NATIONAL HUMAN DEVELOPMENT REPORT

2006

UNDP Armenia

EDUCATIONAL TRANSFORMATIONS IN ARMENIA

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ARMENIA 2007

Team of Authors

Programme Coordinator	**Narine Sahakyan**
Team Leader	**Serob Khachatryan**

Introduction	**Thomas Welsh** (Ed. D. Educational Planning and Management)
Chapter 1	**Gagik Galikyan** (Candidate of Sciences in Philosophy) **Serob Khachatryan**
Chapter 2	**Marie Lou Papazian**
Chapter 3	**Serob Khachatryan** **Gevorg Hakobyan**
Chapter 4	**Serob Khachatryan**
Chapter 5	**Serob Khachatryan** **Gevorg Hakobyan**
Chapter 6	**Serob Khachatryan**
Chapter 7	**Hovhannes Hovhannisyan** (Candidate of Sciences in Philosophy)
Chapter 8	**Hovhannes Hovhannisyan** (Candidate of Sciences in Philosophy)

Anahit Bakhshyan, Yerevan #27 school principal, produced "Implementation of Inclusive Education" section of Chapter 6.

Authors of Boxes

Karine Danielyan, Doctor of Sciences in Geography, YSU, NGO Association for Sustainable Human Development, UNEP National Committee

Jemma Hasratyan, Candidate of Sciences in Pedagogy, Association of Women with Higher Education, Chairperson

Robert Vardanyan, Candidate of Sciences in Physics and Mathematics, "Quantum" lyceum, principal

Experts to the Report	**Ashot Bleyan,** **Aleksan Hovhannisyan**
Programme Assistant	**Anna Gyurjyan**
Project Assistant	**Marianna Arzangulyan**
Translators	**Khachatur Adumyan,** **Kristine Karapetyan,** **Aram Bayanduryan**
Proofreader	**Bryn Rickards**

FOREWORD

I commend the National Human Development Report 2007—the fruit of rewarding and extensive work carried out with the sponsorship of and under the patronage of the United Nations Development Program. Such a publication is deeply needed in light of Armenia's state policy to create a learning society and a knowledge-based economy.

The National Human Development Report 2007 provides professional coverage and comprehensive analyses of Armenia's education system and proposes certain solutions and concrete steps to be initiated to achieve significant changes and tangible outcomes for ongoing educational reforms.

Although the research, analyses and recommendations displayed by independent experts do not always coincide with the views of the authorities, at the current stage they can considerably contribute to the formation of civil society and raise awareness about the importance of ongoing educational reforms.

I would like to praise the authors of this deep and multi-dimensional work and those who have contributed to its preparation. I pass on special gratitude to the United Nations Development Programme for their continuous support to the education sector and their devoted work. Thanks to these efforts, Armenia receives another means to present the developments and challenges of the current educational system to wider circles, including civil society, the international community and the Diaspora.

Levon Mkrtchyan
Minister of Education and Science
Republic of Armenia

PREFACE

The United Nations Development Programme global and national Human Development Reports (NHDRs) have been putting people in the center of the analysis of development since 1990. In this way, they have been raising awareness of the human dimension of development while addressing urgent development problems facing both our global home and the individual countries, with the aim to achieve a more human and equitable world.

In Armenia, NHDRs have been prepared since 1995. Each one of them has focused on a specific area of human development, along with analyzing the human development situation in the country. As 2006-07 are the years of the MDG's localization and the PRSP review, both of which identify education policy as an essential and very important component of overall socio-economic policy, and since the next waves of education reform are in the pipeline, we believed that there is momentum in Armenia for a strategic discussion of education and room to initiate a broad national debate around it.

What education do Armenians require in this 21st century? Is the education system up to the challenge of forming Armenians that will ensure Armenia can compete in a globalized economy and world? What are the values underpinning Armenia's education system today? How do they currently impact the identity of Armenians? Is the education adequate in terms of the labor market and Armenia's development challenges? These are the questions the Report seeks to address.

The NHDR Armenia 2007 has been prepared by a group of international and national experts selected on a competitive basis with full sponsorship of the UNDP and the Presidency of the Republic of Armenia along with the Ministry of Education and Science of RA. It concentrates on Education in light of recently observed sectorial developments, trends, and ongoing reforms. The Report addresses educational issues at all levels: from preschool to higher professional education. It also analyses the achievements made as well as the shortcomings that Armenia still has to overcome in education to ensure a smooth integration into the western education system.

The NHDR's commitment to transparently present an unbiased and independent view, along with an innovative approach, inspired the team of authors of the Report to suggest concrete recommendations to tackle problems currently observed at different education levels—recommendations that include the wise and pragmatic blend of institutions, legislation, norms and innovative solutions fostering educational developments. Committed to constructive dialogue, the group has seen its main objective as compiling an informative and analytical document revealing the most problematic aspects of the education sector in Armenia.

We value the authors' intellectual independence and professional integrity and the principle of participation and transparency of the entire process. As you will see, the conclusions and views offered on the challenges of the education system and its preparedness to meet the challenges of integration into Western European Educational System may be debatable. The aim is, precisely, to generate discussions and a national dialogue around the country's education strategy and the means of implementing it. If this happens, the objectives of this report will have been achieved.

Consuelo Vidal

UN Resident Coordinator
UNDP Resident Representative

ACKNOWLEDGEMENTS

Preparation of the National Human Development Report 2007 would not have been possible without the support and valuable contribution from different organizations and individuals.

The team expresses its gratitude to the Presidency of the RA and, in particular, to Mr. Vahram Nercissiantz for close collaboration. Special thanks go the Ministry of Education and Science and to its Minister, Mr. Levon Mkrtchyan, in person for significant support to the Report process.

We especially acknowledge the professional support given to the Report preparation process by International Expert, Dr. Thomas Welsh, who is the author of the Report's Executive Summary and Preface, as well as by Mr. Andrey Ivanov, Human Development Policy Advisor of UNDP Bratislava Regional Centre, for participation in defining the scope and structure of the Report.

The team offers its special thanks to the National Institute of Education of the MES, State Linguistic University after V. Bryusov, Educational Programs Center of the MES, as well as to Ms. Nvard Manasyan, Mr. Robert Stepanyan, Mr. Artashes Torosyan, Mr. Karen Melkonyan, Ms. Alvard Poghosyan, Ms. Aida Topusyan for revision of the Report and valuable comments and recommendations.

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The team is most grateful to Ms. Consuelo Vidal, UN Resident Coordinator, UNDP Resident Representative for useful advice and continuous support.

Thankful for all the support that they have received, the authors assume full responsibility for the opinions expressed in the Report.

Abbreviations

AED	Academy for Educational Development
AMD	Armenian dram
CfEP	Center for educational projects
CIS	Commonwealth of Independent States
EDI	Education Development Index
EDRC	Economic Development and Research Center
EfA	Education for All
EFSD	Education for sustainable development
EU	European Union
GDP	Gross Domestic Product
HEI	Higher Education Institutions
ICT	Information Communication Technologies
MDG	Millennium development goals
NGO	Non-governmental organization
NSS	National Statistical Service
OECD	Organization for Economic Co-Operation and Development
PISA	Programme for International Student Assessment
PRSP	Poverty Reduction Strategic Programme
SVEI	Secondary Vocational Educational Institutions
TIMSS	The Third International Mathematics and Science Study
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USA	United States of America
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics
VESL	Vocational Education State Loan
YSU	Yerevan State University

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EXECUTIVE SUMMARY

An Invitation to Dialogue

The National Human Development Report 2007 opens a dialogue; it presents the challenges and opportunities facing Armenia in regard to Human Resource Development. Politicians, educators and the wider community face the pressing need to formulate and commit to a coherent set of policies, plans, goals and priorities for national educational—human resource development. Citizens of Armenia are her major asset and they must be equipped to serve themselves and the nation.

The report provides a framework for the dialogue. The first step is to recognize that Armenia is currently in the process of transformation and this process must be directed. The challenge centers upon the citizens, aided by elected officials, deciding what manner of nation they are committed to building and the implications of this choice for educational investment. This first step is essential as education requires a reliable degree of clarity about the state's self-definition if it is to deliver the educational services that facilitate the nation's development. Second, the government and the Ministry of Education and Science, with stakeholders, need to formulate and communicate a *productive vision* of the education system. The report spells out the requirements of a productive vision. The third step is to formulate the *Strategic Plan for Education* that will support the national development plan and realize the national vision for education. This plan must present a coherent, coordinated and integrated system and program of management and governance directed at delivering the relevant and appropriate quality education services. Finally the education system must be integrated with the economy and labor market.

Overview of the Report:

Part One: Contextual and Strategic Issues

Chapter One of Part One analyses the challenges emerging from Armenia's social transformation. The negative impact on education of the economic crisis and the difficulties of the transition-period is discussed. This transformation process is exacerbated by unemployment, emigration, and a growing and institutionalizing disregard for law. These fragment, polarize, and confuse Armenian society, which lacks a clear perception of its national identity and *raison-d'etre*, and is less optimistic about its future. While education has a role to play in guiding the nation through the transition, it cannot do it alone.

"Any education aims at socializing the members of its group, but the quality and value of socialization depend on the habits and goals of the group,"[1]

The habits of the heart and mind of the nation will shape its options and future. The state has to enhance a common sense of citizenship and encourage participation at all levels of national life. There is an urgent need for the formulation of an overarching and unifying vision of national identity.

While the above factors impact the future of education, the demographic trends of the nation must also be critically addressed. The education system is 'present and future' oriented and must take serious notice of the demographic trends showing significant changes from the 2005 population of 3,016,000 to the possible 2050 moderate projection of 2,506,000, the pessimistic one of 2,038,000, or the optimistic 3,062,000. The policy and planning capability of the Ministry of Education and Science will need to be significantly upgraded to address all of the above-mentioned issues.

Chapter Two shows how the absence of a *shared productive strategic* vision for education compounds the situation and leaves the education system fragmented and loosely coupled.

"A vision is "productive" if it has the capacity to mobilize change by effectively and efficiently guiding behavior and supporting decision-making at all levels of the system."

Examples are given of how Canada, Finland and Egypt addressed this issue with a clear central focus. Without a *productive vision, a central focus,* translated into a coherent program of investment and reform, the education system will continue to underachieve on its potential contribution to national development. Chapter two argues that steps need to be taken now to generate the *'Productive Strategic Vision'* that will provide a foundation upon which a productive, adaptable

1 Dewey, J. Democracy and Education, New York, 1916, p.62

and relevant education system will be built.

"There is a pressing need for a relevant and productive national strategic vision for Armenia's education system. Constructing such a guiding vision will significantly contribute to the development of the system and the effectiveness of ongoing reforms, eliminating a major obstacle that is currently reinforcing Armenia's growing lag with respect to the quality and relevance of education."

This section on the strategic vision for Armenia's education has suggested that (1) a powerful vision for the development of education in Armenia can be a critical strategic resource, and (2) Armenia's education system is likely to be underdeveloped due to the lack of a compelling, clearly articulated and widely shared strategic vision. Formulation of the Vision would focus on the following four groups of factors produced at a UNDP workshop: (1) economic development and human capital; (2) national identity and ideology; (3) geopolitical perspectives; and (4) capability, resource and structural considerations.

The national shared productive vision must be home-grown to be sustainable. This chapter also questions the superficial importing of external 'solutions' which amount to little more than long lists of 'best practice' that may or may not relate to the nation's needs. Contemporary 'mantras' such as "knowledge economy" will be subjected to critical analysis to establish their relevance to the development needs of Armenia.

Part Two: The Implementation of Public General Education

Chapters three, four, five and six comprehensively address the internal workings of the education system focusing upon questions of *Outputs, Processes, Inputs* and *Governance* and *Management* structures. There is a call for a unified conceptual framework to guide development of the educational system. The emphasis is on the need for greater coherence, coordination and integration of policies, programs and activities that provide education services at all levels. The delivery of education services must be supported by management and governance systems and structures that efficiently deliver education services by ensuring the linkages between the planned outputs, processes and inputs of the education system. The roles and functions, authorities and responsibilities for all levels of management and governance need to be clearly defined to enable them to perform and be accountable.

Chapter three specifies that Armenia is gradually moving towards an output-based education system. The State Concept for Public General Education and the State Standards for Secondary Education have been developed. Efforts are currently underway to develop standards for public general education subjects, which will define the desirable outputs of public general education. It is important to implement effective methods of measuring output, which will give an understanding of the real situation in the education sector, and to undertake appropriate steps to achieve the desired outputs. The report outlines the challenges currently facing the system—decline in quality, the negative impact of the tutorial 'business' on reform, the inequities arising from regional, economic and social disparities and the impact of 'marketisation' of access to higher levels of education.

Chapter four highlights the urgent need to manage more effectively and efficiently the linkages and transition process between educational levels. This will require more effective communication and information exchange among the different education levels and institutions to ensure greater effectiveness and efficiency in the relevance and delivery of services. The failure to manage linkages leads to wastage and losses as students move from one level to the next.

Chapter five addresses issues of *Inputs*. At the heart of this chapter are comprehensive concerns about the selection, training, placement, support and promotion of teachers. The issues of workloads, class sizes, pupil teacher ratios and performance incentives need to be addressed if reform targets are to be achieved. While there is no shortage of 'teachers' in Armenia, the current workforce profile of knowledge, skills, experiences and attitudes does not support the reform and innovation needed for national development. This is compounded by the practices of teacher-training institutes that do not respond to the system's needs and aspirations. The report calls for a major reform in this area.

The report notes that research shows that the level of inputs into education does not necessarily guarantee the delivery of relevant and quality services. However, it acknowledges the government's efforts to increase the flow of resources to education.

"According to the report "*the planned expenditures* from the state budget on education in 2004 amounted to 2.33% of the GDP, compared

to 1.96% in 2003 and 2.74% in 2005[2*"3]. According to the 2007-2009 Medium-Term Expenditure Framework of the Republic of Armenia, this indicator is 3.23% for 2006. The average for OECD countries is 4.7%. In 2005, 84.22% of public spending on education went to formal basic education. In OECD, this indicator is 72%."

It also endorses the policy of student based financing but draws attention to the negative consequences of that policy. These negative aspects flow from the competition for 'customers' in a declining market and the corruption of student assessment as a marketing ploy. These flaws draw the school system into *a resource-capturing mode of practice* where the central goal is school survival and job retention.

The report, while acknowledging the increases in capital expenditure in recent years, draws attention to the inefficient and ineffective targeting of this input. There is a need for more relevant targeting of capital investment beyond the merely remedial goals of recent years. Thought needs to be given to *capital investment for innovation* to support national development.

Chapter six, which is devoted to matters of governance and management, opens with the following observation:

"Open and transitional societies are usually very sensitive to external factors. Such sensitivity justifies the importance of effective management and governance... The concepts of management and governance are very often used as synonyms in the educational system of Armenia, but their distinction is very important in practice."

Management is the process of formulating the mission of the organization, setting goals and objectives, mobilizing and allocating resources to achieve the goals and objectives, and monitoring performance. ***Governance*** deals with the processes and systems by which an organization or society operates. Governance is established at all levels where the competencies and capacities to manage and administer these processes and systems exist.[4]

The report provides frameworks to address the issues of management and governance of education in Armenia. It also addresses three interlinked issues: decentralization, homogeneity vs. diversity, and macro- vs. micro-Management. Where there is effective and efficient decentralization, the local bodies must have not only the authority and responsibility to act but also the necessary capacities and capabilities. The transfer of power to incapable organizations results in non-performance. Second, a decentralized system must be responsive to local needs and opportunities and provide the commensurate services. Finally, you either transfer power—authority and responsibility—or you do not at all. The persistence of central management and homogeneous goal setting hinders local responsiveness and creativity.

The issue of an effectively and efficient integrated management and governance system lies at the heart of the delivery of relevant and quality education services in Armenia. Both domains require significant human recourse investment to be effective.

Part Three. Professional Education

Chapters seven and eight of Part Three of the Report address the linkages of the education system, economic development and the labor market. *In the short to medium term, the creation of productive linkages between the education system and the economy may be the most pressing challenge to the Armenian education system and the political process.* This section presents a very practical presentation of the challenges and opportunities for education in national economic development. The linkage of the education system and the economy demands the serious and immediate attention of politicians, the education community and employers.

Part three identifies six major areas that must be addressed:

1. The integration and coordination of vocational education through all levels, using both private and public resources and organizations

2. The development of programs based upon the analysis of:

a. Market demand for labor – establish relevant information systems, graduate tracer studies

2 * The 2007-2009 Medium-Term Expenditure Framework of the Republic of Armenia contemplates 2.53%.

3 Poverty Reduction Strategy Paper implementation progress report, Yerevan, 2006, page 45

4 The World bank defines governance as the exercise of political authority and the use of institutional resources to manage society's problems and affairs. An alternative definition suggests that governance is the use of institutions, structures of authority and even collaboration to allocate resources and coordinate or control activity in society or the economy.

b. The diversity of regional and sub-regional development plans and their labor needs

c. Production of goods for the local market – revenue generation

d. The training needs of the public administration – Malaysian model.

3. Proactive training of the unemployed in anticipation of growth – South Korean model

4. Upgrading the quality of staff in professional education, especially in the areas of professional practice, and placing increased emphasis on the practical experience of teachers and instructors.

5. Investment in programs for Life Long Learning

6. Application of the laws governing professional education and training.

These six issues must be urgently addressed. Failure in this area will encourage migration and discourage inward foreign investment. There is an urgent need for Armenia's education system to establish strong and effective links to the economy and job creation. Persistent and unattended weaknesses in this area can threaten political stability and social cohesion.

Basic Facts of the Republic of Armenia, 2006

General[1]

Area	**29,743 sq. m**
Capital	**Yerevan**
Official Language	**Armenian**
Religion	**Armenian Apostolic Church**
Currency	**dram**
Fiscal Year	**January-December**

Vital Statistics		2003	2004	2005	*2006
Population at the year-end, thou people		3212.2	3215.8	3219.2	3222.7
Economic Indicators					
Gross Domestic Poduct (GDP)	million AMD	1624642.7	1907945.4	2243953.1	2665036.6
	million USD	2806.9	3577.0	4902.7	6405.7
	USD per capita	874.0	1112.9	1523.8	1988.7
GDP structure, % to total	industry	19.3	19.2	18.8	15.1
	agriculture	21.5	22.5	18.7	17.7
	construction	15.7	15.6	21.7	26.7
	services	34.4	34.3	32.3	32.3
GDP annual growth rate, %		14.0	10.5	14.0	13.4
External national debt, million USD		1097.7	1182.9	1099.2	1158.4
Balance of payments, million USD		-189.4	-161.6	-193.3	
Average nominal salary per worker, AMD		34045	43430	52062	64001
Average annual inflation, %		4.7	7.0	0.6	2.9
AMD to USD exchange rate		578.77	533.45	457.69	416.04
State Finances					
State budget total revenues and official transfers, million AMD		292035.3	302249.1	374746.9	439620.1
State budget total expenditure, million AMD		312697.8	333969.8	417505.9	454977.6
Community budget expenditure, million AMD		21415.5	26037.5	32600.8	**15380.2
External Sector					
Export (including services), % to GDP		32.1	27.4	26.9	
Import (including services), % to GDP		50.0	42.1	39.9	
Population Income					
Population cash income, million AMD		1165021.3	1311323.9	1456508.5	1722253.7
Population cash expenses, million AMD		1158944.8	1302628.4	1406767.5	1650686.8
Population dependency ratio, %		60.4	57.9	54.8	...

[1] Source: National Statistical Service of RA if not otherwise indicated. Previous years indicators are changed as of statistical data corrections,

* 2006 data are preliminary

** First six months data

Vital Statistics	2003	2004	2005	*2006
Health Care				
Infant mortality rate (thou live births)	12.0	11.6	12.3	13.8
Maternal mortality rate (thou live births)	22.4	26.7	18.7	26.6
Education				
Adult literacy (15 years and elder, %) according to 2001 census general data	99.4	99.4	99.4	99.4
Combined first, second and third level enrolment ratio, (% of the population of the relevant age)	71.7	69.0	70.9	...
Workforce				
Total workforce resources, thou people	2008.4	2041.5	2072.4	...
Labor force, thou people	1232.4	1196.5	1195.8	1201.3
Employment in sectors of economy, thou people	1107.6	1081.7	1097.8	1112.4
Official unemployment level, %	10.1	9.6	8.2	7.4

INTRODUCTION

Human Resource Development in Armenia: An Invitation to Dialogue

The major opportunity for Armenia's educators and wider stakeholders is to build on past success by articulating and communicating to the citizens a clear set of aspirations, directions and priorities for the education and human resource development system over the next three decades. These aspirations need to be nested within the wider national development plan. The articulated and communicated set of guidelines, however, needs to be informed by an adherence to agreed democratic principles and professional standards. The general goal of all education systems is *to contribute to the development of the active citizen in a productive and participating community.*

The Report

This report has four principal objectives. The First is to identify and address the major challenges and opportunities resulting from the success of the Armenian education system since 1991 and locate these within the context of the transition required for the next three decades. The second is to present an overview of these challenges and opportunities in order to identify the most notable medium-to-long-term educational issues. Third, the report is an invitation to an open dialogue about the future of Armenian Education and how and what educational services should be delivered to ensure the sustainability and prosperity of a democratic nation in the face of fast-changing regional and global opportunities and challenges. Finally, the report emphasizes the urgency of formulating plans and practical steps to move confidently forward to build an education system that can respond to the needs—economic, political, social and cultural—of the nation and the citizen in 21st century.

The Challenges

To choose an education system is to choose the kind of society you want to be.

The Education system demands particular attention due to its fundamental role in equipping the citizen and the nation to survive and prosper in today's globalized world. Armenia's educators must confront the dual challenge of helping to equip the active citizen with the knowledge, skills, experiences and values they need to function positively both at home and globally.

At the heart of the educational challenge are the human resource investment choices to be made that will ensure the nation's development and prosperous survival in tomorrow's world. To choose an education system is to choose the kind of society you wish to be. Delors[1] signposts what this means for education in the first half of the 21st Century:

- ***Learning to know***, by combining a sufficiently broad general knowledge with the opportunity to work in depth on a small number of subjects. This also means learning to learn, so as to benefit from the opportunities education provides throughout life.

- ***Learning to do***, in order to acquire not only an occupational skill but also, more broadly, the competence to deal with many situations and work in teams. It also means learning to do in the context of young peoples' various social and work experiences which may be informal, as a result of the local or national context, or formal, involving courses, alternating study and work.

- ***Learning to live together***, by developing an understanding of other people and an appreciation of interdependence—carrying out joint projects and learning to manage conflicts in a spirit of respect for the values of pluralism, mutual understanding and peace.

- ***Learning to be***, to develop one's personality and be able to act with ever greater autonomy, judgment and personal responsibility. In that regard, education must not disregard any aspect of a person's potential: memory, reasoning, aesthetic sense, physical capacities and communication skills.

1 Delors. J. The Treasure within. UNESCO. Paris 1996

These are the four pillars that can guide the educational investments of the nation.

The pressing questions facing the educational community in Armenia are:

1. What are the major educational opportunities and challenges facing the nation – at the community, district, national, regional and global levels?
2. Where are we taking this education system - vision, mission, goals and objectives?
3. How will we improve the management and governance of the education delivery system to support the delivery of services from the classroom to the minister's office to the parliament – Urban centres, rural townships, remote and isolated communities and security regions?
4. What will be the role of the private sector in delivering education services to the nation?
5. How will we measure the performance of the system and establish accountability for the delivery of education services—what is the economic relevance of and what are the linkages between student achievement, teacher performance, school performance, and tertiary level performance?
6. How will we manage the programmatic investment relationship with external donors and lenders—International Agencies, Governments and NGOs—while advancing the nation's progress and survival?
7. How can the achievement of the expected outputs and outcomes of this investment programme be clearly specified, communicated and measured?

It is hoped that this report will serve as the opening address of a national debate.

PART 1

STRATEGIC ISSUES OF EDUCATION

PART 1

PART I.
STRATEGIC ISSUES OF EDUCATION

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CHAPTER 1
ARMENIAN EDUCATION IN THE CONTEXT OF SOCIETAL TRANSFORMATION

Concerns

Education has gained a prominent role in the contemporary world due to the integration of the education system with other societal institutions. As a result, the social environment has seriously influenced education. The functioning of the education system becomes even more difficult in a transition period, when education struggles to accomplish its mission in a flood of change. The socialization[1*] process is a decisive criterion for evaluating the education system in its interaction with society. "Any education aims at socializing the members of its group, but the quality and value of socialization depend on the habits and goals of the group," writes John Dewey.[2] However, since traditions are reviewed and goals are uncertain during a transition period, the quality of socialization deteriorates.

The socialization of the younger generation is driven by two realities. The **first** is the societal transformation that has taken place in Armenia during the last 15 years. The transition to a market economy and a democratic system has not been easy or smooth. The old and new societies' values, which are not always compatible, have caused a polarization within society. Some perceive the new reality to be the cause of all the problems; others refuse to give up the Soviet mindset. This fracturing of society has made the socialization of the younger generation confused and chaotic.

The second factor is that, in such a situation, much depends on what happens in the education system, how the education system reacts to societal change, and how clear the focus of changes to the system is. History shows that education is one of the ways of overcoming societal crisis and closing the gap between the old and the new (for example, Japan and Germany after World War II). If the societal context is ignored, the education system loses its connection with reality, which might turn education into a mere formality.

During a transition period, the education system is required to display flexibility and the ability to react without any delay to new societal realities. Some believe that education is a 'conservative' sector that should not pioneer change. Then, one must ask the following question: if education cannot change rapidly, then who is going to pioneer change in society? It would be logical to assume that it is experts in the education sector who are part of the intellectual core of society; surely they are somewhat responsible for leading society forward.

The Armenian system has not been flexible in responding to new realities—many education institutions continue to pursue the goals of the no-longer-existent Soviet system. There is a prevalent approach of delivering "ready" knowledge to the students, rather than problem solving as a means to engaging the learners in the construction of knowledge. The education content does not include sufficient education in contemporary realities (for instance, information society, open society, virtual world, European integration, and social partnership); thus the education system does not support the individual's transformation in line with the contemporary trends of societal development. Understanding these concepts could be decisive in matching the socialization function with the changes.

BOX 1.1

Europe in School

Since 1998, European Clubs have been created and operate in general schools and universities of a number of European (including some CIS) countries at the initiative of the Portuguese Ministry of Education. These Clubs discuss issues and implement projects and contests related to European culture and values. Their goal is to communicate European values to the learners and to engage them in a discussion of issues arising in the European integration process.

Serob Khachatryan

1 In this context, "socialization" should be understood as the process of a person's integration with society, which is driven by the peculiarities of the individual's formation.
2 Dewey, J. Democracy and Education, New York, 1916, p.62

1.1 Education and Transition Period Challenges

The Gap between Mindset and New Realities

During the last 15 years, Armenia's education system has seen significant change. The adoption of numerous laws, procedures, and other regulatory documents has changed the administration of the education system. Substantive change is still underway. One may conclude that a vast amount of change is taking place in the system. However, there is a concern that, in many cases, the change has not significantly improved the situation, is formal, and has not entrenched new practices and mindsets (for instance, the activities of school boards and student councils). Confronting new challenges on the basis of the old practices and mindset will not only hinder progress, but also make some segments psychologically opposed to change. A "Poverty Reduction Strategy Paper (PRSP) Impact Assessment" manual points out: "The institutional transformation process in systems delivering public services in Armenia, despite their external appearance of conformity to the principles of state and societal democratization, are substantively just the opposite."[3]

Thus, in a transition period, there are always mismatches between the new realities and people's mindset. There are three inter-related factors that greatly affect educational reform: memory, imagination, and action. It is disturbing that, within our society, the memory factor prevails over imagination, and memory actually has a great influence on people's actions. Education, however, is a future-oriented system, due to its engagement with the next generation. Memory needs to stand strong, but its prevalence is an obstacle to development. A memory-based society tends to blame new realities for everything. A memory-based society is afraid of change, which it considers the main reason for a loss of the safe past. Famous anthropologist Margaret Mead, in her analysis of conventional societies, writes: "Change was taking place so slowly, that grandfathers, embracing their newborn grandchildren, could not imagine for them a future that would be any different from their past."[4] Today, however, the children's future will be very different from the past of their grandfathers, and this should be taken into account in the sphere of education.

Economic Crisis

One of the transition period difficulties was the economic crisis that negatively affected the education system. Compared to 1992, when education received 7.2% of the GDP, education spending fell to 2% of GDP in 1994. From 1995, this indicator gradually increased to 3.23% in 2006, which is still low.

Another consequence of the economic crisis was emigration and the decline in the birth rate. This in turn led to a continuous decline in the number of students. In this respect, the projections of the UN are alarming. Three scenarios (moderate, optimistic, and pessimistic) are presented below. According to all the projections, Armenia's population will continue to fall until 2050.

