of this sector has grown fastest than the agriculture and industrial sector. From 1992 to 2006 the GDP share in service sector has increased from 34% to 49% respectively (table 2.10).

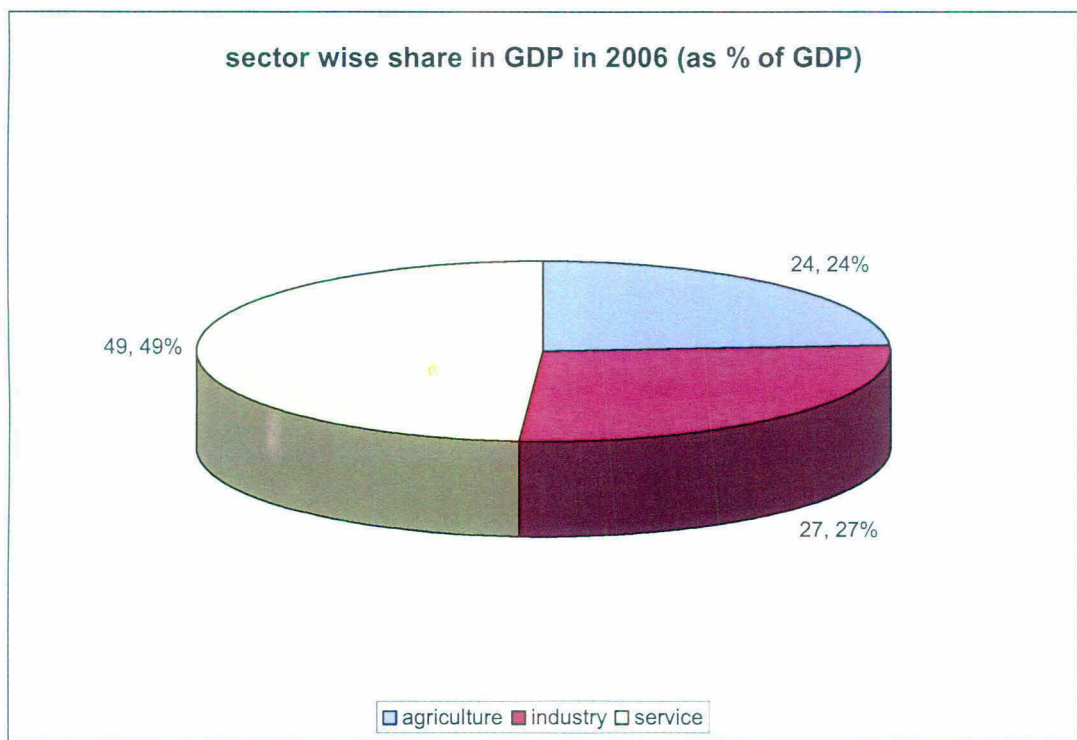
Table 2.10

Sector wise share in GDP between 1990-2006 (as % of GDP)

Years	Sectors		
	Agriculture	Industry	Service
1990	33	33	34
2000	34	23	43
2005	28	29	43
2006	24	27	49

Source: World Bank (2007); World Development indicators Washington.

Fig 2.4



2.3.2.4 Reform in Social Sector:-

Reform in social sector is the prominent agenda of post-Soviet Uzbek government's new economic policy. Social sector plays an important role in overall economic development of the country. Without proper development of social sector it is impossible to enhance the growth of physical capital in the country. Also development of social sector is positively correlated to the development of human resources in independent Uzbekistan.

Due to Soviet legacy the country's life expectancy, mortality rates and adult literacy rates are better than many other countries of the world with similar level of economic development. But after independence per capita expenditure on education, health & other social services has declined and poverty level increased in the country. As a result under social reform policy three sectors have been covered widely by the government i.e education, health and eradication of poverty.

After independence, Uzbek government has brought new reform policy in education system by improving the infrastructure and student-teacher ratio. Now government has given emphasis to the development of higher and technical education institutes & reduction of education and income inequalities. After independence due to reduction in economic assistance, expenditure on social sector mainly education and health declined sharply. As a result between 1992 to 2004 expenditure on education declined from 12% to 6.3%. But due to positive reform policy of the Uzbek government in social sector, expenditure in education sector has been improving gradually and it reached to 8.1% of GDP in 2006 as shown in table no. 2.11

Table 2.11**Expenditure on education (as% of GDP)**

Years	Expenditure on education
1992	12.0%
1998	7.2%
2004	6.2%
2006	8.1%

Source:- UN(2007):*Economic and Social Survey of Asia and Pacific*. New York.

During soviet period basic health system was funded by the State. But after independence this system destroyed and expenditure on health system declined. Thus after independence new social protection measures have been adopted by the Uzbek government to enhance the public health facilities. As a result the number of physicians and hospital beds on per thousands population has increased and health expenditure as percentage of GDP has also increased above 4% by 2004 (table2.12).

Table 2.12**Health and welfare Facilities in Uzbekistan**

1. Physician on per thousand inhabitanace (2002)	3.09
2. Hospital beds on Per 1000 Population (2002)	9.39
3. Health expenditure as% of G.D.P (2004)	5.1

Source:- UN(2007): *Economic and Social Survey of Asia and Pacific*, New York

Collapse of Soviet security system, higher inflation caused by disruption in production of key goods and loss of control over money supply etc promoted the poverty ratio of the country. After independence through restoration of social and political stability and upturn in agricultural production and increase in precipitate income have been contributing to the decline in poverty ration in the country. As a result of the reform in social sector the share of people below poverty has decreased from 33% in 1990s to 27% in 2004(UN 2007).

Thus through consistent economic reform the overall condition of social sector is improving but still the county is facing regional disparity in social reform. Like other developing countries, Uzbekistan is also suffering from digital divide between rural and urban areas and between rich States and poor States. Income disparity and poverty are more pronounced in rural Uzbekistan (Dowling, 2006). Education and employment level of women are poor in rural areas. There is a regional disparity in the GDP expenditure ration in higher education sector (Rumer, 1998). Also in health Sector rural Uzbekistan are getting less economic incentives compare to urban areas. On the whole with few drawbacks through consistent reform in the economy, social sector is improving in Uzbekistan.

2.3.2.5 Before the advent of Soviets, Uzbek economy was primitive and it was treated as a raw material appendage of Tsarist Russia. Establishment of Soviet rule brought socio- economic development in the country through centralized planning and socialistic economic policy. Agriculture, industry, service & social sectors improved during Soviet period. But the country suffered from shortage of wide range of consumer goods of basic necessities during the last phase of Soviet rule. Paradigm shift came in the Uzbek economy after independence when the country hurtled into the new post-Soviet era; it lurches towards a profoundly different social development and new market economy. Following a prolonged period of slow & negative growth in the 1990s the country has turned its economic structure through consistent and gradual reform in economic policy. Through economic reform, the Uzbek

government tried to clear up the mess that the Soviet government over the last several decades created. Now, the economic growth of the country has been driven by high commodity prices, mainly natural gas, gold, cotton and buy-out demand, increasing inward investment, improved macroeconomic management and social and infrastructural development. Thus positive growth in GDP, reform in monetary policy, control of inflation and fiscal adjustment, privatization and FDI inflows as well as structural reforms in agricultural, industrial and service sectors etc. will provide logical economic support to the up gradation of basic and higher education of the country.

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CHAPTER THREE
EDUCATION SECTOR AND HIGHER
EDUCATION

3.1 Situated on the crossroad between the east and west Uzbekistan have been centre of higher learning for centuries. The cities of Samarkand, Bukhara, Khiva and Tashkent have been famous education centers since historical Silk Route period. From historical period till now education system in Uzbekistan has passed through several transition processes.

After getting independence in 1991 the demands of democracy and free market economy have gradually replaced the Soviet model of education by new education system oriented towards the need of an independent Uzbekistan. But even today the system of education as it exists in Uzbekistan has its roots in the old historical period. This chapter will give details of the education sector of Uzbekistan giving special emphasis on the higher education scenario. Thus before explaining the education system of independent Uzbekistan it is urgent to highlight brief historical background of education system of the country.

3.2 Historical Background

Education system of Uzbekistan can be divided into two historical periods i.e first is the period of traditional education system (before Soviets) and second is the period of modern and universal education (under Soviet rule) (Levinson,2002).

3.2.1 Pre Soviet Period

Before the Soviet era, education in Uzbekistan was given mainly in maktab (primary school) and madrassas (seminaries or religious schools) (Allworth, 1990). Maktab was found in every residential neighborhood in the country where a teacher, usually Imam of the mosque taught basic texts to the neighborhood boys. The purpose of maktab was to inculcate culturally accepted norms of behaviors and to make students memorize certain basic texts of the Islamic tradition. The teacher used to receive gifts from parents of the boys he taught (Levinson, 2002). Girls were usually taught at home. Those students who aspired to work in the nexus of administration, justice and religion

entered the madrassas, where they could learn the art of textual interpretation from a recognized master in a system that had marked similarities to apprenticeship (Mikhailov, 1948). Madrassas were funded by income from endowments (waqf) established by various individuals (Allworth, 1990). Most of these learning centers were situated in Bukhara, Khiva and Ferghana valley. This pattern of traditional education survived till the Russian conquest of the 1860s and 1870s (Levinson, 2002).

After the beginning of 20th century the maktab and madrassas came under intense attack from a new group of modernist intellectuals the Jadids, who accused the previous education system of not meeting the needs of the age (Allworth, 1990). Indigenous Muslims or Jadids founded their own institutions the Usul-i-Jadid or New Method School. Jadid advocated a new method of education in which the maktab would focus on imparting functional literacy and a basic knowledge of arithmetic, history, geography and hygiene (Levinson, 2002).

For higher education, the Jadids advocated a curriculum of technical and vocational education to equip future generations with the skills necessary for survival in the vastly new circumstances introduced by the Russian conquest. The reformists emphasized on study of history, geography, natural science, mineralogy, botany and politics. During this period local newspapers and journals were also published in order to reach the common man (Allworth, 2002). Initially Jadid schools were well accepted by the people but later on due to lack of material resources and hostility from both the state and conservative people the jadid schools got gradually closed or remained few in number before 1917 (Mikhailov,1948). On the whole, the level of education in the country was very poor. It can be seen that before 1917 the literacy rate of the Uzbekistan was less than 3% (Pierce, 1960).

3.2.2 Soviet Period 1917-1991:-

This was a period of modern and universal education. Real change in Uzbek education system came during the Soviets who were aware about the need for implementing an education policy in order to uplift the country's socio-economic condition. Soviet government therefore, expended substantial energies on campaigns against illiteracy and for the establishment of a ramified system of educational institutions (Levinson, 2002). Now a new system of education was introduced in the country which was similar to that of Western Europe (Europa World Year Book, 2002). Under new education system Soviet primary schools replaced the maktab, while madrassas were destroyed by early 1930s through the nationalization of their waqf property, which was given over to the use of new state run schools (Lane, 1985). Thus traditional Islamic education was pushed underground by the mid 1930s and education became universal and compulsory in the country. Now coeducation became common in Uzbek schools (Medlin, 1964).

Medium of instruction in school education was mainly Uzbek and Russian language. While higher education was operated in Russian languages.

On the whole through consistent reform in education system by Soviet government literacy of Uzbekistan became universal with high school enrollment. The drop out rates for both boys and girls varied with further education opportunities being widely viable. These were in sharp contrast to the situation in the region in the early decades of twentieth century. Literacy rates were low to the tune of 3% in 1917 which became nearly universal in the 1970s and reached nearly 100% in contemporary Uzbekistan (Sabahi, 2004).

During Soviet period education system in the country was divided into three main parts; preschool, school and higher. During Soviet rule pre-school education was neither compulsory nor free. Creches were available for children from three months to three years of age and kindergartens for three to five years age. Education at this level

consisted of games, play and story telling (Lane, 1985).

During Soviet period full time school education was started at seven years of age (Refer table3.1). School education was further divided into three sub-part i.e Primary school, eight- year school education and general secondary school (Refer table3.1). The main aim of primary and eight-years of school education was to give general education to students. At this level, humanities, maths, sciences, physical culture, mental education, moral education, practical works and arts were introduced in school curriculum (Lane, 1985). Apart from technical and vocational education, humanities, maths and sciences, literature, physical as well as military training were the major curriculum for secondary education (Europa World Year Book 2000).

Higher education started at the age of 19 years. During soviet period higher education was carried out at three Separate types of institutions; the academics of sciences, the higher educational institutes (vuzy) and higher party schools (Lane, 1985). Academics of sciences were responsible for the conduct of research in sciences and arts. The higher educational institution (Vuzy) was responsible for providing training to undergraduates in sciences and arts, it was also providing training to undergraduates in sciences and arts; it was also providing vocational education. While the higher party schools were providing higher education mainly in social sciences, economics, law, international affairs and foreign languages (Lane, 1985).

Under higher education postgraduate, research work, military training etc were provided. The first higher education institute in Uzbekistan was established in Tashkent in 1920 (Levinson, 2002). Over time several universities were established in Samarkhand, Bukhara and Nukus too. A number of specialized institutes: teacher-training colleges and vocational schools also started alongside the universities. Thus during Soviet period education system in Uzbekistan became modern & universal. But independence the general education sector as well as higher education system have been restructured and reformed under new democratic manner in Uzbekistan.

Table 3.1
Structure of education un Uzbekistan During soviet Period

Age	Year of study	Universities, institutes, military Academies, Post graduates; 3 years Academy of sciences			
22	13	Vuzy, Universities, institutes, Military, academics, Graduate 4-5 years full time (Full time, part-time or correspondence)			
21	12				
20	11				
19	10				
18	9	Special School for metally Physically Handicapped	Special schools for the gifted, ballet, Music Math	General Secondary education	Technical Secondary education
17	8				
16	7				
15	6				
14	5			Eight Year School	
13	4				
12	3			Primary school	
11	2				
10	1			Kindergarten	
9					
8					
7					
6		Creche			
5					
4					
3		Creche			
2					
1					

Source:- MODIFIED FROM LANE DAVID: " SOVIET ECONMOMY AND SOCIETY " NEW YORK 1985.

3.3 Post-independent Period

After becoming a sovereign state in September 1991, Uzbekistan became a master of its own way of economic, social and human development. Now the process of strengthening the links between the economic system and the education system is the main feature of the latest development in Uzbek society. The transition to a market economy caused a strong demand for new curricula, new teaching methods and new interpretations of competence, practical knowledge as well as professional qualifications and employable skills. As a result, despite the economic problem in the transition period, the government of Uzbekistan has given special emphasis on education sector. With more than 54% young working age population (refer table1.2) the education system in the country is marching towards meeting a common national interest and ensuring competitiveness in the world market. Now Uzbekistan became a member of international community and is keen to develop a modern system of education which is different from the Soviet period.

Thus, this portion of the study covers the education system of the country under two sub headings; first part covers the general aspects of the education sector in the country and second part gives special and regional emphasis on higher education of Uzbekistan.

3.3.1 Present Education System

After independence, the basic aim of the government was to undertake Herculean efforts in order to retain the positive achievements of the previously (Soviet period) high educational standard of the Uzbek population. At the same time it was important to escape the negative aspects of the past heritage and difficulties related to the transition period. On 29 August 1997 National Programme for Personal Training (NPPT) has been implemented by the Uzbek government to provide a long term strategy for strengthening general education as well as multilevel higher education (IIEP, 2000). Also in educational financing and budgeting Uzbek government has taken positive steps. Despite the

scarcity of budget resources, the public expenditure on education as proportion of GDP has been always maintaining high level near about 8 to 9% (refer table 3.2). Several aid agencies like UNDP, UNESCO, UNICEF, various foreign countries as well as NGOs are also providing financial assistance to Uzbek education sector. Despite positive budgeting in education sector, unfortunately situation of higher education is at a lower level in the country. Nevertheless the sub-sectors of basic education engulf nearly half of the total expenditure.

Thus through consistent effort by the Uzbek government, by 1996 Uzbekistan became the first country of the CIS to change the Soviet model of education and to begin institutional reforms in the education sector (UNDP 2007-2008). At present the country has 26 million population (refer table1.1), out of which more than 51.4% are female and 48.6% are male (UN, 2007). A total of about 63% people are located in rural areas and almost 37% are in urban areas (UN, 2007).

Public expenditure on education by sectors (as% ofGDP)

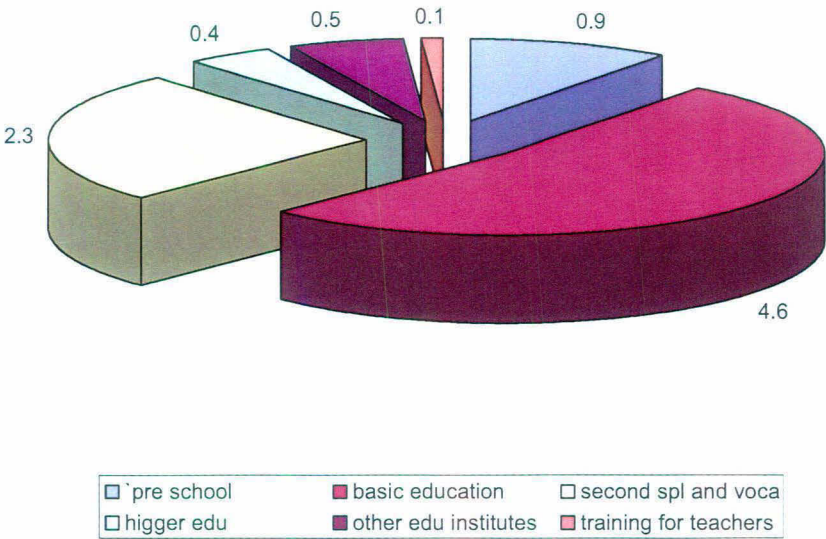


Fig 3.1

Table 3.2
Public Expenditure (as% of GDP)

Sectors	1988	1989	2000	2001	2002	2003	2004	2005
All level of education	7.8	9.9	9.6	8.8	9.1	8.6	8.5	8.8
Pre-school	1.14	1.18	1.03	1.12	1.18	1.08	1.00	0.9
Basic education	4.02	4.24	3.59	3.85	3.81	3.71	3.80	4.6
Secondary Special and vocational education	1.50	3.40	3.93	2.83	2.98	2.81	2.80	2.3
Higher education	0.55	0.50	0.48	0.48	0.45	0.45	0.44	0.4
Other educational	0.53	0.54	0.57	0.47	0.58	0.49	0.42	0.5
Retraining and upgrading the level of teaching staff	0.06	0.04	0.05	0.06	0.06	0.07	0.06	0.1

Source:- UNDP, Report on Uzbekistan, Tashkent 2007-08

With 100% literacy rate for both male and female, in qualitative terms Uzbek education sector has been considerably advancing towards positive way. But in this process numerous changes in organization and planning took place in education system and this sector also experienced structural reform.

The present education system of the country is composed of following levels and types of education:-

3.3.1.1 Pre-school education (for ages 3-7) by kindergartens, both public and private (UNDP, 2007-08).

This is the first stage of the education system. It ensures the formation of healthy, developed children arouses their inclination to learning, prepares them for systematic study. The entry age in pre-school education is 3 years and duration of education is 3-4 years (table3.3). This education is provided to children until they are aged 6-7 years (refer table3.3). Pre-school education is provided at state or private educational establishments. It is also organized either at home or at kindergartens. In the country today there are 6413 pre-school

institutions accommodating 562.2 thousand children (refer appendix I). The number of pre-school educational establishments and the number of children enrolled in it sharply declined after 1991 (refer appendix I). The main reasons were; (a) changed national policy towards family (home), upbringing of pre-school age children and instruction of pre-school educational establishments. (b) Reduction in state subsidies provided to support children at pre-school education (c) Altered demographic situation with a significant reduction of the birth rate. (d) Concerns amongst parents about the falling quality of pre-schooling (UNDP, 2007-08). At present about 57000 non-state-owned pre-school establishments are functioning in the country (refer appendix I). Home based kindergartens and gymnasium type kindergartens are also increasing in the country (IIEP, 2000). A total of about 62,246 teachers are employed in pre-school education (refer appendix I).

There are regional variation in the distribution of pre-school institutes and number of students enrolled. Number of pre-school institutes are highest in rural Uzbekistan while number of students enrolled in these institutes are highest in urban areas (refer appendix I). Similarly highest number of pre-school institutes are situated in Ferghana province, followed by Samarkand and Namangan (refer appendix II). But highest number of students enrolled in the year 2004 in pre-school education are in Tashkent city region, followed by Ferghana and Tashkent Province respectively (refer appendix II). Pre-school institutes are poorly developed in Sirdarya, Djizak and Navoi Provinces (refer appendix II). The over all condition of pre-school education system is not very good. This can be proved by this fact that out of total population aged between 3 to 7 years in the country only 17 to 18% children are enrolled in pre-school establishments (refer appendix I). With the introduction of (NPPT) various measures have been taken to enhance the quality of pre-school education. But still the number of pre-school institutes as well as enrollment ratio in these schools is declining sharply in the country.

(3.3.1.2) General Secondary Education:- (for ages 7-15 years).

The 9 years general secondary education in Uzbekistan is compulsory and free for the students between the age group of 7 to 15 years (UNDP, 2007-08). This education system is divided into, primary education comprising (1-4 grades) and secondary education comprising (5-9 grades) of general education. Education at the 10th and 11th grades has gradually been shifted to secondary special vocational educational establishments (IIEP, 2000). Primary School education covers 100% of children of the respective age group in the country. This education is being given in general or specialized schools. The quality and contents of subjects at primary schools are flexible in respect to general secondary education. Skills of reading, writing, calculating etc are taught in primary school. In primary school students also acquire knowledge in standards of speech, basics of personal hygiene, healthy life style and behavior in society (UNDP, 2007).

General secondary education is the logical continuation of primary education, though it has a different content and incorporates different methods of teaching. Secondary education ensures the formation of pupils' personality, their preferences, interests and ability to make choices in society. General secondary education is provided on a full-time basis (IIEP, 2000). Major subjects taught in general secondary education are native language and literature, mathematics, physics, chemistry, history, fundamentals of the state and law, foreign languages, geography and biology.

At present there are 9796 general primary and secondary education institutes in the country (refer appendix IV). There are also 245 special schools and lyceums and 1845 schools with in-depth study in some special subjects (refer appendix IV). The total number of students enrolled in primary school education is about 2164800 in the year 2006-07 (refer appendix III). In the general secondary education about 3106000 students are enrolled at 5 to 9 grades and about 417100 students are enrolled at 10 to 11 grades in the year 2006-07 (refer appendix III). The total number of students in primary and general

secondary education has been growing in the country. For example, in 1997-98 academic year enrollment was about 5.4 million, where as in the 2006-07 academic year it rose to 5.6 million (refer appendix III). At present about 451700 teachers are employed in general secondary schools (refer appendix IV). After independence the accessibility of school education is ensured not only by the fact that it is free, but also by the possibility to study one's native language. That's why at present out of total students enrolled in secondary school about 9.5% students are getting education in Uzbek language. It is followed by Russian, Karakal, Kazakh, Tajik, Kyrgyz and Turkmen language respectively (refer appendix V). Distribution of general secondary education is not ubiquitous in Uzbekistan, rural area has highest number of secondary schools while quality of education is better in urban areas (refer appendix IV). There is also regional disparity in the distribution of secondary institutes and enrollment ratio. Samarkand and Qashadarya provinces have maximum number of students and secondary institutes while in Sirdarya and Navoi province it is poorly developed (refer appendix VI).

3.3.1.3 Specialised Secondary (Academic Lyceum) and vocational education (Professional College) (for ages 16-18):-

As a remnant of the former Soviet education system, there still exists a stage of so-called secondary specialized and vocational education, which is an authentic form of professional education based on nine-year general secondary education plus specialized technical courses in professional and technical colleges (IIEP, 2000). At present 3 years Secondary Specialized Vocational Education (SSVE) is a independent element in the overall system of education (UNDP, 2007-08). Secondary specialized vocational education is not only providing intensive intellectual development and in-depth study of general subjects, but also preparing grounds to join the labor market and providing them with professional skills. This education is provided on a full time basis in two types of educational establishments; Academic Lyceums and Vocational Colleges. Academic lyceums are focused on intensive intellectual

development and a deep specialized and professionally oriented education, taking into consideration of the pupils' interests and abilities. In academic Lyceums students can choose humanities, sciences, agriculture and other subjects. Academic Lyceums are usually established in order to involve qualified university teachers and in some cases use university laboratories equipments and libraries (UNDP, 2007-08).

Vocational colleges provide secondary specialized vocational education with in depth development of professional skills and training in one or several trades of a chosen profession. Local authorities, industry and other bodies provide financial support to vocational colleges (IIEP, 2000). Overall, under secondary specialized and vocational education area of study is confined to manufacturing, construction, agriculture, transport, communications, economics, law, health care, physical training and sports sciences, personal development, services, arts and cinema etc (UNDP, 2007-08).

Currently secondary specialized vocational educational establishments cater for 1075,000 students in 1052 institutes (refer appendix VII), out of which 1021900 students got enrolled in 953 vocational colleges and 53100 students got enrolled in 99 academic lyceums (UNDP, 2007-08). Tashkent city, Samarkand and Ferghana valley province have maximum concentration of secondary special vocational education centers (refer appendix IX). Job prospects of the students of vocational colleges and academic lyceums are not too bad. About 61% graduates from vocational colleges got job in 2006 (refer appendix VIII). Uzbek government is also providing educational opportunities to orphans, disabled and handicapped children at all levels of education. Apart from primary and secondary education special emphasis has been given on the improvement and modernization of higher education system in the Post-Soviet Uzbekistan.

3.3.1.4 Higher education: -

It is given after graduation from secondary special and vocational

educational establishments by universities and institutes (UNDP, 2007-08).

Higher education is enormously important for the social and economic development of independent Uzbekistan. Without proper development of higher education it is not possible to enhance the social and human development condition of the country. Higher education is an effective means of combating poverty and inequality and it also serves to create a global outlook to expand life style choices of the newly indecent Uzbekistan. Thus higher education sector plays major role in the national and regional development of Uzbekistan in three principle ways. First, prepares the primary and secondary teachers who shape the dimensions and quality of the overall education system. Second, it trains the high-level technical and administrative personal needed in government, business and industrial services. Third, the higher education institutes operate as incubators of the innovation and creative thinking needed for modern democratic society of Uzbekistan.

Though Uzbekistan has been centers of education for centuries but the history of higher education in the country is only one century old. The first real university for higher education Turkistan state university was opened in 1920. It was later renamed the Tashkent state university and again in 1999 it became the national university of Uzbekistan (Tampus, 2007). At present Uzbekistan has 64 universities for higher education (refer table 3.6). Beginning from the 1991 the system of higher education has been reconstructed according to the requirements of independent country as well as to meet the needs of the new era.