3 S. Manukyan, PRSP Impact Assessment 2005, Yerevan 2006, p. 56

4 Mead. M. Culture and World of Childhood, M, 1988, p. 233

Table 1.1. *Projected Population of Armenia[5], 1950-2050*

Year	Population		
	Moderate Scenario	Pessimistic Scenario	Optimistic Scenario
1950	1 354		
1955	1 564		
1960	1 867		
1965	2 205		
1970	2 518		
1975	2 826		
1980	3 096		
1985	3 339		
1990	3 545		
1995	3 227		
2000	3 082		3 082
2005	**3 016**	**3 016**	**3 016**
2010	2 981	2 947	3 014
2015	2 970	2 884	3 056
2020	2 952	2 809	**3 094**
2025	2 908	2 719	**3 094**
2030	2 843	2 612	3 076
2035	2 768	2 489	3 065
2040	2 690	2 352	3 070
2045	2 605	2 201	3 075
2050	2 506	2 038	3 062

5 Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects: The 2003 Revision, http://esa.un.org/unpp

According to the "Education in Armenia" yearbook, more students emigrate from than immigrate to Armenia. However, the gap has shrunk in recent years. In 2003, for instance, 4,647 students emigrated from Armenia, while 1,789 immigrated; in 2006, 3,094 emigrated and 2,209 immigrated.[6]

The economic crisis has had a particularly negative impact on the pre-school system. In 1991,[7] 1,200 pre-school institutions operated in Armenia; this number fell to 764 in 2000 and 653 in 2004. Today, there are no pre-school institutions in 449 communities; 263 communities have kindergarten buildings that are not used. A significant number of the operating institutions are closed during winter months due to the absence of heating.

Since independence, enrollment in pre-school institutions has declined sharply. Compared to 1995, when 71,300 children attended pre-school institutions, the number was only 44,400 in 2001. The number has picked up again since 2002.

6 "Education in Armenia", Edit Print, Yerevan 2006, pp. 67-68.
7 Data from the National Statistical Service.

Table 1.2. *Number of kids at state pre-school organizations*

	1995	2001	2002	2003	2004	2005
Number of children enrolled in state pre-school institutions, per 1,000	71.3	44.4	44.8	46.1	45.5	47.8

The economic crisis has also affected the school system. As funding and the number of students declined, the number of schools and teachers grew. For a country undergoing an economic crisis, it was a sign of ineffective use of resources. To make the system more effective, an optimization program was initiated in 2003, which resulted in lowering the number of schools and teachers. Neverthe-

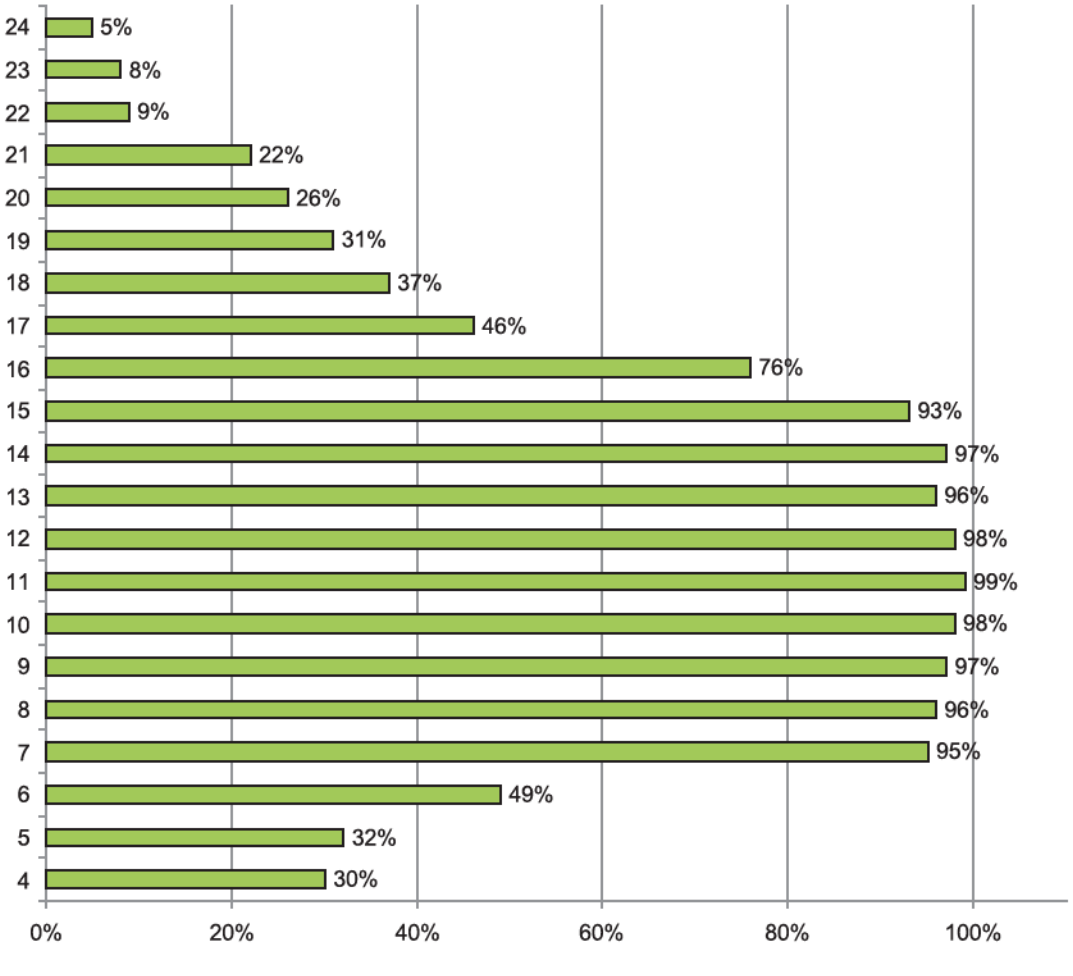
less, the number of teachers has recently increased in some regions. According to the "Education in Armenia" yearbook,[8] there were 10,918 teachers in state schools in Yerevan during the 2003-2004 academic year, but the number increased to 11,193 in 2005-2006. During the same period, the number of students in Yerevan fell from 146,311 to 138,810.

Table 1.3. *Number of comprehensive schools, their students and teachers*

	1991	1995	2002	2005	2006
Number of state formal basic schools	1316	1403	1481	1427	1417
Number of teachers in state formal basic schools	54449		60565		42719
Number of students, thousands	592.2	572.0	520.6	471.3	475.5

Until recently, Armenia generally sustained a high rate of enrollment in formal basic education institutions (see Fig 1.1 below). However, according to the "Education in Armenia" yearbook, the number of students dropping out of school for different reasons has recently increased. The data[9] shows that, during the 2002-2003 academic year, 1,531 students dropped out of school in Armenia, but the number increased to 4,823 during 2003-2004, and further to 6,482 during 2005-2006. It is also alarming that a significant share of those dropping out of school (891, 2,781, and 2,444 per annum, respectively) have reported 'lack of interest in studying' as the reason for dropping out.

Figure 1.1. *Enrollment in education institutions by age*



Source: Economic Development and Research Center (EDRC), estimations based on NSS 2005 data.

8 "Education in Armenia", Yerevan 2004 (p. 62) and "Education in Armenia", Yerevan 2006 (p. 56).
9 "Education in Armenia", Yerevan 2003 (p. 52), "Education in Armenia", Yerevan 2004 (p. 59), and "Education in Armenia", Yerevan 2006 (p. 53),

Armenia has regressed in terms of the indicators used for the "Education for All" Program's Education Development Index (EDI). This index has four components: enrollment in elementary school, adult literacy, gender equality, and the number of children that attend school through to 5th grade. According to UNESCO data, Armenia's EDI was 0.983 in 2003, dropping to 0.979 in 2004. As a consequence, Armenia moved from being ranked 12th to being ranked 29th.[10] Armenia's EDI decline can be attributed to the indicators of elementary school enrollment and gender equality.

BOX 1.2

Gender Balance in the Number of Students and Teachers

Statistics show no gender misbalance in terms of enrollment in elementary, middle, and high school.

During the 2005-2006 academic year, for instance, 477,857 schoolchildren attended state public general education institutions, of which 49.1% were girls. Non-state schools of Armenia are attended by 6,541 schoolchildren, of which 45.4% are girls. Girls are 47.8% of children in elementary school, 48.7% of those in grades 4 to 7, and 51.6% of high school students; these numbers corresponds to the share of girls in the respective age groups.

During the 2005-2006 academic year, a total of 1,133 children remained in the same form for two years: 435 (38%) of them were girls and 698 (62%) were boys.

Women are 84% and men are 16% of the 42,719 teachers working in state and non-state schools of Armenia. Women form 49% of university faculty.

Jemma Hasratyan

The economic crisis has negatively affected enrollment in rural areas. According to 2004 UNDP reports, only 10.5% of rural children are enrolled in pre-school institutions, compared to 28% in urban areas. According to the same source, university enrollment of the rural population is 11.8%, compared to 21.9% for the urban population. The discrepancy between Yerevan and the rest of Armenia is even greater. University enrollment of the population of Yerevan is 41.4%, compared to 6% and 9.6% in regions such as Vayotz Dzor and Tavush, respectively.

National Identity Issues

In recent years, it has been common to value national identity—a solid foundation for a people building their statehood. This phenomenon can also be perceived as a reaction to the globalization process; due to the influence of new ICT, awareness about the world is growing, which helps the individual to comprehend their own identity in the context of diversity. However, some go to extremes. Increased awareness and the impact of global processes are countered by the emerging illusion that one's own worldview, lifestyle, and mindset are the only possible and acceptable ones. Furthermore, 'national' is often equated to the past and presented as something unchangeable. However, 'national' is not only about the past; it is also about the present and the future—identity is subject to change and development.

One could assume that, in terms of survival and the ability to influence the education system, a nation's cultural heritage would stand on firmer ground if it closely interacted with other cultures and were open to their influence (as a way of enriching national culture). There are concerns in this respect, because there is a loss of confidence and ideals in the public, and a growing sense of alienation from society, which inevitably leads to loss of social capital—i.e. loss of the kind of capacity and values that enable people to collaborate. More broadly, culture faces a challenge stemming from the uncertainty and volatility brought by globalization. This challenge requires a rethinking of our activities and positions and, most importantly, to have adequate responsiveness and creativity.

Social Fragmentation

Social integration is a precondition for education reform: to achieve social integration, the new concept of education must take into account those changed realities that have a significant influence on the education process.

It needs to be emphasized that such change poses some objective risks to education. The most serious risk factor is that of fragile social integration, reflected in the form of anomia (fragmentation of social ties and a degradation of norms). Anomia emerges in societies in transition. Armenia's last 15 years of transition can be characterized as an anomia chain and it was primarily manifest in the education system, influencing the destinies of many adolescents. The majority of the population found themselves in a situation in which the norms and corresponding types of behavior, more or less successfully absorbed in

10 UNESCO. 2007. EFA Global Monitoring Report, 2007. Education for All: Early Childhood Care and Education. Paris. UNESCO, p.203

the past, were no longer compatible with the new reality. The deterioration of traditional forms of social life demanded that people decide whether or not they were living, acting, and thinking 'correctly', as they tried to establish their place and become involved in social life. The prevalence of these types of questions, coupled with the ambiguity of responses, facilitated anomia. These are challenges that the education system has to deal with when developing guidelines for the future.

Another sign of fragmentation is the fact that laws and rules are widely circumvented in social life. Social relations are largely a product of the will and determination of individuals and small groups, which have depreciated public interests. Such an environment has negatively affected the education system. One of the main tasks of education is socialization (i.e. development of respect for norms, values, and principles) on the basis of which social mobilization should take place. However, as the perceived importance of norms diminished, a gap emerged between education and real life. When the relationship between two individuals is guided by narrowly-defined private interests, the role of education in teaching common social values and norms diminishes.

The economic decline that began in the 1990s, together with unemployment, the value crisis, and the ensuing deterioration of the family situation led to a profound crisis in family life, which in turn affected education.

The enrollment of children in the age group 7-16 years (the main beneficiary of free-of-charge state education services) best reflects the linkage between non-enrollment and extreme poverty.

Table 1.4. *Reasons of non-enrollment in the education system by age groups and poverty criterion*

	Disease	Has to work	Expensive	No wish to study	Temporarily does not attend, but will continue studies	Personal and family issues	Gradu-ated from basic school	Graduated from second-ary school	Finished education	Other	Distribution of the non-enrolled	Non-enrollment rate, percentage to 7-16 population
Extremely poor	0.20	-	0.91	1.09	-	2.23	3.88	2.96	-	1.57	12.84	11.0
Poor	5.22	0.81	1.59	3.11	-	2.23	13.43	9.17	1.52	3.48	40.55	6.9
Not poor	2.17	-	1.09	2.76	3.54	0.40	12.01	18.40	-	6.25	46.61	3.0
Total	7.58	0.81	3.59	6.96	3.54	4.86	29.32	30.53	1.52	11.29	100.00	4.4

Source: Economic Development and Research Center (EDRC), estimations based on NSS 2005 data.

Another factor is the system of social differences, which emerged after societal change. Social inequality has reached the critical point at which the sense of social cohesion and values of equity deteriorate. The mobility process (in some cases, people without the appropriate skills and competencies found themselves in new social positions) has been accompanied by a severe individualization of society, paying no attention to common civic values. This served as a negative example for the majority of society, especially its most sensitive part—the youth. Consequently, the motivation to learn declined, and poverty was exacerbated. Education became another one of the means of social polarization. However, education could have mitigated poverty. When asked "what is the main difficulty you face when trying to provide university education to your child", 39% of the respondents stated "tuition and other education expenses," and 25.4% mentioned "tutors' fees."

The pedagogic community, as well, is individualized and affected by anomia. Although teachers play an essential role in the education process, their reputation is not generally high. The work style of many teachers is normally far from being effective, which is mainly due to the quality of teacher-training education and inadequate support to teachers. Teacher training lags behind current requirements and continues to follow a Soviet-era model. The challenge is to improve the proficiency of teachers, so that they

can operate effectively in the Armenian education system.

Youth communities are vital in the process of youth socialization: as society becomes fragmented, and as the socialization function of families weakens, youth communities become more important. Such communities become the primary socialization environment—a breeding ground for the distorted perception of social norms and values. In Armenian society, this sub-culture shapes its own values and linguistic thinking, which become guidelines for the bulk of the youth. Their influence on the educational environment may be characterized as a negative one. This influence is articulated in the desire to treat pleasure as the most fundamental aspect of one's life. These are the reasons for low civil activity, inflexibility, and other negative phenomena.

Education and Globalization

In addition to the challenges of the domestic transition period, globalization is also a significant factor influencing social transformation. Globalization is primarily reflected in the growing trend of world economic integration. Globalization is hard to judge in terms of whether its impact is positive (dissemination of the achievements of science, culture, and technology worldwide, and the intensity of communication) or negative (growing social inequity in societies, hyper profits, and loss of national identity); rather, it is an objective process, the impact of which is constantly expanding in scope. One of the most daunting challenges posed by globalization is the depreciation of the national and local culture in the fields of both politics (national and state) and culture and arts.

The world is changing. New technology is emerging, and our environment changes: we are having to accommodate to a constantly-evolving world. Therefore, independent learning skills have become just as important as robust knowledge.

A peculiarity of the globalization period is that the progress of the Armenian education system should be evaluated in comparison with not only the past, but also the performance of other countries' education systems.

1.2 The Gap between Education and Life

The education process is expressed in two ways. The first form is 'formal education', which is carried out in education institutions—by transferring necessary knowledge and skills to members of society and by instilling values, it tries to engage learners and prepare them for life. When we speak of a well-organized education system, we mean first of all its conformity to present-day requirements and its links with and impact on social and cultural change. The second form is 'informal education', which is not specially organized, guided, or supervised. However, that does not mean that informal education is less important or effective. This level of education is reflected in public morals, traditions, stereotypes, and myths. It is relatively effective because, as a process based upon skills and values necessary for survival, it plays an essential role in the formation of a person.

Thus, the second level is always based on transformations taking place within society. At this level, the knowledge and education transfer techniques follow an adaptive aim. However, if change in social and cultural life in Armenia continues to be construed predominantly at the second level, without being adequately reflected in the first-level programs, then it would considerably diminish the role of formal education. "The object of education philosophy is to balance the formal and informal components. If the acquisition of information and intellectual skills does not influence social behavior, then everyday experience does not become meaningful, and schools produce only students that are capable of memorizing."[11]

Traditionally, the education system facilitates social mobility. In other words, education enables a person to develop and to reach professional success. Armenia's education system does not perform this function adequately. Naturally, one of the aims of the education system is to assess and encourage individual achievement of learners, which can turn education into a tool for the self-improvement of learners. In Armenia, however, the social status of the learner's parents is often considered far more important than the learner's personal virtues and achievements. This amounts to a violation of the principle of equity, which in turn undermines trust in education.

One of the main concerns is that the education process grants fewer opportunities for the learners' self-expression and self-realization.

11 Dewey J. , Democracy and Society, M 2000, p. 14.

Therefore, the learners mainly express themselves outside education. The Armenian school, like the Armenian family, mainly operates on the basis of authoritarian principles. The present situation in Armenia's education system is largely due to the mismatch between the new education guidelines and declared values, on the one hand, and the preserved Soviet approach, perceptions, and beliefs, on the other. In a dynamically-evolving world, our education remains faithful to the principle of social invariability and primarily emphasizes the delivery of ready-made knowledge and testing by recital, rather than problem-solving, application of knowledge, and development of skills. This is one of the main reasons why education does not meet the present-day requirements. Schools need serious support in order to create the appropriate infrastructure needed to support the proper personal development of children (e.g. regular reviews of students' individual development needs and programs to promote individuality). Teaching takes place under a conventional classroom-type scheme, based merely on memorization and recital. In Armenia, there is caution about school reform; passive education environments still prevail. The collaboration between teachers and students needs to be improved. Considering that the individual development of students is subject to the requirements of the examination system, creativity and uniqueness are not commended. As a rule, the learning environment within schools is outdated and technologically weak. Nevertheless, education reform documents and teacher training courses emphasize student-centered learning and the active involvement of students in classroom processes.

In effect, education and life are proceeding in different "contexts". To this end, it would be relevant to introduce the concept of "lifelong learning" in Armenia, which implies the engagement of the whole society in lifelong learning programs and courses. To succeed, this concept needs the active support of the state. To adapt to a rapidly changing labor market, continuing education and training are needed. Therefore, state investment to implement the lifelong learning principle is a precondition for the realization of opportunities and social inclusion.

The concept of "lifelong learning" can serve as a basis for strengthening social ties. Meanwhile, data points to the existence of a completely different reality: "Findings regarding non-enrollment in education confirm that about 70% of the population of ages 3 to 65 is not enrolled in any level of education. Non-enrollment is 42.7% in the 3-30 age group, 99.7% in the 30-44 age group, and 0% in the 45-65 age group of respondents."[12]

In an open society, the role of education institutions undergoes major change.

In a closed society (such as the former Soviet Union), the state tightly controlled the branches of culture, which were widely public (such as music, cinema, media, and television), and limited contact with the external world. It resulted in limitation of freedom. Such limitation, however, made the activities of the education system much easier. The vast majority of the public thought in the same way; the contents of media, including television, were not opposed to, but rather, reinforced the substance of education.

The situation has now changed radically. Controlling culture in an open society is essentially difficult. As a result, diversity of values emerges. Low-quality culture is at times very popular, because it requires less effort to digest. Finally, low-quality phenomena penetrate the education system and become virtually incompatible with the ideals advocated through the contents of education. For instance, a child does not accept the message to be honest if he sees in real life how some people succeed by being dishonest. Our education system continues to operate as a closed system, advocating values that are not too appealing and persuasive for the learners. In such a situation, one may question the importance of the modern school, the approaches of which are not tied to changing realities. When the school itself is in the quest, it is very difficult to formulate the development needs of the child.

Educators often complain about the media, including television, and the street culture, claiming they upset its activities. However, in addition to complaining, it is necessary to understand that, in an open society, the conventional approach of value teaching cannot be relied on. Today's learner rejects value preaching. Instead, it is necessary to engage in an open discussion of the problems together with the learners; it is vital not to avoid discussion of the real issues. Today, the education system has competitors such as television, the Internet, and the mass media (unlike the Soviet era), which significantly influence the conscience of learners and alienate them from the education system. To what degree is the school the place where students go to study, and to what extent is it a place where they go because they have to? The education system has lost its once predominant role in spreading knowledge and skills. Today, the mass media, the Internet, television, and other means also spread knowledge and skills. The implication is

12 Education, Poverty, and Economic Activity in Armenia, UNDP, Yerevan 2002, p. 43

that, in order to be competitive, the education system must closely pay attention to the quality of services delivered.

A child that enters the education system today is very different from the one that entered into the system in the past. Previously, life was mainly explained to children by the education institutions. Today, as technology has progressed, the external world becomes accessible to a child at a much earlier age. In the past, children dealt with many realities through written culture, which, naturally, took place gradually, parallel to the child's maturing. Today, due to the development of technology, children deal with realities that are beyond their level of maturity. This is why some have started to discuss the disappearance of childhood.[13] Meanwhile, the education system continues to act as if the children that come to school are clueless, and as if the teacher is the only source of information for children.

13 Neil Postman, (1983). The Disappearance of Childhood

CHAPTER 2
A VISION FOR EDUCATION AS A STRATEGIC RESOURCE

In 2006, the UN National Human Development Report team held a set of workshops on the theme of a national strategic vision for Armenia's education system. Representatives from the Ministry of Education and Science, school principals, educators, intellectuals and international donor representatives attended the workshops to discuss the relevance of a strategic vision for education and the main factors that would underpin it. This section builds on the outcomes from the workshops in order to: (1) identify the nature and role of a strategic vision; (2) analyze the documents, assumptions and implicit values that constitute the de facto aims of the education system at various levels; and (3) suggest some foundations and rationale for developing a productive strategic vision for education in Armenia.

The clear conclusion of the workshops and of the related research and analysis conducted by the team is that there is a pressing need for a relevant and productive national strategic vision for Armenia's education system. Constructing such a guiding vision will significantly contribute to the development of the system and the effectiveness of ongoing reforms, thereby eliminating a major obstacle currently reinforcing Armenia's growing deficiencies with respect to the quality and relevance of education.

2.1. The importance of a productive vision for Armenian education

What is a strategic vision?

"Strategy" and "vision" are fairly elastic terms used in a variety of contexts to mean a range of things. It is therefore important to be clear about what is meant here by "strategic vision".

A strategic vision is a formulation that encapsulates a desired future state based on core principles and shared ideals, as well as a dynamics of progress toward that state. It describes collective commitments and priorities and defines criteria for long term success.

A strategic vision for education can define the goals and direction of the education system itself in addition to the role of education in supporting the broader national vision.

Vision statements and strategic plans are incorporated or referred to in a number of Armenian laws, policy documents and education programs. Yet these documents do not contain a productive strategic vision as defined in the following section.

Criteria for a Productive Strategic Vision

A strategic vision for Armenian education is a productive resource that must meet some key criteria. A vision is "productive" if it has the capacity to mobilize change by effectively and efficiently guiding behavior and supporting decision-making at all levels of the system.

At the policy-making level, the vision drives the development and communication of policy documents that articulate the strategy for education in line with the adopted vision. These policy documents create a framework in which a strategic plan for the education system can be effectively developed and monitored.

In programming and setting targets, the role of the vision is to prioritize planned goals and objectives, determine their sequencing and interdependencies, and suggest performance indicators.

At the level of schools, the strategic vision is a positive influence in the classroom where it helps administrators and educators calibrate their behavior and motivate students in the learning process. It can even function in the form of phrases or mottos that capture the essence of the vision.

What are some characteristics that distinguish a productive vision from one that is merely an ineffective declaration? A productive strategic vision for education would:

1 - Make clear commitments to a clearly communicated set of coherent development goals for education, prioritizing them over other potential goals

2 - Support decision-making by providing guidance for management and governance at all levels of the education system and to a maximum number of stakeholders

3 - Empower agents of change by building consensus politically, bureaucratically and with

civil society. The strategic vision should be a useful resource for enterprising individuals, groups and institutions for producing and supporting new initiatives

4 - Correspond to national objectives. A strategic vision for education should derive from and advance the broader national development vision

5 - Be endorsed by a committed majority of professionals and citizens. A strategic vision can only be effective if it is widely shared and is a political platform reflecting and reconciling the values and aspirations of students, parents, educators, school administrators, civil servants and politicians

6 - Correspond to current Armenian realities in terms of what is achievable in the face of Armenian's real-life problems and constraints, and informed by Armenia's specific advantages and challenges in a globalizing social, political and economic context

Failure to satisfy these few basic criteria can render a vision counterproductive.

Three examples of national strategic visions for education and their central focus

It is debatable whether Armenian Education has a strategic vision to effectively guide its development. Even among those who agree that such a vision exists, there is considerable divergence when it comes to identifying it, articulating it and tracing its impact on the education system. Whatever the view held, the existence of a widely supported national strategic vision is a key factor for progress.

Three very different but equally effective strategic visions for education are presented below.

Finland *– Central Focus: excellence in science, mathematics and technology research.* In 1998, the Ministry of Education of Finland set up a working group to prepare a national strategy for education, training and research. The goal was for Finland to have an open and secure networked society with a high level of information society skills and competency by the year 2007. Today Finnish students achieve the highest scores in technology and science on international tests and Finland is among the highest-ranking countries on the World Economic Forum's Network Readiness Index[1].

Egypt *– Central focus: business-style management as the key to a better education system.* Egypt has a "strong vision for educational development" based on a "business-style approach" as characterized by the 2005 Education for All Global Monitoring Report published by UNESCO. Egypt's vision for education is systems-oriented. It is driven by a clear and focused strategy of creating a structure of corporate incentives, operational mechanisms and effective and efficient management. Egypt believes that it can improve the quality of education by setting clear targets, systematically evaluating schools, increasing teachers' compensation based on performance, and using information and communication technologies to manage the education system.

Canada *– Central Focus: National strengthening based on social integration and diversity.* Fostering cultural diversity as a strategic national asset is the Canadian strategic vision. Canada's 2004-2007 Sustainable Development Strategy notes the country's success in attracting and selecting highly educated immigrants to increase its human and social capital. The strategy also promotes enhancing national competitiveness in a global, knowledge-based world through an international orientation of education.

In the case of each of the above countries there is a clear central vision giving focus to the education system. This does not neglect all other aspects. For example, research in science, mathematics and technology is certainly nurtured in Canada as it is in Finland, while rational administration of schools remains important not just in Egypt but in Canada and Finland as well.

The important lesson is that an effective vision provides a *central focus*; the architectural principle around which the education system will be built and to which it will respond.

1 World Economic Forum Network Readiness Index Rankings 2005: http://www.weforum.org/pdf/Global_Competitiveness_Reports/Reports/gitr_2006/rankings.pdf

2.2. Armenia's current vision for education – distributed and implicit

The post-Soviet vacuum

The process of transition that started with independence left Armenia to draw on its own resources, supplemented by international donors and loan funds. In the education system the transition created a vacuum in the area of strategic vision. In the Soviet era Armenian education was informed by a powerful strategic vision. Harutunyan and Madinyan[2] explain the strength of the Soviet era education system in Armenia as a direct consequence of the Soviet Union's political will to attain and surpass the economic strength of the West. As the authors put it, this ideology had a "systemic effect in that it constituted the axis, foundation and main pillar of the entire system of education. One does not need to be an architect to understand that in such cases the resulting structure is always strong and durable."

The process of transition that started with independence more than a decade ago left Armenia with under-funded and vulnerable public services in all areas, including education. But in the education system, it meant there was no strategic vision capable of guiding the process of transformation.

Laws and official documents

Armenia today has a 'distributed' vision for education. That is to say a government-level vision for the development of the Armenian education system could potentially be distilled from the collection of education sector laws, standards, decrees, programs and other official documents.

Article 39 of the Constitution of the Republic of Armenia establishes the principle of free and compulsory public education, while the "Law on Education" articulates national goals regarding the education system and the roles and responsibilities of different levels of government. In Article 4, the Law on Education prominently identifies the rapid development of the education sector as the most important factor in strengthening the nation.

The National Security Strategy of the Republic of Armenia sets forth key directions and priorities which could have an impact on the education system. For example, policies relative to regional and international relations, including relations with the global Armenian Diaspora, could guide some aspects of a national strategy for education.

If there is a more specific government-level strategic vision for the development of the education system, it is not made explicit and has to be distilled from the collection of laws, standards, decrees and other official documents concerning the sector.

In 2004, two key documents were published that defined the legislative framework for primary, middle and high school curricula: The National Curriculum for General Education and the State Standards for Secondary Education. The former lays out basic principles intended to shape the school system and the latter develops detailed criteria defining learning outcomes.

In higher education, integration into the European Higher Education Area and commitment to the Bologna process are at the basis of the agenda for reforms. The transition to a credit transfer system and a European university degree system are defining the course of progress in higher education.

Overlaid on these developments is legislation supporting reforms in the governance and administration of schools, universities and other institutions of education. The decentralization of school governance, the privatization of textbook development, the restructuring of university boards and the rationalization of teaching staff are prominent examples of those reforms.

The 2001-2005 State Program for Educational Development addressed the stated problems of the education system and produced a list of goals, objectives, and activities with a corresponding schedule. The Program also laid down such principles as the "establishment of social and economic conditions for the provision of the Constitutional right of citizens to education" and the "centralization of state control over the quality of education". The draft version of the 2006-2015 Program, which is currently undergoing substantial revisions[3], is similar in nature to its predecessor. It identifies "integration into the European education system" as a key direction for Armenia's education system. In higher education, participation in the Bologna process is the basis of the reform agenda.

2 Harutunyan, K. and Madinyan, A., "On the Foundational Issues of the School System", in Secondary Education in Armenia: Issues and Perspectives, published by the Civil Society Institute.

3 The Ministry of Education and Science has now embarked on an effort to fundamentally revise the new State Program for Education Development through a process of strategic planning coupled with an assessment of its institutional capacity to implement and support the proposed program.

An exploration of the existing documentation dealing with education suggests that the aim to integrate with the 'European system' may be the declaration that comes closest to providing a foundation for a vision statement, a central focus, to direct Armenian educational investment. However, work would be needed for this statement to become a strategic vision that can serve as the central focus—the architectural principle for Armenian Education. Advocates of this vision must pay attention to the criteria on the productivity of a strategic vision with which this chapter began.

Development agendas: PRSP, MDG, EFA

National and international goal-setting and strategic documents in which education is an important component can also help in the search for the Armenian vision for education.

Armenia's Poverty Reduction Strategy Paper (PRSP) states that further development of the education sector "is perceived as the first priority for economic progress." Issues of efficiency and utilization as well as the need for increases in state budgets are highlighted. The PRSP also identifies developments in general education as taking priority over higher or vocational education[4].

The Millennium Development Goals offer little to Armenia in the area of education as the nation has achieved the corresponding targets. In April 2000, the World Education Forum set out a vision of Education for All (EFA) which was intended to set the direction of progress in education for developing countries. These also do not address any of the central issues of Armenian Education.

Donor supported reforms

One must also look for an implicit vision in the education sector reforms promoted by international donors. The World Bank has been active in guiding and lending funds for education sector reforms in Armenia for close to a decade and is the only donor doing so at a systems level. The resulting Education Quality and Relevance Project aims to: improve the national curriculum, general education standards and evaluation systems; integrate new technologies and methods into the teaching process; train teachers in modern teaching practices; and restructure the administration and financing of the education system.

What is the stated or implicit vision guiding these reforms? In September 2006, the Ministry of Education and Science's World Bank financed Center for Education Projects presented the status and direction of the reforms in the form of a Mid-Term Review Report. The preface of the report contains a paragraph emphasizing a focus on modern concepts such as the shift to a knowledge economy and a learning society, placing a premium on the "creative and interpretive capabilities of individuals" and skills related to working within a complex and changing environment. In keeping with the approach presented at the beginning of this chapter, it is appropriate to ask what role this general vision plays in guiding the reforms or to what extent the stated vision is productive or strategic. One characteristic of the "knowledge economy" vision statement is that it is a universal one that could apply to any country at any level of development. More significantly, it would be worthwhile to examine how the stated vision guides the reform program, its components or its objectives. It is clear, however, that if one tries to deduce an implicit guiding vision in the now decade long reform process, it is probably one of gradual and steady progress towards conformance with best practices established by the international development community. However, it has not been demonstrated that such conformity would yield any comparative advantage to Armenia.

Implicit values as de facto vision

Armenian society places great value on education and is proud of its academic, cultural and scientific achievements throughout history. This pride translates to a dedication on the part of parents to ensure that their children achieve the highest possible level of education despite difficult social, political and economic circumstances. This parental dedication when productively mobilized can provide broad based support for an ambitious strategic vision for education. However, it cannot itself spontaneously generate that vision.

In fact this parental commitment has become counterproductive in a number of aspects, as follows.

1. Obtaining a university degree has become a goal in itself rather than a means for acquiring knowledge and skills or enhancing career prospects.
2. Secondary education is seen mainly as a training ground for passing university exams.

4 The latest revision of the PRSP is placing renewed emphasis on professional education.

Ghukasyan[5] observes that for many Armenians a university degree has become a "obsession". The consequence of this is that the performance of a school and its staff is judged solely by the number of the school's students entering 'good' universities. This has led to a growth in private tutors (often the school teachers themselves) to prepare for university entrance exams during the last years of high school[6].

3. A less pervasive, but equally symptomatic phenomenon is that of evaluating a school solely on the basis of its students' performance in subject olympiads. The latter are highly specialized in the topics they cover and the types of problems they ask students to solve. Some of the best schools in Armenia are often judged by how many gold, silver and bronze medals their students obtain at olympiads each year. The result is that some schools focus on training their most promising students to excel at olympiads at the expense of a well-rounded and relevant education.

4. A further example of how Armenian society's dedication to education can be counterproductive is the prevalent conviction that the Soviet system of education is the 'gold standard' by which to judge the quality of education offered by schools today. This view implies that the current system is on the right path only to the extent that it is recovering the specific characteristics of the Soviet system of education. It ignores the fact that the strategic vision underpinning the Soviet education system is no longer viable and that the Soviet era school system is no longer an adequate vehicle for meeting the demands of an open, democratic nation.

5. From all of the above flows the problem of low demand for vocational education and training by mainstream students. Students, who could prepare for a more rapid entry into the job market as computer technicians, construction specialists or mechanics, instead spend their late teens and early twenties trying to obtain a university degree which they will not necessarily use in their future careers.

6. And finally, there is the negative impact on the quality of university education itself. With many students attending university for the wrong reasons—to postpone the drafting to the military, to enhance social standing, or simply as an end in itself—the quality and motivation of the student body remains low and the incentive of the faculty and administration to offer a relevant education is compromised.

2.3. Considerations for developing a vision

The central role of communication

During the fifteen years since Independence, the leadership of the Ministry of Education and Science of the Republic of Armenia has changed nine times – an average term of 20 months. How can any long-term strategic vision and its coherent implementation survive such changes in regime? While the long term strategy is itself a tool for ensuring continuity across administrations, it can fulfill that function only if it has some key characteristics.

- A high degree of adoption of the strategic vision by different levels of government and segments of society. A vision that reflects and shapes the opinion and aspirations of stakeholders and that those stakeholders are highly aware that it is likely to survive and provide continuity across changes in leadership.
- The vision must correspond to a broader national strategy and address the priorities of ministries other than just the Ministry of Education and Science.
- The vision must lend itself to being formulated clearly enough to be understood and adopted by society in general, education workers, the private sector, parents and students. Once that level of adoption is achieved, the pressure against sudden and arbitrary changes in direction will work to ensure continuity.

This is predicated by effective communication in two directions:

1. Communication of the strategic vision to all stakeholders in government and society
2. Communication from stakeholders during the development of the strategic vision in order to capture and reflect all relevant expectations and work toward consensus.

The key role of communication also ensures the productivity of the vision implemented in strategic goals, concrete objectives and action plans. The vision represents a long term commitment. While it is active, it guides the planning and implementation of objectives which themselves may change over time according to circumstances.

5 Ghukasyan, G., "What is the aim of general education?" in Secondary Education in Armenia: Issues and Perspectives, published by the Civil Society Institute.

6 Ghukasyan sites the results of a survey that found over 45% of high school level students taking lessons from private tutors and over 17% indicating that they do not take private lessons only because they cannot afford it.

Three indicators of an unproductive vision

One of the traditional areas where an effective vision manifests itself is in the national strategy or program for education. The articulation of a vision is the first and necessary step in the formulation of the strategic plan. The plan is the document that lays out how the vision will be translated into the concrete outcomes and outputs needed to realize the vision.

It is important to note here that a national program or action plan for education does not in itself fill the need for or constitute a strategic vision. Often the strategic vision that is articulated or is implicit in a national program is not necessarily effective and can be unproductive in the ways defined above. The following are three indicators of the absence of a productive strategic vision in a national program.

1. Activities described in the program form an undifferentiated list without priorities, interdependencies or a unifying rationale.
2. The program allocates no clear responsibilities or corresponding authorities to the relevant levels of the education systems.
3. The program cannot efficiently adapt to changes because it does not differentiate between core principles which are more constant over time and the specifics of implementation which should change and adapt to circumstances.

The goals, objectives, tasks and standards of a national program for education are effective and robust to the extent that they are driven by the strategic vision that is overarching and productive.

Factors and global trends that might shape a strategic vision for education

This section on the strategic vision for Armenia's education has suggested that (1) a powerful, vision for the development of education in Armenia can be a critical strategic resource, and (2) Armenia's education system is likely to be underdeveloped due to the lack of a compelling, clearly articulated and widely shared strategic vision.

It is beyond the ambitions of this report to propose a vision for Armenia's education system or to fill the role of strategy consultant in developing one. Indeed, in order to be effective, a strategic vision cannot be based on a ready-made formula but must be developed by the Ministry of Education and Science in collaboration with a representative group of stakeholders and key decision makers.

Yet it would be useful to briefly outline some Armenia-specific considerations as well as global trends representing the types of factors that might shape an effective strategic vision for education. The following is a preliminary list of factors that stand out as ones that need to be considered, verified and potentially harnessed in the development of a national vision for Armenia's education strategy. They are the result of a set of workshops with a small group of representative stakeholders, in addition to analysis by the UN National Human Development Report Team.

These factors can be loosely organized into four groups under the headings of (1) economic development and human capital, (2) national identity and ideology, (3) geopolitical perspectives, and (4) capability, resource and structural considerations.

1. Economic development and human capital

1.1. Demographic considerations such as declining birth rates, emigration and the already active role of women in the workforce

1.2. Disparity between the current state of development of Yerevan vs. other cities/rural areas and especially mountainous areas

1.3. Global trends in knowledge economy and technology which drive productivity in a rapidly evolving global information society

1.4. Unemployment and low wages as a key impediment to improvements in living standards

1.5. The potential for the education system to become a regionally competitive service industry for Armenia

2. National identity and ideology

2.1. The importance of cultural heritage including the Armenian language, and a tradition of creative cultural production

2.2. Historical legacy of excellence in mathematics, science and technology

2.3. National identity and national awareness issues, and post-Soviet generational changes in worldview

2.4. Self-image of excellence in some domains – national pride in the achievement of scientists, artists, chess masters or entrepreneurs of Armenian descent

2.5. The political will for European Union integration and Armenian society's assimilation of European values

2.6. Issues of human rights and pedagogical freedom

3. Geopolitical perspective

3.1. The global Armenian Diaspora as a potential strategic asset and potential stakeholder

3.2. Context of global balance of powers, cultural influence and potential future markets – Russia, US, China, Turkey, EU, Arab world

3.3. Emergence of Asian superpowers and evolving politics in the Middle East

3.4. Isolation for a landlocked country with currently limited relations with immediate neighbors

4. Capability, resource and structural considerations

4.1. Limited resources for implementing any education program and the resulting need for a particularly resource-efficient approach

4.2. The need for self-assessment regarding Armenia's real capacity and resources for the development of the education sector

4.3. Lack of confidence in and within the school system – apathy, slow turnover of teacher base, corruption and inefficiency

4.4. Investment in capital improvements – heating, better school buildings, etc. – are needed

4.5. Strong presence of international donors for at least another decade

4.6. Perceived need for a 'leapfrog' approach – gradual reforms are institutionalizing Armenia's lag with respect to the West

4.7. Centralized vs. decentralized education sector decision-making and evaluation of education programs.

It is interesting to note that there was broad consensus among the participants of the workshop around two factors. The majority of participants felt that factor 1.3 (Global trends in knowledge economy, technology and information society) was of high importance, while an equal majority of participants agreed that among the least relevant was factor 3.3 (Emergence of Asian superpowers and an evolving Middle East).

BOX 2.1.

Scientific and Educational Support to Sustainable Development.

2005-2015 UN Decade of Education for Sustainable Development

The global environmental crisis of the 20th century is widely believed to be partially caused by scientific and education systems. Science is accused of failing to identify the environmental crisis on time, only stating the fact once the crisis had already materialized. This is explained by the so-called "tunnel" (narrow-disciplinary) approach of modern science to global issues, which hinders the "comprehensive" understanding of such issues. This is the "shortsightedness" of modern which fails to see the globally complex social, economic, and environmental processes. Today's reality requires science to study global issues with an integrative and holistic view, rather than intensifying specialization alone.

Sustainable development theory studies the supreme system of correlation between society and nature, and, as such, must be based on all social studies and natural sciences.

Hence, the *challenge for education* is to shape an education system based on a complex approach.

The need for "education for sustainable development" (EFSD) was first presented in the "Agenda for the 21st Century" adopted in the 1992 Rio Summit. Thereafter, EFSD concepts were further elaborated in documents of the UN Commission on Sustainable Development and in other international treaties. Then, the 2002 World Summit on Sustainable Development, held in Johannesburg, accepted the suggestion of the Japanese Government to announce a Decade of Education for Sustainable Development. (It should be noted that the suggestion was made by a group of NGOs representing the CIS.) Finally, on December 20, 2002, the UN General Assembly adopted Resolution 57/254, which declared 2005-2015 the Decade of Education for Sustainable Development. EFSD principles are also enshrined in the Declaration of Environmental Protection Ministers of European States (Kiev 2003).

The Republic of Armenia has signed the United Nations Economic Commission for Europe (UNECE) Strategy on Sustainable Development in Education, which was adopted in Vilnius in 2005. A system of indicators has been developed, according to which countries must prepare national reports on activities carried out in this area.

Armenian specialists have made significant progress in this area: from 1994, Yerevan State University (YSU) has been offering a course on the theory and practice of sustainable development. Based on the course, the Association for Sustainable Human Development and YSU, under UNDP support, published a university

manual in 1996, which has since been used by a number of universities throughout the CIS.

Karine Danielyan

The link to Armenia's national development strategy

It is important for the strategic vision for education to reflect and support the broader national vision for Armenia's future development. The education strategy should be tightly coupled with the national vision in areas such as economic development, cultural identity and other key factors. A case in point is the Republic of Korea's decision following the Korean War to produce an over-supply of skilled human capital through a major investment in its public school system. The goal was to match a future labor demand that Korea planned to create as part of its economic growth strategy. The emphasis was on the quantity of students that would graduate form the school system with at least a minimal level of education. This is clearly a vision that would not make sense in the absence of a national strategy for economic development.

What would be an equivalent national vision in Armenia today? In the case of Armenia, an ambitious but appropriate approach might be to give education the lead role by proposing a vision for education as the central axis of Armenia's national strategy. This would certainly be fitting for a nation that has always placed a very high value on knowledge, learning and creativity and a people who recognize their language and culture as the key to Armenia's survival through the millennia.

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PART 2

ORGANIZATION OF BASIC EDUCATION

PART 2

PART II.
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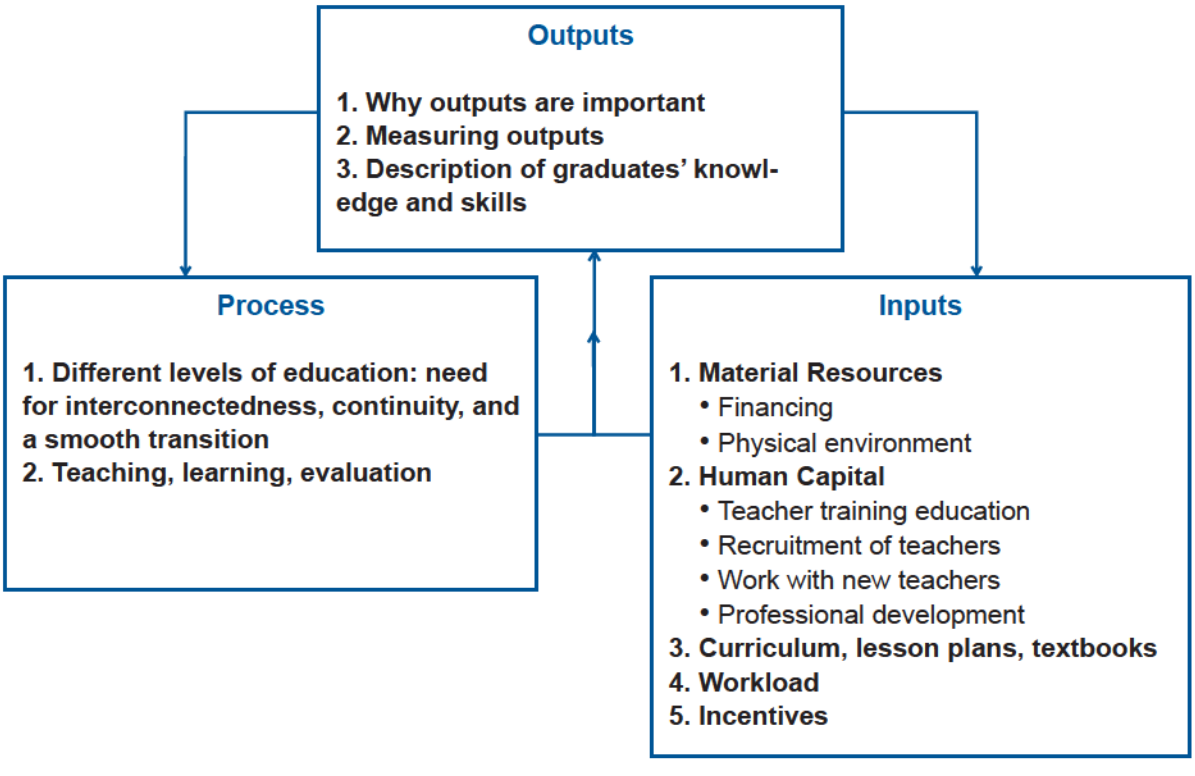
In Soviet times, education policy was developed in Moscow, and Armenia, like the other Soviet Republics, was mainly just implementing the policy. A post-independence challenge for Armenia was to establish an autonomous education policy, including everything from strategic plans to everyday management, hence the need for a more systemic approach to the education system. A systemic approach is viewed as an interconnected function of three components: education outputs, inputs, and process.

Chart 3.1. *Components of General Education*



A combination of these three components is one of the safeguards of quality of education. Recently, there have been frequent references to the concept of "quality of education" In Armenia. Although all education-related documents speak about education quality, this concept remains an abstract one. The quality of education should correspond to the aims and requirements of a society. What might have been deemed of "high quality" several years ago may no longer be perceived to have any quality today. Quality education does not mean that schools must produce flawless graduates (as is the case in industrial production). Quality education means that a country is broadly able to achieve its defined goals.

In recent years, international research and documents have attached great importance to the concept of "quality of education." One of the viewpoints worth mentioning is that improving the quality of education can turn into a prerequisite of improving quantitative indicators. It is believed by some that if quality education is delivered, enrollment indicators may improve and learning may become longer. The importance of education quality can be seen in the fact that delivering quality education is one of the six goals of the Framework for Action adopted in the context of the "Education for All" initiative in Dakar in 2000. The UNESCO Quality Matters report, in particular, cites Article 29 of the Convention on the Rights of the Child, which provides: "State Parties agree that the education of the child shall be directed to … the development of the child's personality, talents and mental and physical abilities to their fullest potential." UNESCO has identified five guidelines for education quality: respect for the learner's individual needs, the environment,

and the contents, process, and outcome of education.

The European Union has developed 16 indicators of education quality,[1] which are divided into three groups. The first group of quality indicators is related to content and covers the following areas: mathematics, reading, natural science, civic education, ICT, foreign languages, and learning to learn. The second group of quality indicators includes the number of students left outside of educational institutions, the number of high school graduates, and the number of students in higher educational institutions. The third group of quality indicators includes the amount of funding per student, the number of computers per student, teacher training education and training issues, and the number of children attending pre-school institutions.

1 European Union, European Report on the Quality of School Education, European Union, May 2000.

CHAPTER 3
OUTPUTS OF FORMAL BASIC EDUCATION

3.1. Why Outputs are Important

Outputs have recently been viewed as an essential feature of education systems.[2] A World Bank report states: "The struggle to improve the quality of public education has shifted from inputs to outputs."[3] The imperative to have a competitive education system and growing public demands make this focus on outputs inevitable. One of the challenges facing Armenia is that the system has to provide competitiveness while being subject to more limited financial, physical, and technical capacities than those of many other countries.

In a narrow sense, "education outputs" are understood as the results of graduation exams. In a broad sense, education outputs also include the number of graduates that continue education, the conformity of graduates' skills with the labor market requirements, civic qualities, and the school's impact on the students' growth. This report differentiates between two degrees of outputs: desirable outputs (targets) and outcomes.

The output focus arises for several reasons:

* The development of the education system is linked with development of the nation and society;
* High outputs of education guarantee the prosperity of society;
* Opportunities are created for assessing the gap between targets and outputs, and directing inputs at closing the gap; and
* Teachers understand better what is expected of them.

In recent years, the Armenian education system has made steps toward a transition to output-based education. Much has been done in order to prescribe the desired outcomes. In particular, the State Formal Basic Education Concept and the Standards for Secondary State Education were adopted in 2004. Criteria have been developed for all levels of education, as well as for specific subjects, which set out the requirements presented to students. These documents lay down the desired outputs of formal basic education, its individual levels, and the subjects that are taught. In 2005, the National Assembly adopted a Law on the State Inspectorate of Education. The Inspectorate already operates within the Ministry system with the primary objective of "facilitating compliance with the requirements of educational criteria."[4] A Government Decree of 2004 created the Assessment and Testing Center, one of the goals of which is "to summarize student knowledge tests and exams, to carry out analysis, and to publish the results."[5]

Despite the gradual introduction of certain elements of an output-based system, the system continues to talk more about investments and other processes. The time has come to talk about outputs. After the collapse of the USSR, bodies governing education have not presented serious output requirements to education institutions, because keeping the system "alive" was the only concern given the economic crisis and under-funding. The Poverty Reduction Strategy Paper of Armenia states that "as a consequence of lower public expenditure on education, education quality has deteriorated considerably."[6]

3.2. Measuring Outputs

An important component of any output-based system is the determination of methods and tools for measuring outputs. Since independence, governing bodies of education have not focused clearly enough on the measurement of outcomes; education institutions were entrusted with knowledge testing and graduation exams while governing bodies became actively involved in the admission process. In this situation, education outcomes are based on performance indicators required of educational institutions, which are not reliable given the absence of consistent standards of evaluation. A "good" grade in

2 Nevertheless, there are some concerns about attaching importance to outputs. Based on studies by Hargreaves and Oakes, Pasi Sahlberg states: "In England and Wales, New Zealand, some provinces of Australia, Japan, Singapore, and even in the United States there are growing concerns about the appropriateness of standardized reform and its real contributions to educate for citizenship and prepare youth for democratic societies and knowledge economies." Pasi Sahlberg. 2004. Teaching and Globalization. Managing Global Transition: International Research Journal. Volume 2, Number 1.

3 World Bank, Expanding opportunities and Building Competencies for Young People, World Bank, 2005, p.212

4 Republic of Armenia Law on the State Inspectorate of Education, www.edu.am

5 Republic of Armenia Government Decree 586-N of April 14, 2004,Accessed at www.atc.am on September 30, 2006.

6 Poverty Reduction Strategy Paper, Yerevan 2003, p. 84

a school differs from a "good" grade in another school. According to statistics provided by the Education Department for the City of Yerevan, the share of students that received "good" and "excellent" grades during 2003-2004 was 34.6%, growing to 45.8% in 2005-2006. During the same period, the number of students receiving "poor" grades has fallen (from 4,832 in 2003-2004 to 3,139 in 2005-2006). This increase should have been studied thoroughly. However, since measuring outcomes was not a priority, it is not clear what supported such an increase—did the teachers perform better, did the students study better, or did the evaluation criteria become less stringent?

In the context of education reform in Armenia, there are plans to implement a consistent policy of evaluating outcomes, for which a special institution has been created—the Assessment and Testing Center. One of the most serious challenges associated with the evaluation of outcomes is how to combine objectiveness and criteria. Objectiveness in checking outcomes requires minimization of the human factor. As a result, preference is given to test assignments that can be checked by the computer. Even in such cases, it is impossible to check the creative skills and critical thinking of students, which are considered very important nowadays and have already been incorporated in both secondary education standards and specific subject standards. According to the State Standards for Secondary Education, a high school graduate must be able "to write fiction and analytical papers" in the area of "Armenian Language and Literature."[7] It is clear that a computer-checked test cannot measure compliance with this requirement. It is assumed that teachers should develop these skills and evaluate them during classes. However, international experience shows that teachers mainly focus on the criteria checked at exams. An example of this is that in Armenia insufficient attention is paid to Stylistics, because the curriculum content of this subject is not included in the exams.

Starting from 2007, Armenia will apply a new system of unified high school graduation and university admission exams in the "Armenian Language and Literature" subject. The exam papers will be checked by a computer, which will boost objectiveness, though it is clear that establishing a nationwide environment of equity is a vital precondition of exam objectiveness. At the present stage, the objectiveness of exams is an essential safeguard for developing the education system and improving public confidence in the education system of Armenia.

Implementing a performance-based system is a major challenge for educational institutions. A number of new functions need to be introduced in this respect: educational institutions should implement self-analysis systems, which will help them understand their shortcomings and the ways in which they need to be addressed. To do this, the staff of an educational institution must operate as a team.

BOX 3.1

Value-Added Assessment Model

In international practice, it is common practice to measure education outputs based not only on the absolute results of exams, but also on the growth in students' performance. Taking the latter into consideration determines the extent to which the school has contributed to each child's progress. Schools are classified into four groups:

1. High proficiency Low growth	**2. High proficiency High growth**
3. Low proficiency Low growth	**4. Low proficiency High growth**

The second cell shows an ideal school, the students of which have academic proficiency and have grown over the years. The school in the third cell is a failure. The school in the fourth cell can be considered a success, because the academic proficiency of its students was very low upon their admission but the school achieved growth. And, in spite of low proficiency, the school in the fourth cell has positively influenced its students. The students of the school in cell 1 had high proficiency, but the school did not generate much growth: in other words, this school recruited good students, but did not contribute much to their growth. In the USA, such schools are normally found in rich communities.

Source: **HershbergTheodore, Value-Added Assessment and Systemic Reform: A Response to the Challenge of Human Capital Development,** *Phi Delta Kappan, Vol. 87, Iss.4, p 276-283*

Serob Khachatryan

7 Guidelines for Public Formal Basic School Principals, National Institute of Education, Yerevan, 2004, p. 65.

3.3. Overview of Graduates' Knowledge and Skills

High School

The Republic of Armenia Law on Education provides: "Public education programs are aimed at comprehensively developing the individual, shaping his worldview, and laying grounds for choosing and absorbing appropriate vocational programs in accordance with his preferences, dispositions, and abilities."[8]

Secondary school graduates can be divided into two groups—graduates that wish to continue their education after secondary school and graduates that wish to assume employment after school.

Graduates Applying to Higher Educational Institutions

Under the Republic of Armenia Law on Education, by the time of graduation, a secondary school graduate should have chosen his or her future profession. However, for some of those applying to higher educational institutions (HEIs), the decision is taken by parents while the graduates themselves are indifferent about the choice, and a significant share of male graduates apply to HEIs in order to obtain army service deferral by some four or five years (young men in this group are not concerned about the HEI to which they will be admitted). This attitude is provoked by the HEI admission procedure: a high school graduate that applies to the State Agrarian University of Armenia may end up in the Pedagogic University, where he will have to spend four years studying a profession of which he had not even thought. Due to the existence of paid education, the HEIs adhere to the "more students—more money" principle, without any regard for the employment opportunities of their future graduates. Another problem is that, in the state HEIs, the labor market demand is not taken into account when determining the number of places for admission by different professions. While the number of school teachers countrywide declined by about 20,000 in comparison to 2001, the three state pedagogic HEIs of the country alone (State Pedagogic University after Kh. Abovyan, Gyumri State Pedagogic University after M. Nalbandyan, and Vanadzor Pedagogic Institute after H. Tumanyan) have admitted 2,912 students for 2006, of which 563 are government-subsidized (free education for the student) and 1,124 have to pay; of the 2,912 students, 1,225 were admitted in the so-called "without [army] deferral" scheme (in 2004, the total number was 2,194, including 563 government-subsidized and 1,133 paid places, with 498 students admitted "without [army] deferral"). These numbers do not include the applications to other public HEIs that also grant a teacher training qualification nor to private HEIs.

While in school, the majority of graduates that wish to continue their education are unable to discover their preferences that would influence their choice of professional education program.

Surveys show that only 11.9% of secondary school graduates state that "school knowledge is sufficient for admission to a HEI."[9]

Surveys show that 47% of secondary school graduates use the services of private tutors, often doing so for two or more subjects, spending an average of 30-35 hours per week and 200,000-500,000 drams per annum on such services. Thus, a 10th-grader would carry a weekly academic load of 60-70 hours, which is practically intolerable. As a consequence, both parents and pupils prefer the private tutoring (i.e. education outside school), and the [formal] *education in the state school becomes a formality, which is the equivalent of educational deceit—with all the ensuing consequences.* This situation also creates a corruption risk—parents agree to pay in order for their children not to attend school.

Thus at a crucial stage of social and psychological growth and citizenship formation, 10th-graders experience a year of unstructured time pressure, and are deprived of peer contacts and events that shape one's worldview. Such stress has health implications, as well. Often, applicants that successfully pass the admission exams will have difficulties during the first examination session in the HEI. One of the reasons for this phenomenon is that they had to pass through such a heavy workload.

Private tutoring creates unequal conditions for applicants. Applicants that could not afford a private tutor find themselves in less advantageous conditions. Let us look at the example of the "Armenian Language" subject: a comparison of the 9th and 10th grade Armenian Language course curriculum and the school graduation and university admission exams shows that whatever a student learns in 9th and 10th grade will not help much with either the graduation or admission exams. In order for students to successfully pass the school graduation exams, some teachers have to coach their students for the graduation

8 Republic of Armenia Law on Education, Article 10(2)

9 S. Manukyan, PRSP Impact Assessment, OXFAM (GB) Armenia Office, Yerevan 2006, p. 117.

or admission exams instead of delivering the curriculum content.

The existence of private tutoring also creates unequal conditions for graduates of rural and urban schools. According to UNDP estimates for 2004, only 4.3% of the 16 year-olds in rural settlements attend tutors' classes, which is 2.5-fold lower than the same indicator in urban settlements.

Private tutoring also negatively affects students that do not wish to continue their education after secondary school. They become deprived of possibilities to interact with their academically-more-competent peers. They experience social injustice since some of their fellow students either do not attend certain classes or do not study but still get high marks at yearend. They see how others can get good marks without studying.