**Table 3.3:
Structure of Education in Uzbekistan after 1991**

<p align="center">Ph. D Post Graduate (University) (above 18 years age)</p>	
<p align="center">Bachelor Degree, Magistracy Professional Qualification Graduation, training (18 - 22 years age)</p>	
<p>Specialized Secondary Education (Academic Lyceum) (16-18 years age)</p>	<p>Professional Specialised Education (Professional College) (16-18 years age)</p>
<p align="center">General Secondary Education (5-9th year) (12-16 years age)</p>	
<p align="center">Primary Education (1st-4th Year) (7-12 years age)</p>	
<p align="center">Pre-Primary Education (1-7 years age)</p>	

3.4. Reform in Higher Education

After 1991 through gradual reform policy adopted by the Uzbek government, higher education shifted from supply-driven to demand driven system.

3.4.1 Initial Stage

The initial stage of reform in higher education has been introduced between 1991 and 1995. This stage of reform is called as the stage of restructuring of higher education (UNDP, 2007-08). The basic areas of reforming higher education during this period were.

- Giving priority to university education; as a result Tashkent state University, Tashkent state economic University, the University of World Economy and diplomacy and the Tashkent Islamic University were established. Andijan, Ferghana, and Urgench Universities were established on the basis of existing regional pedagogical institutions. The status of the university was also awarded to the Tashkent institute of foreign language and Tashkent Agricultural Institutes (UNDP, 2007-08).
- Breaking up into smaller units and the specialization of higher education institutions; as a result Tashkent polytechnic institute got divided into Tashkent chemical, technological institute and Tashkent Architectural, construction institute. Also the Tashkent State Institute of oriental studies branched off from Tashkent state university to become automates university (UNDP,2007-08)
- Location of higher education: to overcome a skew in the location of higher educational institutions, three quarters of which were located in several large cities and majority in Tashkent, universities were established in all regions of the country (UNDP 2007-08).

3.4.2 Subsequent Development

The later stages of reforms in the higher education sector began in 1996, when the Higher Education Development Concept (HEDC) was introduced (IIEP, 2000). Now the implementation of National Human Resource Development Programme (NHRDP) created a completely new model of education in the country (Dutta, 2007). Also the establishment of National Programme for Personnel Training (NPPT) in 1997, Provided a long term strategy for strengthening specially higher education .As a result of positive steps taken by the President Islam Karimov and Ministry of Higher and Secondary Specialized Education (MHSSE), the higher education sector experienced drastic reform such as;

- ❖ Transition to a two-tier System of higher education. Bachelors and Master's.
- ❖ Transition to a new system of funding; from government budget funds and also from private financing by NGO's and various other international organization.
- ❖ Complete transition to admitting students on the basis of entrance tests (instead of the previous oral and written examination).
- ❖ Introduction of public educational standards for the Bachelor and master degree levels.
- ❖ Providing training to high education teaching staff (including training abroad in the best universities).
- ❖ Expansion of the humanitarian base of higher education.
- ❖ Improvement in the management and independence of higher educational establishments.
- ❖ Implementation of mechanisms of interaction between education, science and industry.

- ❖ Developments of technologies for more open and distance learning process as well as intensifying the use of new pedagogical methodologies, information technologies and modular systems.

The direct impact of reforms in the system of higher education that, today all of the 64 higher educational institutes of the country have access of internet facilities (UNDP, 2007-08).

3.5 Structure Of Higher Education

Higher education begins at the age of 18 or 19 and continues for not less than 4 years (refer table 3.3). It is divided into two stages; the Bachelor's and Masters. Higher education also foresees improvement of tertiary institutions, introduction of public administration, modern technology and methods of personnel training, self education and a system of distance learning.

Bachelor's provides a basic higher education. It provides the fundamental and applied knowledge in the area of professional training for the duration of 4 years (IIEP, 2000). After finishing the bachelor's program, graduates are awarded with degree "bachelor" according to their chosen field of education and they are given state attested diplomas (UNDP, 2007-08). Master's provides higher special education in a framework of specialization and lasts for two years, upon completion students sit for a state qualification attestation and defend a thesis, while Post-graduate course continues for another 3 years after the master's program and doctorate 3 years for sciences ending in the scientific degree of doctor of science(IIEP, 2000).

Higher education is being provided in following types of higher educational institutes:-

University:- It provides academic programs in the sector of higher education and post-university education in a wide spectrum of fields of knowledge.

Academy:- It provides academic programs in higher education and

post graduate education in specific field of knowledge and areas of training.

Institute:- It provides higher education at post-graduate level in specific fields of professional training. Government permits the establishment of private institutes too.

External Studies:- Here a student may independently study the academic disciplines according to the educational-vocational program of higher education in their chosen field as he or she will have final examinations in a higher educational institution.

Distance learning:- Provides education to working persons. It is based on using modern information technologies and telecommunication facilities.

Existing structural system of higher education is mainly coordinated and funded by the Ministry of Higher and Secondary Specialised Education (MHSSE). At present there are 64 higher educational institutes in the country, out of these 34 institutes are under MHSSE (Refer table 3.4). Remaining higher institutes come under other horizontal ministries i.e ministries of public education has 5 pedagogical institutes, 7 institutes are under ministry of health, 5 are under ministry of agriculture and 4 are under ministry of culture. Other 9 institutes come under several ministries, agencies and organizations (refer table 3.4).

Table 3.4
Higher Educational Institutions (HEIs) Under Different
Ministries

(2006)

Ministries, agencies and organizations	Number of HEIs
MHSSE	34
Ministry of Public education	5
Ministry of culture	5
Ministry of health	7
Ministry of agriculture	4
Other ministries, agencies and organizations	9
Total	64

Source:- State committee on statistics Uzbekistan Tashkent 2007-08

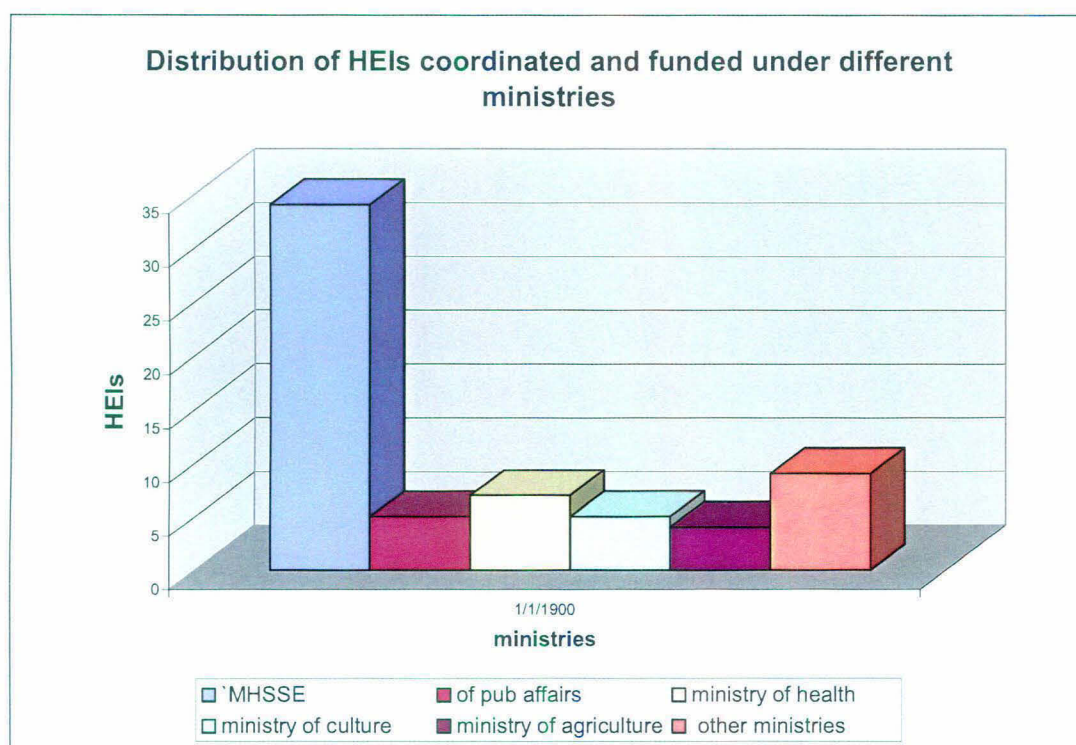


Fig 3.2

3.6 Present Trends

Since the time of independence, Uzbekistan is trying to acquire a proper place in the world community through economic, social and political stability as well as development of intellectual and spiritual potential of the nation. Without structural and substantial reforms and transformations in the system of higher education it was indeed impossible to achieve. Thus beginning from 1991, Uzbek government has been trying to improve the level of higher education in the country. This reform process can be testified from this fact that before independence in 1988/89 (during Soviet period) country had only 42 higher educational institutions including 3 state universities, 14 pedagogical or language, 9 engineering and technical, 3 agricultural, 7 medical-pharmaceutical, 3 culture and arts institutions as well as 5 humanitarian, physical, cultural, sports institutions and 1 economical institutes (refer table 3.5). But in the year 2005-06 total number of HEIs has increased to 64 including 24 universities, 14 technical and engineering, 6 pedagogical, 15 humanitarian institutes, 6 medical and pharmaceutical, 13 special institutes, 4 agricultural and 3 economical institutions as well as branches of three international universities (refer table 3.5).

Table 3.5
Higher Educational Institutes Before and After
Independence

Types of institutes	1988/89	2005/06
Universities	3	24
Institutes	39	40
Total	42	64
Out of them		
1. Technical & engineering institutes	9	14
2. Pedagogical	14	6
3. Humanitarian including co-operative, physical, cultural, sports etc	5	15
4. Medical and Pharmaceutical	7	6
5. Agriculture	3	4
6. Economical	1	3
7. Special		13
8. Branch of V.G.Plekhanov		1
9. International west minister university		1
10. Lomonosov Moscow State university Branch		1

Source:- Interstate Statistical Committee of the CIS, Statistical abstract Moscow 2005 and UNDP 2007-08;

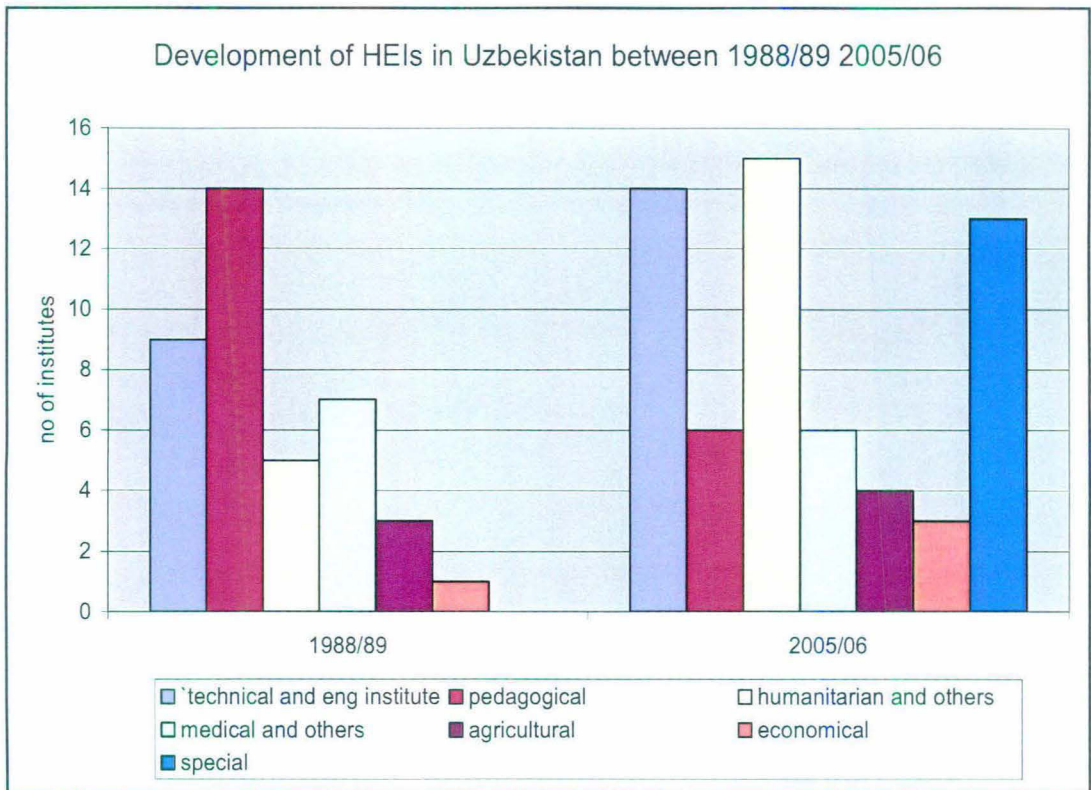


Fig 3.3

With the increase in the number of HEIs the number of students enrolled in HEIs is also increasing in the country. At present a network of 64 higher education institutions represent the national higher education system consisting of 286,300 students, including 273,000 students at the bachelor's level and 12,600 students at masters level (refer table 3.6). In the year 2004/05 out of the total number of students in the higher educational institutions 40.7% are women and 59.3% are men (Dutta, 2007).

Table 3.6
Trends of Higher Education Development
(1996-2006) (in thousands of people)

	1996	2000	2001	2002	2003	2004	2005	2006
Number of higher educational institutions (units)	58	61	61	62	62	63	64	64
Annual enrollment in higher educational institutions (in thousand)		44.7	50.6	54.6	61.0	59.3	59.6	61.1
Annual enrollment in Bachelor's (in thousand)		41.9	46.6	50.6	56.1	54.2	54.2	55.4
Annual enrollment in Master's		2.8	4.0	4.0	4.9	5.1	5.4	5.7
Total Number of students in higher education	165.6	183.6	207.2	232.2	254.4	263.6	278.7	286.3
Total number of students in bachelor's		179.6	200.4	223.5	244.9	253.2	267.4	273.7
Total number of students in Master's		4.0	6.8	8.7	9.5	10.4	11.3	12.6
Graduates of Higher educational institutions		31.6	36	39.8	45.5	52.8	57.8	60.7

Source:- State committee on statistics Uzbekistan, Tashkent 2007-08.

3.7 Gross Enrollment Rate (GER) in HEIs

Since independence the higher education sector is showing slow but positive progress in the enrollment rate of students at various level of education (bachelor's, master's and higher research). In the year 1996 almost 165600 students were enrolled in HEIs. It increased to 286300 by 2006 (refer table 3.6). Similarly the annual enrollment rate for bachelors and master's level was 41900 and 2800 respectively in the year 2000. This rate increased to 55400 & 5700 respectively in the year 2006. Thus the temporal growth in the gross enrollment rates in

higher education show a very slow increase. Over the period 1996 to 2006 the growth rate for higher education enrollment is only 5.7% annual (refer table 3.6). The possible reasons for slow growth in GER in the country may be attributed to a lack of opportunities available at the local level due to which students are restrained to continue with their higher studies. They prefer going abroad for their higher education rather than spending too much money for obtaining their doctorates in another city (Dutta, 2007). Another possible reason for slow growth of GER in higher education may be insufficient financial support to this sector because prior to 1996 steady growth of economy, high inflation, negative fiscal balance and slow growth in per capita GDP, increasing rate of unemployment and poverty pushed the country into the stage of economic recession (refer tables 2.6, 2.8 & 2.9).

As a result of this economic recession public expenditure on higher education declined (refer table 3.2). After entering 21st century though economic condition is improving in the country but still the rate of enrollment in higher education is slow. It may be due to less educational opportunities: for females compared to young men, for rural people compared to that of urban people, less number of existing higher educational institutes compared to the size of population between 18-34 years age group on the country. Admission process and high tuition fees are also responsible for poor enrollment in HEIs. For example at present annual tuition fee is approximately \$ 400-800 per year for those who study on fee basis. This is undoubtedly expensive for needy family (UNDP, 2007).

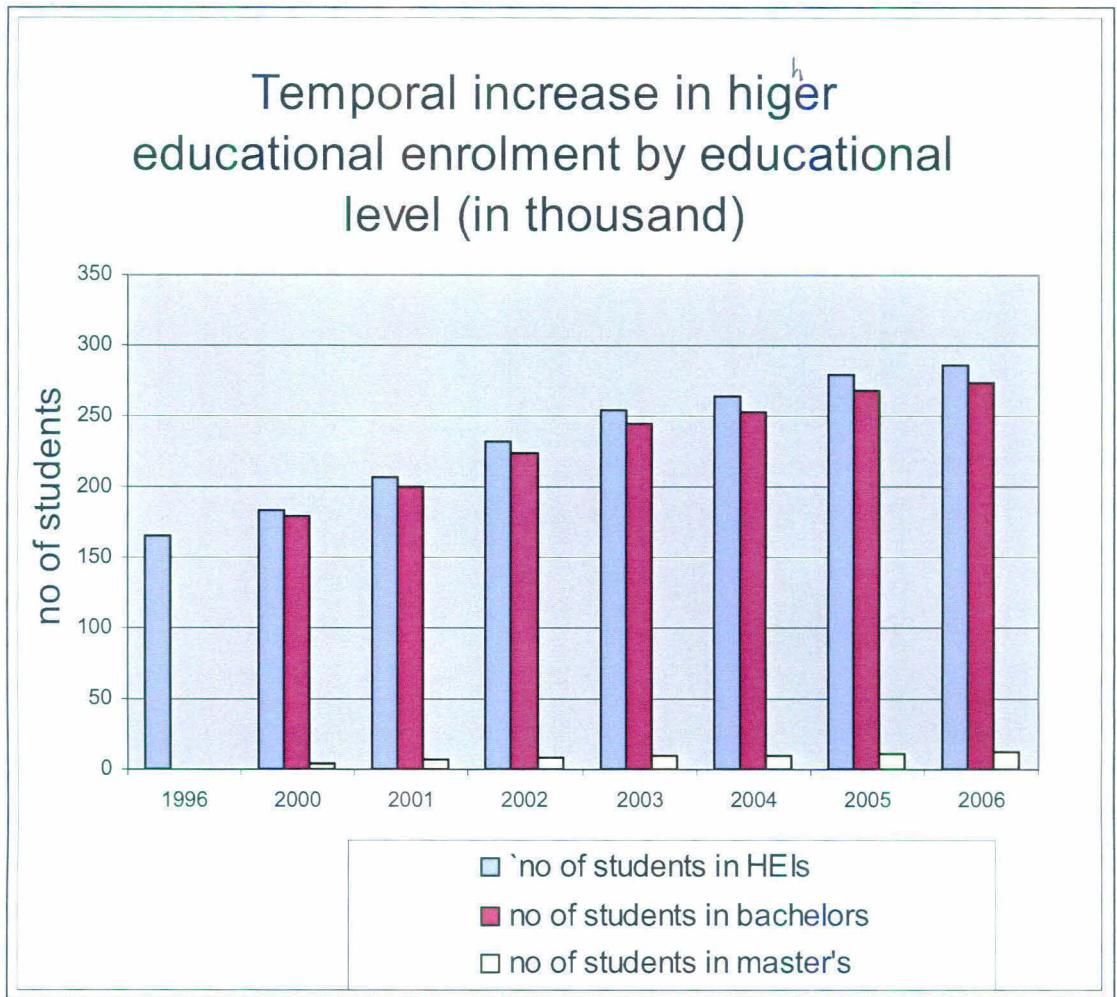


Fig 3.4

GER for various levels of education as shown in table 3.8 reveal that while the primary general education is more than 98%, the secondary level captures only 26.48% of the children. The GER for higher education is dismal, less than 6%. This trend shows that still higher education is not capable to attract too many students. Some of the possible reasons which can be attributed for this worrying phenomenon are increasing drop-out rates after school education, sharp declines in pre-school education provision and in providing schooling opportunities for children in rural areas (Dutta, 2006).

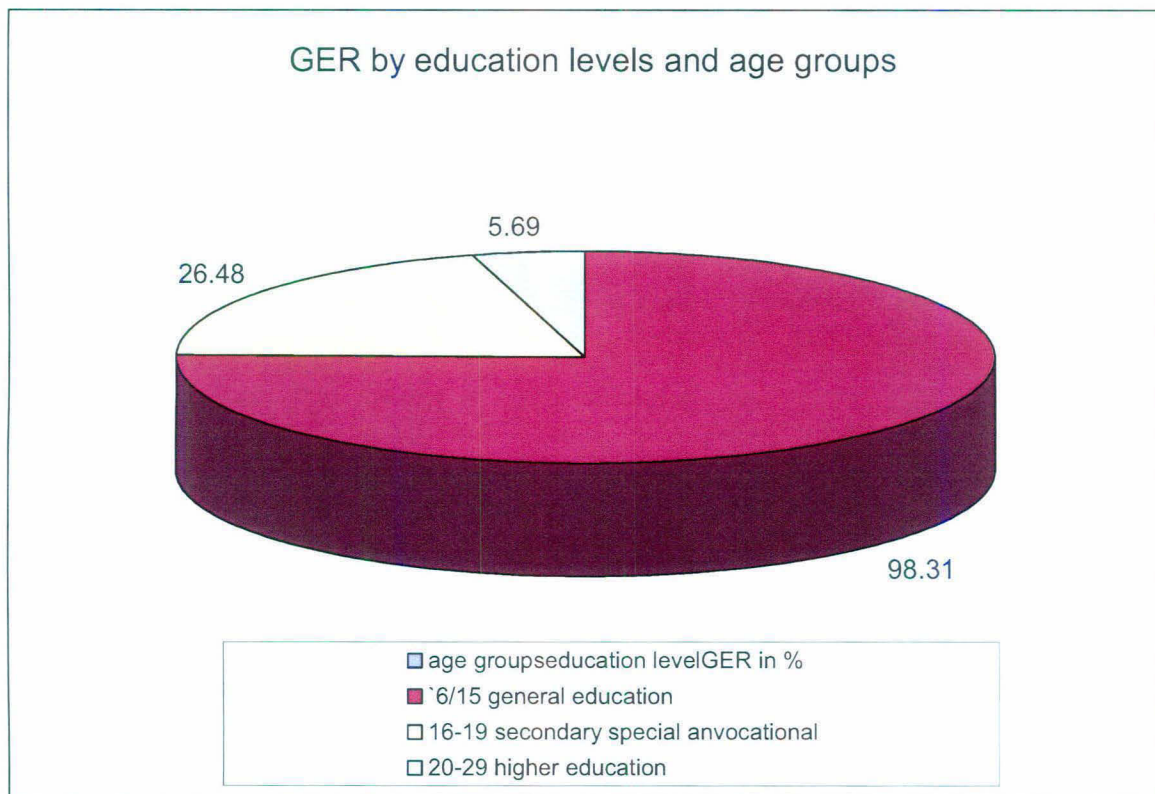


Fig 3.5

Compared to the year 2001 the enrollment rates in vocational colleges, academic high schools, in job training institutes and higher educational institutes have increased in the country in 2005 while enrollment rates in general school education, technical educations, secondary special education, post graduate and doctorate degree program have declined between the same period (refer table 2.7). Though the trend of enrollment rate by educational level is still very much similar as it was during the last several years after independence still the enrollment rate is highest in general school education followed by vocational colleges and in Job training institutes. Higher education ranks fourth out of total enrollment at all level of education. Technical education & academic high schools come after the HEIs. Again under higher education it can be seen that though the maximum students are enrolled in bachelor's courses, the condition of post-graduation and doctorate degree program are not good (refer table 3.7). Some of the possible reasons for this

trend of enrollment are higher number of educational institutions for primary, secondary and vocational colleges, poor opportunities for post graduate and doctoral degree programs, poor infrastructural facilities like, poor transportation facilities, traditional stocks of books, least number of modern libraries, poor quality of lab equipment and insufficient higher institutions.

Table 3.7
Temporal Change in the Enrollment Rate by Education
Level
2001-2005

Educational level	Total enrollment (in thousand)		% of enrollment	
	2001	2005	2001	2005
General school education	6076.4	6151.4	84.81	81.82
Academic high school	17.5	30.4	0.24	0.40
Vocational colleges	216.8	757.6	3.02	10.07
Technical educational institutions	105.0	6.1	1.46	0.08
Secondary special institutions	211.9	118.2	2.96	1.57
Higher educational institutions	207.2	263.6	2.89	3.50
Post graduate education	3.4	2.2	0.04	0.02
Doctorate degree Program	0.3	0.2	0.004	0.002
In-Job training	3.19.4	326.3	4.46	4.34
Total enrollment	7157.9	7517.8	100%	100%

Source:- UNDP, 2005, *Development of education system in Uzbekistan 2000-2004*, Tashkent.

Table 3.8
Gross Enrollment Rate (GER) by Age Group
(2001)

Age groups	Education levels	Population	Enrollment	GER (%)
6-15	General education	6348000	6241000	98.31
16-19	Secondary special & vocational	2447000	684000	26.48
20-29	Higher education & research	4463000	254000	5.69

Source:- State Department of statistics, Republic of Uzbekistan (2001)

3.8 Bachelors Programme

With the aim of improving the quality of the education at bachelor's level the Ministry of Higher Education of the republic has engaged in wide scale international cooperation since last 10 years (IIEP, 2000). But the output in terms of specialist graduates in HEIs is not showing a very prestigious rise. With nearly 12% annual growth, it seems like a far-fetched target to catch the potential 39% young population of the country (Dutta, 2007). Also the number of universities for bachelor's has not shown a substantial growth over the previous year. From 2001-2005, the number of universities has increased from 18 to 20 and over the last three years the country has not experienced any growth in the number of university (refer table 3.10) while the total number of young age population has been increasing in the country.

With 17% annual growth rate the number of graduates have increased from 53000 in the year 2001/02 to 80,000 in 2004/05 (refer table 3.10). But this number is not sufficient to fulfill the society's needs, because graduation is the main gate for master's and research education. Without completion of bachelor's degree it is impossible to go for post-graduation and research. Thus the nature of post-graduation is totally influenced by the qualitative and quantitative progress of bachelor's courses.