Graduates Not Applying to Higher Educational Institutions

The other category of secondary school graduates, i.e. the ones that do not intend to continue their education, face the "to work or not to work" dilemma. How prepared is a secondary school graduate to enter the employment market? Does he have the necessary skills and abilities? The analysis of 9th and 10th grades' curricula and course plans confirms that the level of skills and abilities is the same for all the schools of the country, regardless of their location, and does not do much to facilitate the employment of secondary school graduates. When asked whether they would like their children to learn a craft while in school, 77.6% of the urban and 85.3% of the rural population responded affirmatively.[10] In other words, a secondary school graduate that wishes to become employed must instead continue his education to learn an ability that the school did not foster in him.

The Armenian education system, which is defined as "the interrelated whole of state education standards, different levels and directions of educational programs ensuring the continuity of education, academic institutions, and education governance bodies,"[11] does not meet the requirement stipulated by Article 10(2) of the Republic of Armenia Law on Education.

Basic School Graduates

"Education in middle school is aimed at building the scientific perceptions of learners about health lifestyle, the world, and nature, and at delivering the minimum level of knowledge necessary for autonomous work and educational and societal activities."[12]

Some of the middle school graduates do not continue their school education. "During the last two years, high-school enrollment has fluctuated around 71-76%."[13] Some of the middle school graduates enter the labor market. Later in life, what do the middle school drop-outs think about the knowledge and skills they received in school? What portion of them continued their education later?

Middle school graduates take exams in Armenian Language, Mathematics, and Foreign Language. The schools themselves administer the exams; their results are not objective enough for determining the degree to which middle schools are accomplishing their mission. However, comparative data from "Education in Armenia" yearbooks[14] shows that there has been some progress. During the 2003-2004 academic year, 49,066 of 50,386 eighth-graders that took the exams passed (1,320 failed); during the 2005-2006 academic year, 53,485 of 54,422 passed (937 failed).

A study of the form and substance of middle and high school graduation exams shows that "the existing standards, curricula, textbooks, and evaluation system only partially meet the requirements of contemporary education," and that "the delivery of information to the learner and learners' memorization of facts is over-emphasized, while insufficient attention is paid to the development of the learners' abilities and skills."[15]

Parents mainly focus on the final grades and graduation documents of their children. As a consequence, private tutoring penetrates into middle school as well: the de-facto income of a teacher has two components—the salary paid by the state and the fee paid by the parents for tutoring (very often, the private fee is higher than the state salary). In this situation, improving the quality of school education may deprive certain teachers of extra income.

10 S. Manukyan, PRSP Impact Assessment, p. 129.
11 Republic of Armenia Law on Education; Guidelines for Principals of Formal Basic Education Schools, pp. 9-10.
12 Ibid, p. 17.
13 The 2006-2008 State Medium-Term Expenditure Framework of Republic of Armenia, accessed at www.mfe.am on December 1, 2006.
14 "Education in Armenia," Yerevan, 2004 (p. 60). "Education in Armenia," Yerevan, 2006 (p. 54).
15 National Curriculum of General Education, p. 8.

CHAPTER 4
THE PROCESS

4.1. Ensuring Linkages, Continuity, and a Smooth Transition between Various Levels of Education

Why is it important to ensure linkages, continuity, and a smooth transition between various levels of education?

1. Continuity and linkages are crucial factors, since they ensure that the education system operates as a holistic and effective entity. Without continuity and linkages education becomes simply the sum of it parts and loses its effectiveness.
2. The crucial issue for the student is the extent to which a given level of education prepares him for the next one (from school to specialization, from specialization to the labor market). This is what makes the education institution a valuable asset in the student's life.
3. **Smooth transition is also important in the sense that the content of education in our education system is based on the principle that if a student has not mastered the previous lesson, he or she cannot understand the next one.** And since smooth transition is not ensured in Armenia, it is obvious that in the education system, students become less motivated in every subsequent grade.

Overview of the Situation

Education in Armenia consists of the following levels: pre-school, school (elementary, secondary and senior), specialization (primary, secondary and higher), post-graduate.

The absence of coordinated and shared activities in the field of education is best reflected by the lack of continuity and linkages between various levels of education; there are no institutions and officials at any level of education management who are responsible for ensuring linkages and continuities between various levels of education.

There is no unified conceptual framework for education. There are documents which regulate various levels of education. Even the state program for development of education presents the latter as the sum total of unrelated levels. It would be useful to draft a comprehensive document that mentions the common problems of education, discusses solutions at each level of education, and also states which problems need to be addressed by all levels of education.

There are no professional orientation and career centers in schools or specialized education institutions that could support students to move from one level to another in a smoother and more effective manner. This issue is already being addressed and some institutions have started programs to support their students in choosing their future careers.

Some general problems, which are characteristic to all levels of education (from pre-school to post-graduate), are presented below:

1. Learn to learn
2. Emphasis on results, targeted activities
3. Diversifying teaching methods, emphasizing active and participatory methods
4. Development of cooperation and teamwork
5. Evaluation as an incentive for education
6. Unification of knowledge, skills and values, and balancing them in the process of education
7. Ensure linkages between subjects
8. Inter-disciplinary integration

Some Transition Issues by Education Level

Pre-School Institution - Elementary School

The transition from the pre-school phase to formal basic education takes place in a polarized manner: the majority of children come to school totally unprepared for formal basic education. Preparation for formal basic education assumes a positive disposition toward school, the ability to concentrate, etc; on the other hand, a large number of children come to school already possessing the knowledge and skills that they are going to be taught in the first grade. Such initial polarization has a serious impact on the effectiveness of education in elementary school. School is not interesting for a child who is being taught things he already knows, while education is incomprehensible to the child who is totally unprepared for school life. Only 25% of children come to school from kindergartens. Such low enrollment rate in the pre-school system fails to address one of the most important issues of education: ensuring more or less equal starting conditions for everyone. This is why a significant number of children become alienated from education.

Research by Cunhan and others has shown that "the rate of return to a dollar of investment made while a person is young is higher than the rate of return to the same dollar invested at a later age."[1] They go on to conclude that early childhood is the best period for investing in human capital. Alexon also cites research that indicates remedies that are aimed at children that have dropped out of school or at adults with a lower level of literacy tend to be more costly and less effective.

The content of activities of private pre-school institutions has not been studied. One reason is that according to the law of the Republic of Armenia "On licensing", pre-school education operations were not subject to licensing. As a result of the amendments to the law passed in 2005, pre-school educational programs are subject to licensing. This will allow revealing the extent to which those institutions correspond to the peculiarities of pre-school age children.

In order to somewhat mitigate the problem of children's under-enrollment in the pre-school system, the Government has worked with UNICEF, the World Bank, and other development partners to come up with an "Early Childhood Development Strategy."

At the request of the UNICEF Armenia Country Office, experts Selim Iltus and Theresa Osica have discussed four models of increasing enrollment in pre-school institutions.

Model 1: Carry out parent support programs in functioning kindergartens or other places.

Model 2: Develop early childhood pre-school curriculum based on child-friendly dynamic teaching techniques.

Model 3: Community kindergartens applying a flexible system of attendance. These kindergartens operate from early morning to late evening, and can enroll children attending part time.

Model 4: Development on the basis of private pre-school institutions.

The research carried out by experts Selim Iltus and Theresa Osica concludes that the first model would safeguard inclusion of a large number of families. The second model is effective for villages without pre-school institutions, because it can be implemented in secondary schools. The third model is considered flexible, but it is only feasible if the community has a pre-school institution with committed staff. The fourth model is feasible for large cities, but experts recommend in-depth monitoring in order to determine its effectiveness.

Elementary School - Middle School

The transition from elementary to middle school can be a shock for children. A child moves immediately from the "soft" environment of the elementary school to an academic environment. One teacher is replaced by several—each interested mainly in his or her subject. Compared to elementary school, where the child is evaluated by one teacher, several teachers evaluate the child in middle school. There are fears that the elementary-to-middle school transition negatively affects the performance of children. In Armenia, the transfer from one level of education to the next takes place on the basis of an exam: the transition from elementary to middle school takes place on the basis of a knowledge check. In Armenia, some believe that the exam is only for the student. In reality, the exam is more of an instrument for the teacher and the school, because the results of the transition exam should help the school to identify its flaws, the problems and needs of students, and the actions to be taken in support of students. However, since the standard practice in Armenia is to assist students

1 Cunhan, F., J. Heckmann, L., Lochner and D. Masterov (2005), Interpreting the Evidence of Life-Cycle Skill Formation, IZA Discussion papers Series, No. 1575, Institute for the Study of Labor, Bonn, Germany, July (p. 19)

during school exams, the exam results do not accurately reflect the proficiency of either students or schools. During the 2005-2006 academic year, for instance, all the third-grade students in Gegharkunik, Tavush, and Vayotz Dzor provinces received positive marks on the exams.[2]

Middle school is the most essential component of formal basic education, because this is when the largest number of students are alienated from education. According to the "Education in Armenia" yearbook, a large share of school drop-outs are children of ages 13 to 15.[3]

Middle School - High School

One could assert that, in reality, formal basic education in Armenia has two levels, because there are no significant differences between the contents and philosophy of middle and high schools.

Since high school continues to function along the same lines as middle school, children hoping to study in universities count on private tutoring; the rest attend school lacking any kind of motivation. In effect, the only thing that changes from middle to high school is the expectations of students and parents. There is a gap between supply and demand, which causes demand to be met outside the school.

In high school, all students use the same textbooks and take exams of the same level of difficulty. Students specializing in crafts and those specializing in natural sciences take the same exam in physics, which is hardly logical.

High School - Secondary Vocational Education

Considering that very few schools in Armenia offer specialization in crafts, as well as the poor teaching of the "Technology" subject, graduates that continue their education in secondary vocational institutions are not adequately prepared. Moreover, students prefer to remain in school for the ninth and tenth grades, instead of moving to preliminary and secondary vocational institutions.

High School - University

The transition from high school to university is perhaps the most crucial for society. High school does not have the possibility of preparing students for either admission exams or university education. As a consequence, the initial period in a university is a shock to many. Schools do not develop students' research skills, which causes them to face serious difficulties related to term papers and other research.

Obstacles to Continuity and Smooth Transition

Methodological Inconsistencies

Education institutions do not ensure methodological consistency. There is a widespread belief that interactive methods are for schools, while lectures are seen fit for vocational education institutions and universities.

The application of interactive methods is encouraged in the in-service training programs of teachers, which is not the case for preliminary and secondary vocational education institutions and universities. If schools start using interactive methods, students taught with such methods will have difficulties when required to learn only from lectures.

Content Inconsistencies

There are content inconsistencies, as well. Some subjects are taught in both schools and universities, but the course content is often repetitive. At the university level, the same subject is often taught during both the Bachelor's and Master's programs. At times, subjects with different names have the same content or cover the same topics. The reason is that even the teachers of related subjects are unaware of each other's programs and fail to collaborate.

Assessment Inconsistencies

Assessment inconsistencies are particularly striking during the transition from school to university. In spite of frequent statements that the school program meets the admission exam requirements, practice proves the opposite. Let us take the examples of two subjects most frequently seen during admission exams—"History of the Armenian People" and "Mathematics." It is common knowledge that the school teaching of history is based mainly on the method of oral

2 "Education in Armenia". Edit Print, Yerevan, 2006, p. 54.

3 Ibid, p. 53

inquiry. The school graduation exam, too, is oral. However, the admission exams in this subject are conducted in writing. Clearly, for students used to oral inquiry at school will have serious difficulties when required to take a written exam, because schools have not developed the skills of reciting history in writing. As for Mathematics, they claim that all the problems included in the admission exam questionnaires are taken from the school textbooks. However, it is a known fact that, while in school, students solve only a negligible part of the problems included in the textbook. Consequently, supplementary classes in the form of private tutoring become inevitable.

4.2 Teaching, Learning, and Assessment

Teaching

Schools in the country operate on the basis of class lessons. The majority of teachers have studied in Soviet schools and worked in those schools for many years. The methods and styles of teaching are not substantially different from those that were used in Soviet schools. Lessons are organized around the reproduction principle—the student is required to reproduce what he or she has heard from the teacher or has read in the textbook. The student carries the notion that absolute truth has been presented by the textbook or the teacher. Often things written in the textbook and said by the teacher do not coincide with real life, which is clearly perceived by students. As a rule, it is not acceptable to discuss issues in school if they are not included in the subject program or lack answers provided by textbooks. Given the current age of technology, when a significant number of students are able to use computers and the Internet (which cannot be said about many teachers), limiting education to textbooks is obviously ineffective.

The teacher has one objective only: to manage to complete the curriculum. The issue of discipline has become a problem in the teaching process. Since students endure the described lesson procedure with difficulty some of the time allocated to the lesson is wasted by disciplinary issues, further reducing the effectiveness of the lesson.

Learning

The majority of children come to school with pleasure, expectancy and the intention to learn. But, within a short period of time, schools have weakened their aspirations and subsequently they come to school just because they have gotten used to it. The majority of students lose their appetite for education from grade to grade. The proof is the increase in the number of those who repeat the year in higher grades. According to the "Education in Armenia" yearbook, the number of children that had to repeat a school year in 2003-2004 was 976[4], growing to 1,133 in 2005-2006. The contributing factors are the conditions of the school, the content of education, and the methods of teaching and evaluation. Due to the inadequacy of laboratory equipment and materials in schools, students are not able to do the mandatory experiments defined in their science curricula. Science subjects, without experiments, become a serious test of the children's ability to memorize. It is only logical that children generally show low progress in science subjects. The volume of materials studied throughout the year is also small. For example a student of grade 8 should learn 2,953 pages, solve 1,936 math problems, 455 geometry problems and 1,402 physics problems in one academic year.

The seasonal nature of the academic year also has a huge impact on the effectiveness of education—there is a one month winter vacation and a two month summer vacation. Effectiveness of lessons is also reduced in winter due to many classrooms being cold.

Assessment

Normative documents relating to assessment have been developed within the framework of the World Bank credit project. The government has approved the Conceptual Framework for Assessment, and the methodology for evaluation and evaluation instructions for some subjects have been drafted. Marks are basically used for evaluating the work of students in schools. Formal basic education schools have a five point marking system, but in practice three marks are used (1 and 2 are used very rarely). According to the regulations for education, a ten point marking system will be used in the near future. Teachers continue to use assessment for marking purposes. Assessment is basically used to classify students, to label them, to ensure presumed discipline in the classroom, to punish, and to encourage. The existing system is a punishment tool in the hands of teachers and involves corruption risks. The teacher is the only assessor of a student's educational activities. Since marks are

4 "Education in Armenia", 2004, p. 58, "Education in Armenia" 2006, p 52.

awarded on the basis of comparison, the mark received is often unclear to the student when compared to the mark his classmate has been given. Other methods and forms of evaluation of student's activities are not used in schools.

While the main purpose of evaluation is to contribute to the effectiveness of the education process, assessment is an indispensable tool in the education process to ensure feedback between student and teacher. Assessments should serve to reduce the discrepancy between what the teacher is teaching and what the student is learning.

Teacher training institutions and professional development training lack courses on assessment; knowledge about assessment is inadequate. Certain changes in the near future are possible in this area, since methodological assistance to teachers is stated as one of the objectives of the Assessment and Testing Center, and three-day teacher training courses on the topic of Assessment are being carried out in the frameworks of the World Bank loan project.

CHAPTER 5
INPUTS

In the past inputs into the educational system were stressed. People believed that if the system is well financed and receives necessary provisions, then good results are guaranteed. Eric Hanushek[1] states that focusing educational policy **only** on inputs is bound to fail. International experience proves that educational systems enjoying large inputs (such as in the USA) do not at all have high rankings in programs for testing the knowledge of students (PISA, TIMMS). Instead, countries with average inputs have high rankings (for example Finland). According to the OECD report, in 2003 the annual education expenditure in the USA amounted to 7.5% of the GDP, while in Finland (students from this country were the best according to the last PISA test) the expenditure is 6.1% per annum[2]. It is noteworthy that, in 1995, Finland's education spending accounted for an even greater share (6.3%) of the GDP.

Nonetheless, inputs are important for Armenia's education sector, since in the first years of independence there was a sharp drop in financing, which threatened the normal functioning of the system.

5.1 Financing and the Physical Environment

The report on the progress of the PRSP's implementation for the period 2004—2nd quarter of 2005 records positive changes in the dynamics of state expenditures channeled into education. The report states that "the planned expenditures from the state budget on education in 2004 amounted to 2.33% of the GDP, compared to 1.96% in 2003 and 2.74% in 2005[3*"4]. According to the 2007-2009 Medium-Term Expenditure Framework of the Republic of Armenia, this indicator is 3.23% for 2006. The average for OECD countries is 4.7%. In 2005, 84.22% of public spending on education went to formal basic education. In OECD, this indicator is 72%.

Priority is given to increasing salaries of teachers in the formal basic education system. For example, the average monthly salary of teachers increased by 20% in 2003, by 66.5% in 2004, and by 65.3% in 2005, when it reached the level of 50,500 drams. The salary of teachers was increased further in 2007. The ratio of annual teachers' salaries to the GDP per capita in Armenia amounted to 0.49 in 2003, 0.7 in 2004 and 1.0 in 2005, depending on the level of education and work experience, compared to 0.97-1.45 in OECD countries.

According to a Decree of the Armenian Government adopted in 2002, for effective and targeted use of budgetary sources, the transition of all formal basic education schools to a per-student financing scheme was completed in 2005. The per-student financing scheme was not applied to formal basic education schools included on the list approved by the Government Decree adopted in 2001, which are financed based on the number of classes. By a Government Decree adopted in 2006, from January 1, 2007 all schools in Armenia will be included in the per-student financing scheme.

BOX 5.1

Gender Discrimination by Wage in the Education System

Armenia is known as a country with high level of education. According to 2001 Census, literacy rate is 98% in Armenia. Of people with higher education, 58% are women as well as 83% of education personnel. Thus schools optimization process was particularly painful for women.

According to State Employment Agency of the RA Ministry of Labor and Social Affairs data, as a result of general schools optimization process 6123 teachers were cut down as of September 1, 2005; 85% of them are women. In the regional employment centers, 2321 teachers registered; 75.5% of them are women.

To ensure teachers' social security, teachers' salary was increased to 60,000 AMD at the expense of the state budget in 2006, however, no significant improvement was recorded due to limited inclusion of women in the highly paid administrative level. In 2005, average salary for women was

1 Hanushek, E. The Failure of Input-Based Schooling Policies, The Economic Journal, 113 (February), 2003.
2 OECD, Education at a Glance, OECD Indicators 2006, p. 194
3 * The 2007-2009 State Medium-Term Expenditure of the Republic of Armenia contemplates 2.53%.
4 Poverty Reduction Strategy Paper implementation progress report, Yerevan, 2006, page 45

27,000 AMD and 35,000 AMD for men; this demonstrates gender inequality and gender discrimination by wage in the education system.

Jemma Hasratyan

While per-student financing is generally considered a change for the better, in some cases it has a negative impact on the process and quality of education because schools, in order not to lose students, make compromises and artificially apply less stringent educational requirements. These less stringent requirements are arguably the reason behind the significant improvement of students' progress recorded (for example in Yerevan).

BOX 5.2

A New Funding System

Experts in the US have recently been piloting a new system, which is called "Equity Instead of Equality," and is about allocating different amounts of funding to a school for different students. The advocates of this principle believe that if the government requires a school to make sure that all students reach a certain minimum standard, then the government should differentiate the amounts it pays for students. For instance, the government should allocate larger sums of money for children with special needs, socially-vulnerable children, or children with native language learning difficulties, so that schools can make sure that they reach certain minimum standards.

Serob Khachatryan

In recent years, significant investments have been made in the country to repair schools and restore their heating systems. In the majority of schools, however, the temperature defined by hygiene standards is not ensured in the winter. For example, according to data from the Municipality of Yerevan, only 50 of the 205 schools in Yerevan had heating during the 2006-2007 academic year. The other schools in Yerevan are heated by electricity, which is insufficient for huge buildings. Though the number of schools with heating systems has increased in comparison with the past, the number is still low. Thus it would be reasonable to prioritize financing the restoration of heating systems in all the country's schools since the lack of proper heating sometimes renders school building repairs futile. Moreover, ensuring a normal temperature in the classroom is one of the preconditions for implementing children's right to education—it is unacceptable for some children to attend heated schools while others have to attend ones that are only partially heated. Moreover, it makes no sense to require cold schools to deliver 'quality education' and compliance with standards under these conditions. Hence, "conditions" standards must also be defined in addition to education standards and subject standards. If the state defines the outputs expected from schools and subjects, it is obliged to provide a sufficient number of hours, textbooks, teaching supplies, teaching aids, and conditions, as well as personnel and a proper legislative framework. Russia is already developing a "second generation" of standards, which will mainly focus on defining "conditions" standards.

It is also important to provide schools with computers and Internet connections. In the academic year 2003-2004, there were 3,391 computers in schools all around Armenia, and in the academic year 2005-2006 the number of computers was 5,531. There was also an increase in the number of schools with Internet connections. In the academic year 2003-2004, there were 183 such schools, and in the academic year 2005-2006 the number was 279.

5.2 Human capital

According to the "Education in Armenia" yearbook, 42,719 teachers taught in Armenia's schools during the 2005-2006 academic year, of which 41,721 taught in state schools. The number of male students was 7,050. 31,221 had higher pedagogical education. As opposed to many other countries, Armenia does not face a considerable shortage of teachers. According to information provided by the Center for Educational Programs, there are 178 vacancies for teachers in Armenia. The Government pays close attention to ensuring the availability of teachers in borderline, mountainous, and highly-mountainous communities. During 2005, 149 teachers were referred to different regions. There is also "designated" admission to pedagogical universities.

Studies reveal that one of the factors ensuring better quality of education is the availability of qualified teachers. Numerous factors have an impact on the education process, such as the capabilities of students, their motivation, the willingness on the side of the family to support the child's education, content of education, school

provisions and teachers. Based on the studies, the OECD "Teachers are important" report mentions: "The quality of teachers is the most important variable with an impact on the progress of students".[5] The report also quotes the results of the study conducted by Sanders and Rivers, according to which "The most effective teachers ensure four times better results, compared to more ineffective teachers"[6].

A significant portion of teachers and parents in Armenia also attach importance to the quality of teachers. In particular, within the framework of the survey of "Secondary education in Armenia: problems and perspectives" conducted in 2003, responding to the question on what is necessary to improve the quality of education, 31.3% of teachers and 29.4% of parents responded "improving the quality of personnel", which had the largest share of responses in both cases.[7]

Teacher Training Education

The current system of university admittance exams does not attach priority to the factor of selecting specialization, which means that many students admitted to pedagogical universities[8•] did not initially intend to become teachers. Another cause for concern is that the number of points needed to enter pedagogical universities is relatively low, which means that applicants are those with low academic achievements. Pedagogical education does not attract students who graduated from schools with honors, whose diverse knowledge is one of the preconditions for becoming a good teacher. According to the computer center of Yerevan State University, from among the 107 straight-A school graduates in 2005 only one applied to the pedagogical institute and was not admitted. In 2006, the situation was somewhat better and three out of 93 straight-A graduates applied to pedagogical universities. Although an increase is recorded compared to 2005, the indicator is nevertheless at a an alarmingly low level.

In this regard, an interesting experiment is being conducted in Israel. Applicants who have collected the highest points during entrance exams are offered a place of study at pedagogical universities. As compensation, the state allocates allowances, pays the costs of their studies and guarantees a job in school or in the education sector. Those students complete the four year program in three years, and spend the fourth year in a school in order to get prepared for their future work as a teacher. The program is currently being evaluated.

Another problem with pedagogical education is the number of freshmen admitted. The number of admittances does not correspond to the demands of the labor market. For example in the academic year 2005-2006, 3,489 applicants were admitted to state universities and 1,232 to private universities for specialization in teacher training. The same year, 1,607 students graduated from state pedagogical universities and 900 from private universities. Thus, the number of students being trained to be teachers has increased significantly. But there is no similar increase in demand for teachers—those figures are much higher than the number of teachers employed by schools in the same academic year. So, in the academic year 2005-2006, although 4,731 people were admitted to state and private universities for pedagogical specialization only 2,048 of that year's graduates were recruited by schools as teachers. Considering the fact that the number of students will decrease in the near future, and all official documents include provisions for increasing the teacher-student ratio, it can be concluded that within four years, when the 4,731 students will graduate with pedagogical specialization, the schools of Armenia will have an even lower demand for teachers compared to the academic year 2005-2006. This means that more than half of the graduates with pedagogical specialization will not have the opportunity to work as teachers. In this regard, the PRSP implementation progress report mentions "the current situation with regard to the planning of teachers' training and the real demand of the educational system, within the context of maintaining the same levels of state orders, needs to be studied".[9]

There is a need to reform of the teacher training system in Armenia. The effectiveness of the reforms to be implemented in the country will greatly depend on the extent to which pedagogical universities will be able to provide schools with highly qualified teachers. Obviously, the quality of education will greatly depend on the quality of pedagogical education. In this regard, there are concerns in Armenia that the pedagogical education system is not keeping up with the changes. Theoretical approaches are still predominant, as a result of which graduates will continue to have problems in their practical work. Such concerns are not exclusive to Armenia and have a universal nature. "Many education specialists,

5 OECD, Teachers Matter, OECD, 2005, p.26
6 Ibid., page 26
7 Secondary education in Armenia: problems and perspectives, Civil Society Institute, Yerevan, 2003, page 83
8• In this context, pedagogical universities are institutions exclusively offering pedagogical qualifications.
9 Poverty Reduction Strategy Paper implementation progress report, Yerevan, 2006, page 48

researchers and policy makers are convinced that inputs in pedagogical education do not bring about the expected results"[10], as mentioned in the report of the World Bank. The report quotes the conclusions of studies made by Lyovin, according to which "educating teachers and supporting beginners and the school itself is much more effective and less costly than traditional pedagogical education"[11]. Based on the abovementioned observations, it is recommended to reduce the duration of pedagogical education.

BOX 5.3

Pedagogical Education Models

Two models of pedagogical education are used around the world: concurrent and consecutive. The concurrent model, currently used in Armenia, is such that the student concurrently learns academic content of a given subject and the methodology for its teaching. The consecutive model is structured so that the student learns a certain specialization (subject) in the first phase (to gain a Bachelor's degree) and then later (at the Master's degree phase) acquires a deeper knowledge of issues pertaining to teaching. From the academic year 2005-2006, all pedagogical universities in Armenia have moved on to the two-tier educational program: Bachelor's—Master's. Within this context, the application of the consecutive model in a number of universities can be discussed.

Serob Khachatryan

The issue of the quality of pedagogical education in Armenia is very important, since according to the "Model Charter of a State Formal Basic Education Institution of the Republic of Armenia" State Non-Commercial Organization, "the institution may recruit a specialist with the qualification of a pedagogue, or, in extraordinary cases, a person with a non-pedagogic education, for whom the Ministry shall define the procedure and terms of employment in the institution."[12] This shows that the state has complete confidence in the certificate of pedagogical education. Moreover, the state has a more active participation in admittance exams, rather than the final exams of pedagogical universities. For comparison purposes it must be noted that in some countries (for example the USA, Italy) teachers, in addition to pedagogical education, are required to pass accreditation or take qualification tests before being hired. The importance of pedagogical education was particularly on line during the rationalization phase, when many teachers without pedagogical higher education were left out of the schools. The PRSP implementation progress report states that rationalization "has created certain corruption risks".

10 World Bank, Expanding opportunities and Building Competencies for Young People, p.106

11 Ibid., page 107

12 Model Charter of A State Formal Basic Education Institution of the Republic of Armenia" State Non-Commercial Organization, accessed at www.edu.am on August 30, 2006.

Teacher Induction

The state entrusts school principals with the whole responsibility for recruiting teachers. Among OECD countries, only Northern Ireland has such a system. In a number of countries (for example Austria, Germany, Switzerland) the school sends the teacher's application for work to the central or local authorities, who based on a defined set of standards select the best. In some other countries (England, Sweden, Finland) teachers are selected through open competition. In France and Korea they are recruited based on the result of exams.

Armenia does not have a procedure for recruiting teachers. Our studies in June-August 2006 revealed that no state formal basic education school has announced in newspapers a vacancy for a teaching position. Such announcements are made only by a couple of special schools managed by the Ministry of Education and private schools. It is not clear how a teacher who is willing to work can find out about vacancies in any school. In effect, only a few people have information on vacancies, which is inherent with corruption risks. On the other hand, the absence of public announcements deprives schools from the possibility to collect a large number of applications and to select the best candidate.

One of the consequences of this situation is that concerns have been expressed over data on the education level of teachers. Although the number of students in pedagogical universities has increased from year to year, and the state has reinstated distance learning in this field, the statistics indicate that the number of teachers with university degrees in teaching has declined in Armenia's schools. According to the "Education in Armenia" yearbook, there were 34,742 teachers with higher education pedagogical degrees in state and non-state schools of Armenia in 2003-2004, and 800 teachers with non-pedagogic secondary vocational degrees.[13] In 2005-2006, the

13 "Education in Armenia" 2004, p. 65.

numbers were 31,221 and 1,152, respectively.[14] Thus, the number of teachers with degrees in teaching fell by 3,521 while the number of teachers with non-pedagogic secondary vocational qualifications increased by 352 (of which 107 were in Yerevan—a place over-saturated with teachers holding pedagogical degrees). Also, during the same period, the number of teachers with non-pedagogic higher education degrees grew by 580. One may assume that the reduction in the number of teachers with higher pedagogic degrees was due to retirement age. However, an analysis of the data shows that during 2003-2004 Armenia's schools employed 1,323 retirement-age teachers and 429 teachers that had less than two years to retirement age[15] (the latter reached retirement age during the 2005-2006 academic year). During the 2005-2006 academic year, 1,004 of the teachers working in schools were receiving retirement pensions.[16] Therefore, even if one were to assume that the 3,521 shortfall was partly due to retirement of teachers with teaching degrees, it would still mean that about 3,000 teachers with higher education teaching degrees were dismissed from or left schools even though they had not reached retirement age.