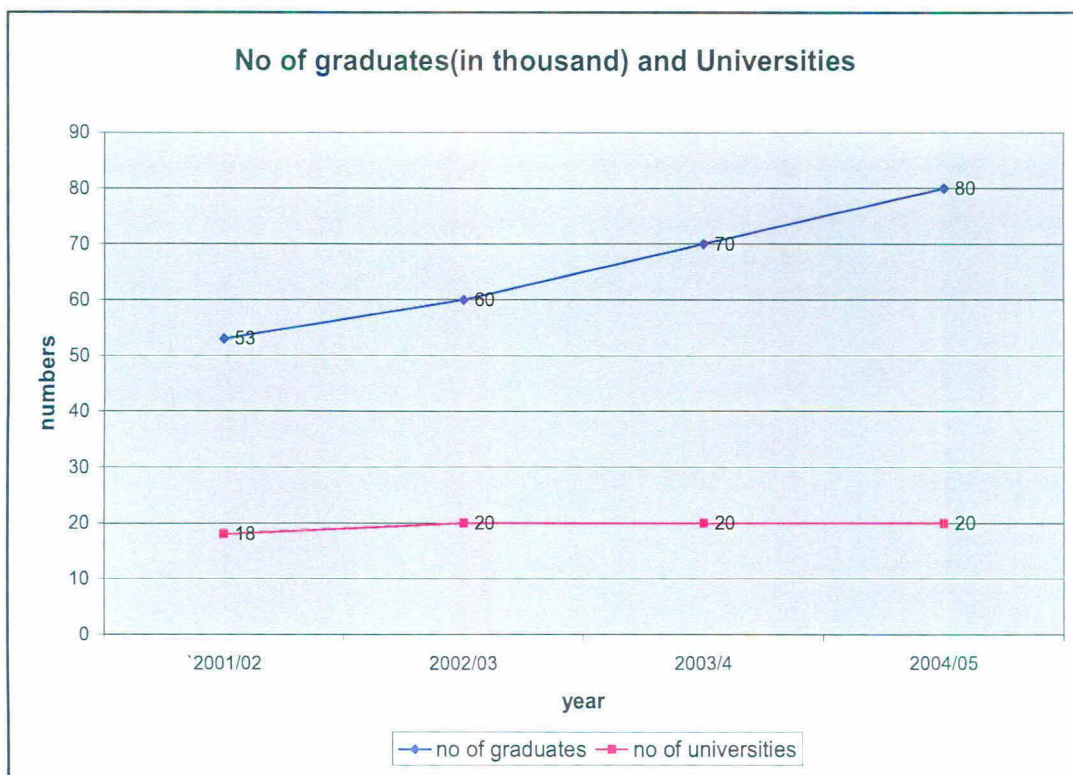


Fig 3.6

Table 3.9
Specialist Graduates Produced
2000-04 (in thousand)

Year	Persons.
2001	36.0
2002	39.8
2003	45.5
2004	52.8

Source :- UNDP, 2005, *Development of education System in Uzbekistan 2000-2004*

Table 3.10
No of Graduates and Universities
(2001-2005)

Years	Number of Graduates (in thousand)	No of universities
2001/02	53	18
2002/03	60	20
2003/04	70	20
2004/05	80	20

Source:- UNDP, 2005, Development of education System in Uzbekistan 2000-2004 Tashkent.

Table 3.11
Distribution of Specialist Graduates According to Discipline
(2004)

Subjects	No. of HEIs (2004/05)	Specialist graduates (in thousand)	As % of total specialist graduates of HEIs
Manufacturing	11	7299	13.9
Construction	1	411	0.7
Agriculture	4	3432	6.5
Transport	2	1545	2.9
Communications	1	1069	2.0
Economics	5	4748	9.0
Law	1	876	1.6
Health Care	7	2750	5.2
Physical training and sports sciences	1	245	0.4
Personal Developments	27	29977	57.2
Total	63	52352	100%

Source:- UNDP, (2005), Development of Education System in Uzbekistan 2000-04 Tashkent.

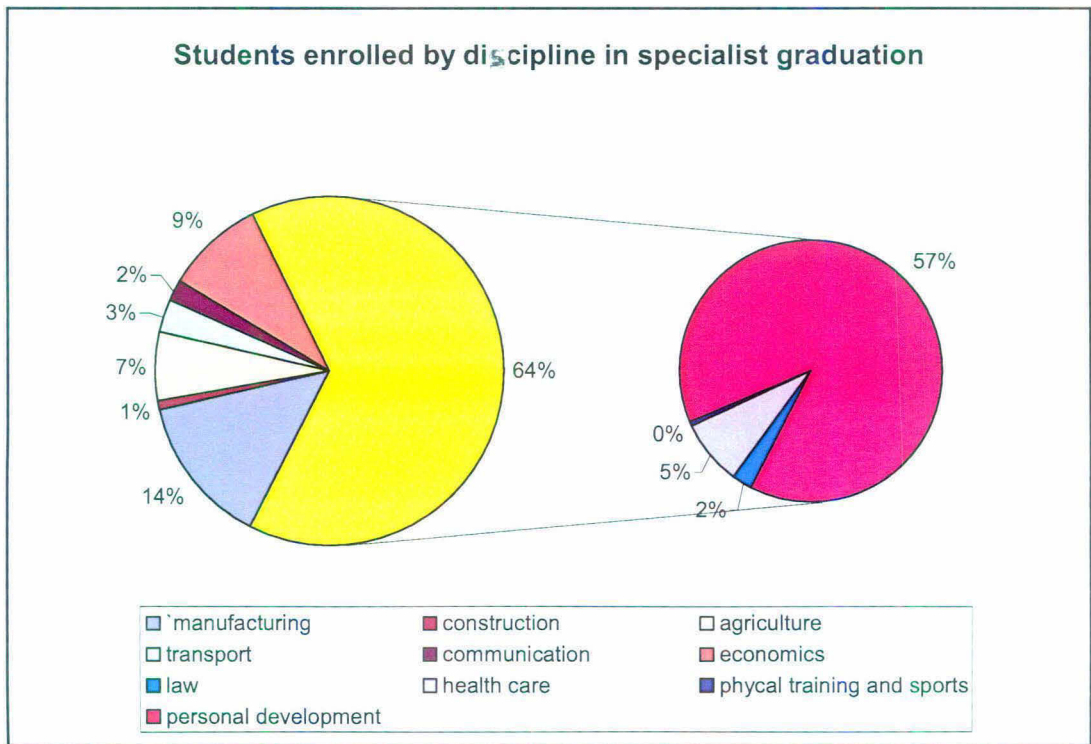


Fig 3.7

In terms of disciplines opted for specialist graduation courses majority of students opt for discipline i.e personal development 57%, manufacturing 13% and economics 9% (refer table 3.11). This is followed by agriculture, health care, transport and communications.

3.9 Post Graduate Education :-

Post graduate education in Uzbekistan is targeted towards meeting the society's needs for highly qualified scientists and teachers. After the implementation of NPPT the number of students in post-graduate and doctorate courses has increased both in absolute and relative terms. However the effectiveness of these courses is very low. In the year 2000 out of total bachelor's student in the country only 15% post-graduate students and 8.6% doctoral students were capable to finish their studies and defended their dissertation. But after 2000 this percentage has declined sharply and became almost half in 2005 (refer

table 3.12). Within the last few years period the state quota for enrollment to post-graduate and doctoral courses has slightly increased. That's why the absolute number of students in both courses have increased respectively 51 and 54% (refer table 3.12). But overall effectiveness of post-graduate and doctorate course are still low. The key causes of this low effectiveness are may be: insufficient qualification of entrants to post-graduate and doctorate courses because best graduates don't take admission in these courses. To save their time majority of good students prefer to go overseas universities where higher and post graduate education last for 7 to 10 years, while in Uzbekistan it takes 11 years for common students and for medical personnel it takes 13-15 years (IIEP, 2000). The complicated and expensive process of preparing and defending a dissertation is also one of the prominent causes, apart from insufficient number of qualified research personal, backward lab and library facilities.

In terms of discipline opted for post-graduate courses majority of student's opt for science subjects like medicine, agriculture, physics, chemistry, biology. This is followed by economics, languages, teacher training and history (refer table 3.13).

Table 3.12
Dynamics of Post-graduate education and Research (in thousand).

	Post Graduate courses			Doctorate Courses		
	2000	2005	2005 as % of 2003	2000	2005	2005 as % of 2000
Total Students currently	74.2	144.5	51.3	7.2	13.3	54.3
Graduates	29.4	35.0	84.1	2.6	3.8	69.3
Including with thesis defense	4.6	3.0	154.3	0.22	0.2	94.0
Students as % of graduates	15.7	8.6	-	8.6	6.3	-

Source:- UNDP, 2007-08; Education in Uzbekistan matching supply and demand, Tashkent.

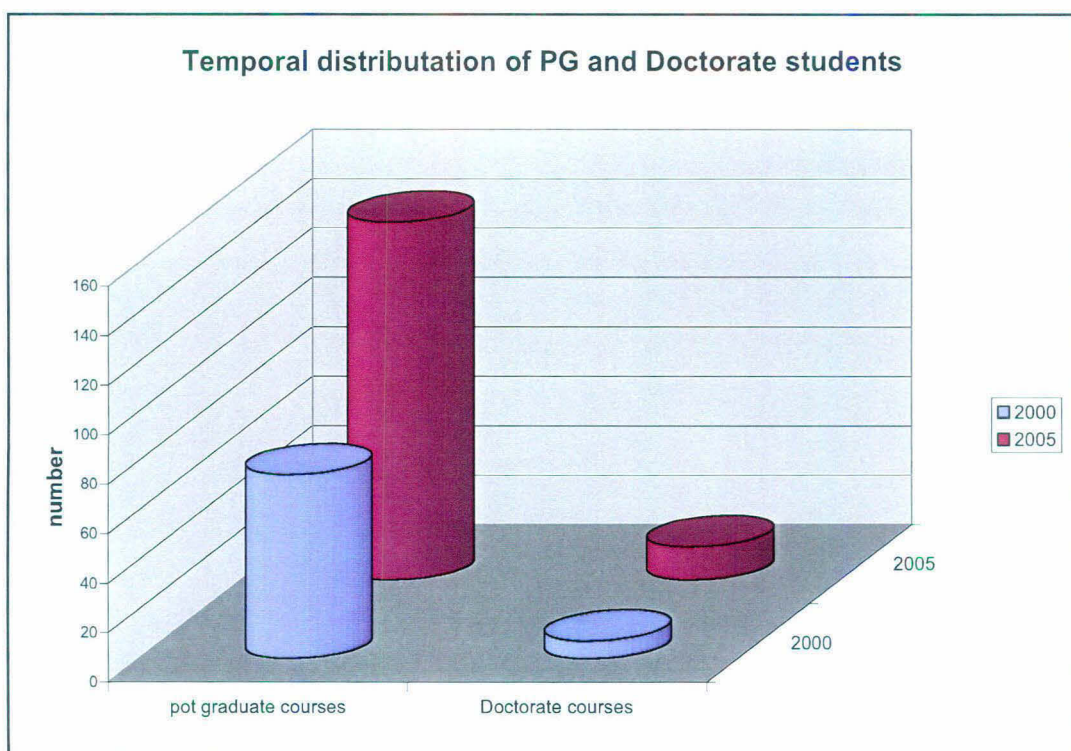


Fig. 3.8

Table 3.13
Distribution of Post Graduate Students According to
Discipline
(2004).

S.M.	Subjects	% of Students enrolled in post graduation.
1	Physics and math.	7.1
2	Chemistry	4.7
3	Biology	6.5
4	Technical	1.0
5	Agriculture	15.0
6	History	4.5
7	Economics	14.0
8	Philosophy	1.6
9	Language studies	9.5
10	Geography	0.8

11	Law	2.1
12	Teacher training	6.1
13	Medicine	15.5
14	Pharmaceutics	1.0
15	Veterinarian Science	0.5
16	Art Studies	1.5
17	Architecture	0.6
18	Psychology	0.9
19	Sociology	0.1
20	Political Science	0.7
21	Other	0.9
22	Total	100=2188

Source:- UNDP (2005); *Development of education System in Uzbekistan 2000-04 Tashkent.*

3.10 Teaching Staffs in HEIs

Since independence the Uzbek government is constantly trying to increase the number and quality of teachers in higher educational institutions. For providing governmental support for upgrading qualifications of university teachers, the president's fund "Istedod" (meaning 'progress') was established (IIEP, 2000).

Several other measures have been taken by the government to improve the condition of teaching staffs in the country. As a result the supply of teachers working in the higher educational network seems to be relatively satisfactory. Over 20,000 professors and teachers work in the education system of the country including professors and doctors of science 8.2% and assistant professors and candidates of science 35.2% (UNDP, 2007-08). Over the last 6 years the absolute number of university teachers is increasing. This can be proved with the given data in table 3.14 that in the year 2000 there were 302 professors and teachers per university. This number increased to 377 in 2006. But between 2000-06 the number of science teachers per university decreased from 108 to 103 (refer table 3.14). Due to low inflow of

doctors of sciences into the education sphere, the number of students per one doctor of science teacher has grown very slowly (only 1.5 times) between 2000-06. Despite the increase in the number of university teachers, there is a lack of qualified teachers and the student teacher ratio is also showing a negative trend. Also most university teachers don't have close links with the world of practice and so can only share theoretical knowledge.

Table 3.14
Distribution of teachers and professors in proportion to the number of students
2000-2006 (thousand people).

	2000	2001	2002	2003	2004	2005	2006
Number of Professors and teachers per university (total)	302	325	349	36	360	373	377
Teachers with							
Doctors of Science	23	28	23	24	23	23	24
Candidates of Science	108	110	113	116	113	116	103
With higher education	171	187	214	220	224	234	250
No. of Students Per teacher (total)	177	171	216	224	232	257	254
Students with							
Doctor of Science	131	122	166	170	176	199	191
Candidate of Science	28	31	33	35	37	39	45
higher education	18	18	17	19	19	19	18

Source:- State committee on Statistics Uzbekistan, Tashkent 2007-08

3.11 Regional Distribution Patterns in Higher Educational Institutions

The pattern of regional distribution of higher educational opportunities are influenced by various factor such as: socio-economic conditions, demographic structure, infrastructural development, educational budgeting, establishment of higher educational policies, macro economic growth and high rate of private funding, gender discrimination, teacher-

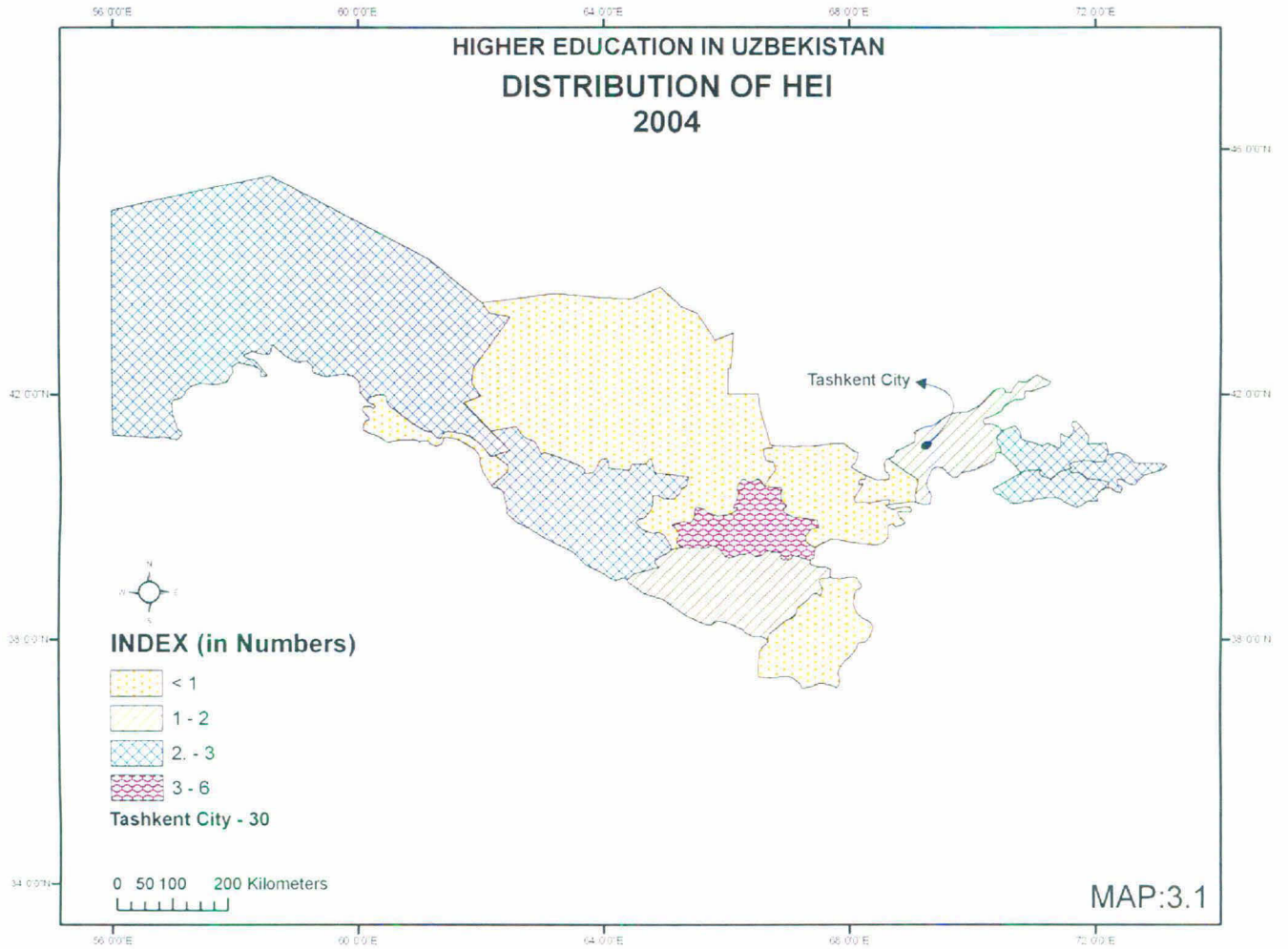
student ratio, drop-out ratio at primary and secondary level education, income differences, government policy as well as province wise quotas for the enrollment in higher educational institutions. The distribution of higher educational opportunity in the country is not rational and not equal every where. Striking differences can be seen in the standard of higher educational opportunities between the Tashkent city and rest part of the country.

About 50% population of the country is distributed in only 5 states i.e. Samarkand, Ferghana, Tashkent, Qashkadarya and Andijan. But these states have only 28% of the total higher educational institutes. On other hand Tashkent city has only 8.2% population but it has more than 48% of the total higher educational institutes of the country (refer table 3.14). Thus the unicentric concentration of educational institution in the country is responsible for the agglomeration of maximum percentage of students for higher education in Tashkent city. Therefore it is not surprising that more than 40% of the students enrolled in higher educational institutions of Uzbekistan are registered in Tashkent city region (refer table 3.15)

Table 3.15**Regional Distribution of Enrollment Ratio and Institutions**

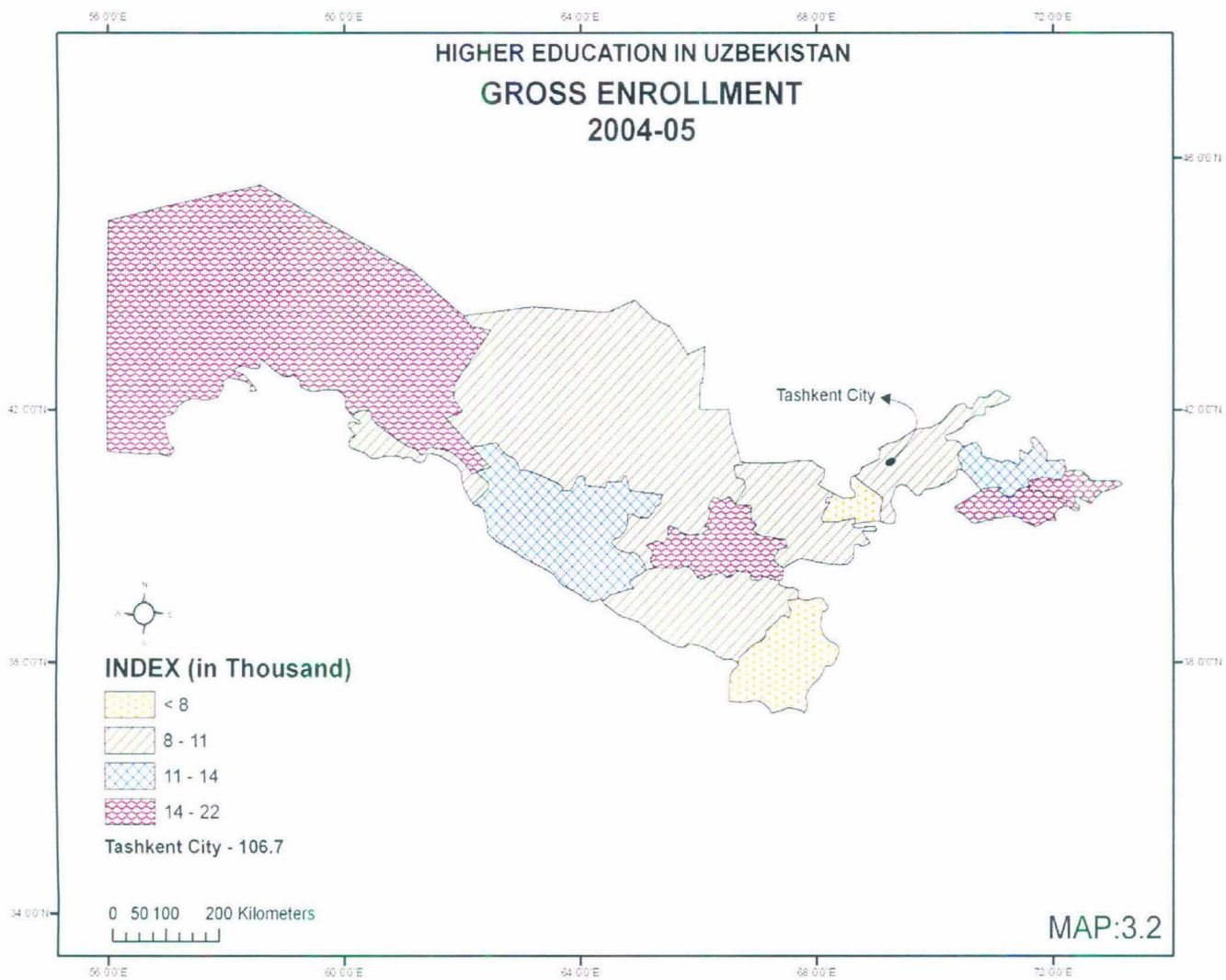
S.N	Provinces	Total population (in thousand) 2005	% of pop.	No. of Students enrolled in HEIs (in thousand)-	% of Students enrolled in HERS	Enrollment ratio compared to total population in (%)	No. of HEIs	% of HEIs
1	Karakalpakstan	1569.9	6.0	14.5	5.5	0.94	2	3.1
2	Andijan	2342.7	9.0	17.9	6.7	0.76	5	7.9
3	Bukhara	1507.6	5.7	13.4	5.0	0.88	3	4.7
4	Djizak	1043.3	4.0	8.3	3.1	0.79	2	3.1
5	Kashkadaryaya	2378.5	9.1	10.4	3.9	0.43	2	3.1
6	Navoi	810.2	3.1	8.3	3.1	1.02	2	3.1
7	Namangan	2073.2	7.9	13.6	5.1	0.65	3	4.7
8	Samarkand	2867.1	11.0	22.1	8.3	0.77	6	9.5
9	Surkhadaryaya	1894.9	7.2	6.9	2.6	0.36	1	1.5
10	Sirdarya	672.2	2.5	3.4	1.2	0.50	1	1.5
11	Tashkent	2452.3	9.4	11.0	4.1	0.44	2	3.1
12	Ferghana	2840.9	10.9	18.4	6.9	0.64	3	4.7
13	Khorezm	1432.8	5.5	8.1	3.0	0.56	1	1.5
14	Tashkent city	2135.7	8.2	106.7	40.4	4.99	30	47.6
15	Uzbekistan Total	26021.3	100%	263.50	100	1.01	63	100

Source:- UNDP(2005); Development of education System in Uzbekistan 200-2004
Tashkent.



Samarkand is only the distantly located second ranking province where 8% of country's students are enrolled in HEIs (refer table 3.15). Ferghana, Andijan, Bukhara and Namangan have also high percentage of students enrolled in HEIs (refer table 3.15). Syrdarya and Surkhadarya with 1.2 and 2.6% of their students enrolled in HEIs are at the bottom of the scale. The possible reason for the polarization of HEIs and highest enrollment ratio in HEIs in the Tashkent area are: highest percentage of population, higher employment ratio, more income generating opportunities, high per capita income, impact of western culture and legacy of soviet higher education culture, better transportation facilities, high percentage of educational budgeting, influence of private economy and high rate of FDI for infrastructural development, better condition of laboratories & libraries as well as well qualified teaching staffs.

At national level compared to the total population of the country (total population of Uzbekistan in 2005-06 is 26021.3 thousand) only 1.01% people are enrolled in higher education. Compared to total population size of the 14 province of the country, again Tashkent with 4.99% has highest number of students getting higher education. Navoi is the second ranking province with 1.02% of its population enrolled in higher education. Surkhadarya is again holding the bottom rank with its only 0.36% population enrolled in HEIs (refer table 3.15). Map 3.2 displaying the regional pattern of gross enrollment rate in higher education in Uzbekistan reveals that eastern Uzbekistan has highest gross enrollment rate (GER) in higher education, while southern Uzbekistan has lowest GER. And central and northern Uzbekistan have relatively medium rate of GER in higher education in the country. This sharp contrast in regional distribution of GER in higher education in the country is probably the manifestation of differences in the socio-economic background level of urbanization, macro-economic development, institutional establishments and level of higher educational opportunity for male and female.



The most interesting pattern that has emerged in the regional distribution of higher education is that despite the fact that major educational opportunities and concentration of students enrolled are highest in Tashkent but the distribution of specialist graduates doesn't follow the same pattern. The Surkhadarya province with 24% has highest proportion of specialist graduates as compared to 22% of Tashkent city region (refer table 3.16). This is surprising that in spite of the fact that more than 40% of the students enrolled in higher education are agglomerated in Tashkent city region as compared to only 2.6% of the students of Surkhadarya (refer table 3.15). But this trend reverses again, when compared to the ratio of graduates on per 10 thousand populations. Ratio of graduates on per 10 thousand population is again highest in Tashkent city and lowest in Surkhadarya (refer table 3.16). This trend shows that compared to total population, highest number of students enrolled in special graduation in the country are highest in Tashkent and lowest in Surkhadarya.

According to a survey conducted by "Izhtimoy Firk" under UNDP Observation almost 80% graduates who have decided to enter universities for higher education after finishing their schools, actually think that school knowledge is not sufficient for them to continue their education in universities and higher educational institutions. That's why in most of the province in the country the condition of post graduate education is very poor and enrollment ratio is low. Except Tashkent city and Samarkand province the standard of school education is insufficient to pass the entrance test required to take admission in post-graduation courses. As a result the distribution of post-graduate students in other province are very low (refer table 3.17).

Table 3.16
Graduates in HEIs (Regionwise)
(2004-05)

S.N	Province	Total graduates (in thousands)	Graduates on Per 10 thousand persons	% of total graduates
1	Karakalpakstan	2.8	18	20
2	Andijan	3.2	14	18
3	Bukhara	2.5	17	19
4	Djizak	1.2	12	15
5	Kashkadarya	2.1	9	21
6	Navoi	1.6	21	20
7	Namangan	2.3	11	17
8	Samarkand	4.1	14	19
9	Surkhadarya	1.6	9	24
10	Sirdarya	0.6	10	20
11	Tashkent	2.0	8	19
12	Ferghana	3.6	13	20
13	Khorezm	1.3	9	16
14	Tashkent city	23.0	107	22
15	Uzbekistan Total	52.6	20	100

Source:- UNDP, (2005); Development of education system in Uzbekistan 2000-2004 Tashkent.