Policy Applied to Novice Teachers

One of the gaps in the education policy of Armenia is that the state does not attach importance to the support of novice teachers. The only document in which beginners are referred to is the model charter for "Methodological unification in state formal basic education institutions of Armenia". This document, among its stated activities for methodological unification, recommends "d. training and re-training of novice teachers who do not have specific qualifications and teachers without pedagogical education".[17] Considering that the qualification training system is not yet operational in Armenia, the mentioned provision cannot be applied in practice. The issue of support to novice teachers in their work is ignored in Armenia. It is possible that policies for supporting novice teachers are enacted in some schools, but no official support scheme has been defined by the state. Numerous countries have special policies in place for novice teachers. For example in France, Scotland, Israel and England novice teachers do not have a heavy workload, so that they have more time to prepare for lessons, develop their knowledge and skills, and observe lessons conducted by experienced teachers. In many countries, mentor teachers of the school, as well as experts of the local education authorities, work with novice teachers. In Switzerland, Israel and some states of the USA mentor teachers have to take special mandatory courses. In many countries, mentor teachers receive bonuses. In Japan, Switzerland, Northern Ireland and other countries, schools and pedagogical universities conduct joint support programs for novice teachers.

South Korea enacts an interesting policy for novice teachers. In the first phase of the three-phase program, teachers are trained for the skills necessary to manage classes. Thereafter they have a six-month training with the school principal, deputy principal and consulting teachers. In the third phase, novice teachers conduct discussions and analyze the issues that have emerged during the training.

Thus, in Armenia the principle of "sink or swim" is applied to novice teachers. Novice teachers basically try to overcome the unavoidable difficulties and obstacles of the initial phase by themselves.

Professional Development

Professional development courses have started within the framework of the World Bank loan project. All teachers will take 8-day (5+3) subject training courses. Around 300 teachers have already been trained on cooperative teaching methods, and around 10,000 teachers on the use of information technologies.

Two forms of professional development are generally used in Armenia: training and publication of methodological journals. During the first half of 2004-2005, about 10,950 teachers were engaged in training programs. The total number for 2004-2006 was 35,000. Under the loan project, 52 school-centers were selected throughout Armenia in which training was carried out. In 2004, seven branches of the National Institute of Education were created, bringing the total number of such branches to 13. The National Institute of Education also publishes methodological journals that are distributed to the schools free of charge.

It is essential for teacher training programs to focus on learning theories. Studying such theories helps teachers understand how children learn and why interactive learning techniques are necessary. Teachers need this knowledge

14 "Education in Armenia", 2006, p. 60.
15 "Education in Armenia", 2006, p. 64.
16 "Education in Armenia", 2006, p. 58.
17 Model Charter of A State Formal Basic Education Institution of the Republic of Armenia" State Non-Commercial Organization; Guidelines for principals of formal basic education schools, p. 135.

in order to be persuaded of the inevitability of change.

One of the problems is that some of the highly effective means of methodological support to teachers are not being used. For example, there is no practice of joint lesson hearings, lesson discussions, or mutual visits. There are no video tapes of model lessons, which could be a means of disseminating best practices. In this respect, Dufour writes: "Professional development is moved from seminars to the workplace. The emphasis is shifted from inviting a trainer or speaker to creating possibilities for joint work, collaborative research, and mutual learning."[18]

Training is not based on the needs of teachers. They are mostly initiatives of the state or international organizations. The application of intensive learning methods is not yet effective. Many teachers apply those methods mechanically, sometimes not taking into account their appropriateness.

Training programs have a mandatory or competition form. There are no programs, where teachers can participate voluntarily. For example, if a teacher wants to improve his class management skills, conflict resolution abilities, or evaluation skills, the training market has no such courses on offer. In many countries schools make budgetary allocations for professional development, but in Armenia schools lack sufficient means to finance their teachers' further training.

5.3 Curricula, Standards, and Textbooks

Curricula

Curricula do not change significantly from year to year. The Curricula of formal basic education in schools consist of three components: mandatory, school specific, and voluntary. Schools differ from one another by the school-specific component (2-4 hours for each class group). But schools basically devote those hours to subjects included in the mandatory component (from a survey on the use of mandatory hours in schools with a focus on identifying rural-urban differences). They do not give independence to schools; mandatory hours are managed in the same way in urban and rural schools. The voluntary component aims to provide knowledge relevant to students' inclinations and preferences (1-3 hours per week). The latter is a paid service and is not always accessible to socially-vulnerable groups.

Standards

The development of subject standards and programs was initiated within the framework of the "Education quality and relevance" project financed by the World Bank. Adoption of standards usually assumes the discontinuation of 'subject programs'; however, in Armenia sometimes they coexist. When there are rigid curricula, it is assumed that there is one aim and one route to achieve that aim. The logic behind standards is that there is one aim and many routes to achieve that aim. In this way the state attaches importance to the actual achievement of the defined goals while the routes taken to achieve those goals can be determined by authors of textbooks and teachers. There is concern that introducing standards alongside traditional programs will result in the continuation of the use of subject programs in the education system and leave the system ignorant about standards. This is only natural, since teachers need new skills in order to work with standards.

It must be noted that curricula are being severely criticized within the education system. Subject programs "have an instructive nature and promote the establishment of the pattern of teachers and textbooks being the only sources of knowledge", "the content requirements are very complicated and are designed for students with excellent progress".[19] The programs do not take into account the daily experiences of students. Links between subjects are weakly represented in the programs and "learning materials include unjustified duplication and content integration is not properly implemented"[20]. Although "subject programs are endorsed for application after at least one academic year of testing"[21], the procedures for testing are not defined. Non-governmental organizations do not participate in the testing of programs.

Textbooks

Drafting textbooks is one of the new responsibilities of Armenia's education system. In the Soviet period, textbooks (with the exception of subjects relating to Armenian culture and history) were drafted in Moscow. Thus Armenia is very inexpe-

18 DuFour, R., Eaker, R. Professional Learning Communities at Work, ASCD, Virginia, 1998, p.67

19 National Curriculum of General Education, p. 8.
20 Ibid, p. 8.
21 Ibid, p. 13.

rienced in this sphere and, as a result, quality of textbooks is far from satisfactory. They are not always written in a language understandable to the student. Too much emphasis is put on terminology, which makes it difficult to absorb the subject. Many textbooks fail to address the developmental needs and personal qualities of the student. One of the problems is the fact that among the diverse programs implemented in Armenia none address the development of textbook writing skills and methods. In many countries (for example the USA) textbook writing is a special profession in itself and knowledge about the content of the subject and teaching methods is insufficient. The other problem is that textbooks are prepared in a very short period of time, which does not permit serious testing and content editing.

Although the use of alternative textbooks is not forbidden, until recently teaching was conducted with one textbook (with the exception of the literacy textbook "Aybbenaran"). From the academic year 2006-2007, Armenia's schools have a choice between two which are recommended for use in certain subjects.

There has been a system of textbook leasing in Armenia since 1997. Textbooks are leased to students for a fee. Textbook fees are collected in the textbook revolving fund, which is used for financing future textbook printing. This system was an effective one in the sense that it essentially resolved the problem of provision of textbooks. According to the "PRSP assessment 2005" survey, 90% of children from poor families and 97% of those from well-off families have access to textbooks.[22*] This is quite a high indicator for countries with a high level of poverty. Within the framework of the leasing program, the government allocates 10% of the amount to the fund for children from vulnerable families. But the report on PRSP implementation progress mentions that "the mechanisms for distribution of the available amounts are extremely complicated and, all things considered, are not linked to poverty".[23]

Another problem is that schools can not use the money accumulated in the textbook revolving fund for acquisitions of other educational provisions or books for enriching their libraries.

5.4 Workload and Class Size

The workload of teachers has increased significantly in recent years. According to data from the midterm expenditure framework 2006-2008[24], a teacher's workload in 2003 was 18 hours per week in schools, and 16 hours per week in colleges, compared to 20 hours in 2004 and 22 hours in 2005. The Poverty Reduction Strategy Paper and the midterm expenditure framework for 2006-2008 state that the mentioned workload can increase up to 27 hours per week. For comparison, the average workload in OECD countries is 38 hours, and the workload in Armenia's public sector is 40 hours.[25] This is explained by the fact that teachers in a transitional society need more time to work on the development of their professional qualifications. There is concern that if teachers' workloads increase, they will simply limit themselves to teaching in the classroom. The best option is to increase working hours devoted to cooperation with colleagues and personal research work, instead of adding to hours that the teacher spends in the classroom. Indeed, it would be wrong to compare the stated workload hours of teachers with that of other public sector employees and conclude that teachers are under-occupied since teachers also spend a considerable amount of time preparing for lessons, checking written tests, and carrying out other academic and research-related activities.

Class size is one of the most disputed questions in the education system. Class density has recently increased from 30 to 35 students per class. Teachers complain that it is not possible to ensure quality in large classes. Expert opinion on the subject varies. For example Eric Hanushek[26], based on available studies, states that the number of students in the classroom does not have an impact on the quality of education, while studies conducted in the state of Tennessee in the USA revealed that classrooms with 16 students have better progress compared to those with 24 students. The OECD Education at a Glance report mentions that the impact of class density on the quality of education is not straightforward, although there are better possibilities in small classes for concentrating on the personal

22 * Shortage of textbooks is mainly noted with regard to foreign languages, since schools with particular emphasis on languages use textbooks printed abroad which are not included in the leasing system.

23 Poverty Reduction Strategy Paper implementation progress report (second quarter 2004-2005), Yerevan, 2006, page 48

24 The 2006-2008 Medium-Term Expenditure Framework of Republic of Armenia accessed at www.mfe.am on October 5, 2006.

25 The 2006-2008 Medium-Term Expenditure Framework of Republic of Armenia accessed at www.mfe.am on October 5, 2006.

26 Hanushek, E. The Failure of Input-Based Schooling Policies, The Economic Journal, 113 (February), 2004,

needs of students.[27] Class densities in OECD member countries differ significantly. The average indicator for elementary classes is 21 pupils. The indicator for Korea is 34, and less than 20 for Denmark, Greece and Russia. The average for secondary schools is 24, while it is 35 in Korea.

The Education at a Glance report mentions that class size can influence parents when they are selecting a school for their children. In this case, class size is used as a means to evaluate the quality of the school[28]. Interestingly, in Armenia class size does not have a decisive impact on selection of school. On the contrary, there are cases when parents prefer to send their children to overcrowded schools. Increase in class size also assumes certain changes in the organization of education. If teachers continue to use the traditional methods of oral examination in large classes, then naturally the size of the class becomes a crucial factor. Consequently, teachers need continuous professional support to work effectively in large classes.

Changes in class size result in changes of student to teacher ratio. Until recently, the teacher/student ratio was growing. However, it fell slightly last year. According to the 2007-2009 Medium-Term Expenditure Framework of the Republic of Armenia, the student/teacher ratio "was 13.89 in 2005 and 13.8 in 2006."[29] According to the "Education in Armenia" yearbook, a similar trend in the student/teacher (person) ratio was noted. In 2005, this ratio was 11.67, falling to 11.19 in 2006. The PRSP contemplates a student/teacher ratio of 16 by 2008.

5.5 Incentives

Incentives are also essential components of an output-based education system. Without any incentives, the teachers will not be interested in producing results. For instance, there are always financial rewards for a teacher that is good as a private tutor. However, a good teacher is not rewarded in any effective way.

It is essential for rewards to be linked with the outputs and goals of education. For instance, if the Government accepts that a teacher with a scientific degree provides higher-quality education, then it can reward such teachers. Or, if the Government considers that a teacher that has participated in various training programs can provide better education, then it should reward such teachers. Research by Allan Odden and other economists has shown that a teacher payment method is effective if the state defines standards on teacher knowledge and skills and pays a bonus only to teachers that comply with such standards. Russia has an effective method of rewarding teachers by emphasizing the importance of outputs such as teacher creativity and research focus: every year, the Russian Government competitively allocates grants to a certain number of teachers that have come up with interesting initiatives.

In many cases, rewards are not correctly targeted. For instance, contests have been held in recent years, and "Emeritus Teacher" degrees and state awards, meals, and gratitude certificates are being awarded. It would be desirable for such systems of rewards to be better targeted at certain objectives. In other words, the education system should know what exactly a teacher is rewarded for—proposing new ideas, creating a genuine school, applying effective governance models, publishing useful articles, or seriously succeeding in the academic process. Such an approach would clarify to the academic community what the state encourages and why. On the other hand, providing such incentives to only several dozen of several thousand teachers is not sufficient. It is also necessary to have permanent comprehensive arrangements for incentives. For instance, teachers can be rated, and a rating-based salary scale can be introduced.

Student incentive mechanisms, too, need to be improved, because it is impossible to succeed without motivating the learners. An important means of encouraging students was the university admission privilege for those graduating from high school with medals for excellence, which was reinstated in 2000 and eliminated shortly thereafter in 2004. The provisions of the "Early

27 OECD, Education at a Glance, OECD Indicators 2006, OECD, 2006, p. 362
28 OECD, Education at a Glance, OECD Indicators 2006, OECD, 2006, p. 362
29 Official Bulletin of the Republic of Armenia, #35, June 30, 2006, p. 54.

Transfer and Graduation Exam Organization Procedure" regarding 9th-graders are suspended and reactivated from time to time. In 2003, the Minister of Education and Science ordered the suspension of provisions on the early graduation of 9th-graders, pending the development and approval of criteria for interviews to be conducted with such students. During the 2005-2006 academic year, this suspension was lifted. In 2006-2007, the suspension was re-introduced. The absence of incentives and the frequent suspension of whatever incentives exist are mainly due to ensuing corruption risks. As a consequence, few incentives are left in the system. In the absence of institutionalized incentives, teachers and students have no motivation to perform well.

CHAPTER 6
MANAGEMENT AND GOVERNANCE

Open and transitional societies are usually very sensitive to external factors, which highlights the importance of effective management and governance.

The concepts of management and governance are very often used as synonyms in Armenia's education system, but their distinction is very important in practice. Management is the process of defining laws, norms, rules and regulations. Governance is the setting and realization of institutions' goals (for example, schools) in this context.

One of the main functions of education management is to define the powers of each structure of authority. In this regard, the education system in Armenia is managed at five levels: the Government of the Republic of Armenia, Ministry of Education and Science, governors, heads of local authorities, and education institutions. The Republic of Armenia Law on Education defines the powers of each of them. "However, there are still some ambiguities with regard to the clear definition of powers. Operational links between central, regional and local authorities are weak. Education institutions are under the management of various agencies, which makes it difficult to implement unified management and data collection"[1], states the "Education in Armenia" yearbook.

Decentralization of Education as the Main Issue of Management

In 1998, the credit project "Education management and financing reforms" financed by the World Bank initiated the process of decentralization of management of formal basic education. Among the objectives of the process was increased independence for schools and their transition to a system of management through councils. In 2002-2005, all schools in Armenia moved on to the system of management through councils. All school principals and council members were trained. School councils consist of representatives from the teachers' council, parents' council and supervisory bodies, in accordance with defined quotas. In the initial phases, the memberships of the councils were different, based on the number of students. In 2005, it was defined that school councils everywhere should have five members.

Transition to a system of management through councils aimed to ensure the participation of various stakeholders, which is a premise of democratizing education. But studies reveal that a vast number of stakeholders are not aware of the activities of school councils. Surveys conducted in Armavir, Shirak and Kotayk provinces and Yerevan city have shown that 60.5% of parents do not know about school councils[2]. The study of the websites of various schools showed that only one school in Armenia has published information on the activities of its council, and even then only for a short period of time.

Within the context of the decentralization of education, the issue of meeting the specific needs of education institutions becomes important. The education system is managed based on the logic of identical schools. But schools in central Yerevan and villages near the border cannot possibly have identical needs. In this regard, it would be much more effective to develop differentiated approaches with regard to certain issues for urban, rural, upland and near-border schools. For example, many rural schools have classes combining two or three grades (when pupils of various ages study together). Such schools need teachers who have the skills of working in classrooms with children of various ages and teaching several related subjects. This problem has also been mentioned in the State Concept of Education, which states that "the education system does not take into account the peculiarities of villages."[3]

One of the shortcomings of the governance process is that discordant activities are sometimes taking place. In particular, the Sanitation Rules for Structure and Maintenance of Public Schools set out hygienic requirements concerning class hours. One of the requirements is the following: "The teacher shall use the introductory part for checking how the students have done their homework and for logistical activities, while the main part of the class is for presenting the material of the new lesson, with the final part for practice and reproduction."[4] However, the State Concept of Education provides: "In the learning process, the teacher and the school may choose

1 Education in Armenia, 2004, page 26

2 S. Manukyan, PRSP impact assessment, page 53

3 National Curriculum of General Education, p. 8.

4 Sanitation Rules for Structure and Maintenance of Public Schools. Official Bulletin, 2002, # 9, p. 24.

any pedagogic technique and method that will ensure the achievement of the level of education required under the curriculum"[5] Thus if a teacher chooses a method that does not foresee practice and reproduction in the final part of the lesson, the teacher will be violating the Hygienic Requirements of classes.

6.1. Macro-management (Management of Education at National and Regional Levels)

The current system of management of the education sector in Armenia is a passive one, which means that the system mainly reacts to external requirements and current operational issues.

Although in recent years attempts have been made to introduce new management approaches at various levels of education, the old authoritarian approaches are still prevalent. In particular, one of the conclusions of the monitoring conducted by Transparency International Armenia states "Many teachers and principals openly mentioned that the relevant governmental officials have never shown any interest in their opinions".[6] The system does not have the flexibility to absorb new things and to adapt to them. Without those capabilities new mentalities cannot be formed. One of the ways that a lack of positive attitude is shown toward new ideas is that any good ideas or management mechanisms become tainted. The new mechanism must operate under the old mentality, resulting in the distortion of the original good idea.

The control and command methods prevalent in management cannot ensure development because they do not encourage creativity and initiative. Effective management is currently based on the target model. The essence of the model is that managers set the targets, distribute the budget, and define the rights and responsibilities that are needed in order to reach the targets; they enable the staff to work towards objectives. In transition societies, policy makers should realize that the management and governance culture must be changed in order to succeed.

BOX 6.1

Changing Role of Government in the Education System

Old Role	New Role
1. Design education development	1. Develop a vision
2. Develop and implement curricula	2. Manage by outcomes, set criteria, and govern nationwide exams
3. Interfere with all details	3. Monitor outputs by evaluating the system and the learners
4. Provide all educational services	4. Consolidate and coordinate beneficiaries
5. Act as the only source of funding	5. Act as an important source of funding by facilitating cooperation with local authorities and the private sector

Source: **Adams, Don (2001)**

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A number of key management issues are presented below.

Information as a Management Tool

Investment in information systems is justified since managers will use them to improve the delivery of educational services and achieve set targets. The Education Management Information System has been operating in Armenia since 1999 and collects valuable information on the formal basic education system. It was created within the framework of the World Bank credit project "Education management and financing reforms". The creation of such a system can lay the groundwork for a new management culture. But the practice of analyzing information and managing the system based on that analysis is not yet established in Armenia. If the information gathered is not used in the decision-making process, then its acquisition is pointless. Some data gathered is in need of serious analysis and management intervention. This is particularly true of data on students' transfer from one region of Armenia to another. Usually, the region-to-region outflow and inflow data should balance (allowing some small discrepancies) because outflow from one region should mean inflow to another. However, data from the annual "Education and Armenia" yearbook causes some concern. In 2005, for instance, the outflow of students to other regions of Armenia was 2,670, whereas the inflow from other regions was 4,915.[7] Such a discrepancy may

5 National Curriculum of General Education, p. 15.

6 Monitoring of PRSP measures and donor supported programs in the education sector implemented in Shirak Marz in 2004, Yerevan 2005, page 46

7 "Education in Armenia", 2006, pp. 67-68.

be due to negligence in data reporting. However, it may be the case that about 2,300 students remained registered in the schools that they quit, and, at the same, became registered in their new schools. In other words, the state may have been paying twice for each such student. There is no data on changes within a region.

Another problem is related to students repeating the same grade. In particular, in 2004, according to the "Education in Armenia" yearbook[8], there were 313 students in the schools of Armavir province who repeated the same grade (e.g. 50 out of 78 students repeating second grade were from Armavir), while there were no such students recorded in the provinces of Tavush and Vayotz Dzor. Is the quality of education in Tavush and Vayotz Dzor high or is it low in Armavir Marz? Or do teachers in Armavir have stricter evaluation procedures? It is not clear what managers do when they receive such information.

Management of Investments

Since independence, numerous programs have been implemented in Armenia by international organizations. Those programs have provided serious support to a process of educational reform. There are numerous examples of Armenian authorities in charge of managing education cooperating effectively with international organizations. For example, effective cooperation was recorded in professional development of teachers (on new methods) and civilian education programs. However, programs in Armenia financed by international organizations are not always sustainable nor do they serve as inputs. It is only logical that the term most frequently used is "international projects". As a result, there are cases when programs ensuring significant investments are not continued. Normally, it is very easy to design projects—it is more difficult to implement them—yet achieving sustainability is the most difficult task.

BOX 6.2

Targeting of International Programs

In some countries a three-color scheme has been developed for international programs. The color green denotes programs whose implementation is promoted by the Ministry of Education. Those programs can be implemented without any negotiations with the Ministry. The color yellow denotes programs whose implementation is conditional upon negotiations with the Ministry in order to receive its endorsement. The color red denotes programs whose implementation is forbidden. This approach facilitates the activities of international organizations as it enables them to make decisions about the direction of their activities. Such a scheme is not available in Armenia and as a result it is not always the case that international programs serve the real needs of the system.

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One of the problems existing in management is an atmosphere of distrust within the education system. Management bodies and the public accuse schools of collecting money; schools complain about the authorities and blame them for legislative gaps and scarcity of resources. People are dissatisfied with the quality of education provided by schools, and schools, in their turn, complain that they do not receive proper professional support. This atmosphere of mutual accusation hinders progress in the system.

One of the conditions for effective management in a transition period is to have a clear plan of human resource development. Welsh, Huan and Cassidy are of the opinion that an effective method for capacity building is when individuals become agents of change and are encouraged by managers to put it into practice. In this case, changes at the individual level grow into institutional values (see the *ideal model* presented below). If change is limited to the level of individuals and is not encouraged, then the result is that individuals absorb resources but the system itself does not become stronger. **The consequence will be a waste of investments** (see the *resource absorption model*).

In this regard, the system does not make full use of the potential of people who have received education related degrees from various universities of the world. When specialists who receive education abroad (with the financial support of international organizations and foreign governments) return to the country, they usually do not take up employment in governmental bodies that manage education. This can be considered a waste of investments.

Furthermore, there are no encouragement mechanisms to stimulate desire in the best graduates of local universities to work in the education sphere.

8 "Education in Armenia", 2004, p. 58.

Chart 6.1. *From Individual Strengthening to Institutional Strengthening*

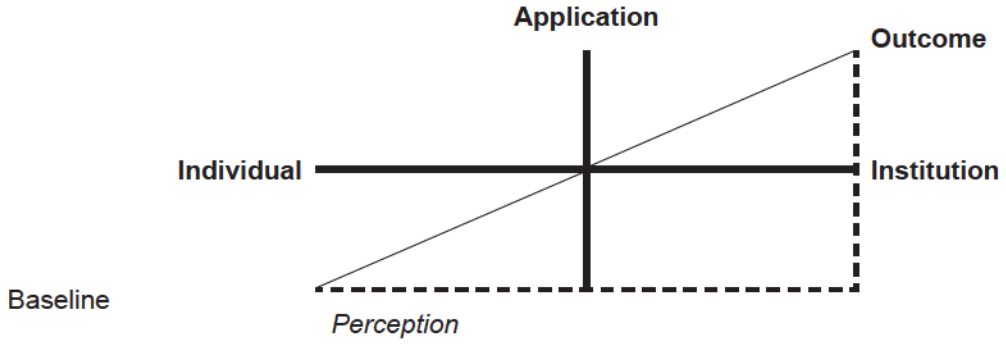
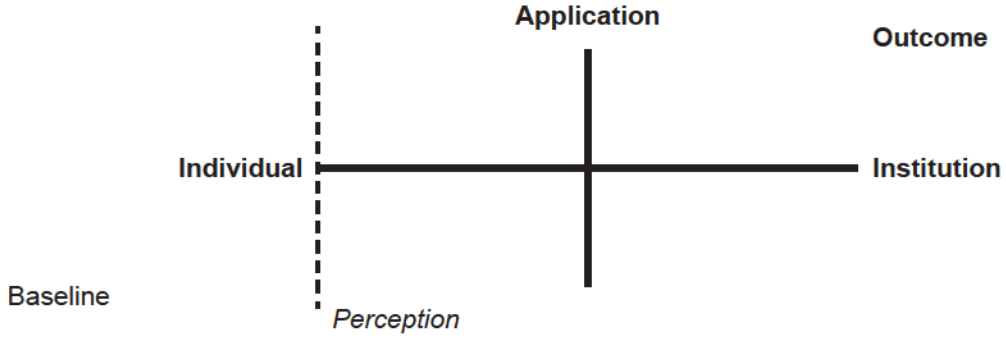


Chart 6.2. *Individual Resource Absorption Model: Weak Individuals, Weak Institution*



Box 6.3

Non-State Schools in Armenia

Presently, about 50 non-state general educational institutions operate in Armenia, with a total of about 6,000 students and over 1,000 educators.

By and large, the network of non-state schools in Armenia is underdeveloped, because such schools educate only about 1% of the total number of students in the country, which is a very small percentage compared to many other countries. There are many reasons for this, some of which are presented below.

- **In the post-Soviet period, the public has been reluctant to accept the idea of paid education, although paid education existed even in the Soviet Union from the late 1960s in the form of private tutoring.**
- **Before 1998, the education divisions of territorial governance bodies were doing everything to obstruct the activities of non-state schools in the areas under their jurisdiction, and would not tolerate the existence of schools outside their control. One of every two schools licensed before 1998 either was unable to start operating, or closed down within a year or two of opening.**
- **One of the reasons is that there is no certainty about the length of time it would take to recoup the investment made to create a non-state school. In many countries, schools are considered non-profit and tax-exempt organizations. In this respect, Armenia is among the very few countries in which non-state schools are for-profit organizations and are required to pay profit tax, while state schools are non-profit organizations. Thus, state and non-state schools, which perform the same function delegated to them by the government, are subject to different legal frameworks.**
- **To date, the main obstacle has been the lack of both an effective legal framework to regulate the activities of non-state schools and a state policy on how to develop non-state schools. This issue could be addressed by adopting a Law on General Education.**

Despite all of these problems, non-state schools in Armenia make a significant contribution to general education. They enjoy a greater degree of liberty, which makes them more flexible and able to swiftly react to the educational demands of society and to changing realities, to test innovation,

and effectively to act as experimental schools. In an ever-evolving global environment, such flexibility is the key to improving education quality.

Non-state schools also play an essential role in terms of innovation in teaching, research, and methodology. Non-state schools have developed and implemented the "Aragatz" course for teaching IT to 5th-10th grades. Non-state schools have completed the first experiment with 11-year education, as well as the idea of a combined military/sports education camp.

Robert Vardanyan

Links between Research, Educational Policy, and Investments

In the modern world, educational policies are based on surveys. Educational policy in Armenia is formed more on the basis of international experience rather than surveys conducted in the country. It is only logical that reforms implemented in Armenia are justified by international experience rather than the results of local surveys and this is one of the factors contributing to skepticism about educational reform. The majority of surveys of the education sector are usually conducted by universities. However, research activities are not adequately performed in the universities of Armenia. Subject-specific funding is earmarked in the state budget for research in teaching, as well. However, it is unclear to what degree this research is used in education policy. The number of dissertations defended in pedagogy has increased sharply. According to official data from the Higher Education Qualification Commission, 31 pedagogical doctorate dissertations were defended in Armenia in 1996-2000, while the number grew to 100 in 2001-2005.

The interactive teaching method was applied in recent years in a number of schools in Armenia. However, there are no studies into their effectiveness and usefulness as inputs. It is not clear to what extent the application of the method has impacted the progress of students and their civic competencies. Are the numbers of students in schools using those methods growing or declining? If growing, then to what degree is the growth due to the application of new methods? What problems arise during the application of those methods? Data available from studies based on the above questions would be a significant contribution to the effectiveness of the teacher training that is implemented within the framework of the loan project.

There are no studies into success stories with a view to duplicating them. A UNICEF Armenia-supported "Rapid Assessment of Supplementary Models and Financing in Kindergartens of Armenia" study report states that, during 2005-2006, the number of kindergartens in Ararat province grew from 62 to 115. This is a major success that deserves to be studied.

Another problem with the effectiveness of research work is that innovative and pilot projects are very few and far between in Armenia. The legal framework for implementing such projects is incomplete. In this regard, experts propose to draft model procedures for pedagogical scientific experiments, finance the implementation of those experiments, and establish mechanisms for their promotion and sustainability of their results.[9]

BOX 6.4

NGOs and educational policy

NGOs have a significant role in Armenia—it was they that started the implementation of new methods and new curricula within education.