UZBEKISTAN DISTRIBUTION OF GRADUATES 2005

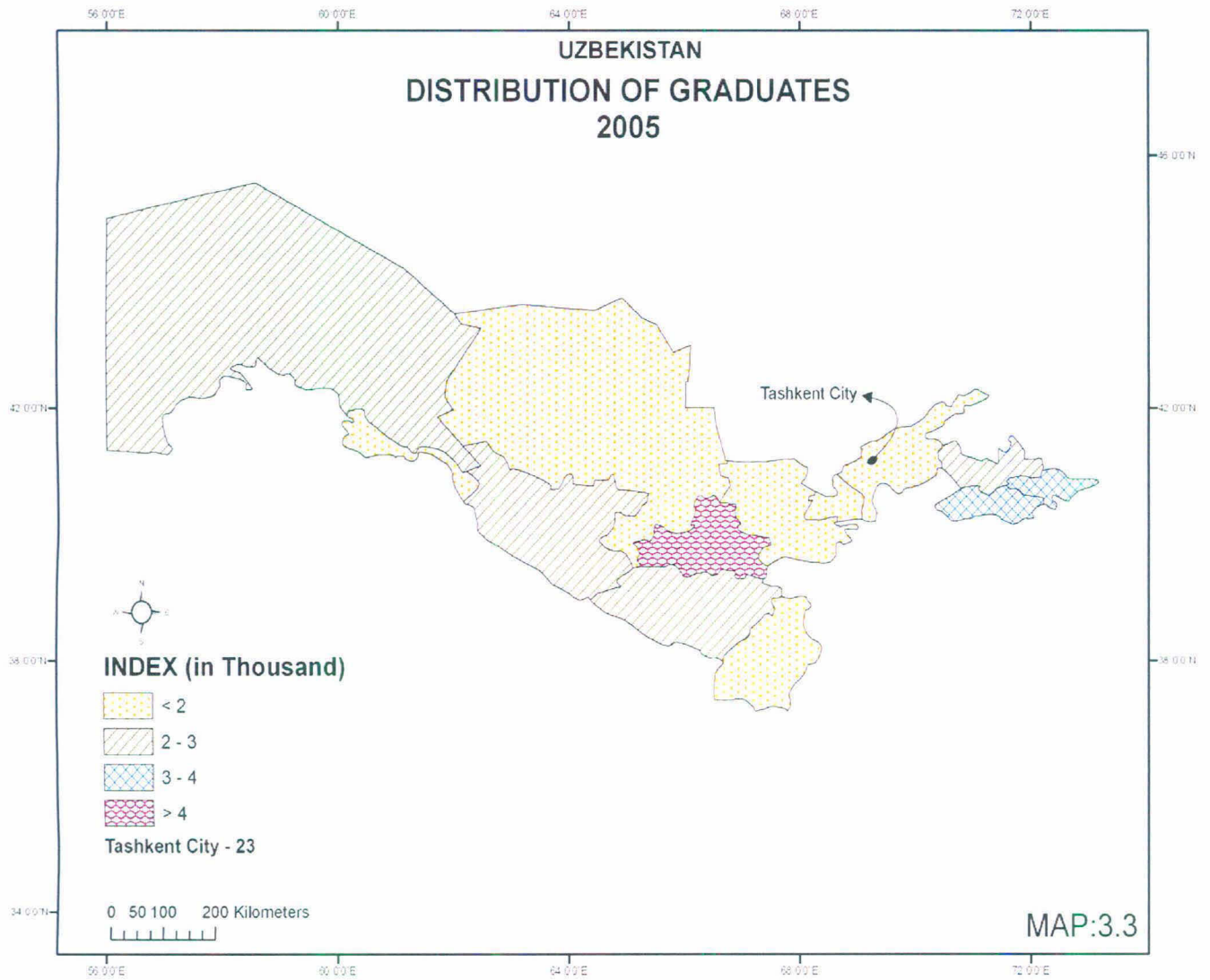
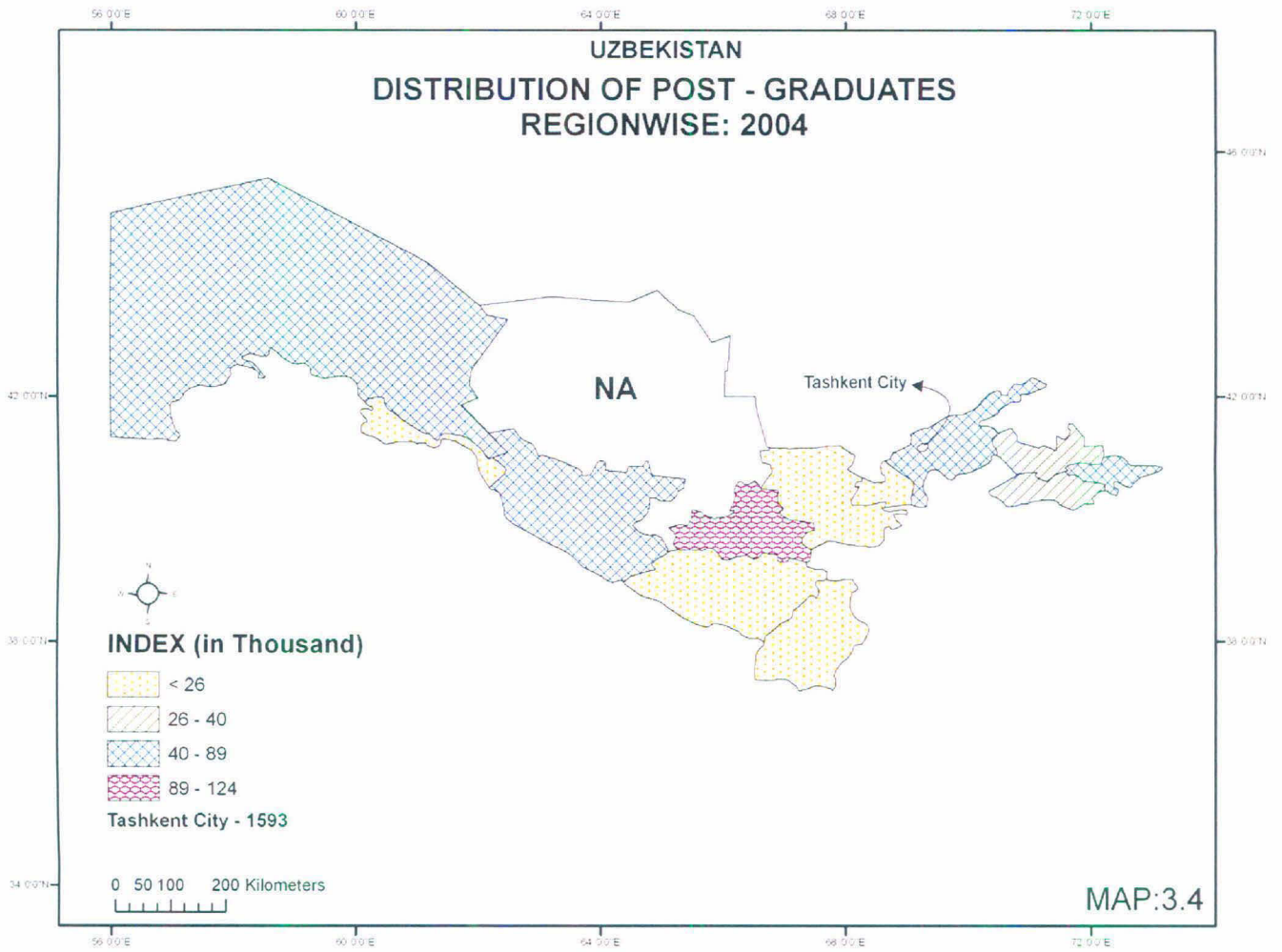


Table 3.17
Spatial Distribution of Post Graduate Students
(2004)

S.N	Province	P.G. Students (in Thousand).
1	Karakalpakstan	85
2	Andijan	69
3	Bukhara	74
4	Djizak	11
5	Kashkadarya	23
6	Navoi	NA
7	Namangan	37
8	Samarkand	124
9	Surkhadarya	7
10	Sirdarya	11
11	Tashkent	89
12	Ferghana	40
13	Khorezm	25
14	Tashkent city	1593
15	Uzbekistan Total	2188

Source:- UNDP (2005); *Development of education System in Uzbekistan, 2000-2004*
Tashkent.



To integrate the economy and education, the Uzbek government is giving special emphasis on territorial programs on the quality of training for vocational trained staffs (IIEP, 2000). For this, Coordination Councils have been established under the regional governments of the country to develop the vocational training institute to fulfill the needs of local labor market. As a result the number of the vocational trained staffs who has undergone training at the HEIs have increased to 10% (refer table 3.18). But the distribution of vocational training staffs is not similar in all 14 provinces in the country. Samarkand the leading state with 32% of its vocational trained staffs have undergone for training at HEIs. This is followed by Tashkent with 13% (refer table 3.18). Besides Samarkand and Tashkent city region about 12 to 9% of the staff has undergone for vocational training in HEIs. Others include Sirdarya, Karakalpakstan, Andijan, Namangan, Tashkent, Khorezm provinces. While Djizak, Bukhara and Qashkadarya have lowest percentage of vocational staff going for training in HEIs (refer table 3.18).

Table 3.18
Regional Distribution of Trained Staff (2004)

S. N	Regions	No. of vocational trained Staff	No. of trained Staff gone for Training at HEIs	% of Staff under gone for training at HEIs
1	Karakalpakstan	9013	868	10
2	Andijan	17048	1751	10
3	Bukhara	11850	457	4
4	Djizak	7586	249	3
5	Kashkadarya	13087	487	4
6	Navoi	9851	493	5
7	Namangan	14169	1482	10
8	Samarkand	11043	3558	32
9	Surkhadarya	3995	296	7
10	Sirdarya	5786	674	12
11	Tashkent	8645	736	9
12	Ferghana	16537	881	5
13	Khorezm	7678	659	9
14	Tashkent city	34119	4381	13
15	Uzbekistan Total	170407	16972	10

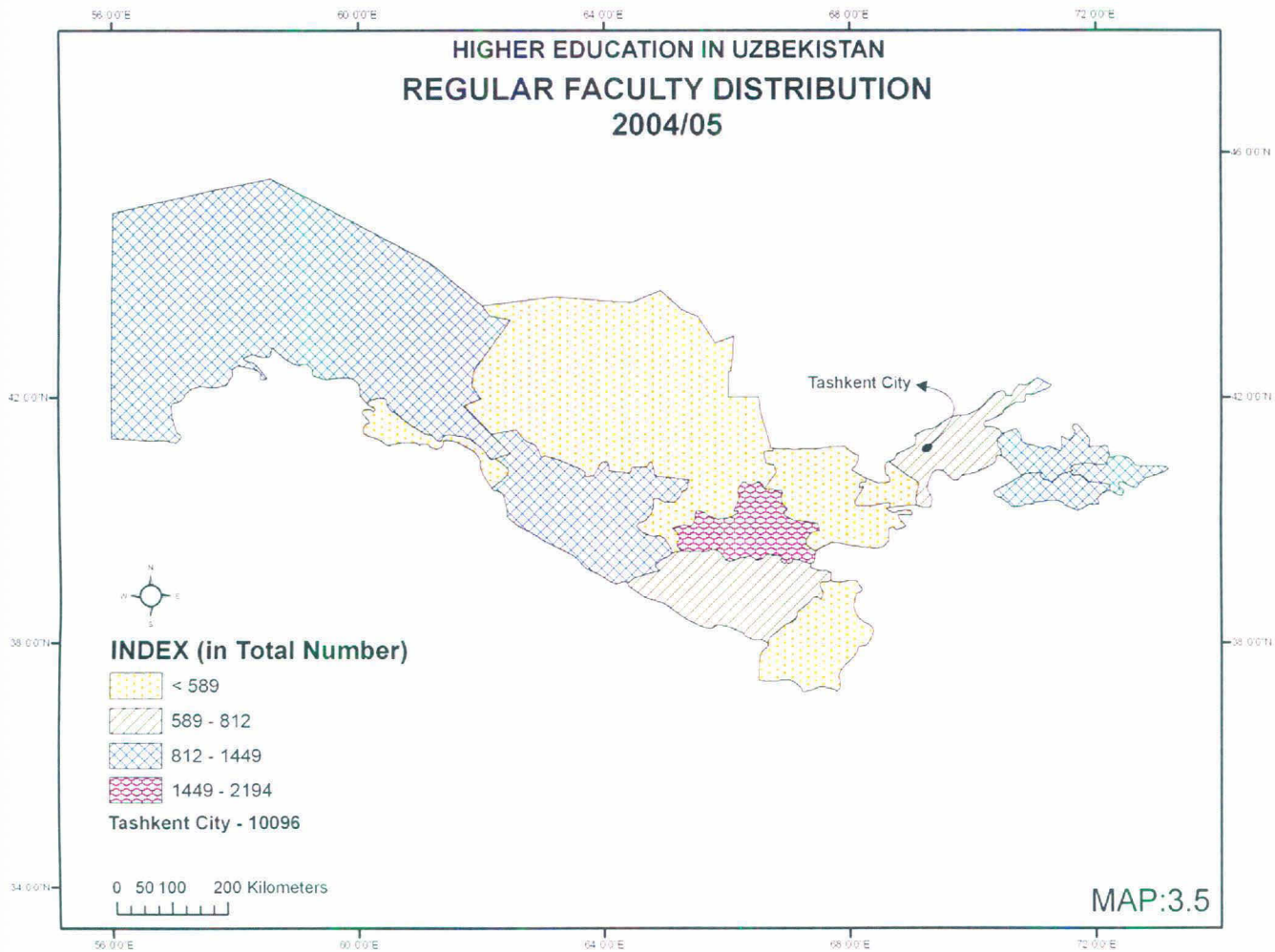
Source;- UNDP (2005), *Development of education system in Uzbekistan 2000-04 Tashkent*

Table 3.19**Regional Distribution of Faculty and Research Staff in 2004/05.**

S.N	Regions	Doctorates (%)	Regular faculty	Research staff including teachers.
1	Karakalpakstan	2.0	1089	687
2	Andijan	4.3	1449	1379
3	Bukhara	3.0	1290	1449
4	Djizak	1.0	547	301
5	Kashkadarya	1.0	732	834
6	Navoi	0.2	528	538
7	Namangan	1.0	1192	863
8	Samarkand	12.0	2194	2641
9	Surkhadarya	1.0	574	575
10	Sirdarya	0.5	246	453
11	Tashkent	3.0	812	2164
12	Ferghana	3.0	1374	1446
13	Khorezm	1.0	589	731
14	Tashkent city	67.0	10096	NA
15	Uzbekistan Total	2269 (100%)	22690	33614

Source:- UNDP (2005), *Development of education system in Uzbekistan 2000-004*

HIGHER EDUCATION IN UZBEKISTAN REGULAR FACULTY DISTRIBUTION 2004/05



Due to highest polarization of educational opportunities in Tashkent city, highest number of faculty and research staffs is concentrated here. This is followed by Samarkand, Andijan, Bukhara, Ferghana and Namangan (table 3.19). Number of doctorates, research staff and regular faculty is highest in Tashkent city region and Samarkand province. These two regions may be considered as places of educational hubs in the country (Dutta, 2007). Most of the educational opportunities as well as agglomeration of students are found in these two provinces. However the gap between Tashkent city and Samarkand is very wide. Similarly the gap between Samarkand and other 12 provinces of the country is too high.

On the whole, on the basis of the availability of educational opportunity in higher education the country can be divided into four major regions; First area of highest opportunity found in Tashkent city region. Second, area of high medium opportunity is found in Samarkand, Andijan & Ferghana provinces. Third, area of lower-medium opportunity found in Karakalpakstan, Bukhara Djizak, QashkaDarya, Navoi, Tashkent and Khorezm.

3.12 Factors Affecting Higher Education

For the up gradation of higher education during 15 years of independence several reform measures have been adopted by the Uzbek government. But compared to primary and secondary education the overall condition of higher education is still poor. The present condition of higher education is not capable to meet the needs and requirements of national economic, intellectual, spiritual potential of the republic. The enrollment ratio in HEIs is very less compared to the total students enrolled in primary and secondary education. The country is also experiencing temporal and regional variation in the distribution of higher educational opportunities.

The empirical observation about the space-time diffusion of higher education transition in the country reveals that since independence there are varieties of factors which are determining the higher education of Uzbekistan. They are historical, political and ideological background of the country, cost of education, type of economy, standard of living, degree of urbanization, stage of technological advancement, degree of development of means and transportation and communication, religious background, medium of instruction, status of women in the society, prejudices against the females mobility and education, availability of educational institutions, general value system and public policies etc.

Among the above mentioned factors economic factor is playing major role in influencing the higher education system of the country. During the period of economic recession before 1996, when GDP growth was negative, inflation rate was above 300% (see table 2.7) and fiscal balance was -1.6%. The condition of higher education was also very poor. But after 1997 as the country has experienced robust growth in the GDP the enrollment rate in higher education has also increased as well as the education budgeting is also showing an upward trend (refer table 3.2).

On regional level the distribution of per capita GDP, dominance of secondary and tertiary sector of economy, development of infrastructure through private capital and availability of higher educational institutions are correlated with the condition of higher education. Due to better condition of these economic indicators in Tashkent city, it has become the hub of higher education in the country. Degree of urbanization is another prominent determinant of higher education. The level of urbanization is positively influencing the development of higher education in the country. This can be tested with this fact that Tashkent city has 100% urbanization. That's why it has maximum polarization of higher educational opportunity. (refer table 3.20).

Level of higher education and technological development is also directly correlated to higher education in the country. The technologically and industrially advanced area of Tashkent city is displaying high rates of

growth in higher education in contrast to low percentage of growth in higher education of the provinces where the technological advancement is in its infant stage. At some extent increase in secondary sector and tertiary sector's share in G.D.P is also influencing the nature and quantity of higher education (Sec table 3.20. Religious factor is also among the major determinant that is affecting the growth of higher education in the country. Here Islamic religious tradition is directly visible on female education.

Table 3.20
Factors affecting Higher Education

Regions	G.D.P Per capita (year 2005)	Urban Pop (in 2006)%	Rural Pop%(in 2006)	Share of secondary tertiary sector of economy in gross regional product (as % GDP) in 2003	Students enrolled in Primary and secondary education in 2005 (in thousand)	No. of students enrolled in higher education (in thousand)	HEIs enrollment as % of Primary & Secondary enrollment
Karakalpakstan	1772.1	48.6	51.4	45.1	343.2	14.5	4.2
Andijan		29.5	70.5	35.8	557.7	17.9	3.2
Bukhara	3550.7	29.5	70.5	40.7	336.5	13.4	3.9
Djizak	2553.3	29.9	70.1	58.3	262.2	8.3	3.1
Kashkadarya	2937.4	24.7	75.3	34.9	620.1	10.4	1.6
Navoi	7185.3	39.5	60.5	18.5	193.7	8.3	4.2
Namangan	1817.3	37.2	62.8	45.2	508.6	13.6	2.6
Samarkand	2127.2	25.5	74.5	49.9	735.0	22.1	3.0
Surkhadarya	2014.2	19.2	80.8	42.8	517.6	6.9	1.3
Sirdarya	3066.5	31.2	68.8	59.8	151.8	3.4	2.2
Tashkent	3915.4	39.3	60.7	32.3	518.2	11.0	2.1
Ferghana	2630.7	28.1	71.9	40.8	686.0	18.4	2.6
Khorezm	2191.3	22.1	77.9	47.1	334.6	8.1	2.4
Tashkent city	4670.8	100		46.4	365.3	106.7	29.2
Uzbekistan Total	3227.2	36.1	63.9	38.2	6130.5	263.5	4.3

Source:- UNDP, (2007& 2005) Tashkent.

3.13 Cause and Effect Relationship

Among above mentioned determinants no one seems to be capable to prove a causal relationship between the two variables. Though collectively these determinants are responsible to influence the growth process of higher education in the independent Uzbekistan. Amongst the mentioned determinants two factors seems closely correlated to the higher education. They are first ratio of students enrolled in primary & secondary level education and its regional impact on the enrollment ratio in HEIs, Second living standard of the people (percentage of people below poverty) and its impact on the enrollment ratio in HEIs. The first correlation has been calculated to test whether the correlation coefficient is significant or insignificant between the total number of students enrolled in primary and secondary education and number of students enrolled in HEIs in all 14 Provinces of Uzbekistan. The correlation coefficient between the indicators x and y was found to be 0.0260. The "t" of significance is [3.06 at 1%, 2.68 at 2%, 2.18 at 5%, 1.78 at 10%. The calculated "t" was found to be .0899. upon comparison with the tabulated "t" at different levels of significance. The computed 't' is less than the tabulated 't' even at 10% level of significance. Thus the correlation values may not be considered a significant.

Here the correlation coefficient has been calculated based on the given figures.

$$\Sigma X \Rightarrow 0.5 \quad \Sigma Y \Rightarrow 263.5 \quad \Sigma X^2 \Rightarrow 3107220.8 \quad \Sigma Y^2 \Rightarrow 598.76 \quad \Sigma XY \Rightarrow 116959.73$$

$$\text{Correlation Coefficients} \Rightarrow r = .0260$$

Significance test of Correlation coefficient "t" = .0899

Second correlation has been calculated to test whether the correlation coefficient is either significant or insignificant between the poverty ratio and number of student's enrolled in HEIs in all 14 states of Uzbekistan. Here the correlation coefficient has been

calculated based on the given figures.

$$\Sigma x=100 \quad \Sigma y=100 \quad \Sigma x^2=856.9 \quad \Sigma y^2=1943.2 \quad \Sigma xy=557.7$$

Here correlation coefficient $r = -0.373$

Significance test of Correlation coefficient "t" = 3.054

The tabulated value of 't' for 12 degree of freedom is 3.6 at 1%, 2.68 at 2%. Thus the computed value is greater than the tabulated value of 't'. Hence the correlation coefficient is quite significant between 1% to 2%. Thus on the basis of this correlation coefficient it can be said that there is a causal relationship between poverty and higher education in all 14 States of Uzbekistan. There is highest degree of relationship between prosperity, least poverty ratio, living standard and enrollment ratio in HEIs. The province with high poverty ratio has lower percentage of students enrolled in higher education & where the poverty ratio is low enrollment in HEIs is high. That's why Tashkent city has only 2.1% people below poverty and it has more than 40% students of the country enrolled in HEIs. While Qashkadarya has 13.5% people below poverty and it has less than 4% students of the country enrolled in HEIs.

Thus for the proper reform and development of higher education in the country Uzbek government has to give more emphasis on poverty eradication. Government should also take special measures to reduce the regional disparity in economic development between rural area and urban area as well as between southern region & Eastern region. Eastern Uzbekistan and central Uzbekistan has better prosperity level. That's why here condition of higher education is better. Northern provinces are also showing comparatively good performance.

Thus this is connected with the fact that without improving the level of prosperity it is not possible to bring proper reform in higher education as well as the capacity of the country to increase its labor productivity and consequently the level of economic development.

3.14 Concluding Remarks:-

Situated on the cross-road between east and west Uzbekistan has been centre of higher learning for centuries. Historical cities of Samarkand, Bukhara, Khiva, Tashkent etc have been famous education centres since historical Silk Route period. From historical period till now education system in the country passed through several transition phase. Before the soviet era Maktab and Madrassas were providing basic education while higher education was given by Jadids. Paradigm shift came in Uzbek education system during the Soviet period. During Soviet period Uzbekistan achieved 100% universal literacy. Also several new institutes and universities were established in Tashkent, Samarkand, Bukhara & Nukus for higher education. Though the condition of primary and secondary education was very good during Soviet period but the higher education system was not respectable.

After independence major structural change came in education system in the country. Now higher education shifted from supply driven to a demand driven system. New education policy has been made by the Uzbek government under the Ministry of Higher and Secondary Specialized Education (MHSSE). With the introduction of NPPT in 1997 higher education system in the country entered a new phase of reform. Now higher education has been internationalized, participation of private fund has been accepted, the role of NGOs has been increased, humanitarian base has been increased, independence of HEIs has been established, information technology and modular system has been introduced. Now the higher education became capable to fulfill the demand of labour market of the newly independent country.

After independence higher education has been divided into two tier systems: Bachelors and Masters. Master's programme has been further divided into post-graduate and higher research. At present higher education is being provided by universities, academy, institutes, external study centers and distance learning centers.

In the early 1990s due to economic recession, worst performance of

macro-economic aspects, decline in the G.D.P growth rate, high rate of inflation, the public expenditure on education had declined. But after 1996 due to increase in the ratio of public expenditure on education, higher education has shown a slow but positive progress. At present public expenditure on education as proportion to GDP is almost 9%. This percentage is one of the highest amongst the transition countries of CIS.

During 15 years of independence Uzbek government has taken Herculean efforts to improve the condition of higher education. As a result, the number of HEIs has increased from 42 (during Soviet period) to 64 in 2006. Number of total students enrolled in HEIs has also increased from 1656000 in 1996 to 2863000 in 2006. Under higher education special emphasis has been given to the improvement of tertiary institutes, public administration, modern technology and personal training. Number and quality of teachers have been increased too. But still the overall condition of higher education has not achieved the respectable position. At national level compared to total population only 1.01% people are enrolled in higher education. Compared to the present proportion of young population (about 39% population is of the young age group), this percentage is very least. Out of total students enrolled in primary and secondary education only 4.3% students are taking admission in higher education. This shows that drop out ratio after secondary education is very high. Also the number of universities and graduates produced over last four years hardly shows any substantial jump. Number of universities for graduation courses remain fixed (20) during last 3 years. Numbers of graduates show hardly a 13% annual growth.

The effectiveness of post graduate and research education is low. That's why out of total bachelor's students only 15% post-graduate students and 8.6% doctoral students are capable to finish their study.

Out of total expenditure on education, higher education is receiving only 5.4% of the total education budget. Despite the government's initiatives of internationalization of education as well NGOs participation, the

condition of higher education in Uzbekistan is grim. The effects of the regional cooperation in higher education are yet to trickle down at the grass root levels.

The present distribution pattern of higher educational opportunity in the country is not rational. Striking differences can be seen in the standard of higher educational opportunities between the Tashkent city and rest part of the country. Tashkent city has only 8% population of the country but it has more than 48% HEIs and above 40% students enrolled in HEIs. While more than 50% population of the country is situated in only 5 states namely Samarkand, Ferghana, Tashkent, Qashkadarya and Andijan but these states have only 28% of the total higher educational institutes. And Surkhadarya and Sirdarya have lowest opportunity of higher education. On national level except Tashkent, Samarkand has emerged as another hub of higher education.

Among the several determinants which are affecting the reform process and distribution of higher education, economic factors are playing major role. Living standard or level of poverty is positively correlated to the development of higher education.

Thus after independence the basic primary, secondary and vocational education is easily available in the country, but higher education is still not progressing fast. There is an urgent need to reduce the regional disparity in the distribution of higher educational opportunities among rich and poor provinces, between rural and urban areas. Also male-female gap in higher education should be reduced and gender participation in HEIs should be increased. Without taking proper reform measures in higher education system, it is not possible to fulfill the demands of new democratic and market oriented economy of Uzbekistan in coming future.

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CHAPTER FOUR
GENDER PARTICIPATION IN EDUCATION
SECTOR

4.1 Equal gender participation in higher education has wide impact on independent Uzbek society. Because women's education has widespread intergenerational effects on children's health and education in a family, greater access to higher education and labour force participation of women lowers the infant and maternal mortality rate, uplifts the socio-economic condition as well as resource mobilization of the country.

Uzbekistan like other countries of the Former Soviet Union (FSU) inherited legacies of gender equality in education sector. During Soviet period social protection were provided equally to men and women and both sexes had equal access to education, health care and employment. After independence, Uzbek government made positive efforts to maintain the Soviet legacies of good education indicators. Article '18' of the Uzbek constitution also confirms equal rights and freedom to all citizens irrespective of sex, race, ethnic origin, language, religion, social background or social status (Mee, 2001). Also Article '46' of the constitution guarantees equality of rights for men and women in education, services and other opportunities (Mee, 2001). Particularly after 1996, Uzbek government has carried out its gender policies through a number of programmes and decrees to maintain the status of women in the society. As a result, since 1991 the universal access to basic primary and secondary school education has been maintained and literacy rates are almost 100% for men and women. Despite these achievements, negative impact of post-Soviet economic, social, religious and cultural transition can be seen on gender participation in higher education. After independence the quality at all level of education has been declining. This can be also seen in the ratio of women participation in higher education. Compared to the total students enrolled in higher education only 40.7% women are getting higher education. On other hand out of total female population of the country only 0.82% females are enrolled in HEIs (refer table 4.6). Thus compared to the total population size of women in the country their higher education status is very low.

Out of more than 26 million population of the country women constitute

about 50.1% of the total population. At present women share about 49.9% of the rural population and more than 50% of the urban population (refer table 4.1). The temporal distribution trend of male-female population shows that from 1991 to 2005 female share in total population has declined about 0.5%, while male population has increased about half percent (refer table 4.1). Table 4.1 reveals that for the period of 1991-2005 the number of women increased by 2608.1 thousand (by 25%), while number of men increased by 2805.5 thousand (by 27.4%). Thus after independence due to drastic change in the socio-economic condition of the Uzbek society the overall size of female population has been declining. Evenness in the distribution of sex ratio in all provinces is a typical feature of Uzbekistan's population, though in absolute number there is a regional variation in the distribution of female population. Samarkand and Ferghana provinces have highest female population and Sirdarya and Kashkadarya province have low female population in the country (refer table 4.2). Thus, it can be seen that the impact of regional and temporal distribution of female population is directly linked to the trend of gender participation in education sector. Because as the total population increases the number of women enrolled in HEIs also increases that's why demographic trend is related to the distribution of enrollment ratio of females in education sectors in the country.

Table 4.1
Temporal change in population by gender between
1991-2005 (in thousand).

	1991	2005
Total population	20607.7	26021.3
Female total	10419.7	13027.7
Male total	10188.0	12993.6
% of female	50.6	50.1
% of male	49.4	49.9
% of Rural female	50.2	49.8
% of Rural male	49.8	50.2
% of Urban female	51.0	50.5
% of Urban male	49.0	49.5

Source: UNDP 2005.

Table 4.2
Regional Distribution of Population by Gender
in 2005 (in thousand).

S.N	Regions	Total Population	Female total	% of women	Total man	% of men
1	Karakalpakstan	1569.9	784.8	49.9	785.1	50.1
2	Andijan	2342.7	1171.6	50.0	1171.1	50.0
3	Bukhara	1507.6	757.6	50.2	750.0	49.8
4	Djizak	1043.3	522.1	50.0	521.1	50.0
5	Kashkadarya	2378.5	1187.4	49.9	1991.1	50.1
6	Navoi	810.2	401.9	49.6	408.3	50.4
7	Namangan	2073.2	1032.7	49.8	1040.5	50.2
8	Samarkand	2867.1	1435.1	50.0	1432.0	50.0
9	Surkhadarya	1894.9	941.0	49.6	953.9	50.4

10	Sirdarya	672.2	335.0	49.8	337.2	50.2
11	Tashkent	2452.3	1229.5	50.1	1222.8	49.9
12	Ferghana	2840.9	141.2	50.0	1419.7	50.0
13	Khorezm	1432.8	719.8	50.2	713.0	49.8
14	Tashkent city	2135.7	1088.0	50.9	1047.7	49.1
15	Uzbekistan Total	26021.3	13027. 7	50.0	12993.6	50.0

Source: UNDP 2005.

4.2 Enrollment Rates in Education Sector by Gender :-

Like other countries of CIS, the post-Soviet Uzbekistan has achieved high literacy rate (100%) at primary and secondary level education for both sexes. However, there is a trend of falling female enrollment at all level of education. This can be proved by this fact that during Soviet period (in 1989) about 146000 children was enrolled in primary education. Out of them 59% students were female and 51% were male children. Though the total number of students enrolled in primary education has increased to 575100 in the year 2004, but the share of female children declined to 48% and the percentage of male children has increased to 52% (refer table 4.3). Similarly in general secondary school there were almost 1213000 students enrolled in 1989. Out of them about 49.2% students were female and 50.8% were male (refer table 4.3). In the year 2004 the total number of students enrolled in general secondary school has increased to 6130200 but the percentage of female students has declined to 48.6%, on the other hand percentage of male students increased 251.4%. Similar trends can be also seen in secondary special and vocational education (refer table 4.3).

Although access to basic and general schooling is guaranteed by the government but even then since independence the gender participation in primary and secondary education system is declining in the country.

The possible reasons of the declining trend of female's ratio in these education levels may be due to increase in the costs for textbooks and other school materials and declining purchasing power of parents. Also due to lack of state budget funds to pay teachers, this profession became less attractive and the number of teachers declined. The post-Soviet economic transition has negative impact on the women in independent Uzbekistan. Women have more risk of facing poverty than men, especially if women are divorced, widowed, unmarried mothers or have large families. Majority of unemployed and unskilled women from rural areas are engaged in agricultural sector at lower wage and they are not capable to provide education to their children (mainly female children) (UNDP, 20007-08). In some areas mainly female children who are enrolled in school often miss part of school year because of the need to help in cotton harvesting (ADB, 2005).

Table 4.3

**Enrollment in Primary and Secondary Education by Gender
1989-2004/05.**

Level of education	Total No. of students (in thousand)						Percentage of Students			
	1989			2004/05			1989		2004/05	
	F	M	Total	F	M	Total	F	M	F	M
Primary education	86	60	146	277.3	297.8	575.1	58.9	41.0	48.2	51.8
General Secondary education	597	616	1213	2981	3149.2	6130.2	49.2	50.8	48.6	51.4
Secondary special and vocational education	142	159	301	152.7	170.2	322.9	47.1	52.9	47.2	52.8

Source: - UNDP, 2005.

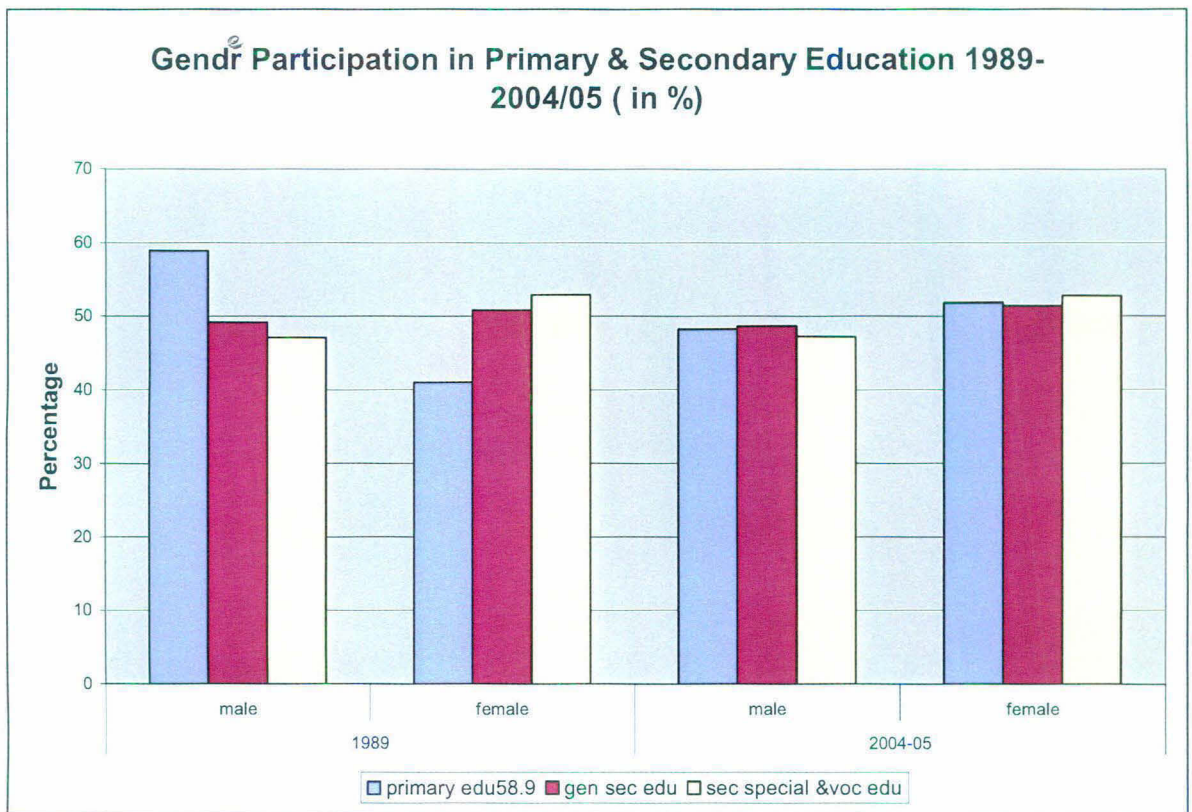


Fig 4.1

4.2.1 Enrolment in Higher education by gender:-

Gender disparities at higher education in Uzbekistan are very significant. This could impact negatively on reducing birth rate, child mortality. And expansion in education for the next generations, with possible future consequences for economic growth. The post-soviet socio-economic, cultural and religious transition have had a bitter impact on women. Particularly the economic hardship that accompanied this transition have resulted in less affordable higher education and had reduced individual and family support services that provided women to pursue higher education and professional opportunities in the Soviet era. As a result after independence, the female enrollment ratio in HEIs has declined. Before independence in 1989 (during Soviet period), almost 184000 students were enrolled in HEIs. Out of them 42.8% were female and 57.2% were male students (refer Table 4.3 & 4.4). In the year 2000-01

the female enrollment ratio in the HEIs had further declined to 37.8% (refer Table 4.4). Due to the acceptance of Millennium Development Goals in 2000 as well as adoption of several measures by the Uzbek government in order to improve the level of higher education, gender participation ratio in HEIs also increased and became 40.7% in the year 2004-05 (refer table 4.4).

Table 4.4

**Temporal change in enrollment ratio in HEIs by gender
1989-2004/05**

	1989		2000/01		2001/02		2002/03		2003/04		2004/05	
	F	M	F	M	F	M	F	M	F	M	F	M
Total No. of students (in thousand)	76	108	69.4	114.2	80.1	127.1	90.4	141.9	98.8	155.6	107.3	156.3
Distribution in %	42.8	57.2	37.8	62.2	38.7	61.3	38.9	61.1	38.8	61.2	40.7	59.3

Source: UNDP, 2005

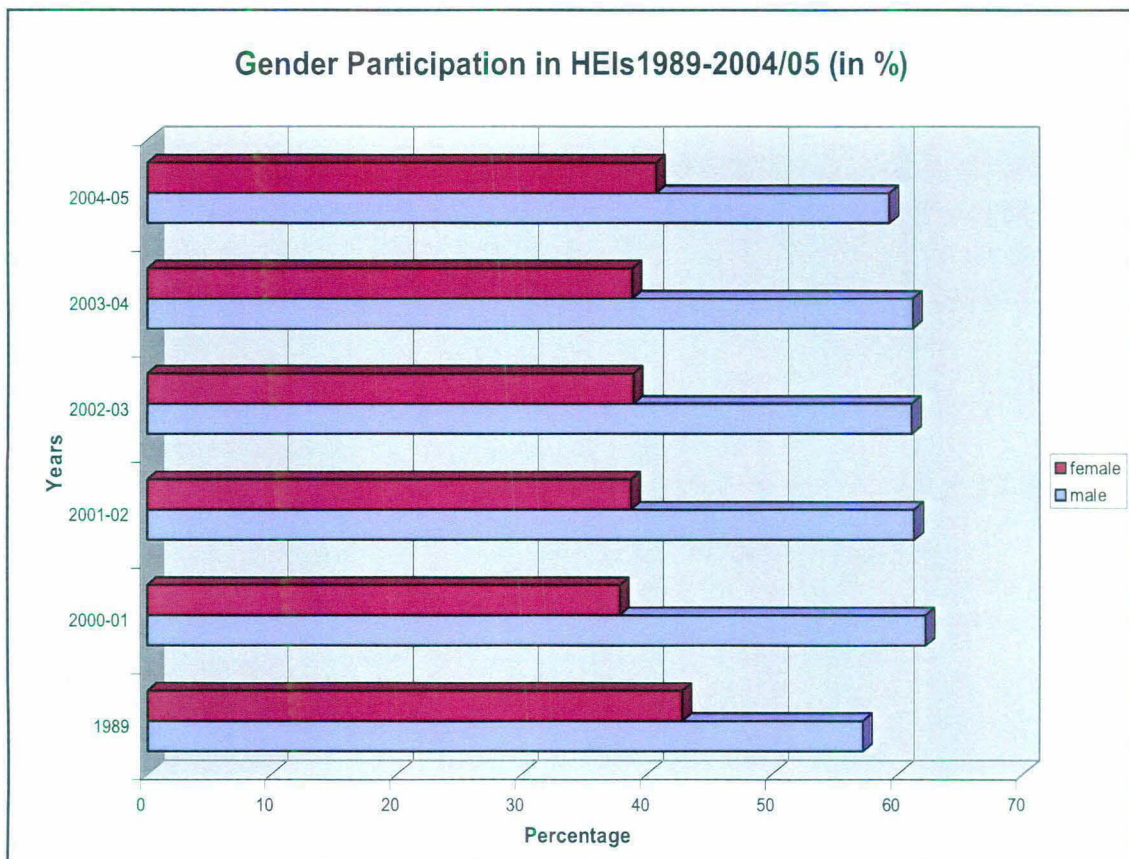


FIG 4.2

After independence, the status of women has declined gradually. The deterioration of socio-economic condition and political, demographic and ethnic contradictions has marked influence on the life of women. During 1990s financial crisis were manifested in the decline of real income of women and also in their purchasing power. The post-Soviet Uzbek economy neither has neither become the foundation of real equality for women, nor has it offered women, equal opportunities with men in choosing career strategies. Uzbek women were discarded from the sphere of skilled labor management, research and developmental processes. Also the position of employed women has declined gradually in all sectors of economy. Thus these all factors played negative influence on the gender participation rate in the higher education scenario. This can be proved by the fact that after independence the

ratio of students enrolled in HEIs compared to that of the total students enrolled in primary and secondary education has declined. The data given in the table 4.5 shows that before independence, there were almost 825000 female students and 835000 male students enrolled in primary and secondary education. Out of them 9.2% female students and 12.9% male students opted to enroll in Higher Educational Institutes. But in the year 2004, Higher Educational Institutes. But in the year 2004, though the total number of female and male students enrolled in primary and secondary education has increased to 3411000 and 3617200 respectively, but out of them only 3.1% female students and 4.3% male students took admission in HEIs. Thus after independence as proportion of the enrollment ratio in percentage studies number of HEIs also declined. Out of the total students enrolled in primary and secondary education, about 11% students were enrolled in HEIs. But in the year this ratio declined about four times and became only 3.7% (refer table 4.5).

Table 4.5

Students in HEIs as % of Primary and Secondary education

1989-2005

	1989			2004/05		
	F	M	Total	F	M	Total
Total no. of students at primary and secondary level of education (in thousand)	825	835	1660	3411	3617.2	7028.2
Total No. of students in HEIs (in thousand)	76	108	184	107.3	156.3	263.6
Students in HEIs as % of primary and secondary enrollment.	9.2	12.9	11.0	3.1	4.3	3.7

Source:- UNDP, 2005

Gender Participation in Higher Education as Percentage of Primary & Secondary Enrollment

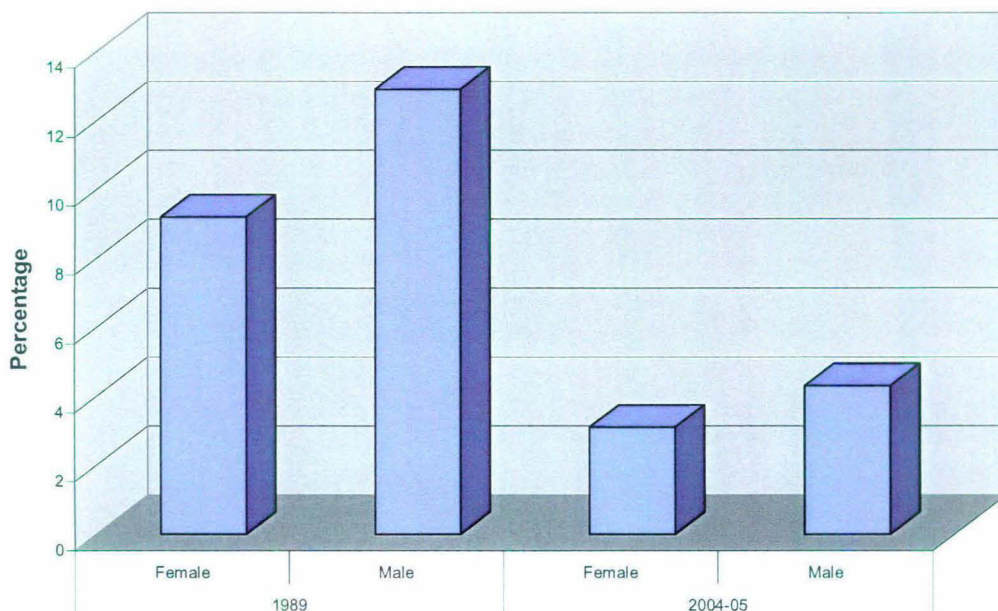


Fig. 4.3

After independence, Uzbek government, made special policy to provide equal opportunities for girls to overcome gender inequality in Higher education. But still the ratio of girls enrolled in HEIs is very less compared to their total population in the country as a whole as well as their total population between the age group 18-34 years. Out of the total female population (12294300) in the year 2000 only 0.56% females were enrolled in HEIs. Similarly there were about 3443800 (represents about 28% of the total population) females in the country between 18-34 years age group. Out of them only 2% female are enrolled in Higher Educational Institutes (refer table 4.6). Thus though women constitute about 28% population of the country between the age group 18-24 years, but out of this only 2% females are going for higher education. Being a signatory to Millennium Development Goals (MDG) in the year 2000, Uzbek government has made special policy to improve the status of women in HEIs (World Bank, 2005). The data given in table 4.6 shows that in the year 2005 that the female enrollment ratio

in HEIs as compared to total female population of the country as well as the total population of the country has taken a leap forward. Now out of total female population of the country about 1.2% females are getting higher education. Similarly about 2.7% females of the concerned age group are enrolled in HEIs (refer table 4.6).

The possible reason for the lower percentage of female's enrollment ratio in HEIs may be the increasing costs of higher education and the introduction of the fee-paying system in HEIs. Though in Uzbekistan there is no legal or public discrimination against admitting girls to the Higher Educational Institutes, still quite often parents don't allow their girl child to go for higher education. This is because girls get married earlier than boys of the same age (UNDP 2007-08). According to the local Muslim customs and mentality, very often girls get married at the age when they are eligible to study in higher educational institutions (UNDP, 2005).

Table 4.6

Enrollment ratio by gender and age group of 18-34 years (2000-2005).

	1989			2004/05		
	F	M	Total	F	M	Total
Total population Uzbekistan (in thousand)	12294.3	12193.3	24487.6	13027.7	12993.6	26021.3
Population between 18-34 years age (in thousand)	3443.8	3443.9	6887.7	3903.1	3945.0	7848.1
Students enrolled in HEIs (in thousand)	69.4	114.2	183.6	107.3	156.3	263.6
% of population between 18-34 years age as compared to total population of Uzbekistan	28.0	28.2	28.1	29.9	30.3	30.1
Students enrolled in HEIs as % of total population of Uzbekistan	0.56	0.93	0.74	0.82	1.2	1.0
Students enrolled in HEIs as % of population between 18-34 years age	2.0	3.3	2.6	2.7	3.9	3.3

Source: - UNDP, 2005.

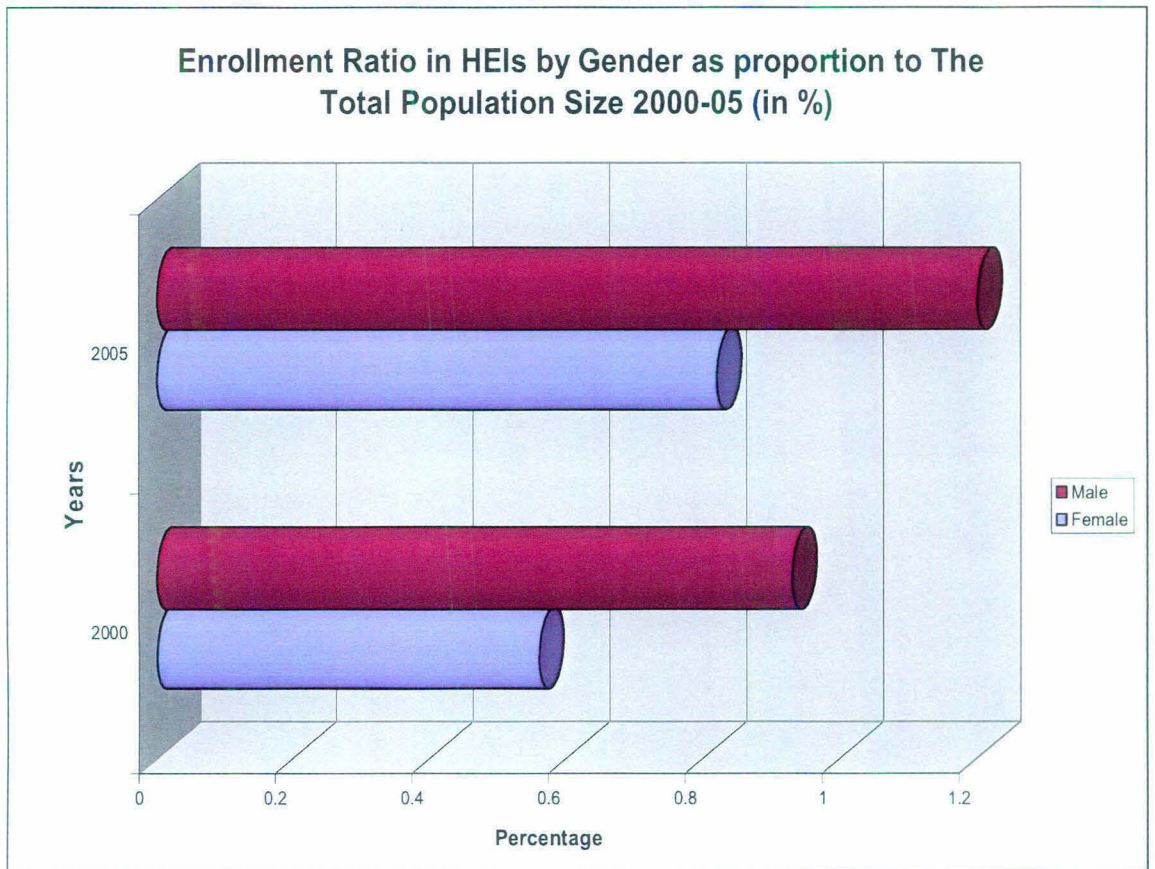


FIG 4.4

In HEIs, most of the women tend to take up study courses related to health care, education and arts reflecting and perpetuating their existing gender segregation in the echelons of the labour market (refer table 4.7). Nowadays, a substantial percentage of women are also showing their interests in getting Higher education in industry and construction, economy and law as well as in agricultural science (refer table 4.7).

Table 4.7
Enrollment in HEIs by gender and specialization
2004-05.

Subject	Total Students (in thousand)		Percentage of students	
	F	M	F	M
Industry and construction	7.5	31.9	19.0	81.0
Transport and communication	1.6	10.4	13.1	86.9
Agriculture	2.3	13.3	14.8	85.2
Economy and law	5.1	18.4	21.8	78.2
Healthcare and sports.	11.1	11.7	48.6	51.4
Education	78.7	69.2	53.2	46.8
Art and cinematography	1.0	1.4	43.5	56.5
Total students in all subjects	107.3	156.3	40.7	59.3

Source: - UNDP, 2005

By signing the Millennium Declaration in September 2000, along with 191 countries of the world, Uzbekistan government is trying to achieve the target of gender equality in higher education by 2015 (ADB, 2005). Thus for the promotion of gender equality in bachelor's level education, government has put forward a new concept of education into the regulatory framework and promulgated the law on education in the country. Now Ministry of Higher Education of the country has engaged wide scale international cooperation since last few years. Government is also trying to allocate special additional grants for those girls who are enrolled in higher education institutions with relatively high percentage of marks in previous classes (UNDP, 2007-08).