NGOs, however, are not implementing one of their most important functions: they do not ensure the impact of the public on education policy. In particular, NGOs fail to react to the most important events in the education system. NGOs mainly operate with international grants. And for many years the state gave no assistance to NGOs. But in the last two years, grants have been allocated to NGOs from the state budget—a positive development.

Serob Khachatryan

Implementing Inclusive Education in the Republic of Armenia

The special education system of the Republic of Armenia was created back in Soviet times. After Armenia joined the UN Declaration on the Rights of the Child, a structured process was initiated to protect the rights of the child in the country.

The Republic of Armenia Law on Education adopted in 1999 marked the beginning of reforms in the system of special education. The Law stipulates: "If parents wish, the education of children in need of special education conditions may be carried out in both general and special schools, subject to special programs."

9 A. Hovsepyan, K. Avetisyan, Problems of introducing pedagogical experiments in formal basic education institutions of Armenia, Secondary Education in Armenia, Yerevan 2003, page 115

Similar to the general education system, the special education reform program is based on two fundamental principles—accessibility and quality of education, in line with the "EDUCATION FOR ALL" slogan. From the standpoint of children in need of special conditions of education, it is about creating equal conditions for them and availing quality education in accordance with their needs.

The strategy of educating children in need of special conditions is based on the following core ideas:

- Children in need of special education conditions have rights equal to those of other children in terms of choosing the general school and participating in the compulsory state education program;
- Children in need of special education conditions are entitled to special pedagogic, health, psychological, social, and other services, regardless of the type of educational institution chosen by them; and
- In terms of ensuring the comprehensive normal development of the child, it is preferred to organize education without isolating the child from family and society.

To achieve these goals, a number of legal acts have been adopted, and amendments have been proposed to the Republic of Armenia laws on education, the rights of the child, and social protection of the disabled. A Law on Education of Children in Need of Special Conditions of Education has been adopted.

Principles enshrined in the Republic of Armenia Law on Education of Children in Need of Special Conditions of Education adopted on May 25, 2005:

- The category of "children in need of special conditions of education" has been created, while the former categories of "orphans," "children deprived of parental care," and "children with extraordinary abilities" have been abandoned.
- The Law provides territorial state government bodies the right to certify a child's need for special conditions of education.
- The concept of "inclusive education" has been enshrined.

Inclusive education is the provision of special conditions of education for children in need of such conditions in order to study in a general school with their peers. A provision on inclusive education can be found in the Republic of Armenia Law on Education, Article 19(3): "At the option of parents, the education of children in need of special conditions of education may be carried out in both general and special schools, subject to special programs." The policy of inclusive education is based on child-centered pedagogy. This method is about the assessment of each child's individual needs and encouraging a child's active involvement in the learning process. A crucial component of this method is the creation of multidisciplinary teams made up of different specialists involved in the child's education (a general education teacher, a special education teacher, a psychologist, and a logopedist), the parents, and the team coordinator. The team assesses each child's education needs and identifies the child's health care and social needs that have direct implications for the child's education. An individual plan is developed for each child, which is aimed at meeting the child's needs. Thus, the method enables educating children in need of special conditions of education in the same general classroom together with their peers, subject to an individual plan or, if necessary, special programs.

The Republic of Armenia Minister of Education and Science Decree N593-N (K) of August 13, 2003 approved the "Criteria for Medical, Psychological, and Pedagogic (MPP) Assessment of Children in Need of Special Conditions of Education."

According to a Memorandum of Understanding signed between the Republic of Armenia Ministry of Education and Science and the organization "Mission East" on June 10, 2003, decree N516A/K of the Republic of Armenia Minister of Education and Science dated August 30, 2005 approved the special education criteria for children with moderate and severe mental retardation, as well as the draft criteria for education and courses for children with light mental retardation and the schools in which the draft criteria will be tested (presently, the draft criteria are being tested in 6 special and 7 general schools (offering inclusive education)).

According to the relevant decree of the Republic of Armenia Minister of Education and Science, 5 general schools are currently organizing inclusive education in the Republic of Armenia. 257 children in need of special conditions of education are presently attending these schools.

Armenia introduced inclusive education with the support of local and international non-governmental organizations. From September 2001, Yerevan secondary school number 27 was the first to start carrying out inclusive education (initially with 10 children) on the basis of a trilateral

agreement between the school, the Republic of Armenia Ministry of Education and Science, and "Bridge of Hope" NGO.

Four more schools in Yerevan started to carry out inclusive education in the 2002-2003 academic year. The number of included children grew from year to year.

Table 6.1. *Inclusion of children with special needs by academic years:*

Academic Year	Number of Pupils
2001-2002	10 (only one school)
2002-2003	68
2003-2004	81
2004-2005	138
2005-2006	165
2006-2007	257

According to a Government-approved regulation, these schools have received additional funding from the state budget from January 2005 for organizing the education of children in need of special conditions of education. The schools have parent rooms and resource centers in which individual classes are organized in accordance with individual lesson plans for children in need of special education conditions. The schools have staff positions for a special pedagogue and a social worker.

Presently, with the support of UNICEF, and based on a trilateral agreement, "Bridge of Hope" is, together with the schools, currently carrying out inclusive education, training 8 more general schools—4 in Yerevan and 4 in Tavush province. After the training is over (i.e. starting from the 2007-2008 academic year), these schools, too, will be recognized as schools carrying out inclusive education.

Thus, 13 schools will be inclusive in 2007. During 2007, 15 more schools in Yerevan and the regions will be trained. This process will continue every year, until inclusive education is implemented in all the schools of Armenia.

In spite of these initiatives, a number of priority issues remain unresolved in the system of special education:

The buildings of special schools and schools carrying out inclusive education are in very poor condition in terms of sanitary facilities, and the special schools need capital repairs.

Centers for medical, psychological, and pedagogic assessment of children in need of special education have not been created.

The special education specialists need comprehensive training.

It is necessary to make vocational education accessible for those in need of special education.

It is important to create a system for publishing academic and methodological literature for special education based on the achievements of contemporary pedagogic science.

The physical, as well as the academic and methodological facilities in schools, should be refreshed and improved.

6.2. Micro-management (at the Education Institution Level)

Education institutions are generally reluctant to accept change. Based on research literature, a World Bank report states: "…changes in school culture and leadership contribute to improved student performance."[10] To what extent is the school a learning organization? The response to this question largely determines the extent to which the school can operate as a teaching organization. Students make progress when the principal and the teachers progress.

The roles of principals and teachers need to change. The principal should not only carry out instructions received from supervisors, but also create an atmosphere. The teacher should not only teach the subject, but rather actively participate in the formation of an atmosphere in the school and the strengthening of links with the community. The schools should have development programs and objectives, which should be relayed to parents and the public. School development programs are mandatory in Armenia. But even if programs are available, they are not accessible and parents do not know about the development plan of the school attended by their child.

10 World Bank, Expanding Opportunities and Building Competencies for Young People, World Bank, 2005, p.190

6.3. Corruption and Social Capital

"Transparency International Armenia"[11] NGO conducted a telephone survey on corruption among 1,500 respondents during the period August 1-31, 2005. 62.9% of respondents mentioned that corruption in Armenia has increased in the last three years (4.5% mentioned that it has decreased; 15.5% stated it has remained the same). 11.5% of respondents mentioned governing bodies as the most corrupted entities, including ministries, with the next most corrupted entities being the courts and institutions of the educational system (8% of the responses each). Thus, according to the public, the education system is one of the most corrupted areas—a cause for concern. "Corruption distorts the education system, demoralizes education, and makes the socialization of the next generation a negative and chaotic process. If the impact of corruption on education were measured in terms of lost opportunities for long-term development and future gains, the damage estimate would be several-fold greater than the corrupt "shadow" amounts circulating within the education system."[12]

According to another survey[13], 21.4% of Yerevan residents responded "yes" to the question "Do gifts for teachers contribute to pupil's better marks?" 12.4% responded "probably yes", and in Shirak the responses were correspondingly 20.6% and 6.6%, in Kotayk 12.4% and 7.4%, in Armavir 13.0% and 8.8%.

The same survey also studied the impact of teachers taking money on families—many respondents mentioned that if they do not give the money the child would feel downcast (in Armavir 58.8%, in Kotayk 49.2%, in Shirak 65.4%, in Yerevan 43.8%).

Corruption is an obstacle to effective cooperation among the community, parents, the school and the government, thus hindering the formation of **social capital.**

One of the preconditions for the development of the education system is the formation of social capital. According to Hargreaves[14] (2001), social capital has two components: an atmosphere of trust among the public; the availability of structures to link people (cooperation between teacher–student, principal–teacher, teacher–teacher, and school–community). A definite lack of trust is noted in Armenia. There are also problems with the other component of forming social capital—cooperation. There is an important provision contributing to the development of social capital in the education system: "The state also supports the establishment and operation of in-school, inter-school, provincial and national associations of teachers"[15]. However, this provision still remains a 'wish statement'. Similarly, the provision of the model charter of subject methodological associations in formal basic education institutions of Armenia states "inter-school groups consisting of leading teachers of a number of schools may be formed at the initiative of various institutions"[16] but is not enacted either. With the exception of foreign languages, there are no professional associations of teachers bringing other subjects' teachers together, very few teachers become members of NGOs, and the trade union movement is not active. Interestingly, instead of being involved in professional or nongovernmental associations, teachers are actively involved in political parties.

Due to the lack of professional associations, teachers work in solitude with no place to discuss issues relevant to their specialization. The state does not organize conferences and workshops for teachers, which would facilitate the formation of such an environment. The structure of schools does not promote cooperation between teachers, either. A significant number of schools have only one specialist per subject, which limits the possibilities of teachers for interacting with other specialists on the same subject. In this sense, it might prove useful to separate elementary, middle, and high schools, because it would then be possible to create communities of teachers teaching the same subject. Researchers consider cooperation between teachers to be one of the most important preconditions for strengthening schools. Newmann and Wehladge mention that "If schools want to have better student achievements, they need to establish professional communities based on objectives acknowledged by everyone, cooperative work and collective responsibility".[17] Employment contracts made in Armenia with teachers do not require cooperation between teachers.

The government is not using the Best Teach-

11 Accessed at www.transparency.am on November 24, 2006.

12 Methodology of Participatory Anti-Corruption Monitoring, "Lusabats" Yerevan, 2006, pp. 12-13.

13 PRSP impact assessment 2005, page 96

14 Hargreaves, D., Education Epidemic: transforming secondary schools through innovation networks, Demos, 2003, p. 20

15 National Curriculum of General Education, page 18.

16 Model Charter of Subject Methodological Unioins of Formal Basic Education Schools of the Republic of Armenia; Guidelines for principals of formal basic education schools, Yerevan, 2004, page 135

17 Newmann, F., & Wehlage, G. (1995). Successful school restructuring: A report to the public and educators by the center for restructuring schools. Madison, WI, University of Wisconsin, p. 37

er, Best Principal, Based Caretaker awards effectively to further strengthen social capital. For example, the Teacher of the Year of the U.S. travels all around the country over the duration of one academic year (keeping the job and the salary) and conducts seminars for teachers, publishes articles, and participates in the development and implementation of the country's education policies. Effectively, the state uses the human capital to develop the system and form social capital. In Russia, the award winners of the best teacher competition publish particles in the "Teacher of the year" journal specially created for them. This is also a good practice one can adopt. In Armenia, the competition culminates in award giving ceremonies; the state does not use the potential of award winners in any way. Moreover, the procedure for conducting the competition does not ensure transparency, since the public and other teachers do not have the opportunity to see the capabilities and merits of the winners.

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PART 3

PROFESSIONAL EDUCATION

PART III. PROFESSIONAL EDUCATION

PART III
PROFESSIONAL EDUCATION

CHAPTER 7
PRIMARY AND SECONDARY VOCATIONAL EDUCATION SYSTEM IN ARMENIA

7.1. Realities and Trends

The vocational education system of the Republic of Armenia emerged in the beginning of the 20th century. Tailored to the planned economy of the Soviet Union, the crafts and secondary vocational education system (the development of which peaked in the late-1980s) abruptly declined and lost importance in the mid-1990s, when the Republic of Armenia found itself in social and economic crisis. *(See Table 7.1)*

Table 7.1.[1] *Key Indicators of the Activities of Craft Educational institutions*

	Number of Educational Institutions	Number of Students (thousands)
1975	80	36,0
1980	100	53,1
1985	101	47,0
1990	91	23,1
1995	83	11,0
2000	56	5,1
2004	39 (26-PPEI, 13-SPEI)	2,1
2006	44 (26-PPEI, 13-SPEI)	6,5

After more than 10 years of uncertainty and decline, the primary (craft) education system was abolished in 2001. The craft education institutions that continued to exist were converted into high schools, although they fell short of fundamental curriculum reform. In 2003, the system started to recover.

This was due to the need to ensure continuity and comprehensiveness of education and reduce unemployment and poverty, as well as the economic recovery's growing demand for a labor force with craft and secondary vocational education.

The Primary (Craft) and Secondary Vocational Education and Training Strategy of the Republic of Armenia was drafted and approved by the Government in 2004 and the Law on Primary Vocational (Crafts) and Secondary Vocational Education was adopted in 2005, defining the fundamental principles of primary vocational (crafts) and secondary vocational education. The Procedure of Forming the Board of a Secondary Vocational State Educational institution was approved in 2006.

Twenty-eight craft schools re-opened or were established during 2004 and 2005, while 20 colleges offering educational programs in about 20 primary vocations operate in Armenia—a total of approximately 4,500 students.[2] In general, the List of Primary Vocations, approved by the Government of Armenia in 2006, contains over 200 vocations and specializations.

The next level of vocational education in Armenia is **secondary vocational education**, which is provided in secondary vocational educational institutions (i.e. **colleges**), as well as some higher education institutions—as a secondary vocational education program.

Presently, there are 81 state and about 30 non-state secondary vocational educational institutions (colleges) in Armenia, which operate in all the provinces of Armenia, with the exception of Aragatsotn. A large share (about one third) of such institutions are concentrated in Yerevan (27 state and 15 non-state colleges), as well as in Gyumri and Vanadzor. A total of about 29,000 students attend these institutions.

Today, secondary vocational educational institutions prepare specialists in over 100 areas (the Government-approved list of specialization areas contains over 450 vocations and specializations), including economics, IT, agriculture, light industry, health care, services, construction, hardware and technology, teaching, culture, humanities, and many others.

1 This data is based on the "Secondary Vocational Education in Armenia: Administrative and Legal Matters, System Operations, Vocational Employment, Financial Issues: a Statistical Overview" study carried out by the Republic of Armenia National Statistical Service and the Armenian National Focal Point. Yerevan, 2002.

2 Source: Republic of Armenia Ministry of Education and Science Vocational Education Department

An applicant must take exams in two to four subjects to become admitted to the free program of a secondary vocational educational institution. Applicants that agree to be admitted to the paid programs are not required to take exams, with the exception of those applying for art and health care vocations.

College tuition fees vary from 30,000 to 200,000 Armenian drams—depending on both the vocation and the institution. The fee is greater for vocations that are more popular and more costly to teach (art and health care).

The academic plans and curricula are developed and approved by the education institutions in accordance with State Education Standards endorsed by the Republic of Armenia Ministry of Education and Science. While in primary vocational education, work experience-based teaching takes up a large share of the education time (up to 50% of the education time throughout the program), secondary vocational education programs are dominated by theoretical and practical sessions, with some work experience-based teaching in the form of internships.

Nevertheless, the link between enterprises, on the one hand, and primary and secondary vocational educational institutions, on the other, is weak. There are no coordinated programs for faculty training and qualification improvement.

7.2. Significance of Primary and Secondary Vocational Education at Armenia's Current Stage of Economic Development

Development of the primary and secondary vocational education system is essential to Armenia's social and economic development; it can help reduce poverty and unemployment.

Vocational education and training reform are particularly important, as they can help to tailor education to the labor market demands and put in place arrangements for engaging and training the unemployed.

Analysis of primary and secondary vocational education or training providers (including state, non-governmental, international, and private organizations) and their programs in Armenia highlights a shortcoming typical of all: very little effort has been made to study, and almost nothing has been done to take the local labor market demand into account—something that is an absolute precondition for economic growth and improvement of the vocational education system.

7.3. Primary and Secondary Vocational Education Development Priorities in Armenia

Primary and secondary vocational educational institutions mainly offer classroom education, as well as distance education for some vocations. However, there is increasing demand among the learners for **combining the education process with employment activities**. To address this situation, several education institutions have started limited application of individual student timetables, whereby a student may visit the education institution at a defined frequency to receive instructions or to participate in final or interim tests. This type of education is still flawed in many ways (absence of methodology, textbooks, manuals, and computers; faculty not being ready for this type of education) and does not address the need for sound knowledge.

A separate issue has to do with the development of ***the competency and professional skills of faculty*** in primary and secondary vocational educational institutions. During the last 10-15 years, with minor exceptions, the majority of faculty has not attended any professional development courses. There are no coordinated projects aimed at solving this issue.

The bulk of the teaching staff is either above-middle age (median age is higher than 55) or very recent university graduates who lack any prior professional experience and skills. The salaries are low—between 15,000 and 45,000 Armenian drams. Three quarters of the teaching staff are women.

There is little or no feedback between graduates and their vocational education institutions. As a consequence, education institutions do not attempt to seriously examine and guide their activities by the demands of the labor market and employers, and end up providing education for the sake of providing education rather than for educating labor-market-competitive specialists that will be able to find employment.

The links between vocational education institutions and employers are also weak. There are few organizations in which vocational education institution students can do their internship or become employed upon graduation. Vo-

cational education institutions currently face numerous problems—most importantly: inadequate premises, lack of funds, insufficient facilities and methodology, absence of faculty training, scarcity of qualified faculty, low wages, absence of any tax privileges, and isolation from the higher education institution (HEI) system.

7. 4. Recommendations for Primary and Secondary Vocational Education

✓ **Regional Development as a Target of Primary and Secondary Vocational Educational Institutions' Activities**

Considering the predominantly regional role and significance of primary and secondary vocational education institutions, their vocational focus should be determined, and their curricula developed, in the context of the relevant province's (sub-region's) social-economic development program, in cooperation with the regional administration bodies and line ministries.

At the level of legal documents, it is necessary to encourage (including via the provision of tax privileges for economic agents) the involvement and investments of employers in the organization of education in vocational education institutions.

✓ **Defining Competitive Principles for the Formation of and Provision of Education by Primary and Secondary Vocational Education Institutions**

It would be appropriate to distribute state funding for the formation of primary and secondary vocational education institutions competitively, with the involvement of both the staff of such institutions and business entities.

✓ **Creating Career Development and Labor Market Research Structures**

Similar to career development centers to be created in HEIs, certain structures should be created to study labor market supply and demand in certain sectors, facilitate the employment of primary and secondary vocational education institution graduates, organize the work experience of learners, monitor the post-educational work career, and provide information and counseling to the leadership of such institutions and the public bodies responsible for this sphere.

✓ **Training and Re-Training of the Unemployed**

With Armenia's Labor and Social Affairs Ministry and the Education and Science Ministry, and with funding from them, it is necessary to organize for the unemployed short-term training courses in primary and secondary vocational education institutions that are registered in regional employment agencies by developing the necessary methodology and curricula.

✓ **Carrying out Institution Staff Training and Re-Training Programs**

It is necessary to develop the legal and regulatory framework for mutually beneficial cooperation between vocational education institutions and organizations whose staff needs training and professional development. It is also necessary to develop work experience-based training and re-training programs on crafts and technical specializations.

✓ **Professional Training of Faculty**

At the initiative of and under the leadership of Armenia's Ministry of Education and Science, it is necessary to organize training courses for the teaching staff (including work experience-based training masters) of primary and secondary vocational education institutions, and to coordinate such efforts in order to facilitate the capacity of international and non-governmental organizations active in this sphere.

✓ **Encouraging Work Experience Programs Carried out by Primary and Secondary Vocational Education Institutions**

Guided by the need to increase employment, to reduce poverty, and to enhance the efficiency of the learning process, **it is necessary to create opportunities for and to encourage primary and secondary vocational education institutions to carry out "non-educational" projects (work experience projects)**.

This would help to improve the existing capacity for work experience-based education and generate additional funds for the institution (to raise salaries and to improve the premises, among other things). Moreover, by creating employment opportunities (even though it would not be full-time employment), such projects would catalyze progress in the relevant sectors of the economy.

CHAPTER 8
TERTIARY EDUCATION SYSTEM OF ARMENIA: DEVELOPMENT TRENDS, REFORM NEEDS, AND PROSPECTS

8.1. Achievements, Omissions, and Plans

Achievements:

1. Increase in the number of HEIs during the post-Soviet period
2. Revamping of primary and secondary vocational education institutions' network
3. Adoption of legislation and other fundamental legal instruments on vocational education
4. A share of 22.1% of 25-64 year old citizens that have higher education, making Armenia close to OECD countries (OECD average is 23%)[1].
5. Development of a policy of integration with the common European education system
6. Founding of joint education institutions in Armenia on the basis of inter-governmental agreements
7. Introduction of new arrangements for governance of vocational educational institutions

Omissions and Outstanding Issues:

1. Little and ineffective management of education system financing
2. Low quality of vocational education and its lack of conformity to demands of labor market
3. Need to adopt and embrace European standards of teaching and evaluation
4. Need to harmonize the Armenia's Law on Civil Service and other legal documents with the two-tier system of HEI education
5. Reforms of the HEI admission and graduation exam system
6. Need to ensure harmonious functioning of vocational education with national defense systems
7. Need to create a legal framework and mechanisms for implementing lifelong learning
8. Need for arrangements to make vocational education accessible.

1 Source: the RA NSS "The Results of the Census of the Republic of Armenia of 2001", Yerevan-2003

8.2. Conformity of Vocational Education Quality to Labor Market Demands and Administration Issues within Education Institutions

Implementing market-oriented policy principles in Armenia's vocational education system is a top priority for reform.

The labor market in Armenia (as in other post-Soviet countries) is still emerging and undergoing dynamical transformation. The Armenian labor market development process is hindered by the negative effects of mass privatization and a high level of structural unemployment, as well as hidden unemployment (especially in rural areas), the uneven economic development of the regions, the flawed legislative framework, an under-developed information framework, irregular labor migration, and employment policies that are still in the process of being shaped.

The experience of other CIS countries shows that official data on the labor market does not always reflect reality. According to some estimates, real unemployment in Armenia is two or three times higher than the officially reported figure (*see Table 8.1*).

Table 8.1. *Unemployment in Armenia: Official and Sample Surveys*[2]

	2001	2002	2003	2004	2005	2006
Official (%)	10.4 %	10.8 %	10.1 %	9.4 %	9.0%	7.7%
Sample survey (%)	38.4 %	35.3 %	31.2 %	31.6 %	31.3%	

2 Source: Republic of Armenia National Statistical Service

Surveys of young specialists that have graduated from Armenian HEIs and employers' surveys show that vocational education institutions are not always able to meet labor market demands.

A significant share of both employers and young specialists that have graduated from Armenian HEIs (57% and 54.9%, respectively) note that the knowledge provided by the vocational education system is necessary, but not sufficient to develop a fully-fledged career in the labor market. They state, in particular, the **overemphasizing of theory and the insufficient focus on practical skills**.[3]

Certain steps have been taken to improve conformity between vocational education institutions and the labor market and to develop the market-oriented content and quality of vocational education. However, they are still not sufficient to generate the desired results.

At the present stage of reform, it is important to:

- Have structural entities coordinating and developing the links between vocational education institutions and employers;
- Create career development centers within vocational education institutions;
- Increase the amount of state funding to, and the efficiency of financial management of, the vocational education system;
- Revise the curriculum and teaching techniques on the basis of international best practices and local peculiarities;
- Develop a system of faculty training and qualification improvement;
- Put in place arrangements for improving access to vocational education for different segments and groups of society; and
- Build a compatible system of curriculum, teaching, and performance assessment in order to integrate with the European system.

3 Some (11% of HEI graduates and about 37.7% of the employers) believe that the knowledge provided by vocational educational institutions is outdated and does not correspond to the requirements of the time (See "Conceptual Basis for Developing State Policy on Vocational Education in Armenia", http://www.undp.am/docs/publications/2005publications/education.pdf).

8.3. New Links between Vocational Education institutions and the Labor Market

In the context of a market economy and the increasing autonomy of vocational education institutions, it is vital to form education institution management entities and mechanisms that will ensure direct linkage and collaboration with the relevant economic agents and employers. It will create ample opportunities to involve employers and their representatives in the training of specialists and curriculum development and to incorporate their requirements so as to increase the likelihood of graduates finding employment.

To this end, certain possibilities are created under the HEI administration procedure stipulated by the Republic of Armenia Law on Higher and Post-Higher Vocational Education, as detailed in a Government Decree of 2005. It permits the Authorized Body to nominate representatives of different sectors of the economy and employers in the governing board of an HEI (Paragraph 7).

In the course of future reform, it would be necessary to establish the legal grounds for making sure that some of the members of governing boards of HEIs and primary and secondary vocational education institutions represent employers, some of which should be nominated by the HEI's structural units (departments). Indeed, employers and other private sector representatives are the main "consumers" of specialists in the respective fields; it is vital that they are represented on HEI boards.

This type of "penetration" will not only help to adjust the work of HEIs and their structural units bringing them into conformity with market demands, but also involve employers in solving various problems faced by education institutions, such as the problems of organizing ***work experience***.

8.4. Professional Practice

The dragging economic crisis and the inactivity or below-capacity operation of enterprises and organizations have broken down the traditional links and opportunities for organizing the work experience of students. **Nowadays, work experience is often a formality, with limited functional use**, even though this component of a specialist's education is designed not only to foster the acquisition of practical skills, but also to facilitate their integration into the labor market and foster business ties.

A survey of 1,200 HEI graduates in 2005, showed that only 25.1% of those that already had jobs (12.9% of the total number of respondents) had been helped in finding employment by connections and acquaintances acquired during their work experience.[4] In countries with developed economies and well-established traditions of university education, this indicator can be twice as high.

17.7% of the surveyed employers stated their readiness to cooperate with and to provide various types of assistance to the work of vocational education institutions. Such readiness was expressed by 53.6% of the management of relatively large organizations (i.e. over 50 employees). Employers envisage that their assistance to vocational education institutions could take the form of financial support (5% of the surveyed employers and 28.6% of the surveyed management of large organizations), scholarships to some future specialists (1.9% and 14.5%, respectively), the provision of faculty, facilities, and hardware (1.2% and 7.1%, respectively), and, most importantly, ***the provision of work experience opportunities within their enterprises*** (14.6% and 42.9%, respectively).[5]

8.5. Importance of Career Development Centers

To develop the linkages between the labor market and vocational education institutions and to make the activities of such institutions more responsive to labor market demand, an ***important next step could be the creation of career development centers within vocational education institutions***.

When the Soviet economic system collapsed and a market economy emerged, the state system of job placement of vocational education institution graduates stopped working in Armenia.

In response to economic change, the vocational education system underwent change in terms of volume, quantity, and funding (paid education was introduced; private education institutions were created, and so on). As a relatively conservative and inert system, vocational education is still in need of structural, functional, and substantive reform.

The absence of relatively stable and structured ties and the existence of only ad hoc links between vocational education institutions and the labor market lowers the quality and efficiency of education, leading to the production of specialists that do not adequately meet the labor market's demand.

Although leaders of HEIs, in pursuit of greater revenue, are normally keen on increasing the number of students, they tend to surrender the job placement of their graduates to the government, at times engaging in one-sided "wait-and-criticize" behavior.

Increased autonomy for HEIs, instead, implies greater responsibility, as well. In the same way as they cooperate to educate specialists, HEIs and the state should share the burden and responsibility of the labor market integration of its graduates.

To coordinate HEIs' links with the labor market, to adjust HEIs' activities in accordance with supply-demand surveys, and to facilitate the labor market integration of graduates, *the need for career development centers* in HEIs has emerged.

A career development center is an entity operating within a HEI with the following goals and objectives:

- Create and develop connections between the private sector, employers, and the graduates of the HEI;
- Help HEI graduates with employment and career development matters;
- Routinely study the labor market supply of and demand for vocations offered by HEIs;
- Regularly provide HEI graduates with up-to-date information on job offers of various organizations;
- Help the HEI leadership with the development of policies and curricula that better match the labor market demand; and

4 See "Conceptual Basis for Developing State Policy on Vocational Education in Armenia". Findings of "Graduate 2002" opinion poll, Para. 6. http://www.undp.am/docs/publications/2005publications/education.pdf.
5 Ibid, "Findings of Sample Opinion Poll of Employers", Para. 6.

- Build an atmosphere of feedback and support between the HEI and its graduates.

In multi-profile HEIs, career development centers can have their subdivisions for different professional fields; departments that have a large number of students and offer different forms of educational programs (traditional classroom learning, distance learning, class visits, etc.) could create their own career research and development centers.

Armenian HEIs interested in creating and institutionalizing career development centers could learn from the valuable experience of the Career Development Center that operates within the American University of Armenia.[6]

8.6. Teaching Staff: Composition and Training Needs

An institutional framework for faculty training and qualification improvement is another means of improving the quality of vocational education and ensuring content relevance.

The Republic of Armenia Law on Higher and Post-Higher Vocational Education provides: "Those working in organizations providing higher and post-graduate education must … undergo training or qualification improvement in accordance with the established procedure at least once every five years" (Article 19(6.5)).