Despite these efforts taken by the government to improve the female's participation in bachelor's level education, gender disparities in

graduation level education is still a significant problem in Uzbekistan. The number of students enrolled in the 2000-01 academic year in bachelor's programmes was 31.6 thousand. Out of the total number of students enrolled in bachelor's programme, 39.2% were women and 60.7% were men (refer table 4.8). Though the number of students in bachelor's programme has increased to 52.8 thousand in 2004-05, but still the female enrollment ratio is very low compared to men. In the academic year 2004-05, about 40% female and 59% male students were enrolled in Bachelor's course (refer table 4.8). Graduates on per 10 thousand female population was 10.5 in 2000-01 and per 10 thousand male, there were 16 students. This number increased to 16 for female and 24 for male in 2005. During the 15 years of independence, many structural and substantial reforms and transformations in system of higher education has taken place in Uzbekistan. But gender disparity in bachelor's courses is still very high and male-female gap is almost 20%. Thus the gender participation in bachelor's programme is not balanced. The basic reason for this may be uneven distribution of higher educational institutes, increasing costs of education. Another major reason is that parents don't want to invest money for their girl child. Instead the parents prefer to spend the money for their sons who will stay with them and will become the bread winners of the family rather than for their girl child who will go away after getting married (UN, 2007-08)

Table 4.8**Graduate Students in HEIs. by gender Temporal trend.**

	2000/01		2001/02		2002/03		2003/04		2004/05	
	F	M	F	M	F	M	F	M	F	M
Total No. of students enrolled in graduation (in thousand)	12.4	19.2	12.8	23.2	14.8	24.9	18.2	27.3	21.5	31.3
Graduates per 10 thousand population	10.5	15.6	10.3	18.6	11.7	19.8	14.1	21.4	16.5	24.2
% of graduates	39.2	60.7	35.5	64.4	37.2	62.7	40.0	60.0	40.7	59.2

Source: - UNDP. 2005.

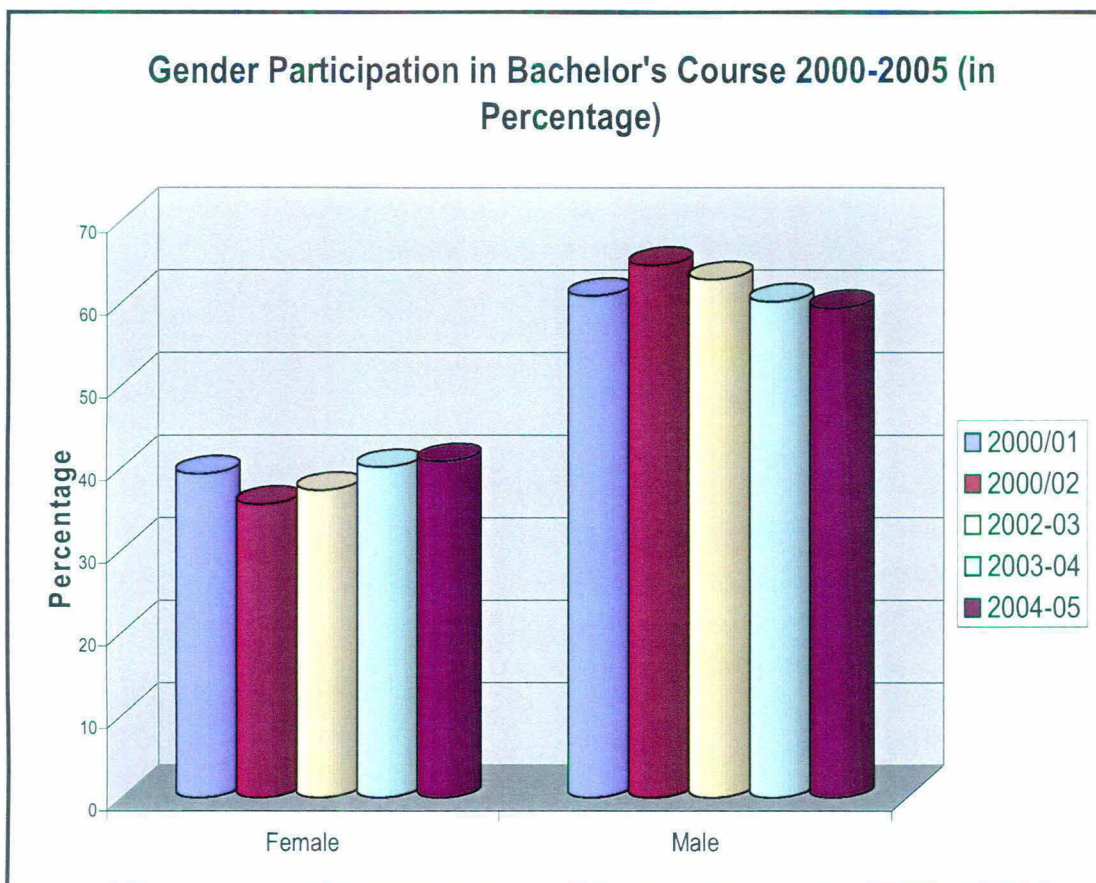


Fig 4.5

4.3 Gender Participation in Post-graduate Education and Research.

In contrast to the developed countries, where postgraduate education includes studying for a Master's degree and Doctor's degree, in Uzbekistan post graduate includes the stages inherited from the Soviet system such as the candidate's qualification and doctorate. Each stage entails preparing and defending a dissertation with the aim of receiving a candidate's degree at the first and Doctor's degree at the second stage (UNDP, 2007-08).

After independence Uzbek government tried to improve the level of post graduation education by providing additional financial support. But the gender participation in this level of education has been declining consistently. In the 2001 academic year about 3625 students of both

sexes were enrolled in post graduation courses of which 1478 students (41%) were female and 2147 (59 %) were male. But in the year 2004 total number of students enrolled in the post-graduation has declined surprisingly to 2188 for both sexes (refer table 4.9). Out of them 991 (45.3%) students were female and 1197 (54.7%) were male (refer table 4.9). The key causes for the decline in the gender participation in post-graduate course may be, high fee rates and insufficient qualifications of entrants to post graduate courses. Also some parents do not wish to let a girl study in institutes far away from home because they are afraid of the difficulties which she might encounter while living in a hostel. Also there are many families in which the orthodox parents think that the destiny of a woman is to look after her family and children; Therefore compulsory secondary education is enough for her to raise children and manage a household rather than to go for post-graduate and doctoral education.

One contrasting trend has emerged in the post-graduate education in the country during last years that the percentage of female students those defending their thesis has surpassed the male students. This can be proved by this fact that in the year 2001, 43% female students and 57% male students defended their thesis. But in the year 2004, about 60% female and only 40% male students defined their thesis (refer table 4.9).

Table 4.9

Post-Graduate students by Gender Temporal trends.

	2000		2001		2002		2003		2004	
	F	M	F	M	F	M	F	M	F	M
Enrollment of post-graduate students (in absolute number)	1478	2147	1447	1915	1303	1588	1196	1388	991	1197
% of enrolled student in post-graduation	41	59	43	57	45.1	54.9	46.3	53.7	45.3	54.7
Including those defending the thesis (in absolute member)	32	43	73	72	53	80	23	36.0	52.0	36.0
% of students those defending the thesis	43	57	50	50	39.8	60.2	39.0	61.0	59.1	40.9

Source: - UNDP. 2005.

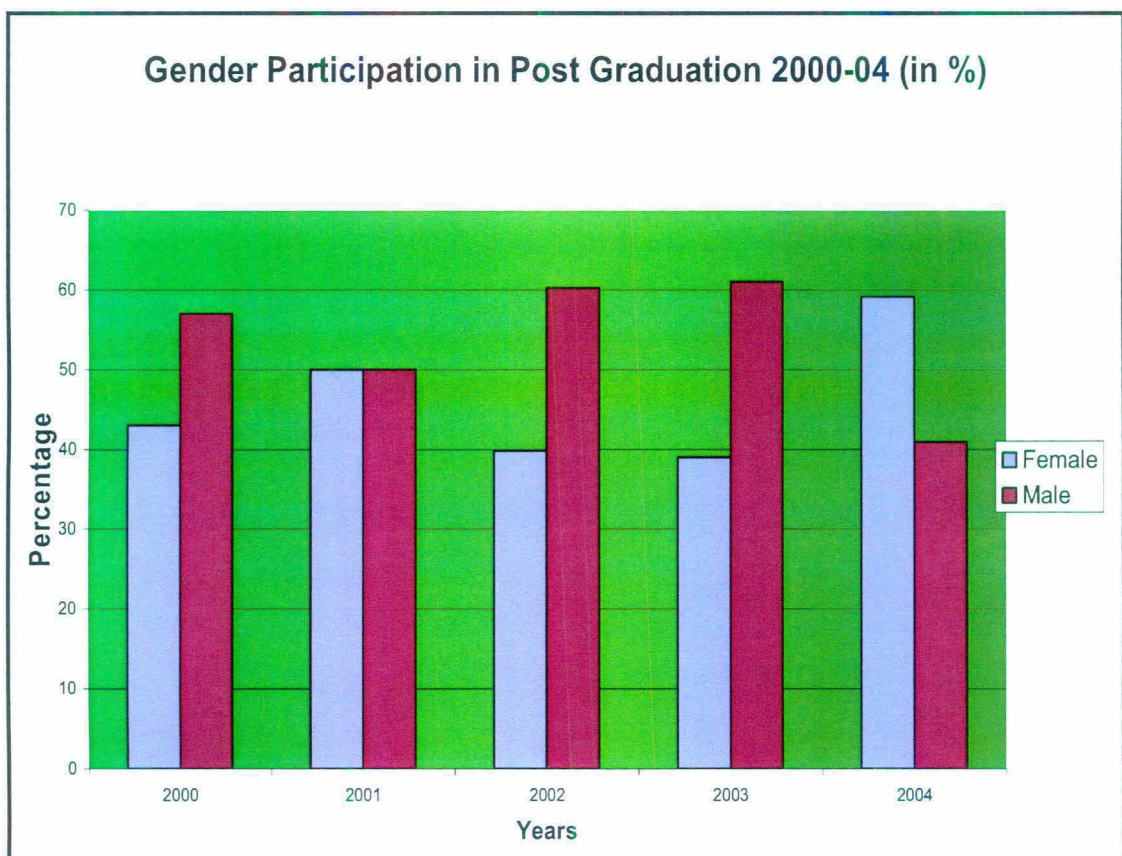


Fig 4.6

In terms of discipline opted for research for post-graduate education, majority of women prefer to take up study courses related to medicine, economics, biology, techniques and philology. While higher number of male students opted for techniques, economics, medicine, physics and masticates (refer table 4.10)

Table 4.10**Postgraduates by gender and area of specialization****(2004)**

S.N.	Subjects	% of Total	
		Female	Males
1	Philology	14.9	5.1
2	Psychology	1.7	0.3
3	Pedagogy	8.3	4.4
4	Pharmacy	1.5	0.7
5	Sociology	0.4	0.1
6	Fine Arts	2.6	0.8
7	Medicine	20.4	11.6
8	Biology	8.3	5.2
9	Philosophy	1.8	1.5
10	Geography	1.0	0.7
11	Chemistry	4.3	5.0
12	History	3.3	5.5
13	Architecture.	0.8	0.6
14	Economics	10.8	16.8
15	Agriculture	2.3	6.4
16	Veterinary	0.4	0.6
17	Political Science	0.8	0.7
18	Geology	0.8	1.3
19	Jurisprudence	1.3	2.8
20	Physics and mathematics	4.2	9.5
21	Techniques	8.9	20.2
22	Other	1.2	0.7
23	Overall	100	100
24	Persons (Total)	991	1197

Source: UNDP, 2005

Also there is male dominance in the enrollment ratio as researchers and scientists in HEIs. In the year 2000 about 9938 females and 15145 male students were enrolled as researchers and scientists in various universities in the country (refer table 4.11). After 4 years, gender gap in research institutes were as usual. There was no substantial change in the number of female students enrolled as researchers and scientists (refer table 4.11).

The choice made by men and women for a field of specialization and research is mainly influenced and affected by the well established stereotypes mentality, ie, the segregation of male and female participation in different labour-oriented jobs. Family tradition and economic factors. The choice of fields, of specialization and the area of research by men a woman are significantly different. Majority of female students prefer to do research in humanities, natural sciences, social sciences and medical sciences. On the other hand, maximum male researchers prefer to do research in natural sciences, technical and engineering sciences as well as agricultural sciences (refer table 4.12)

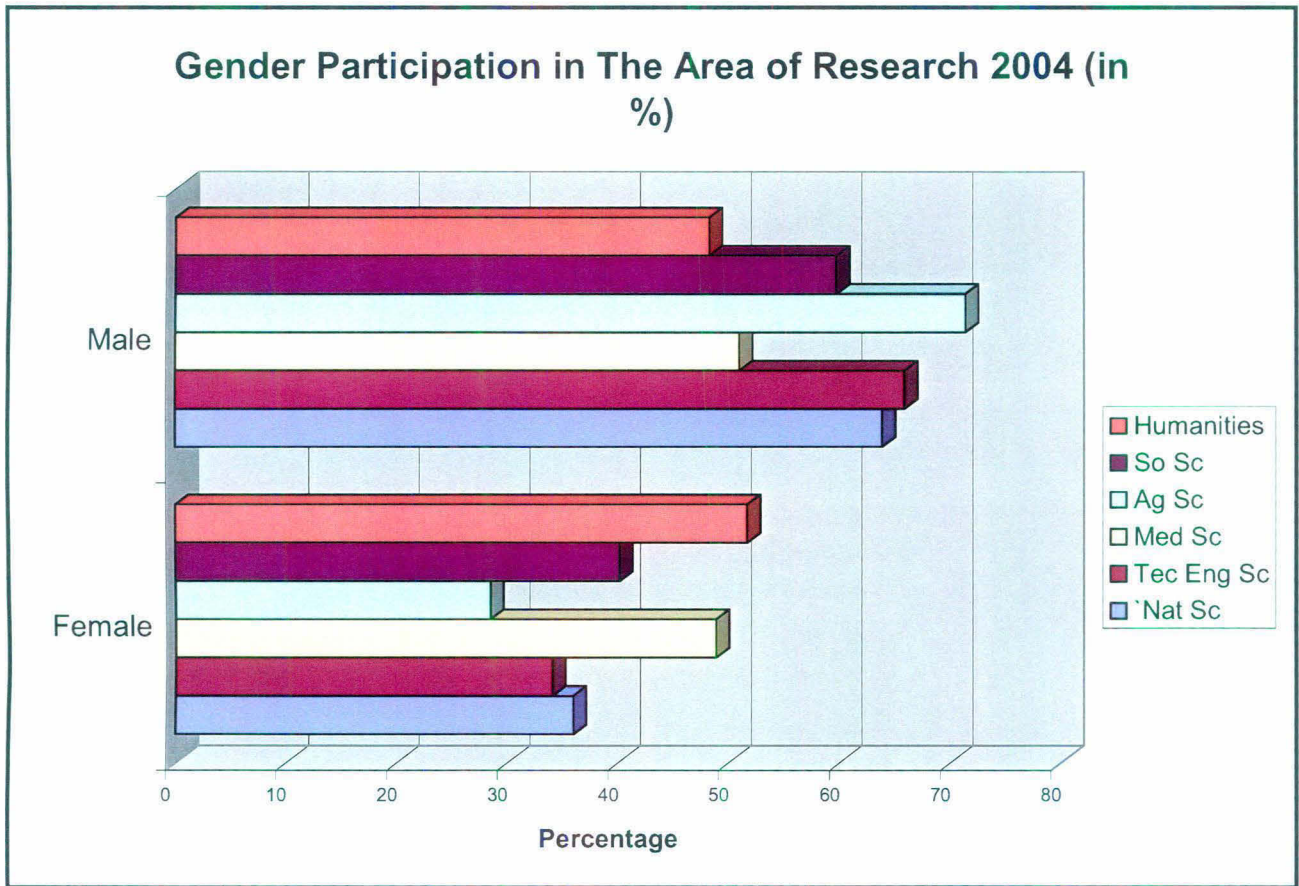


Fig 4.9

Table 4.11

Researchers and scientists by gender temporal trends (2000-2004)

	2000		2001		2002		2003		2004	
	F	M	F	M	F	M	F	M	F	M
Students as researchers and scientists (total number)	9938	15145	10099	14578	10523	15771	10295	15609	10349	15207
% of researchers and scientists	39.6	60.4	40.9	59.1	40.0	60.0	39.7	60.3	40.5	59.5
Total enrollment of students in Doctor of science	263	1746	266	1728	292	1886	322	1926	414	1855
% of Doctor of Science	13.1	86.9	13.1	86.9	13.4	86.6	14.3	85.7	18.2	81.8
Students as candidate of science	2284	5908	2350	6164	2580	6324	2510	6327	2554	6024

Source:- UNDP,2005.

Table 4.12**Researchers and Scientists by Gender and Area of Research
2004 in absolute number)**

Area of Research	Total Number of Researchers and Scientists		% of Researchers and scientists	
	F	M	F	M
Natural Sciences	2365	4194	36.0	63.9
Technical engineering sciences	1657	3194	34.1	65.9
Medical Sciences	1355	1414	48.9	51.0
Agriculture Sciences	442	1106	28.5	71.4
Social Sciences	1976	2938	40.2	59.8
Humanities	2554	2381	51.7	48.3
Total	10349	15207	40.4	59.6

Source: - UNDP, 2005

4.4 Gender Participation in the Distribution of Teachers and Instructors in HEIs :-

Under the implementation of the National Programme for Personnel Training in the republic, a set of subordinate legislative acts was established and adopted on an organizational basis; state educational standards and state requirements for all types of education were approved and adopted as well. The number of higher educational institutes and universities has been expanding. Also new types of educational institutions and professional colleges were established. As a result simultaneously the number of teacher and instructors of both sexes have increased in the HEIs. At present professional colleges employed approximately 40 thousand full time teachers of which 59.5% are women and 40.5% are men (UNDP, 2005). The present higher education system is represented by network of 64 higher educational institutions with more than 20 thousand male and female teachers and instructors (UNDP, 2005). Among HEIs the distribution of male and

female teachers are not equal. In the year 2000, 39% female and about 61% male teachers were employed. In the year 2004 this percentage has increased only 2% for female. Now about 41% female and 59% male teachers were employed in HEIs (refer table 4.13).

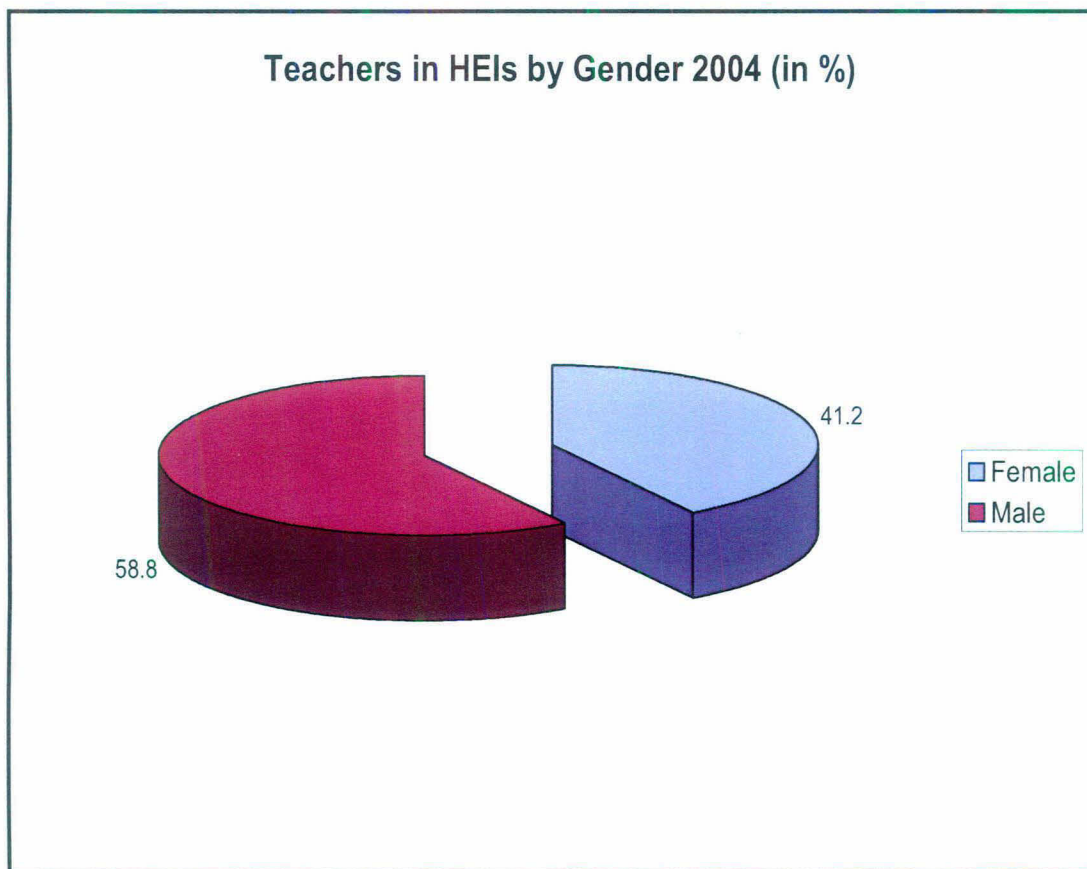


Fig 4.8

Table 4.13**Distribution of Teachers and instructors by Gender HEIs
2000-2004 (in %)**

	2000	2001	2002	2003	2004
Female %	39.2	41.0	39.2	35.8	41.2
Male %	60.8	59.0	60.8	64.2	58.8
Total %	100	100	100	100	100

Source: UNDP, 2005

4.5 Gender participation in HEIs- A Regional Analysis:-

Male female enrollment ratio in education sector is not equally distributed in all 14 provinces of independent Uzbekistan. Gender participation ratio among various provinces of Uzbekistan is influenced by socio-economic conditions demographic structure, infrastructural development, education budgeting and macro-economic growth rate as well as level of Urbanization. Apart from these historical, social and religious factors also play prominent roles. In general education the total number of female students in all 14 provinces are much higher than that of male students. The distribution of female students in general education is following the demographic pattern of the country,. This can be proved by this fact that more than 46% female population of the country is concentrated in five States namely. Fergana, Samarkand, Andijan, Karakalpakstan and Tashkent. These five states have almost 50% female students of the country enrolled in general education sectors (refer table 4.2 & 4.14). sirdary, Djizak and Navoi provinces have low female population. That's why here female enrollment in general education is also low (refer table 4.2 and 4.14). On other hand number of male students enrolled in general education is highest in Kashkandarya, Samarkand, Andijan and Surkhandarya provinces. The male-female gap in general education is highest in Tashkent city region. Data given in table 4.14 shows that in Tashkent city there were almost 18 thousand students enrolled in general

education in the 2004-05 academic year. Out of them 88% were female and only 12% were male students.

Thus in its regional spread in general education, gender participation ratio is inclined towards female in 13 provinces. In these provinces more than 50% female students are enrolled in general education. Kashkandarya is the only one province in the country where less than 50% females are enrolled in general education system. The basic reasons for the dominance of female students in general education sector are highest percentage of female population in all provinces of Uzbekistan (because here sex ratio is inclined toward female). Highest percentage of education budgeting is engulfed by the general education sector. Also most of the general education in the country is being provided by the government funded free schools and institutes (ADB, 2005). The contribution of private sector at this level of education is extremely limited. Student teachers ratio is balanced here. Also the Soviet legacies of highest literacy for both-sexes in general education are still maintained in the country.

Table 4.14

Distribution of Students in General Education by Gender (2004-2005).

S.N	Regions	Total No. of Students (in thousand)		As % of total female students of Uzbekistan	As % of total male students of Uzbekistan	% Of Students	
		F	M			F	M
1	Karakalpakstan	26.7	9.5	9.0	6.2	73.8	26.2
2	Andijan	28.9	10.1	11.1	6.5	74.1	25.9
3	Bukhara	17.2	9.2	5.8	5.9	65.2	34.8
4	Djizak	11.5	8.0	3.8	5.2	59.0	41.0
5	Kashkadarya	25.2	25.6	8.5	16.6	49.6	50.4
6	Navoi	11.6	5.4	3.9	3.5	68.2	31.8
7	Namangan	20.0	10.9	6.7	7.1	64.7	35.3
8	Samarkand	31.7	25.7	10.7	16.7	55.2	44.8
9	Surkhadarya	20.7	14.6	7.0	9.5	58.6	41.4
10	Sirdarya	7.1	3.7	2.4	2.4	65.7	34.3
11	Tashkent	25.4	7.5	8.5	4.8	77.2	22.8
12	Ferghana	34.0	13.2	11.4	8.5	72.0	28.0
13	Khorezm	19.6	7.9	6.6	5.1	71.3	28.7
14	Tashkent city	16.1	2.2	5.4	1.4	88.0	12.0
15	Uzbekistan Total	295.7	153.5			65.8	34.2

Source:- UNDP, 2005.

However, with regard to gender participation in higher education the situation is very worrying because there are only three provinces namely; Kashkadary, Fergana and Karakalpakstan, where more than

50% female students are enrolled in Post-graduation courses (refer table 4.15). In other 11 provinces male students are dominating in higher education. Also striking differences can be seen in the distribution of female students in post-graduate and doctoral courses between the Tashkent city county. This can be proved by this fact that in the academic year 2004 there were 991 female students enrolled in post-graduate courses and almost 72 students enrolled in Doctoral degree courses in the country. Out of them 754 female students of post-graduate courses and 66 female student of Doctoral courses were enrolled in various universities and institutes in the Tashkent city area (refer table 4.15 & 4.16). The basic reasons of polarization of female students in Tashkent city are; highest employment ratio, more income generating opportunities, polarization of higher educational institutions as well as impact of western culture.

Apart from Tashkent city, Karakalpakstan distantly holds second rank with 47 female students enrolled in post-graduation courses. Surkhadarya and Sirdarya are on the bottom rank with only 2 female students enrolled in post-graduate courses in each province (refer table 4.15).

Map 4.1 is displaying the regional pattern of gender participation in post-graduation courses in Uzbekistan. It reveals that eastern and northern Uzbekistan has highest concentration of female students in post-graduation courses. And central and southern regions of the country have lower rate of female enrollment in higher education.

Table 4.15**Distribution of Post-graduate Students by Gender 2004.**

S.N	Regions	Total No. of Persons(in absolute		Distribution by gender in %	
		F	M	F	M
1	Karakalpakstan	47	38	55.3	44.7
2	Andijan	32	37	46.4	53.6
3	Bukhara	26	48	35.1	64.9
4	Djizak	2	9	18.2	81.8
5	Kashkadarya	13	10	56.5	43.5
6	Navoi	NA	NA	NA	NA
7	Namangan	15	22	40.5	59.5
8	Samarkand	42	82	33.9	66.1
9	Surkhadarya	2	5	28.6	71.4
10	Sirdarya	26	9	18.2	81.8
11	Tashkent	NA	63	29.2	70.8
12	Ferghana	21	19	52.5	47.5
13	Khorezm	9	14	36.0	56.0
14	Tashkent city	754	839	47.3	52.7
15	Uzbekistan Total	991	1197	45.3	54.7

Source:- UNDP, 2005

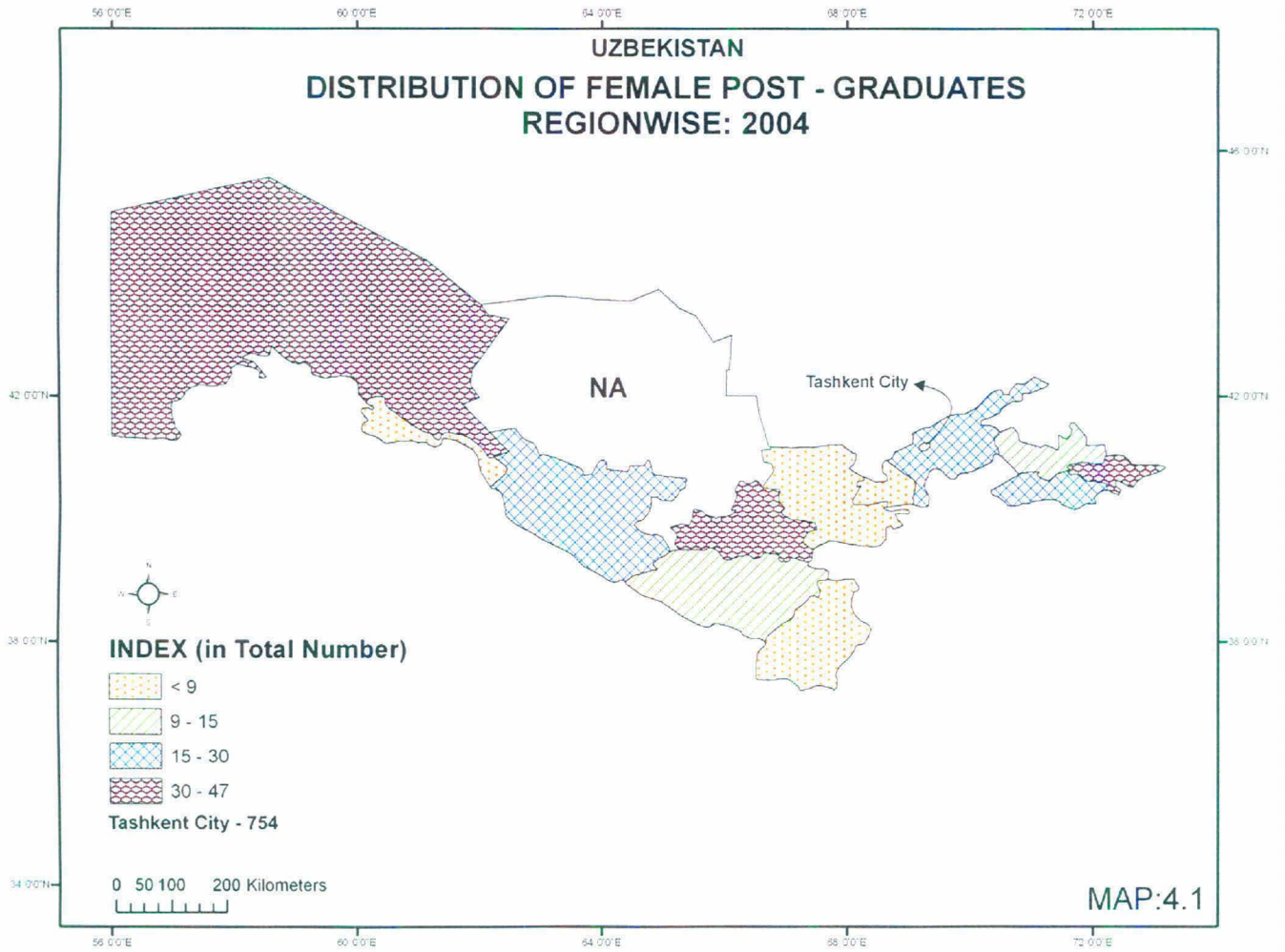


Table 4.16**Distribution of Doctoral Degree Candidates by Gender****(2004)**

S.N	Regions	Total No. of Persons		Distribution by gender in %	
		F	M	F	M
1	Karakalpakstan	N.A.	2	N.A.	100
2	Andijan	1	4	20.0	80.0
3	Bukhara	4	2	66.7	33.3
4	Djizak	N.A.	N.A.	N.A.	N.A.
5	Kashkadarya	N.A.	N.A.	N.A.	N.A.
6	Navoi	N.A.	N.A.	N.A.	N.A.
7	Namangan	N.A.	2	N.A.	100
8	Samarkand	N.A.	5	N.A.	100
9	Surkhadarya	N.A.	N.A.	N.A.	N.A.
10	Sirdarya	N.A.	N.A.	N.A.	N.A.
11	Tashkent	N.A.	6	N.A.	100
12	Ferghana	1	1	50.0	50
13	Khorezm	N.A.	2	N.A.	100
14	Tashkent city	66	97	40.5	59.5
15	Uzbekistan Total	72	121	37.3	62.7

Source: - UNDP, 2005

The lower participation rate of women in higher education in Uzbekistan is a product of variety of factors. They are first post- soviet transition to market economy has rendered women less competitive in the employment market particularly in the private sector. As a result women's social status is declining and they are showing least interest in higher education. Post Soviet social system has influenced the stereotyped distribution of the areas of educational specialization suitable for men and women. Choice of profession has also influenced the women's participation in higher education in negative way. Beside this increasing impact of orthodox Islamic tradition, increasing cost of

education and reluctance to allow girl child to study in urban areas are among the other factors. Girls are forced to get married after they finish their secondary education and their inlaws don't encourage them to continue with their higher education (UNDP, 2007-08). In some low income families parents are reluctant to invest money in daughter's higher education which they may not be able to complete or use after marriage. In post-soviet Uzbekistan appalling poverty and low degree of occupational participation among females also plays key role for the gradual reduction in women's participation in higher education. There are evidences showing that the current educational programmes preferred by women are not well linked to the existing demand of the labour market. These female professionals are in disadvantaged position. There is also a shortage of vocational centers which could provide women with skills in small business and vocational areas. These all factors are discouraging women to take admission in higher education.

The empirical observation about the space-time diffusion of gender participation in higher education in the country reveals that since independence there are also several other factors which are determining the distribution of male-female participation in higher education among 14 provinces of the country. They are; distribution of higher educational institutions, standard of living, degree of urbanization, stage of technological advancement, availability of educational opportunities, ratio of gender participation in primary and secondary education as well as public policies for gender participation in higher education.

Among the above mentioned determinants, two factors seem most prominent which are affecting the distribution of female's enrollment ratio in higher education. They are percentage of urbanization and distribution of higher educational institutes in all provinces of Uzbekistan. To test this argument two correlation has calculated between distribution of urban population and its regional impact on the female's enrollment ratio in HEIs. Second between numbers of higher educational institutes in all 14 provinces of the country and female's

enrollment ratio in HEIs.

The first correlation has been correlated to test whether the correlation coefficient is significant or insignificant between the distribution of Urban population in percentage and the total number of females enrolled in Post graduation courses in all States of Uzbekistan. Here $n = 13$, $\Sigma x = 464.8$, $\Sigma y = 991$, $\Sigma x^2 = 21805.24$, $\Sigma y^2 = 575793$, $\Sigma xy = 83316.7$. Based on the given calculated values correlation coefficient (r) = 0.940. Significance test of correlation coefficient "t" = 9.13. The tabulated value of 't' for 11 degree of freedom is 3.11 at 1%. Thus the computed value is greater than the tabulated value of 't' hence the correlation coefficient is quite significant at 1%. Thus on the basis of this correlation coefficient it can be said that there is a causal relationship between the level of Urbanization and enrollment ratio of females in higher educational institutes. The province with higher percentage of urbanization has higher percentage of female students enrolled in higher education and those provinces where urban population percentage is low female's enrolment in HEIs is also low. This trend indicates that compare to rural Uzbekistan the reform in higher education has taken place more effectively in urban areas, this correlation also indicates that compared to rural Uzbekistan number of highly educated females are more in urban areas. Because urban areas have better economic condition, higher degree of concentration of educational institutions, better status of females and high immigration of female students. This can be proved by this fact that Tashkent city has highest percentage of urban population. That's why it has highest number of females enrolled in HEIs.

Second correlation has been correlated to test whether the correlation coefficient is significant or insignificant between the distribution of higher education institutes and number of female students enrolled in all provinces of Uzbekistan. Here $n = 13$, $\Sigma x = 61$, $\Sigma y = 991$, $\Sigma x^2 = 1007$, $\Sigma y^2 = 575792$, $\Sigma xy = 23407$. Based on the given calculated values correlation coefficient (r) = 0.988. Significance test of correlation coefficient "t" = 21.14. The tabulated value of 't' for 11 degree of

freedom is again 3.11 at 1%. Thus the computed value is greater than the tabulated value of 't'. Hence the correlation coefficient is highly significant at 1%. On the basis of this correlation it can be said that there is again a causal relationship between distribution of higher educational institutions and enrollment ratio of females in higher education. The provinces with higher number of HEIs higher percentage of females enrolled in post Graduation courses and the provinces with lower numbers of HEIS have lower number of students in the post graduation.

Thus it can be said that in Uzbekistan female's participation in higher education is highly influenced by level of urbanization and education opportunities unavailable in each and every provinces. Tashkent city has 100% urbanization and about 50% HEIS of the country. That is why here highest polarization of female students in HEIs can be seen.

4.6 Concluding Remarks

Uzbekistan like other countries of Former Soviet Union (FSU) inherited legacies of gender equality in primary and secondary education. At present Uzbekistan is among the leading countries in the world with regards to key indicators of educational level. Despite its transition challenges Uzbekistan has been able to maintain gender equality in basic education. The country has 100% literacy rate for both sexes at primary and secondary level of education. But since independence Uzbekistan is not capable to maintain the prestigious trends of higher education for both sexes. After 1991 the country is experiencing a falling trend of gender participation in higher education. A male-female gap in higher education has increased and enrollment ratio of females in HEIs has declined.

At present females share more than 50% population of the country but compared to their total population their share in Higher education is less than 1% Also out of 3903100 young aged female population between the age group 18-34 only 2.7% females are taking higher education in the country. After independence transition in socio-economic condition

and worsening of demographic and ethnic condition has marked influence on the life of women. The post-soviet Uzbek economy has not become the foundation of real equality for women nor has it offered equal opportunities to women in the choice of career strategies. After independence women were displaced from the sphere of skilled labour management process, research and development as well as employment from all sectors. Also high fee rates of higher education and transition in social system, increasing Muslim traditional norms as well as stereotyped ways of thinking about women and men's area of educational specialization etc have influenced the women's participation in higher education.

As a combined result of these social, economic, cultural and religious change the female enrollment in higher education gender participation is inclined towards males. In bachelor's education there were 52800 students in the 2004/05 academic year. Out of them only 41% were female students. Similarly in Post-graduation courses there were 45% female and 55% male students. In research area only 29% females were enrolled as a researcher and scientists. In Doctoral degree courses too only 37% females are enrolled in the country. On other hand the gender participation is also inclined towards male in the distribution of teachers and instructors in HEIs. There are only 35% female teachers in higher educational institutes and universities in the county.

The regional distribution pattern of male-female enrollment ration in higher education sector is also not equal in all 14 provinces of the county. Striking differences can be seen in the distribution of gender participation in post-graduate and doctoral courses between Tashkent city and rest part of the country. Out of total 991 female students enrolled in Post-graduation courses in the country in 2004-05 academic year, more than 754 female students were enrolled in various universities in Tashkent city region. Karakalpakstan is distantly holding second rank with 47 female students enrolled in HEIs. Surkhadarya and Sirdarya have lowest gender participation ratio in higher education.

The basic reason for the lower participation of females in higher

education in several provinces are differences in demographic structure, infrastructural development, education budgeting, macro-economic growth, level of Urbanization, distribution of higher educational institutions and opportunities for higher education. The linear correlation indicates that there is a causal relationship between level of Urbanization and enrollment ratio of females in higher education as well as number of higher institutes in each province are also influencing the enrollment ratio of females in HEIs.

The Uzbek government is trying to improve the gender participation ratio in higher education. For this, government has made several education policies. By signing the Millennium Declaration in September 2000, Uzbek government is trying to achieve the target of gender equality in higher education by 2015. The government has also tried to get international cooperation to enhance the gender participation ratio in HEIs. But these steps are still insufficient to reduce the male-female gap in HEIs. There is a need to bring very effective policies towards gender parity in higher education.

The tabulated value of t' for 11 degree of freedom is again 3.11 at 1%. Thus the computed value is greater than the tabulated value of t hence the correlation coefficient is higher significant at 1% on the basis of this correlation it can be said that there is again a causal relationship between distribution of higher educational institutions and enrolment ratio of females in higher education. The provinces with higher member of HEIS higher percentage of females enrolled in post Garretson corners and the provinces with lower numbers of HEIS have lower number of students in the post graduation.

Thus it can be said that in Uzbekistan females participation in higher education is highly influenced by level of urbanization and availability of education opportunities in each and every provinces. Tashkent city has 100% urbanization and about 50% HEIS of the country. That is why here highest polarization of female student in HEIS can be seen.

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CHAPTER FIVE
INITIATIVES TOWARDS GENDER PARITY IN
EDUCATION

5.1 Uzbekistan which became independent in 1991 is a young state with claims to have a long tradition of universal education. This country has inherited good education indicators and has made efforts to ensure that they are maintained. Since independence, the gender parity in primary and secondary school education has been maintained and literacy rate is almost 100% for men and women. But after 1991, assertions of Uzbek "national tradition" came into immediate conflict with those elements of the soviet legacy that promoted gender parity in education system. After the break-up of Soviet Union, attitudes regarding the role of women both in the society and workforce became quite conservative. Family traditions also became orthodox like many post communist societies. Thus the desire to reanimate and reinvent national tradition and to solidify the newly independent state's claims to nationhood, as well as transition in economic structure etc have complicated women's rights to attain secondary and higher education in the post-soviet Uzbekistan. Since independence evidences have emerged that upper secondary and higher education enrolment rates are decreasing for both girls and boys, but more steeply for girls. As a result the Uzbek government has demonstrated a strong commitment to bring gender parity in education system. This is given clear expression in national legislation, including the constitution, government's educational policies and steps taken by several NGOs. Government's active participation in international initiatives, including Beijing platform and Millennium Development Goal (MDG) and the ratification of convention on the elimination of all forms of discrimination against women could also be observed.

5.2 Constitutional Provisions and Resolution of Cabinet of Ministers of Gender Parity in Education:-

After independence Uzbek government has adopted its own path to develop and reorganize the structure and content of education system. New government had introduced several legislative changes and legal reforms designed to guarantee gender parity in education system. Article 18 of the Constitution of Uzbekistan provides equal rights and freedom education and other opportunities for all citizens irrespective of sex, race, ethnic origin, language, religion, social convictions, personal or social status (Mee, 2001). Art 46 of the Uzbek constitution also guarantees equality of rights for attaining education for men and women (Mee, 2001).

Apart from these Constitutional provisions, several resolutions were set out by the cabinet of ministers of the Republic of Uzbekistan for the gender parity in the education system for the gender parity in the education system of the country. They are;

- ❖ Resolution No 116(Dated 28.2.1997) of the cabinet of ministers of Uzbekistan explains about the development of the national system of education for both male and female to carry out socio-economic forms for the new democratic system and market-oriented economic transformations in the country(UNESCO, 2002).
- ❖ Resolution No. 5 (Dated, 5.1.1998) of the cabinet of ministers of Uzbekistan gives emphasis on the elaboration and introduction of national educational standards for the system of continuous education for male and female (UNDP, 2007-08).
- ❖ Resolution No. 400 (Dated 4.10.2001) of the cabinet of ministers of Uzbekistan explains on measures aimed at improving the system of male-female teacher training for secondary special vocation education (UNDP, 2007).

- ❖ Resolution No. 440 (dated 21.11.1995) gives emphasis on the approval of regulatory documents on educational establishments in Uzbekistan for higher education (UNDP, 2007).
- ❖ Resolution No. 381 (dated, 20.06.2006) of the cabinet of ministers of the Republic of Uzbekistan explains on the organization of information and library facilities in the Republic Uzbekistan (UNDR, 2007).
- ❖ Resolution No. 25 (dated 16.2.2006) aims on further improvement of system of teaching training for both male and female (UNDP, 2007).
- ❖ Resolution No. 325 (dated 17.4.2006) explains on measures aimed at accelerating the development of service sector to empower the gender equality in the Republic of Uzbekistan (UNDP, 2007).
- ❖ Resolution No. 20 (dated, 10.02.2006) of the cabinet of ministers of the Republic of Uzbekistan gives emphasis on the approval of the Regulation on the recruitment of male and female teaching staff in the higher educational institutions on a competitive basis (UNDP, 2007).

These Constitutional Provisions and Ministerial Regulations have undoubtedly given new approach to gender parity in education scenario in the country. But without implementing targeted education policy it was not possible to reduce the gender gap in higher education and reinforce gender segregation in the labour market.

5.3 National Education policy for Gender Parity:-

After 1991, Uzbekistan developed its own legal framework for a National Education Policy. They embarked upon a radical transformation of the old system. The New Education Policy is based on the Constitution of Uzbekistan (8th December 1992) and Constitution of Karakalpakstan - (9th April 1993), the laws of Uzbekistan " on education " and " on the

National Policy of Personnel Training " NPPT (29th August 1997), and decrees and resolutions of President and Cabinet of Ministers of the Republic of Uzbekistan. National education policy has been divided into four major stages:-

I. 1991-1997: Preparatory State:- This is the initial stage to develop education policy for both male and female in the country. In this stage major emphasis had been given to identify the contradictions and problems of the existing education system and to study the best international educational models with aim of forming national idea and model of education.

Some attempts to partly reform the education system were undertaken in 1992 i.e at the preparatory stage, when a new law "On Education" was adopted in Uzbekistan. This law established the legal guarantee of free and compulsory general secondary school education for both sexes (UNESCO, 2002). During this period higher educational establishments were allowed to choose their own curricula, textbooks and methods of teaching. (UNDP,2007). In higher education a decentralization and regionalization of personnel development was introduced. Male-female enrollment to higher educational establishments in Tashkent was reduced, while enrollment for both sexes to higher educational establishments in other regions was expanded. This law on education was similar to the old Soviet period's education law. So it couldn't provide any drastic change in the gender participation in higher education. The preparatory stage was not capable to increase the gender parity ratio in higher education. During this period due to financial crisis and increasing Islamic social tradition female's enrollment ratio in higher education had declined and government's steps to bring gender parity in higher education become ineffective.

Thus the serious contradictions, which appeared in the system of education during 1991-1996, necessitated the second stage of reforms or the initial stage related to personnel training.

II. 1997-2001 Initial Stage or First Phase of NPPT:-

In this stage New National Policy of Personnel Training (NPPT) was formed. The NPPT is the normative organizational basis for realization of the "national Action Plan on Education For All "NAP-EFA, for conducting state policy to develop the intellectual potential of society to create normative-legal, organizational and other prerequisites for radical reforms in the system of higher education for male and female (UNESCO, 2002) Uzbekistan initiated and supervised the National Program of Personnel Training which was adopted as a law. The basic components of the program were;

- Creation of a system ensuring life long learning for male and female; starting from pre-school age up to retirement age (UNDP,2007)
- Compulsory and free general education for girls and boys. (UNDP, 2007).
- Introduction of a new system of 3 year free general compulsory secondary special vocational education for male-female graduates of 9th forms of general schools. (UNDP, 2007).
- For the participation of male and female students in higher education; two-tier system of higher education was introduced. This higher education system was divided in to bachelor's degree and masters degree programs (UNDP, 2007).
- Preservation of two -tier system of postgraduate education for male-female students, including the post graduate "candidate" course and doctoral degree (UNDP, 2007).
- Declaration of the necessity of a continuous education system and professional training for male and female (UNDP, 2007).

During this period tests system was introduced to select best quality of

male-female courses. A large programme called "Umid" (Hope) was introduced, according to which best quality of male-female students were selected and given grants to get Master's and Bachelor's degree at overseas universities (UNESCO, 2002). Though under Umid system majority of selected students were male.

III. 2001-2005 the Third Stage or Active Stage:-

This is the period of full scale realization of NPPT. The curricula and study plans for male and female students in vocational colleges and academic lyceums were improved and program indicators were adjusted. The male-female students were granted scholarship at higher education level (UNDP, 2007). Now the male-female participation ratio in HEIs increased. This can be proved with this fact that during 1989-90 there were 76000 female students and 108000 male students in the HEIs but this number increased to 107300 for female students and 1563000 for male students in the academic year 2004-05 (refer table 4.4).

IV. After 2005, the Fourth Stage or Stage of Perfection:-

Radical changes were carried out in the system of school education for both sexes. The curricula and study plans of school education for girls and boys students are improved. Teacher's wages have been increased. Computer labs have been created on widescale. This stage has targeted to reduce the number of drop-outs rapidly from school education and secondary special vocational education (UNDP, 2007). This stage has set the target to achieve gender parity in secondary level education by 2009.

Thus the adoption and realization of the NPPT shows Uzbekistan's dedication to achieve the goals and solving the tasks of the National Action Plan on Education for All (NAPEFA). By the adoption and realization of NPPT as the conceptual basis of the NAP-EFA Uzbekistan declared world wide support for achieving the aims set out in the international declaration on education for all (Jomten, Thailand1990) and the Dakar framework for action (Dakar, Senegal 2000), (UNESCO,

2002). The major aim of NAP, EFA was:-

- Achieving a 50% improvement in levels of adult literacy by 2015, especially for women and equitable access to basic and continuing education for all adults. (UNESCO, 2002).
- Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girl's full and equal access to and achievement in basic education of quality (UNESCO,2002).
- The Ministry of Education and higher and specialized education will collect data on women and girl's educational level in cities and rural areas (Mee, 2001).
- Relevant government agencies and NGOs will monitor gender equity in access to education for example, survey the number of overseas training provided to highly qualified women professionals, assess women's access to information technologies etc. (Mee, 2001).
- To carry out a full complement of strategies to guarantee sexual equality in education on the basis of recognizing the necessity of changing approaches, values and practice (UNESCO,2002).
- Guaranteeing that by 2015, all children especially girls from poor families and ethnic minorities can have access to free compulsory high quality secondary specialist and professional education. Also guaranteeing to give females full and equal access to higher education and guaranteeing good results (UNESCO, 2002).

Through NPPT structural reform in the education system has been brought for both male and female students. Now a new continuous and acceptable system of education structure was introduced .They are:-

- Preschool education (up to 6-7 years age for boys and girls).
- General secondary education (9 years) for boys and girls

- Secondary special, professional education for boys and girls (3 years).
- Post-graduation for both sex (PhD.).
- Higher qualifications and retraining for male and female.
- Extra curricular education for male and female students.
- Family and independent education for women and men (UNDP, 2007).

Thus through proper implementation of education policy by the government of Uzbekistan, the country has achieved favorable condition of general secondary and higher secondary education for women. But in higher education still there is a gender parity problem. Due to traditional Islamic social system many people think that it is better to marry off a girl than to allow her to become graduated from a higher education institution. So only 30% of post-graduates are women, 27% of candidates of science and 11.8% of Doctors of Science are women (ADB, 2008). However women account for only 12% in Oliy Majlis (Uzbek Parliament) (ADB, 2008).

Thus to enhance the gender parity in education system as well as proper growth of all level of education, a proper system of budget and financing of education has been adopted.

5.4 Budgeting and Financing of Education:-

After independence, to enhance the enrollment ratio of male and female students in educational institutions and upgrade the level of higher education, education sector is financed from state budget, private investment and assistance by international donors and financial institutions. The state budget has been divided into three levels; central budget, regional budget and local budget. Most of external assistance is provided by multilateral donors (91.2% of the external assistance),

8.4% is provided by bilateral donors and 0.4% by international NGOs (UNDP, 2007). Over 20 donor organizations are providing assistance for the development of the education sector in the country. The leading agency in committing funds into the sector are the Japanese Bank for International Cooperation (61.6%), ADB (25.3%), Government of Japan (302%), Government of India (2.1%), UNICEF(1.6%), KFW, the ECTEMPUS program and JICA (the share of each of these donors are 1%) (UNDP, 2007).

Thus after independence government of Uzbekistan tried to get international co-operation to upgrade the higher education for male and female students.

5.5 Internationalization of Higher Education:-

The government of Uzbekistan also targeted to achieve balanced growth in higher education for male and female students through international Co-operation. The international co-operation in higher education currently involves universities from 45 countries throughout the world (Tempus, 2005).

There are number of international organizations, which are operating in the field of education. Some of the major organizations are Asian Development Bank (ADB), European Union, UN agencies, British Council, Soros Foundation and several others from Japan, USA, Germany and others (Tempus, 2005). As per the records of the ministry of Higher Secondary Specialized Education (MHSSE), international cooperation is being undertaken through joint ventures of higher education establishments, foreign teachers, scientists involved in teaching and so on (Dutta, 2007). They also work towards student mobility, organization of Joint research work and international conferences on actual problems of higher education, innovative technologies, resource and energy conservation as well as attracting foreign investments. Due to internationalization of higher education Uzbek male-female students get the opportunities to study in the foreign universities.

5.6 International Commitments of Gender Equality in Education:-

Uzbekistan is signatory of several international agreements on women's rights and status in the society. The country is also a signatory of the United Nations Declaration and Action platform set forth in Beijing in 1995 (ADB,2005). Uzbekistan sent a delegation to the Beijing Conference and in 1996 ratified the convention on the Eradication of All forms of Discrimination Against women education and equal pay of equal work for man and women (ADB, 2005).

5.7 Millennium Development Goals (MGD) and Gender Participation in Education:-

The year 2000 marked an important event in the history of the world and the United Nations. The Millennium Summit brought leaders of 189 states together to call on world's most pressing challenges. They pledged to make the world a better place for all humanity. The Millennium Declaration set the global agenda for the 21st century and established action oriented targets around eight specific goals that are known as Millennium Development Goals (MDGs). The MDG was thus born to reflect the decisions of the world leaders and outlined a road map for progress as far as the year 2015 (UN, 2006).

As a signatory, to the Millennium Declaration, Uzbekistan is fulfilling its promises to address the challenges outlined in the MDGs of equal gender participation in education. The country is now in the process of defining its country specific MDGs. The national target 3 of MDG aims to achieve gender equality in primary, basic secondary and vocational education by 2015 (UN, 2006). And the national target 4 of the MDG aims to improve gender balance in higher education by 2015 (UN, 2006). After independence the new Constitution of Uzbekistan granted gender equality in education. But on real ground, the condition is different. There is gender equality in primary and secondary school

education, while gender differences are noticed at higher level of education. Thus after 2000 the national MDG has been targeting to improve the gender participation in HEIs. For this MDGs Nation is investing almost 26.8% of the total external financial assistance of the country to achieve the target of MDG No. 2 (UNDP 2007). For the promotion of gender equality and empowerment of women national MDG is investing 74312 US\$, to achieve the target of MDG 3 (MDG, 2007).