The institutions and legal arrangements needed to facilitate compliance with this requirement of the Law do not yet exist.

The HEI faculty training and qualification improvement process is currently ad hoc; as a rule, it is initiated by either the trainees or individual HEIs. The situation is even worse in primary or secondary vocational institutions.

Armenia's vocational education system faculty often benefit greatly from international organizations and academic exchange services operating in Armenia (including TACIS, IREX, the Eurasia Foundation, the Open Society Institute, UNDP, DAAD, OAAD, and the like). However, the specialists that are trained in local or foreign training centers with the help of such organizations rarely engage in a structured effort that would enable them to share with local colleagues the knowledge and experience obtained in such training programs. The training opportunities and study tours, therefore, often help only their individual participants.

Nowadays, it is necessary to create and strengthen a regular institution of HEI faculty training and qualification improvement that will organize the training and qualification improvement of Armenian HEI faculty, help the sharing of best practices, and modernize the content and methods of education. The importance of such an institution is further emphasized in the context of Armenia's accession to the Bologna Process and her integration into the European education system.

Following the success of YSU (which has had a post-university vocational education department since 2002), faculty qualification improvement units were created in 2005 in the State Pedagogic University of Armenia, the State Architectural University of Armenia, and the State Medical University of Armenia.

Thus, all institutions need to improve the qualifications of their faculty; however, such efforts cannot be effective if pursued in an isolated way with the scarce resources of individual institutions.

8.7. Vocational Education Financing Prospects

Under the Soviet system, vocational education was a highly-concentrated and planned activity, carried out free of charge.

Since 1990, after embarking on its path of independence, Armenia introduced a paid scheme into its vocational education system. The first non-public HEIs emerged (*see Annex 1*). The introduction of paid education helped to broadly maintain and later to develop the higher vocational education system, despite the political and economic crisis.

From 1991 to the 2004/2005 academic year, the share of students enrolled in the paid schemes of public higher education institutions grew to 68.5%. *See Table 8.2.*

6 http://www.aua.am

Table 8.2. *Number of Public HEIs and Their Students, by Years*[7]

	1990/91	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Number of Public HEIs	14	16	19	20	20	20	20	22
Total number of students, thousands	48.9	39.8	43.6	47.4	54.1	55.9	62.5	73,7
Number of government-subsidized students (students that do not pay), thousands	47.1 *96.3%*	15.8 *42.9%*	16.1 *36.9%*	16.6 *35.0%*	16.0 *29.6%*	19.2 *34.3%*	19.7 *31.5%*	19,9 *27%*
Number of students in paid system, thousands	1.8 *3.7%*	24.0 *57,1%*	27.5 *63,1%*	30.8 *65,0%*	38.1 *70,4%*	36.7 *65,7%*	42.8 *68,5%*	53,8 *73%*

Parallel to a growing paid scheme of vocational education, and due to the improving performance of Armenia's economy, state budget funding for higher and post-graduate vocational education increased. *See Table 8.3.*

Table 8.3. *Republic of Armenia State Budget Allocations to Vocational Education System during 2002-2007 (AMD thousand)*[8]

	2002թ.	2003թ.	2004թ.	2005թ.	2006թ.	2007թ.
HEI and post-HEI vocational education	3,637,446.1	4,004,306.0	3,886,319.5	4,305,532.3	5,302,409.3	5,626,450.1
Secondary vocational	1,140,968.5	1,165,996.9	1,213,269.2	1,454,468.4	1,827,555.9	2,274,506.2
Primary vocational	391,150.4	309,623.4	359,907.3	669,612.3	1,014,485.6	1,467,698.2

In terms of population enrollment in the vocational education system (number of university and vocational educational institution students per 1,000 residents), Armenia is in line with the indicators for developed countries: in 2001, Armenia's indicator was 3.2[9] compared to a world average of 1.5. The indicator was 0.98 for low- and middle-income countries, 2.4 for Europe and Central Asia, and 4.1 for developed countries.[10]

Nevertheless, Armenia lags behind in terms of state financing of education, especially vocational education, even in comparison to low-income countries. In 2004 and 2005, vocational education spending was 14.1% and 12.44% of total education spending (0.33% and 0.34% of GDP, respectively). To compare, the world average in terms of vocational education spending as a share of GDP is 0.47% for low- and middle-income countries, 0.47% for Europe and Central Asia, and 0.91%[11] for developed countries.

About three quarters of state budget allocations to higher vocational education are spent on free education (subsidy to reimburse education fees). The rest of state funding to the higher and post-graduate vocational education system is used to pay stipends to government-subsidized students. In 2005, this number amounted to 23.7% of all funding allocated to the HEI and post-higher vocational education system.

7 Source: Republic of Armenia National Statistical Service
8 Source: Republic of Armenia Ministry of Finance and Economy at http://www.mfe.gov.am/
9 This indicator is high especially due to high enrolment in the university system.
10 The 2006-2008 Medium-Term Expenditure Framework of the Republic of Armenia, p. 66; http://www.mfe.gov.am/mfearmweb/petmijnjam/petmig.htm
11 Ibid.

The number of government scholarships (i.e. government-subsidized student places) to all public vocational education institutions, including HEIs is determined annually by the Government of Armenia based on demand for different specialists and a given year's annual state budget allocation to vocational education. The number of paid student places is determined on the basis of proposals submitted by education institutions and their capacity (premises, faculty, content literature, facilities, etc.).

In 2005, the Armenian Government introduced major change in the system of state financing for higher education.[12] The no-longer-effective system of government "orders" (subsidies) was replaced with a ***rather flexible system of government stipends on a rotation-rating basis***.

The new procedure of granting entitlement to free education has considerable advantages over the old system in terms of both reduced corruption risk at the admission stage and encouraging academic excellence. ***However, even the new system has shortcomings, including realities that limit the effectiveness of government financial assistance to vocational education***.

First of all, the corruption risks that were typical of the admission-exam stage have effectively been carried over to the current (interim and semi-annual) exams, and secondly, similar to the previous system, this one, too, has very low and merely hypothetical economic efficiency—the state financing remains a subsidy, mainly designed to support the higher education system.

The problems in the first category can be addressed by changing more of the current exams to written tests and applying harsh sanctions.[13]

However, even if these solutions are implemented, and corruption is fully eradicated, it would not be efficient to limit state policies on higher education financing to the current rotation-rating system of government subsidies, which are the equivalent of government-subsidized entitlement to free education. There are other opportunities, as well, which have not been utilized.

8.8. Need for Greater Access to Vocational Education and a System of State Loans

A system of vocational education, indeed, cannot solve all problems faced by society.

However, education is a guarantee of a certain social status and employment; it is a powerful tool for reducing poverty, improving living conditions, mitigating social tension, and achieving economic and societal progress.

Thus, it is crucial that the state's financial contribution to vocational education and its relevant policies be viewed in the context of the broader challenges faced by the Republic of Armenia, such as reducing poverty, ensuring access to education, building an open system conducive to upward mobility, fighting segregation and corruption, mitigating the social situation, and meeting the evolving needs of the economy.

From this perspective, the implementation of ***a system of state loans for education*** can be a much more efficient, effective, purposive, and promising alternative in view of the still-limited financial capacity of the Armenian state and the prevalence of various economic risks.

The implementation of a system of state loans for education should be the next milestone of reforms in vocational (first of all, higher) education in Armenia.

Advantages and Efficiency of a System of State Loans:

a) Efficient spending of funds allocated to vocational education and minimal losses;
b) Minimized corruption risks;
c) Mechanisms to encourage and reward academic excellence;
d) Vocational education more affordable for all segments of society;
e) Reduced poverty;
f) An open system conducive to upward social mobility;
g) Purposive financial support; and
h) Ability to quickly respond to changing needs of the economy.

Public systems can be managed much more efficiently and effectively when they have self-regulatory mechanisms.

12 See Republic of Armenia Government Decrees 1986-N and 2114-N dated September 8 and 15, 2005, respectively, "On Endorsing Procedure of Granting State Stipends to Students of Armenian Higher Educational Institutions" and "On Endorsing Procedure of Granting Student Allowances in Armenian Higher Educational Institutions."

13 This experience has been applied successfully—for instance, at the French University of Armenia, 75% of the interim exams are held in writing, mostly in the form of tests. The written papers are anonymous; they resemble the encrypting method used for many years in the state HEIs admission exams (the name of the student becomes known only after the paper has been graded). There is also a mechanism of strict oversight and sanctions for both faculty and students that breach this procedure.

A system of state loans for vocational education, providing access to state financial support in addition to information guiding the choice of a profession, can be much more efficient and flexible in terms of responsiveness to the changing needs of the economy.

Both international experience and focus groups held with the leadership of Armenian HEIs and other vocational education institutions have indicated that ***loan repayment*** is the main risk related to the implementation of a VESL system.

However, research and calculations corroborated by international best practices in this field lead to the conclusion that the implementation of a system of state loans to support vocational education is a necessary and feasible option.[14]

In this context, it would be more efficient for **state education loans to replace** the current scheme of full tuition fee reimbursement of students that are designated by territorial administration bodies via the nomination of local self-governing bodies (as stipulated by Paragraph 4(d) of Government Decree 2114-N of September 15, 2005); **in case of non-repayment, the local or territorial authorities designating the students would become responsible for repayment of the loan**.

Over the next five years, it would be appropriate for the VESLS Fund to raise about US $12-14 million per annum, so as to be able to achieve 50% state coverage of higher vocational education grants and loans, which would considerably improve access to vocational higher education.

8.9. Two-Level HEI Education and Failure to Meet Market Demand

Although Armenian HEIs have mainly shifted to a two-level system of education (Bachelor's and Master's), the labor market still does not differentiate between the Bachelor's and Master's degrees. A person with a Master's degree in effect does not enjoy any advantages when seeking employment. The only exception is the admission to post-graduate studies (which means that the only place where the Master's degree is preferred is the education and science system). Naturally, this situation makes the youth indifferent toward Master's studies—they only continue their education in a Master's program in order to be later admitted to a post-graduate program or to be eligible for military service deferral.

14 See "Conceptual Basis for Developing State Policy on Vocational Education in Armenia" at http://www.undp.am/docs/publications/2005publications/education.pdf

Based on international best practices, it is necessary to make amendments to a number of laws, including, first of all, the Law on Higher and Post-Higher Vocational Education and the Law on Civil Service. ***It would be appropriate to amend the legislation to require a Master's degree for senior and high positions of civil service*** (or when comparing candidates for civil service positions, treat the Master's degree as equivalent to work experience).

8.10. Higher Education: Structure by Vocations

Opinion polls of Armenian citizens regarding different vocations have indicated that the following vocations are popular and in high demand: lawyer, doctor, banker, programmer, economist, customs officer, specialist in international relations, accountant, translator.[15]

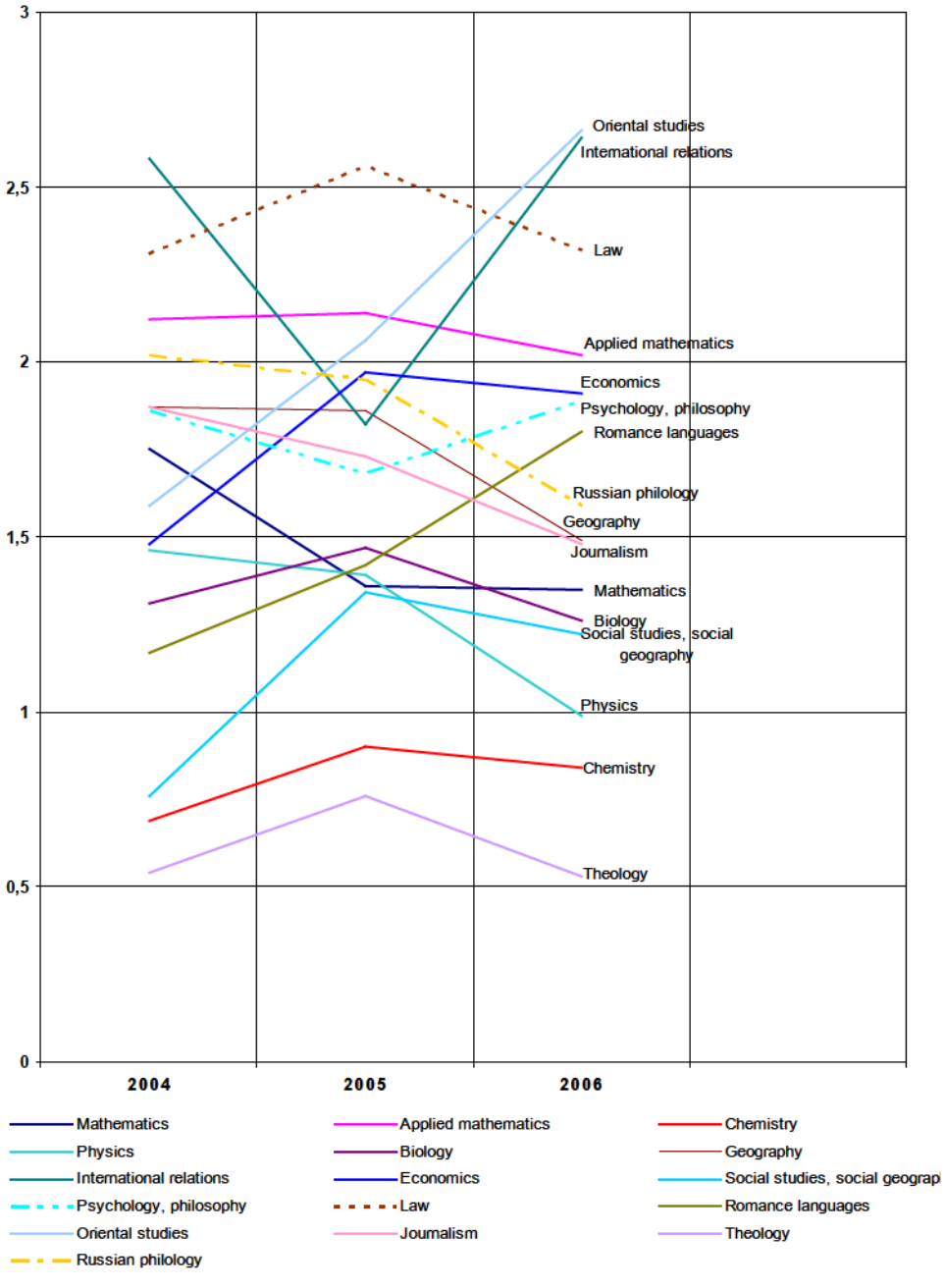
The demand for these vocations is confirmed by data from the Data Processing Center of the National Admission Committee under the Ministry of Education and Science, which shows that admission exams for these vocations are more competitive—even though for many of these vocations there is currently a "surplus" of human resources, as well as high unemployment among young specialists.

Chart 8.1 below shows the relationship between the number of applications with a vocation as the first choice and the number of admission slots for that vocation (i.e. competition ratio by first choice of applicant) at Yerevan State University.

This structure of demand could be explained by, among other factors, some stereotypes affecting public opinion, as well as applicants' and parents' lack of awareness about labor market trends.

15 See "Conceptual Basis for Developing State Policy on Vocational Education in Armenia", para. 5, "Rating of Vocations, as Estimated by Residents of Yerevan" at http://www.undp.am/docs/publications/2005publications/education.pdf See also S.A. Manukyan, "PRSP Impact Assessment." 2005. Situation in the Education Sector: Public Perceptions, pp. 126-128.

Chart 8.1. *Competition for Enrollment to Different Professions in CIS by HEI of the First Choice*

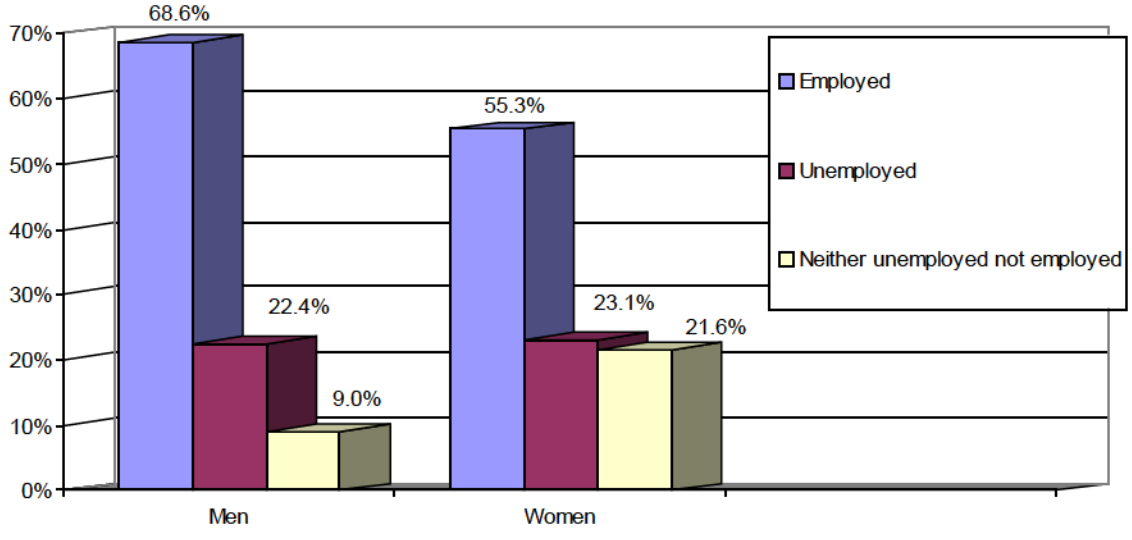


8.11. Labor Market Entry of University Graduates in Armenia

Studies carried out by UNDP national experts in 2005 shed some light on Armenian labor market demand for different professions, as well as the linkages between professional education institutions and the labor market.

A survey of 1,200 graduates of 25 state and non-state universities in Armenia has shown that, three years after graduating from a university, 59.5% of young specialists have income-generating employment in the Armenian labor market (this percentage is 13.3% higher among young men than young women). (*See Figure 8.1.*)

Figure 8.1. *Employment and Unemployment among Young Men and Women that Graduated from Universities in 2002, Data for July-August 2005*

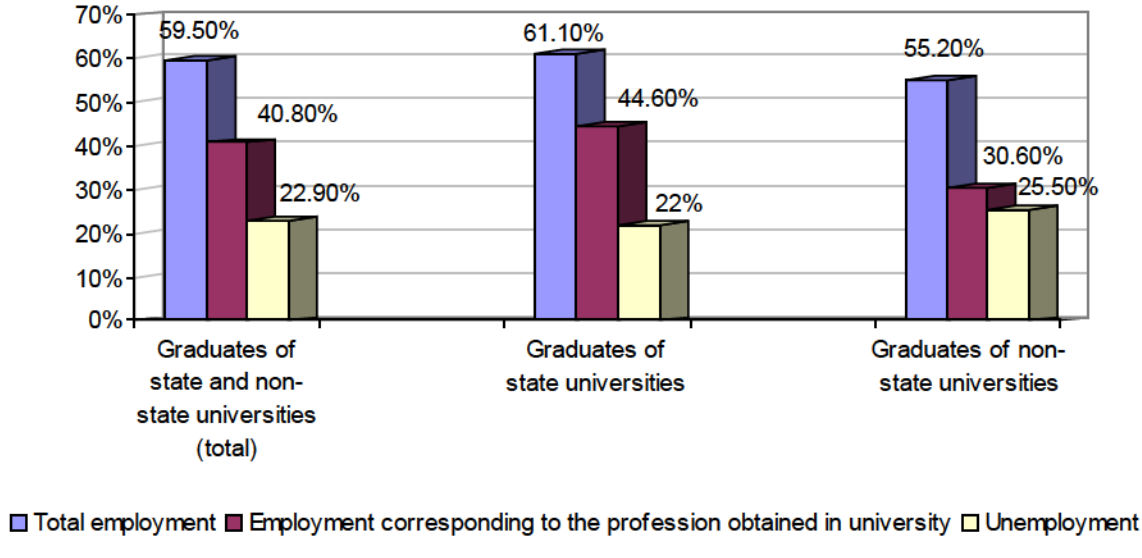


According to the survey, average employment of those graduating from state universities in 2002 was 61.1% and 55.2% for graduates of non-state universities.[16] (*See Figure 8.2.*)

Unemployment among private university graduates is slightly higher (25.5%) than among graduates of state universities (22%). These differences can be explained by better quality of education in state universities, solid traditions, and some labor market skepticism about non-state universities.

Average unemployment among 2002 graduates was 22.9% in 2005.[17]

Figure 8.2. *Employment and Unemployment among 2002 Graduates of State and Non-State Universities*



16 For Yerevan State University, for instance, the rate was 63.3%.

17 According to a sample survey carried out by the National Statistical Service of the Republic of Armenia, unemployment among the 20-29 population is 25.9% (estimated on the basis of data from the "Labor Force and Child Employment in Armenia" Sample Survey of Labor Force, Yerevan, 2004, p. 49).

The level of unemployment is relatively high among young people that have the following professions:

1. Geology - 50%
2. Commerce and commodities - 50%
3. Veterinary and animal breeding specialist - 50%
4. Theology - 50%
5. Oriental studies - 40%
6. Physical education - 37.5%
7. Transport systems - 33%
8. Biology – 30.3%
9. Psychology and philosophy – 28.6%
10. Law – 28.4%

Some of the reasons for young specialists' unemployment and non-employment are structural (having to do with structural change in the economy, limited demand in the labor market, over-supply of certain specialists, the ensuing over-saturation of the labor market, and some flaws of university education), but there are subjective and individual reasons, as well.

12% of the respondents (29.6% of those not working) say their inability to find a job is due to the absence of jobs matching their professional qualification in the Armenian labor market.

Several professions are particularly affected by this problem, as presented below.

Table 8.4. *Professions whose Representatives are not Employed Partially Due to Their Inability to Find Employment Corresponding to Their Professional Qualification*

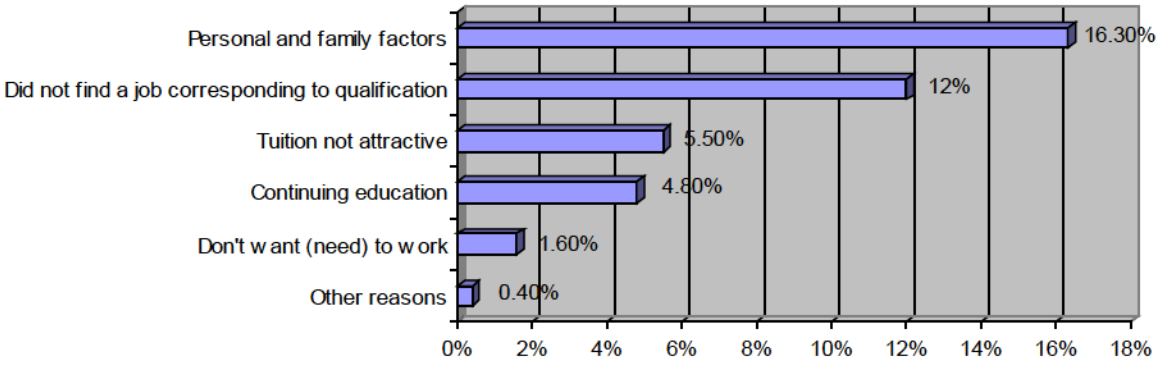
	Profession/Department	% Unable to Find Employment Corresponding to Their Profession	Total Unemployment, in %	Total % Not Employed
1	Veterinary and animal breeding	50.0	50.0	50.0
2	Geology	40.0	50.0	55.0
3	Physical education	37.5	37.5	62.5
4	Theology	33.3	50.0	66.6
5	Oriental studies	30.0	40.0	60.0
6	Psychology and philosophy	28.6	28.6	38.1
7	Radio equipment and communications systems	25.0	25.0	31.3
8	Commerce and commodities	22.7	50.0	18.2
9	Defectology	22.2	22.2	33.3
10	Foodstuff technologies	22.2	22.2	55.5
11	Energy and electricity technology	21.7	26.1	26.1
12	Physics	21.4	21.4	35.7
13	Machine building, architecture, and other professions	20.0	28.0	52.0
14	Biology	18.2	30.3	51.4
15	Finance and banking	16.2	24.3	28.7
16	Applied mathematics, informatics, and computer technology	13.3	18.1	31.4
17	Law	10.8	28.4	42.1

Of course, the inability to find a job corresponding to the profession obtained at university can often be attributed to the unstable economy and the crisis in certain branches of the Armenian economy. However, it is equally as important to consider the gap between the labor market requirements, on the one hand, and the quality and content of university education, on the other.

5.5% of the survey respondents believe they are not employed because of the unattractive terms of employment, especially low pay (this reason was mentioned by 13.6% of those not employed).

16.3% of jobless young professionals believe their personal and family factors are the cause of them not working.[18] (*See Figure 8.3.*)

Figure 8.3. *Main Reasons for Not Working*



18 The prevalence of this reason in the responses should be explained by the fact that 29% of the respondents are married young women, the majority of which are busy in the household and/or are looking after children. It is noteworthy that 97.9% of those attributing their non-employment to personal and family reasons (which is 15.9% of the total number of respondents) are women. See UNDP, "Some Concepts for the Development of State Policy on Professional Education in Armenia." «3 Graduates of Armenian Universities in the Labor Market http://www.undp.am/docs/publications/2005publications/education.pdf

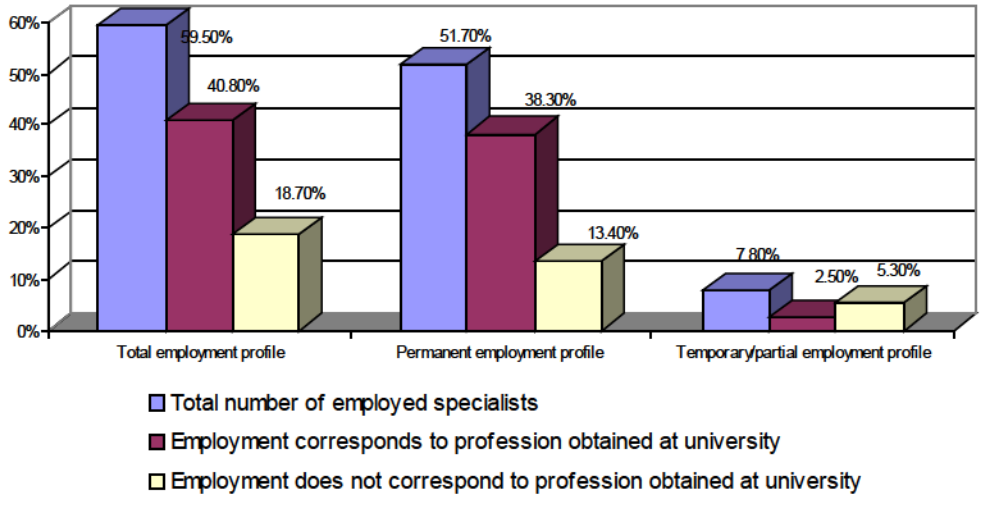
Thus, the main obstacle to young professionals' entry into the Armenian labor market is that, **due to the under-developed condition of the economy, *there is a lack of jobs and, in some cases, the professional education obtained at university does not correspond to the changing demands of the labor market.* The second main reason is the small remuneration.** (See Appendix 3.)

In terms of remuneration, the labor market terms are more favorable for sectors like commerce, finance, information technology, and law.

The salaries are low for specialists in physics, mathematics, the Armenian language and literature, teaching, music, and the arts.

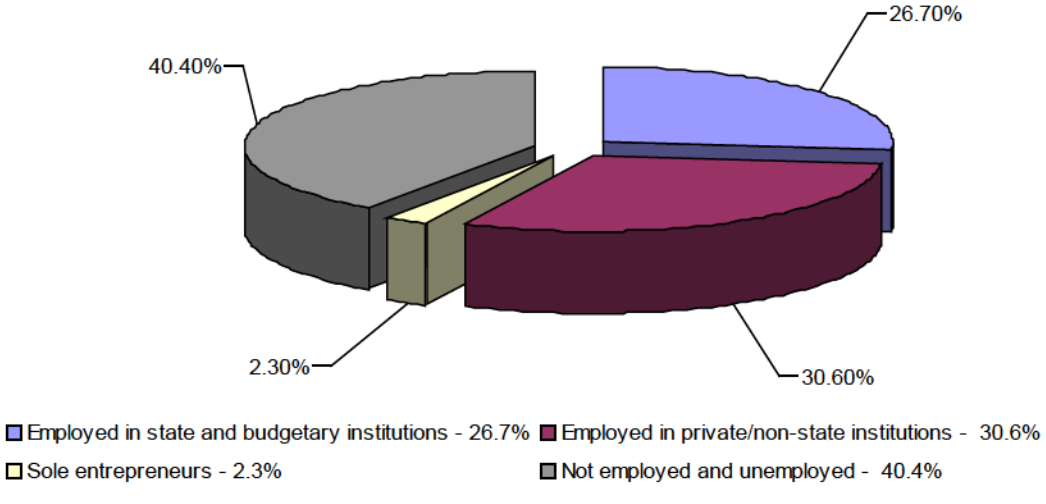
Although aggregate (complete or partial) employment among young specialists that graduated from Armenian universities three years ago is 59.5%, only 38.3% of them have permanent employment corresponding to the professions obtained by them in university. On the whole, 40.8% have employment that corresponds to their professions. (*See Figure 8.4.*)

Figure 8.4. *Employment Profile of 2002 Graduates that are Engaged in the Armenian Labor Market 3 Years after Graduation*



26.7% of the employed young specialists surveyed work in state and budgetary institutions, and about 30.6% (as would be typical of societies with a market economy) are employed in private non-state institutions. 2.3% of the 2002 graduates are engaged in sole entrepreneurship *(See Figure 8.5)*: only 0.1% of them have managed to become business proprietors during a short period of time.