Thus after accepting MDGs norms the gender participation ratio in HEIs in the country has improved and at present more than 45% female students are enrolled in post-graduation courses and 37% females are enrolled in Doctoral courses (UN, 2006). It is expected that by 2015 the gender participation ratio in higher education in Uzbekistan will become equal for both male and female.

5.8 Role of Social Organization And NGOs:-

A law on NGOs was adopted in Uzbekistan only in 1999. Before this the only legal category was "social organization". Now social organization came under the legislation governing NGOs. Since independence reportedly more than 2300 NGOs had been created to deal with women's issues (ADB, 2005), but no concept of an NGO was as yet universally accepted.

The Women's Committee of Uzbekistan, having the same status of NGO, is working to improve the status of women in the country (ADB, 2005). The Women's Committee of Uzbekistan was established in 1991 and as present it has 3 million members nationwide. The Committee carries out work for implementing the state policy regarding improving the status of women in higher education sector as well as elevating their social, economic and spiritual interests (UNDP, 2007). At present more than 412 registered NGOs deal with women's issues (ADB, 2005).

At present all women's NGOs of the Uzbekistan have an alliance " Mehr"

(care) and act with United Nation at the international level. The MEHR is consolidating and coordinating the activities of women's organization and NGOs dealing with women's issues. Out of the total NGOs working under MEHR only a very small amount of NGOs operate in the field of education. Most of the local NGOs cannot make any significant impact on the improvement of educational process because of lack of funds, lack of skills, insufficient experience in fundraising and NGO management. The registration of international NGOs is overburdened with new bureaucratic procedures for development of civil societies. The major NGOs operating in the field of education are usually initiated by and operated under the government's or international organizations support. Some of the NGOs working specially in the primary sectors include the UMID, USTOZ Foundation, Childrens Fund. Tashkent Public Education Center (TPEC), Khorezm Center of Civil Education and Progress Center in Ferghana, Education and Resource Centers and Regional Youth Debate Centers (Dutta, 2007). Apart from the mentioned NGOs some other NGOs are working for the empowerment of women in higher education are Women scientists of Karakalpakstan, Association of Scientific Women, Namangan, "Ayol" (Woman's) Center, Samarkand, and Our Home Center, Tashkent etc.

Thus apart from above mentioned efforts taken by the government, Ministry of Higher Secondary Specialized Education (MHSSE), international bodies and NGOs the gender parity in higher education has been improving. But still the condition of female higher education is not equal to that of the male students of the same age group. There is a regional variation in the gender participation ratio in HEIS. Urban areas are performing better in rural areas. Female's enrollment ratio in rural Uzbekistan is very poor. Also national tradition of early marriage of girls is creating problems to enhance the gender parity in higher education. Thus it is urgent to overcome some obstacles for the balanced gender participation in higher education in coming future. These obstacles are:

- ❖ To carry out a large-scale educational campaign aimed at promoting girls opportunities for continuing education. It is

pertinent to develop a special program increasing opportunities for girls to receive higher education within public organization such as "kamolot".

- ❖ To allow special additional government grants for girls to be enrolled in higher educational institutions if they have relatively high scores but are not high enough for being admitted on a scholarship basis. Between 5-10% the overall number of grants allocated to higher educational institutions should be used in this way.
- ❖ To allow enrollment of girls in higher educational institutions on a fee paying basis if they don't have necessary score to be admitted on a scholarship basis but they have over 40% in the test.
- ❖ To draw up flexible academic and examination schedule for young women who study in higher educational institutions and bring up children under two year old or to provide them with academic leave with automatic resumption of studies upon their written request.

Thus, through constant efforts by the government changes in the rigid system of education management, inherited from the soviet period are introduced. Administrative decentralization and community participation are being supported and non government sources of funding explored. Financing and management responsibilities are increasingly being devolved to local governments. Structural changes have been brought in education system with the introduction of NPPT the higher education is being reorganized and certain areas of studies are being expanded i.e computer science, business administration and English languages etc. But still the quality of education at all level of education is seen not being maintained. And the male-female enrollment ration is still low in HEIs. Thus the Uzbek government has to take more positive steps in coming future to enhance the gender parity in HEIs.

5.9 Concluding Remarks:-

After 1991, assertion of Uzbek national tradition came into immediate conflict with those elements of the soviet legacy that promoted gender parity in education system. After independence, the transition in the socio-economic structure put a negative impact on the higher education. As a result higher education enrollment rates are decreasing for both girls and boys, but more steeply for girls. Since independence Uzbek government has demonstrated a strong commitment to bring better gender parity in education system. The government has introduced a number of legislative changes and legal reforms designed to guarantee gender parity in education system. Article 18 and 46 of the constitution guarantee equality of rights for attaining education of both sexes. After 1991, Uzbekistan developed its own legal policy.

The first stage of the education policy between 1991-97 was the preparatory stage. During this period new law of education was adopted. Also higher educational institutions were allowed to choose their curricula, text books and methods of teaching. This stage cannot provide any drastic change in the gender participation in HEIs.

During second stage, between 1997-2004, NPPT was formed. The NPPT tried to achieve the target of National Action Plan on Education For All (NAPEFA). Through NPPT, the country marched towards positive direction in gender participation in higher education.

During third stage, between 2001-2005, the curricula and study plans for male and female students were improved. Scholarships in higher education system were granted to both sexes.

In fourth stage, 2005 onwards, Uzbekistan has declared world wide support for achieving the aim set out for equal gender participation in HEIs. Now state education budgeting has been enhanced. External assistance is also provided to education sector by ADB, UNICEF, Japan Bank, Government of USA, EU, India and several other donor organization. Now Uzbek government targeted to achieve balanced

gender parity in higher education.

International Cooperation like Beijing platform and Millennium Development Goals (MDGs) for the ratification of convention on the elimination of all forms of discrimination against women were also considered. At present more than 412 NGOs and social organizations are dealing with gender issues in the country.

Thus due to several positive steps taken by the government and other organizations, the gender parity in higher education is gradually improving and at present more than 45% of female students are enrolled in post graduation courses. It is expected that in the near future slowly but steadily the country will achieve gender parity in HEIs.

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CHAPTER SIX

CONCLUSION

The Republic of Uzbekistan located at the heart of the Central Asian region is a doubly land locked country and lies between Amu-Darya and Syr-Darya rivers. In geographical expansion it is the second largest newly independent state in the Central Asian Region. The country has been broadly divided into 14 Provinces including one autonomous republic and one city. It is the most populous of the Central Asian Republics with a population of more than 26 million in 2006. Uzbekistan is known for its multiethnic, multireligious and multilingual population. The population distribution in the country is unevenly spread. More than 50% population of the country is located in five provinces namely Ferghana, Samarkand, Tashkent, Qashkadarya and Andijan. In Uzbekistan sex ratio is inclined towards female. Women constitute more than half of the population of the country. Uzbekistan has an added advantage with 54% of the population of the working age and another 39% of the total population is younger than working age group. The work participation ratio in the country is not balanced. Out of total labor force in the country, more than 53% males are workers while female workers constitute only 57%.

Basic economic structure of the country is mainly endowed with natural resources, agriculture, industry and labour forces. After independence there has been gradual transformation in the socio-economic scenario the country. Uzbek economy which was primitive and treated as a raw material appendage of the Tsarist Russia adopted centralized planning and socialistic economic policy after the advent of Soviets. Agriculture, industry, service sectors and social sectors showed improvement during Soviet period. Paradigm shift came in the Uzbek economy after independence. The Uzbek economy got divided into different phases and types of reforms, which was slow, accelerated and stalled. Uzbekistan, unlike other CIS countries was slow but steady and persistent in pursuing the path of economic reforms -a stage commonly referred to as "Uzbek Puzzle". With the acceptance of Structural Adjustment Programme (SAP) and Millennium Development Goals (MDG) of the United Nations, Uzbekistan has adopted a mixed economic structure.

Now the country is passing through gradual transition from communist system of economy to macroeconomic and market system of economy. Dependence on primary and secondary sector of economy has been reduced and the economic structure has been shifting from labour intensive agriculture and mineral extraction to tertiary and quaternary sector of economy. Cotton monoculture has been reduced and grain production has increased. The new economic reform policy paved the way for the consistent growth in economy which was driven by high commodity prices mainly for natural gas, gold, cotton and buy-out demand, improved macroeconomic management, social and infrastructural development, positive G.D.P growth, reform in monetary policy, effective control of inflation, increase in FDI inflows as well as expansion of service and industrial sector. All these positive growth in the economy catered to the up gradation of higher education sector.

Situated on the crossroad between the east and the west Uzbekistan has been centre of higher learning for centuries. Historical cities of Samarkand, Bukhara, Khiva, Tashkent etc have been famous education centre since historical Silk Route period. From historical period till now education system in the country has passed through several transition phases.

Before Soviet era Uzbek education system was very traditional. During this period Maktab and Madrassas were providing basic education while higher education was given by Jadids. Before 1917 the level of education in the country was very poor and literacy rate was less than 3%.

Drastic changes came in Uzbek education system after the advent of Soviets. The soviets were aware about the need for implementing an education policy in order to uplift the country's socio-economic condition. Soviet government therefore, expended substantial energies on campaigns against illiteracy and for the establishment of a ramified system of educational institutions. During soviet period a new system of education was introduced in the country which was similar to Western Europe. Now the education system in the country was divided into three

main parts; preschool, school and higher. The traditional Islamic education was pushed underground by 1930s and education became universal and compulsory in the country. Through centralized planning and socialistic economic policy, Soviet government brought large scale social and infrastructural development in the country. Agriculture, industrial and service sectors improved. During this period. Gross National Product (GNP) as well as labour and capital productivity increased. Also the purchasing power of common citizen improved. Thus acceleration in economic sector supplemented the growth of education sector. As a result several new institutes and university were established in Tashkent, Samarkand, Bukhara and Nukus for higher education. Thus through consistent reform in education system by the Soviet government Uzbekistan achieved 100% universal literacy by 1970. Though the condition of primary and secondary school education was very good during Soviet period but the higher education system was not appreciable.

After becoming a sovereign state in September 1991 Uzbekistan became a master of its own way regarding economic, social and human development. After independence the demands of democracy and free market economy have gradually replaced the Soviet model of education by new education system oriented towards fulfilling the needs of an independent Uzbekistan. Now Uzbek government brought large scale structural change in the education system. The higher education shifted from supply driven to demand driven system.

New education policy has been made by the Uzbek government under the Ministry of Higher and Secondary Specialized Education (MHSSE). With the introduction of NPPT in 1997 higher education system in the country entered a new phase of reform. Now higher education has been internationalized, participation of private fund has been accepted, the role of NGOs has been increased, humanitarian base has been increased, independence of HEIs has been established, information technology and modular system has been introduced. Now the higher education became capable to fulfill the demand of labour market of the

newly independent country.

After independence higher education has been divided into two tier systems: Bachelors and Masters. Master's programme has been further divided into post-graduate and higher research. At present higher education is being provided by universities, academy, institutes, external study centers and distance learning centers.

In the early 1990s due to economic recession, worst performance of macro-economic aspects, decline in the G.D.P growth rate, high rate of inflation, the public expenditure on education had declined. But after 1996 due to increase in the ratio of public expenditure on education, higher education has shown a slow but positive progress. At present public expenditure on education as proportion to GDP is almost 9%. This percentage is one of the highest amongst the transition countries of CIS.

During 15 years of independence Uzbek government has taken Herculean efforts to improve the condition of higher education. As a result, the number of HEIs has increased from 42 (during Soviet period) to 64 in 2006. Number of total students enrolled in HEIs has also increased from 1656000 in 1996 to 2863000 in 2006. Under higher education special emphasis has been given to the improvement of tertiary institutes, public administration, modern technology and personal training. Number and quality of teachers have been increased too. But still the overall condition of higher education has not achieved the respectable position. At national level compared to total population only 1.01% people are enrolled in higher education. Compared to the present proportion of young population (about 39% population is of the young age group), this percentage is much less. Out of total students enrolled in primary and secondary education only 4.3% students are taking admission in higher education. This shows that drop out ratio after secondary education is very high. Also the number of universities and graduates produced over last four years has hardly shown any substantial jump. Numbers of universities for graduation courses remain fixed (20) during last 3 years. Numbers of graduates have also shown

hardly a 13% annual growth.

The effectiveness of post graduate and research education is low. That's why out of total bachelor's students only 15% post-graduate students and 8.6% doctoral students are capable to finish their study.

Out of total expenditure on education, higher education is receiving only 5.4% of the total education budget. Despite the government's initiatives of internationalization of education as well NGOs participation, the condition of higher education in Uzbekistan is grim. The effects of the regional cooperation in higher education are yet to trickle down at the grass root levels.

The present distribution pattern of higher educational opportunity in the country is not rational. Striking differences can be seen in the standard of higher educational opportunities between the Tashkent city and rest part of the country. Tashkent city has only 8% population of the country but it has more than 48% HEIs and above 40% students enrolled in HEIs. While more than 50% population of the country is situated in only 5 states namely Samarkand, Ferghana, Tashkent, Qashkadarya and Andijon but these states have only 28% of the total higher educational institutes. And Surkhadarya and Sirdarya have lowest opportunity of higher education. On national level except Tashkent, Samarkand has emerged as another hub of higher education.

Among the several determinants which are affecting the reform process and distribution of higher education, economic factors are playing major role. Living standard or level of poverty is positively correlated to the development of higher education.

Thus after independence the basic primary, secondary and vocational education is easily available in the country, but higher education is still not progressing fast. There is an urgent need to reduce the regional disparity in the distribution of higher educational opportunities among rich and poor provinces, between rural and urban areas. Also male-female gap in higher education should be reduced and gender participation in HEIs should be increased. Without taking proper reform

measures in higher education system, it is not possible to fulfill the demands of new democratic and market oriented economy of Uzbekistan in coming future.

Uzbekistan like other countries of Former Soviet Union (FSU) inherited legacies of gender equality in primary and secondary education. At present Uzbekistan is among the leading countries in the world with regards to key indicators of educational level. Despite its transition challenges Uzbekistan has been able to maintain gender equality in basic education. The country has 100% literacy rate for both sexes at primary and secondary level of education. But since independence Uzbekistan is not capable to maintain the prestigious trends of higher education for both sexes. After 1991 the country is experiencing a falling trend of gender participation in higher education. A male-female gap in higher education has increased and enrollment ratio of females in HEIs has declined.

At present females share more than 50% population of the country but compared to their total population their share in Higher education is less than 1%. Also out of 3903100 young aged female population between the age group 18-34 only 2.7% females are taking higher education in the country. After independence transition in socio-economic condition and worsening of demographic and ethnic condition has marked influence on the life of women. The post-soviet Uzbek economy has not become the foundation of real equality for women nor has it offered equal opportunities to women in the choice of career strategies. After independence women were displaced from the sphere of skilled labour management process, research and development as well as employment from all sectors. Also high fee rates of higher education and transition in social system, increasing Muslim traditional norms as well as stereotyped ways of thinking about women and men's area of educational specialization etc have influenced the women's participation in higher education.

As a combined result of these social, economic, cultural and religions change, the female enrollment in higher education has declined. In

bachelor's education there were 52800 students in the 2004/05 academic year. Out of them only 41% were female students. Similarly in Post-graduation courses there were 45% female and 55% male students. In research area only 29% females were enrolled as a researcher and scientists. In Doctoral degree courses too, only 37% females are enrolled in the country. On other hand the gender participation is inclined towards male in the distribution of teachers and instructors in HEIs. There are only 35% female teachers in higher educational institutes and universities in the country.

The regional distribution pattern of male-female enrollment ratio in higher education sector is also not equal in all 14 provinces of the country. Striking differences can be seen in the distribution of gender participation in post-graduate and doctoral courses between Tashkent city and rest part of the country. Out of total 991 female students enrolled in Post-graduation courses in the country in 2004-05 academic years, more than 754 female students were enrolled in various universities in Tashkent city region. Karakalpakstan is distantly holding second rank with 47 female students enrolled in HEIs. Surkhadarya and Sirdarya have lowest gender participation ratio in higher education.

The basic reason for the lower participation of females in higher education in several provinces are differences in demographic structure, infrastructural development, education budgeting, macro-economic growth, level of Urbanization, distribution of higher educational institutions and opportunities for higher education. The linear correlation indicates that there is a causal relationship between level of Urbanization and enrollment ratio of females in higher education as well as number of higher institutes in each province are also influencing the enrollment ratio of females in HEIs.

The Uzbek government is trying to improve the gender participation ratio in higher education. For this, government has made several education policies. By signing the Millennium Declaration in September 2000, Uzbek government is trying to achieve the target of gender equality in higher education by 2015. The government has also tried to

get international cooperation to enhance the gender participation ratio in HEIs. But these steps are still insufficient to reduce the male-female gap in HEIs. There is a need to bring very effective policies towards gender parity in higher education.

After 1991, assertion of Uzbek national tradition came into immediate conflict with those elements of the soviet legacy that promoted gender parity in education system. After independence, the transition in the socio-economic structure is having a negative impact on the higher education. As a result higher education enrollment rates are decreasing for both girls and boys, but more steeply for girls. Since independence Uzbek government has demonstrated a strong commitment to bring better gender parity in education system. The government has introduced a number of legislative changes and legal reforms designed to guarantee gender parity in education system. Article 18 and 46 of the constitution guarantee equality of rights for attaining education of both sexes. After 1991, Uzbekistan developed its own legal policy for education

The first stage of the education policy between 1991-97 was the preparatory stage. During this period new law of education was adopted. Also higher educational institutions were allowed to choose their curricula, text books and methods of teaching. This stage cannot provide any drastic change in the gender participation in HEIs.

During second stage, between 1997-2004, NPPT was formed. The NPPT tried to achieve the target of National Action Plan on Education For All (NAPEFA). Through NPPT, the country marched towards positive direction in gender participation in higher education.

During third stage, between 2001-2005, the curricula and study plans for male and female students were improved. Scholarships in higher education system were granted to both sexes.

In fourth stage, 2005 onwards, Uzbekistan has declared world wide support for achieving the aim set out for equal gender participation in HEIs. Now state education budgeting has been enhanced. External

assistance is also provided to education sector by ADB, UNICEF, Japan Bank, Government of USA, EU, India and several other donor organizations. Now Uzbek government targeted to achieve balanced gender parity in higher education.

International Cooperation like Beijing platform and Millennium Development Goals (MDGs) for the ratification of convention on the elimination of all forms of discrimination against women were also considered. At present more than 412 NGOs and social organizations are dealing with gender issues in the country.

Major findings of this study are highlighted as: the enrollment ratio in HEIs is very less compared to the total students enrolled in primary and secondary education. Economic factor is playing a major role in influencing the higher education system of the country. Higher education system is improving simultaneously with the economic growth. Degree of urbanization is influencing the distribution pattern of HEIs. On the basis of availability of higher educational opportunities Uzbekistan can be divided into four major regions; area of highest opportunity found in Tashkent city region, area of high and medium opportunities found in Samarkand, Andijan and Ferghana provinces, and area of low and medium opportunity found in Karakalpakstan, Bukhara, Djizak, Qarhka darya, Navoi, Tashkent and Khorezm. Area of lowest opportunity is found in Surkhandarya and Sirdaraya region.

The gross enrollment ratio in HEIs is not correlated to the number of students enrolled in primary and secondary education. There is highest degree of correlation between prosperity and enrollment rate in HEIs.

There is gender disparity in higher education. Enrollment ratio of girls in HEIs is very less compared to their total population in the country as a whole as well as their total population between the age group 18-34 years. Increasing impact of Islamic tradition is responsible for the lower rate of enrollment of females in HEIs. The reform process of higher education is progressing very slowly. The government has adopted several policies to bring gender parity in higher education but their

impact is very slow.

Thus there is an urgent need to take more effective reform measures to improve the higher education sector in the country. For this government should eliminate the existing quota system for entrance in HEIs, present high tuition fee should be reduced for those students who study on a fee basis. Education budgeting for higher education sector should be increased. Lab equipment and other educational facilities should be increased. Salaries of teachers should be increased. Social program should be initiated to increase the opportunities for girls to receive higher education. A flexible academic and examination schedule should be adopted for young women to study in the Higher Educational institutes.

Thus by adopting these measures it can be expected that in the near future slowly but steadily the country will be able to bridge the gap existing in the present education scenario. By this process the country will achieve the target of the Millennium Development Goal by 2015.

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Appendix I

Trends of pre-school educational establishment in Uzbekistan from 1991 to 2006

	1991	1997	2000	2001	2003	2004	2006
Number of establishments	9834	7546	6704	6865	NA	6603	6413
No. of children covered (in thousand)	1339.5	681.2	624.6	642.5	NA	575.1	562.2
Non-state owned pre-school establishments	NA	2405	588	407	NA	85	57
No. of children in non-State owned pre-school establishments (thousand)	NA	143.7	31.6	22.5	NA	4.0	3.0
No. of private establishments	NA	NA	1	1	NA	7	12
No. of children in private pre-school establishments (thousand)	NA	NA	NA	NA	NA	0.1	0.2
Percentage of children at pre-school establishments as% of children of respective age	NA	17.6	18.2	19.4	NA	19.3	18.8
No. of pre-school institutes in Urban areas	NA	NA	NA	2796	2712	2686	NA
No. of pre-school institutes in rural areas	NA	NA	NA	4069	4034	3917	NA
No. of children in pre-school institutes in urban areas (thousand)	NA	NA	NA	368.4	333.4	325.4	NA
No. of children in pre-school institutes in rural areas (thousand)	NA	NA	NA	274.1	258.3	249.6	NA
No. of teachers employed in pre-school institutes	NA	NA	NA	65642	63704	62246	NA

Source:- UNDP: Development of education system in Uzbekistan Tashkent 2005 and state committee on statistics 2007-08 Tashkent.

Appendix II

Regional distribution of Pre-school institutes and Number of enrolled children (2001-2004)

Regions	ND.Pre school institutions		No. of enrolled children (in thousand)	
	2001	2004	2001	2004
Karakalpakstan	392	409	31.5	34.0
Andijan	659	585	49.8	45.9
Bukhara	552	509	38.5	30.5
Djizak	191	189	25.1	28.6
Kashkadarya	410	392	40.4	31.9
Navoi	252	238	25.9	22.1
Namangan	759	645	60.0	48.8
Samarkand	692	697	50.0	44.8
Surkhandarya	408	419	26.3	28.2
Sirdarya	191	192	18.4	15.3
Tashkent	573	544	59.5	52.4
Fergona	967	889	89.5	76.8
Khorezm	345	365	23.5	27.4
Tashkent city	564	530	104.1	88.4
Uzbekistan total	6865	6,603	642.1	575.1

Source:- UNDP; Development of Education System in Uzbekistan 200-2004 Statistical Bulletin Tashkent 2005.

Appendix III

Number of Students enrolled in General Secondary School by education Stages

(in thousand)

School year	1997/98	199/200	2001/02	2003/04	2005/06	2006/07
No. of Students in Primary School of 1-4 grades	2528.9	2588.4	2563.7	2448.3	2277.2	2164.8
No. Students in general secondary school of 5-9 grades	2334.7	2461.5	2971.6	3054.9	3146.4	3106.0
No. of student in general secondary school of 10-11 grades	610.7	608.7	NA	NA	505.1	417.1
Total Students in general Secondary school	5474.4	5658.6	5594.9	5516.2	5928.7	5687.9

Source:- State committee on statistics Uzbekistan Tashkent 2007-08

Appendix IV

Trends of General Secondary Schools education System.

	2000/01	2001/02	2003/04	2006/07
Total Number of Schools	9726	9788	9834	9796
No. of general Secondary schools in Urban area	2065	2105	2185	2085
NO of general secondary schools in rural area	7661	7683	7649	7711
No. of special schools and Lyceums	NA	NA	355	245
No. of schools with in depth study in some subjects	NA	NA	3116	1845
No of teachers	4430	454.4	472.8	451.7

Source:- State committee on statistics Uzbekistan Tashkent, 2007-08

Appendix V

Languages of instruction in general secondary school 2006-07

	Uzbek	Russian	Karakel	Kazakh	Tajik	Kyrgyz	Tuskmen
No. of schools	8827	760	383	522	258	61	48
No. of Pupils (in thousand)	5075.3	282.6	116.3	99.1	91.1	12.2	11.0

Source:- State committee on statistics Uzbeksitan, Tashkent 2007-08

Appendix VI

Regional distribution of General Secondary Schools and Students in
(2004-05).

S.N	Provinces	No. of General Secondary	No. of Students in general secondary schools (in thousand).
1	Karakalpakstan	764	343.2
2	Andijan	752	557.7
3	Bukhara	540	336.5
4	Djizak	545	362.2
5	Kashkadarya	1098	620.1
6	Navoi	373	193.7
7	Namangan	675	508.6
8	Samarkand	1208	735.0
9	Surkhadarya	831	517.6
10	Sirdarya	306	151.8
11	Tashkent	891	518.2
12	Ferghana	919	686.0
13	Khoregm	539	334.6
14	Tashkent city	353	365.3
15	Uzbeksitan Total (in thousand).	9794	6130.5

Source:- UNDP (200); Development of Education system in Uzbekistan 200-04 Tashkent.

Appendix VII

Basic indicators of Secondary Specialized vocational education

	2001/02	200/03	2004/05	2006/07
No. of institutes	531	606	892	1052
No. of students (in thousand)	446.1	546.0	788.1	1075.0

Source:- State Committee on Statistics Uzbekistan, Tashken 2007-08

Appendix VIII

Employment of Graduates of Secondary Special vocational education institutions (in 2006).

Types of institutions	No. of graduates (in thousand)	% students entered universities	Were employed %	Not employed %
Vocational colleges	23,7126	5.3	61.0	33.6
Academic Lyceums	7,872	59.2	11.8	28.9

Source:- State committee on statistics Uzbekistan, Tashkent 2007-08.

Appendix IX

Regional distribution of secondary special vocational education system 2004-05

S.N	Provinces	No. Secondary special vocation schools	No. of students (in thousand)
1	Karakalpakstan	77	71.0
2	Andijan	74	63.9
3	Bukhara	47	39.1
4	Djizak	36	23.9
5	Kashkadarya	66	61.7
6	Navoi	29	26.1
7	Namangan	67	60.3
8	Samarkand	80	71.5
9	Surkhadarya	61	51.2
10	Sirdarya	32	21.8
11	Tashkent	72	58.6
12	Ferghana	81	73.3
13	Khoregm	61	49.6
14	Tashkent city	109	114.1
15	Uzbeksitan Total	892	788.1

Source:- UNDP (2005); *Development of education system in Uzbekistan 2000-04 Tashkent*