Figure 8.5. *Engagement of 2001-2002 Graduates of Armenian Universities in the Labor Market, by State and Non-State Sectors*



The average length of time it took university graduates to find employment was **four months**. Finding stable employment took relatively longer for representatives of professions such as theology (16.5 months), physics (7.7 months), economic governance (7.2 months), machine building and architecture (6.7 months).

Figure 8.6. *2001-2002 Graduates of Armenian Universities Finding Permanent Employment by First Half of 2005*

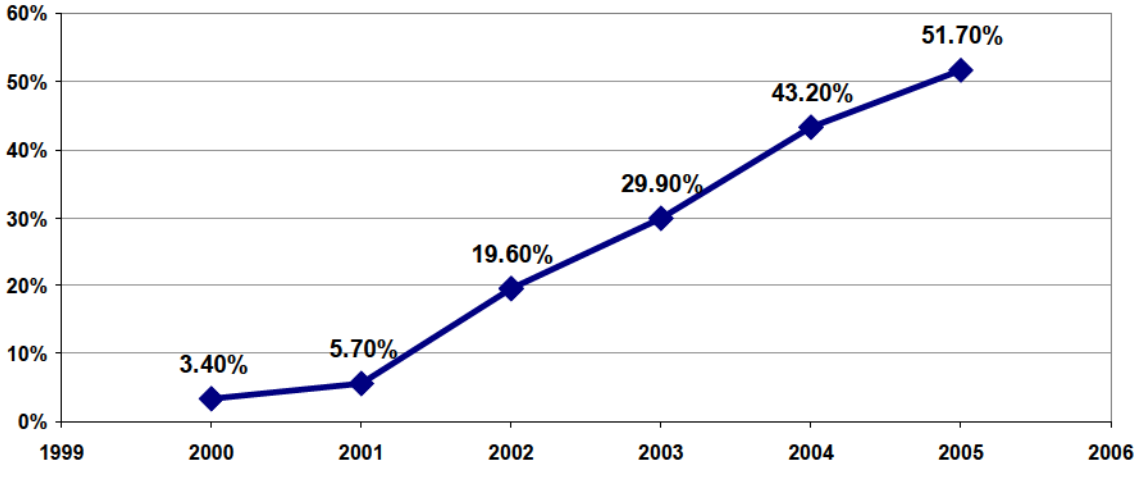
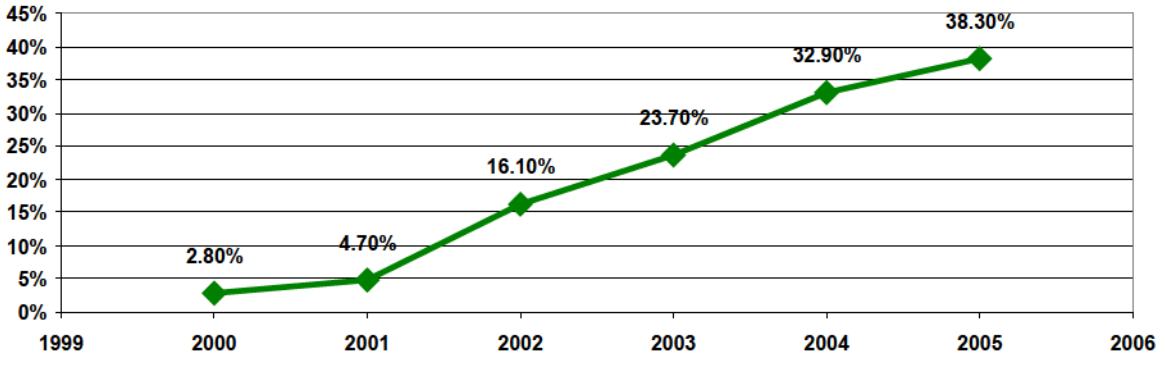


Figure 8.7. *2001-2002 Graduates of Armenian Universities Finding Permanent Employment Corresponding to the Professions Obtained in University*

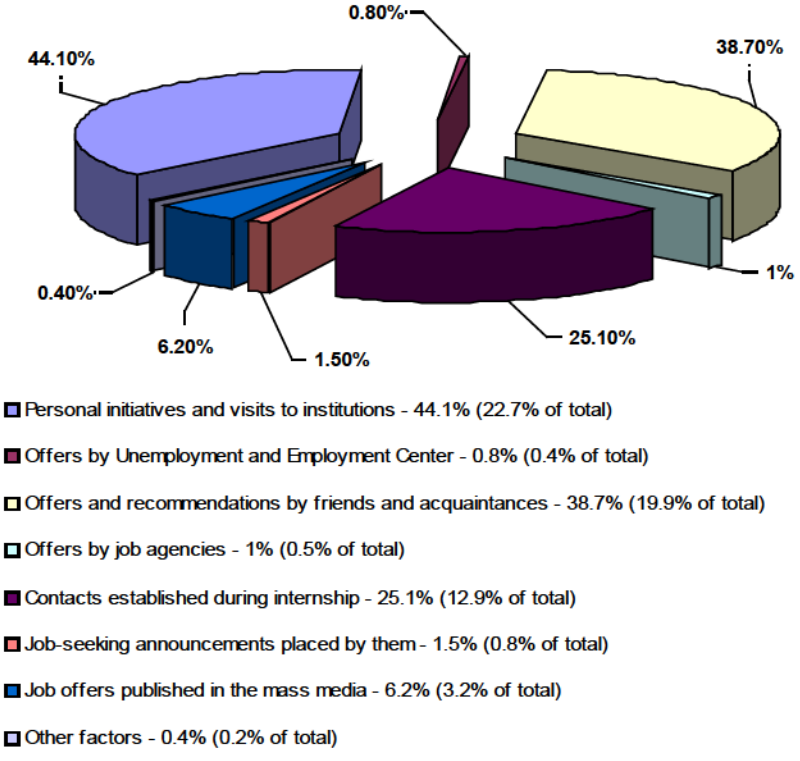


Analysis of the factors contributing to finding employment shows the lack of institutionalization and the predominantly sporadic nature of this process.

For 44.1% of young specialists that have jobs (22.7% of the total number), personal initiative and visits to various institutions played an important role in finding employment. For 38.7% (19.9% of the survey respondents), recommendations by and contacts with friends and acquaintances were decisive.

Unfortunately, ***internship and work experience performed during the study years, as well as job agencies, played a very limited role***. (*See Figure 8.8.*)

Figure 8.8. *Role of Different Factors in Finding Permanent Employment*



11.7% of the survey respondents took part in additional training courses outside of the university curriculum in order to become employed. This is especially true for young people whose employment to one degree or another does not correspond to the professions they obtained in university.

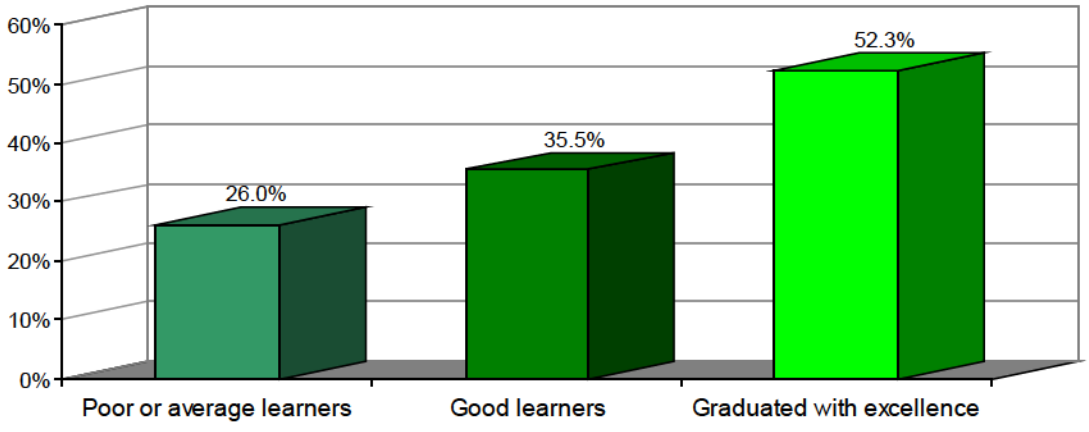
The survey shows that training courses and supplementary education programs were most demanded by representatives of the professions listed in the table below.

The survey confirms that the pace and opportunities of labor market entry are directly dependent on the competency and knowledge of young specialists. During the three years following graduation, only 25% of those graduating university with average grades were able to find employment corresponding to their professions, compared to 35.5% of the students that did well in university, and 52.3% of students that graduated with excellence. (*See Figure 8.9*)

Table 8.5. *Participation in Supplementary Courses and Training Programs outside the University Curriculum, Numbers by Professions*

	Profession	% of graduates with the profession, which took part in supplementary courses	% of graduates with the profession that have permanent employment, which took part in supplementary courses
1	Mathematics	27.2	54. 5
2	Geography and History	26.3	41.7
3	Psychology and Philosophy	47.6	83.3
4	Theology	16.7	50
5	Defectology	22.2	40
	Total, share of respondents	11.7	22.8

Figure 8.9. *Employment Corresponding to Profession Obtained from University, by Levels of Qualification and Knowledge*[19]



19 The figure was prepared on the basis of the self-assessment of respondents concerning their academic performance during their studies.

8.12. Young Specialists' and Employers' Assessment of the Professional Education Process[20]

54.8% of those graduating from Armenian universities in 2002 consider the knowledge obtained in university sufficient for becoming a competent specialist and finding a job in the labor market. 45.2% consider the university education partially sufficient (28.6%) or insufficient (16.6%) for becoming a competent expert and finding employment.

There are a number of professions whose representatives highly value the knowledge obtained in university and the university process of preparing specialists (as far as their departments are concerned). However, not all of them are able to find jobs corresponding to their professions.

Overall, the respondents consider the quality of professional education in Armenian universities to be relatively high. On a scale of 5, most respondents gave it **4 points**.

However, employers' assessment of the knowledge and skills of young specialists is on average 1 point lower than the self-assessment of young people that graduated from universities in 2002.

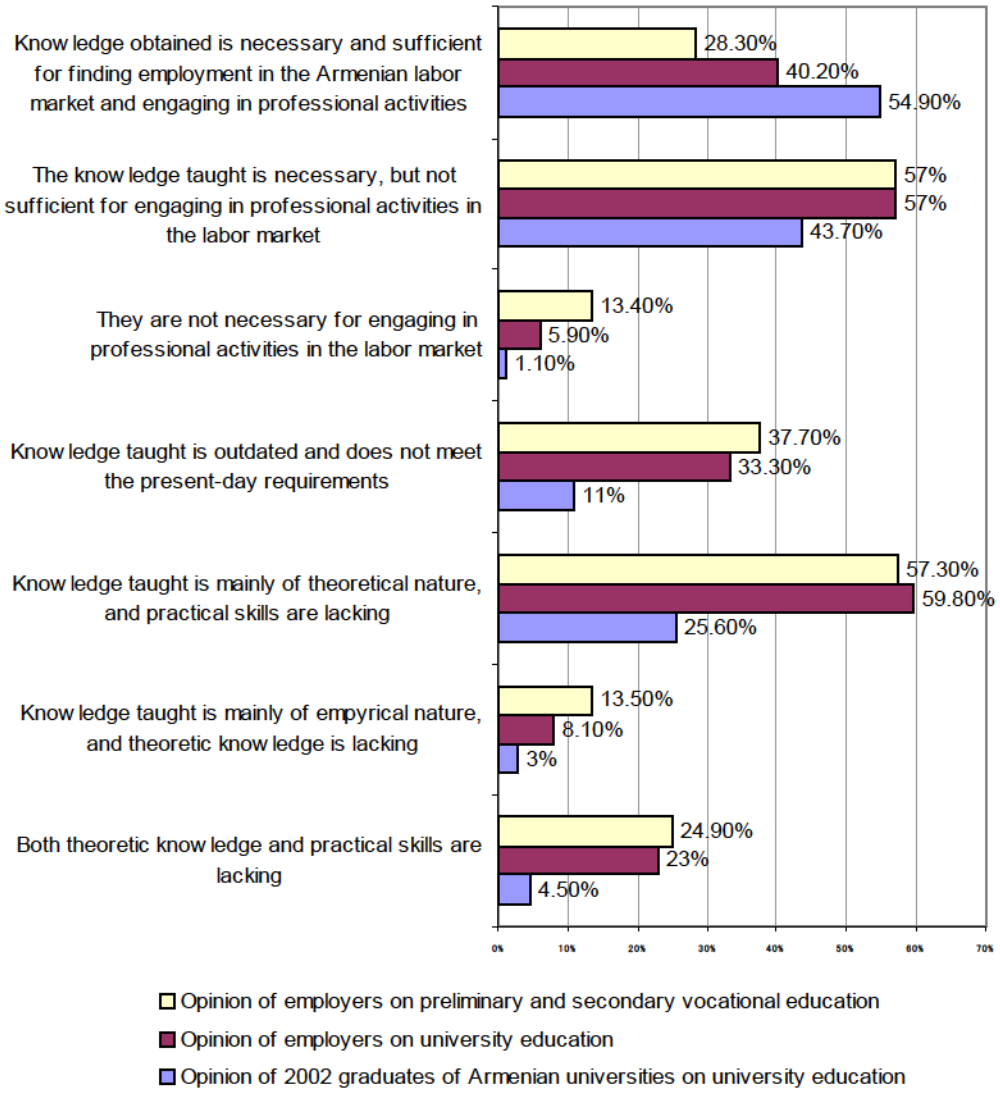
In contrast to the 54.9% of 2002 graduates of Armenian universities that consider the knowledge acquired by them during their studies to be necessary and sufficient for finding employment and engaging in professional activities, only 40.2% of employers share this view. Employers' assessment is even more conservative when it comes to crafts and secondary vocational education institutions—only 28.3% of employers consider the knowledge obtained in such institutions necessary and sufficient for finding jobs and engaging in professional activities in the Armenian labor market. (*See Figure 8.10*)

The difference between employers' and young specialists' assessments—the fact that young specialists tend to think more highly of the education process than employers—shows that there is some inconsistency between the activities of professional education institutions and demand in the labor market.

This fact is another argument in favor of the importance of ensuring the active involvement of employers in the process of preparing specialists, as well as the need for education institutions to develop flexible education policies in line with the changing requirements of the labor market.

20 Data from surveys carried out in the frameworks of the UNDP "Some Concepts for the Development of State Policy on Professional Education in Armenia" project http://www.undp.am/docs/publications/2005publications/education.pdf

Figure 8.10. *Employers' and University Graduates' Assessments of Knowledge and Skills Taught in Professional Education Institutions*



8.13. Additional Source of Funding for University-Based Science

Traditionally, science in Armenia has been funded predominantly by the state budget. During the last five years, on average 60% of the science sector's total expenditure was financed from the state budget. The rest is generated from foreign sources, foundations, grants from governments of other states, and internal funds from 'client' R&D organizations.

Although the expansion of paid education schemes in professional education institutions (particularly universities) over the last 10-15 years has contributed significantly to improving the financial and economic conditions of education institutions (e.g. bonuses paid to staff, some construction work or repairs) the structure of scientific and research projects in state universities has not undergone much change because the paid education schemes do not allocate any significant resources to finance scientific projects.

The development of science in Armenia has been delineated and deemed realistic in two main ways: the integration of and mutually beneficial cooperation between (i) science and university/post-university education and (ii) science and production.

8.14. Difficulties in the Licensing and Accreditation of Armenian Universities

Decree 372 of the Armenian Government dated July 7, 2000 stipulates the procedure of licensing educational activities in Armenia, including the state accreditation of professions in vocational and higher education institutions. In spite of the uncertain response of officials and representatives of the sector to this decree, the necessity of licensing and accrediting education activities stems from the Republic of Armenia Law on Education and is supported by the responsible exercise of public authority and policy making in the sector. Concerns over the transparency and fairness of this policy and procedures, and over justifying some of these principles, are a different matter.

According to data from December 2006, 28 of the 67 non-state universities operating in Armenia had already been accredited, and another 8 had only been accredited for certain professions. As for state universities, none of them have apparently passed state accreditation yet. The process has been suspended because of difficulties associated with the development and adoption of relevant criteria. It must be mentioned, though, that the Armenian laws on education stipulate the same regulation and requirements for state and non-state education institutions.

8.15. Coordinating the Functioning of Vocational Education and National Defense Systems

Under the Republic of Armenia Law on Military Duty (Article 14), education in state HEIs makes some male students eligible for deferral of military service. The Government approves the list of state HEIs eligible for army deferral and the number of students entitled to such deferral in each HEI. This law aims to ensure continuity of education, promote academic excellence, and educate qualified specialists.

Army deferral is granted to students that score highly in admission exams. Experience, however, shows that the academic performance of many students that score highly in admission exams later deteriorates and vice versa. This fact, coupled with the policy of promoting academic excellence, led to the Armenian Government adopted Decree 2114-N on September 15, 2005, which provides the principle of rotation-rating the entitlement to free education—according to this principle, entitlement to free education transfers to students that perform better as a result of interim academic exams.

Clearly, the same principle cannot be applied to the entitlement to compulsory military service deferral, which means that many students, whose academic performance is poor, also enjoy the right to army deferral.

The legal rule on military service deferral of young men studying in state HEIs effectively feeds unfair competition between state and non-state accredited HEIs, which contradicts the principles of market economy and plurality of ownership forms, as well as the essence of the Republic of Armenia Law on Higher and Post-Higher Vocational Education.

Moreover, a paradox is encountered: two fundamental institutions of the social structure—vocational education and defense—at times impulsively create obstacles for one another as they compete for young men.

It is of paramount importance that the higher vocational education system contribute its best to strengthening the national defense capacity by not only offering some military vocations (such as the Military Medicine Department at Yerevan State Medical University), but also engaging in a wider-scale effort, such as the creating of Military Chairs in state HEIs and offering military vocations matching the primary vocations in such HEIs. Under this scenario, it will be realistic to introduce "vocational service" under a large number of vocations, which would enable specialists with higher education (i.e. specialists holding Bachelor's degrees) to undertake army service in their vocational area or a related area, thus contributing to the overall level of education and competence of army staff. Furthermore, such an arrangement would allow young specialists to undertake a unique "vocational internship" in the army, which the HEIs are often unable to organize properly.

The need to create arrangements to support the mutually beneficial functioning of higher education and national defense systems will become increasingly more important, generating professional and public discussions against the backdrop of an expected future decline in the number of the army-age male population.

According to a 2001 Population Census of Armenia[21], the lower birth rate in 1992-1997 and beyond, coupled with unrelenting emigration, will cause tangible problems in terms of army staff

21 Republic of Armenia National Statistical Service, "Results of 2001 Population Census in the Republic of Armenia." Yerevan, 2003.

numbers in 2010 and 2011, when the number of draft-age young men will fall by 20% over 2006; by 2018-2019, this indicator is projected to decline by a further 37-40%.

A preliminary overview of the positions of higher vocational education and defense systems' representatives on the mutually beneficial functioning of these systems is presented below—as a broad set of options:

1) Make private HEIs with state accreditation equally eligible for army deferral;
2) Revise and, if possible, remove altogether the legal rule that authorizes military service deferral for the purpose of continuing education;
3) Allow military service deferral only during the first stage of higher vocational education (i.e. only during Bachelor's studies);
4) Create a so-called "system of vocational service," which will enable young specialists to undertake their military service in an area that matches their specialization; and
5) Transform compulsory military service to contractual (professional) military service in Armenia.

The diversity of options testifies to the importance of this matter and the readiness of stakeholders and the public at large to participate in its discussion, which can turn into the key to an effective solution to the problem.

8.16. Lifelong Learning in Armenia's Education System

The rapid development and structural change of the world economy, coupled with the implementation of new technology, implies a constant need to review the demands of the labor market. The experience of nations with developed economies shows that the creation of a Lifelong Learning[22] system is an effective mechanism for meeting the changing and growing demands of the labor market and for reducing unemployment.

As a result of the 2001 Prague meeting of the Higher Education Ministers of countries that signed the Bologna Declaration, three more principles were added to the six of the Bologna Process, one of which was the concept of Lifelong Learning.

In a post-Soviet Armenia—characterized by structural unemployment, no labor market demand for the "old" professional education, and public demand revamp education—the idea of Lifelong Learning (also referred to as "adult education") gains greater importance.

There is, however, no systematic approach to this process, and there is still inadequate progress towards the formation of the necessary mechanisms.

The concept of Lifelong Learning is not clearly defined in the Armenian legal framework on vocational education (particularly in the Republic of Armenia Law on Education and the Law on Higher and Post-Higher Vocational Education). The concept of Lifelong Learning is partially incorporated in the term "supplementary education"[23], which is defined as "education which, based on the foundation of vocational education but outside mainstream education programs, improves professional skills, ensures professional re-qualification, and constantly supplements a person's professional qualification."[24] The Armenian legal provisions on supplementary education do not adequately reflect the concept, goals, objectives, policy goals, and implementation mechanisms of either Lifelong Learning or adult education.

Furthermore, the idea of Lifelong Learning is not reflected in the Republic of Armenia Strategy of Higher Education Reform (adopted in 2003).

Instead, "The Basic (Crafts) and Secondary Vocational Education and Training Strategy" (adopted in 2004) defines Lifelong Learning as "***education throughout life***," and is construed as "a continuous and never-ending education process, which results in the renewal of human resources and adaptation of the contents of lifelong learning" to labor market demands. In other words, it defines lifelong learning as a process that serves the vocational training of adults.[25]

At the end of 2005, the Government of Armenia, nevertheless, approved a rather comprehensive policy document on adult education (including the importance of adult education and an assessment of the current situation in this field in Armenia), called "Adult Education Concept Paper

22 Armenian education sector specialists and officials construe the concept of "Lifelong Learning" in different ways. There is a further need to clarify its definition in the Armenian legal and regulatory framework. "The Basic (Crafts) and Secondary Vocational Education and Training Strategy" (2004) refers to "education throughout life," while the "Adult Education Concept Paper and Strategy Document" (2005) refers to "adult education." Perhaps, the "Education of Adults" term can be used, as well.

23 See Article 26 of the Republic of Armenia Law on Education and Article 3(4) of the Republic of Armenia Law on Higher and Post-Higher Education.

24 Ibid.

25 See "The Basic (Crafts) and Secondary Vocational Education and Training Strategy (2004)", paragraph 12.

and Strategy Document." It is, however, more of a declarative document than an elaborate action plan. Without any intention of undermining its importance, one should mention that it fails to define or propose either ways of conceptualizing the sporadic processes in this sphere, or specific mechanisms for its regulation and development.

Some programs of adult education and professional training/re-qualification are carried out in Armenia by:

1. Individual HEIs and secondary vocational education institutions (including professional, post-professional education and additional specialization for those already studying in the system);
2. The Civil Service Council, jointly with some higher education institutions (Yerevan State University, Yerevan State University of Economics, and Public Administration Academy), carrying out professional training of civil servants;
3. Other public administration bodies of Armenia, which carry out Lifelong Learning programs through special units created for this purpose. There is quite a wide spectrum of such programs.

The National Institute of Education under Armenia's Ministry of Education and Science regularly carries out professional training of teachers.

Adult education (for the unemployed) and professional training courses are organized by the Republic of Armenia Employment Agency, as well.

Supplementary education programs are carried out by the Republic of Armenia Police "Culture Chamber" and the Republic of Armenia Ministry of Defense "House of Officers" (everything from computer skills to driving lessons, sewing, and the like).

4. Lifelong Learning programs are implemented in Armenia by the local offices of some international organizations (such as USAID and AED), as well as local NGOs and foundations.

The aforementioned examples of Lifelong Learning, however, are not coordinated under a common policy in this sphere; there is neither a common legislative framework nor any institutionalization.

Armenia is still lacking a clear understanding of the policy goals, content, and implementation mechanisms of Lifelong Learning. This is proven by a survey of Ministry of Education and Science officials, staff and students of higher education institutions, and members of parliament.[26]

The Ministry of Education and Science, responsible for professional education and supervision of the quality of education, does not have a specific unit in charge of coordinating "education throughout life."

The sphere of professional education in Armenia is still not ready for consistently implementing Lifelong Learning policy principles. Policy goals and objectives, curricula, or methodological guidelines have not yet been developed.

Although Armenia has signed the Lisbon Treaty and joined the Bologna Process, much remains to be done in harmonizing the legal framework with international commitments in order to meet required principles and standards.

The concept and strategy of Lifelong Learning—as interconnected processes—should include the following:

- ✓ Formation of the legislative framework and adoption of sub-legislative acts;
- ✓ Approval of programs comprising elements of state policy;
- ✓ Provision of information services and raising the awareness of citizens, employers, and other stakeholders;
- ✓ Creating supervisory bodies;
- ✓ Defining the sources and modalities of funding; and
- ✓ Putting in place arrangements for sharing best practices.[27]

As a first step, it is necessary (i) to create professional units to study labor market demand, and (ii) to develop the legislative and regulatory framework for implementing the Lifelong Learning policy. The latter can be achieved in two ways: (i) by amending the Republic of Armenia Law on Education and the Law on Higher and Post-Higher Vocational Education, or (ii) considering the importance of the Lifelong Learning policy for the social and economic systems of Armenia, thereby adopting a new Law on Lifelong Learning.

26 See "Education Policy and Lifelong Learning in Armenia: Strategy Cornerstones and Articulation of a Continuing Debate". Armenian Center for Policy Research and Studies. Yerevan 2005, pp. 126-128.

27 From this perspective, the EU member states, as well as some post-Soviet states (such as Lithuania) have valuable experience.

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ANNEXES

ANNEX 1. STATISTICAL TABLES 1

1. Human Development Index (HDI)

	2000	2001	2002	2003	2004	2005
Life Expectancy at birth (years)	72.9	73.1	73.0	72.9	73.4	73.5
Adult literacy (15 years and elder, %)	99.4					
Combined first, second and third level enrolment ratio, (% of the population of the relevant age)	0.650	0.699	0.680	0.705	0.720	0.736
GDP per capita, USD	593.6	659.0	740.0	874.0	1112.9	1523.8
GDP per capita [1] (PPP$)	2315.0	2596.5	2974.8	3461.0	4017.6	4693.3
Life Expectancy index	0.798	0.802	0.800	0.798	0.807	0.808
Education index	0.877	0.896	0.899	0.898	0.903	0.908
GDP index	0.524	0.544	0.566	0.592	0.616	0.642
Human Development Index (HDI) value	0.733	0.744	0.752	0.762	0.775	0.786

2. Gender-related Development Index (GDI)

		2000	2001	2002	2003	2004	2005
Life expectancy at birth (years)	female	75.8	76.1	75.9	75.8	76.4	76.5
	male	70.1	70.0	69.8	69.9	70.3	70.3
Combined first, second and third level gross enrolment ratio (%)	female	0.681	0.759	0.732	0.763	0.772	0.781
	male	0.620	0.641	0.629	0.649	0.671	0.693
Adult literacy rate (%)	female	0.992					
	male	0.997					
Share of earned income (%)	female	38.9	35.0	35.9	34.0	36.0	37.0
	male	61.6	65.0	64.1	66.0	64.0	63.0
GDI value		0.731	0.743	0.748	0.757	0.772	0.783

3. Gender Empowerment Measure (GEM)

	2000	2001	2002	2003	2004	2005
Seats in Parliament held by women (%)	3.1	3.1	3.8	5.3	5.3	5.3
Female administrators and managers (%)	31.3	37.0	33.4	34.0	32.7	32.9
Female professional and technical workers (%)	64.6	65.2	67.8	65.8	63.6	63.4
Women and men earned income ratio	0.637	0.538	0.560	0.515	0.563	0.587
Gender Empowerment Measure (GEM) value	0.351	0.363	0.362	0.389	0.394	0.400

1 Data is provided by National Statistical Service of RA if not otherwise indicated. 2006 data are preliminary. Relevant indicators on previous years are changed as of statistical data corrections, population indicators re-estimation, NACE (Statistical classification of economic activities in the European Community) introduction and methodological corrections to estimations. Population indicators are re-estimated as of 2001 Census results and include both current and previous years data.

4. Demographic Indicators

			2000	2001	2002	2003	2004	2005	2006
Estimated population as at year-end, thou			3215.3	3212.9	3210.3	3212.2	3215.8	3219.2	3222.7
Annual population growth rate, %			-0.4	-0.1	-0.1	0.1	0.1	0.1	0.1
Life expectancy at birth (year)		total	72.9	73.1	73.0	72.9	73.4	73.5	
		female	75.8	76.1	75.9	75.8	76.4	76.5	
		male	70.1	70.0	69.8	69.9	70.3	70.3	
Crude birth rate			10.6	10.0	10.1	11.2	11.7	11.7	11.7
Crude death rate			7.5	7.5	8.0	8.1	8	8.2	8.4
Adult literacy rate (%)		total	99.4						
		female	99.2						
		male	99.7						
Maternal mortality rate (per 100,000 live births)			52.5	21.8	9.3	22.4	26.7	18.7	26.6
Infant mortality rate (per 1000 live births)			15.6	15.4	14.0	12.0	11.6	12.3	13.8
Under-five mortality rate (per 1000 live births)			19.9	18.8	16.6	13.6	13	13.7	15.5
General fertility			1.3	1.2	1.2	1.4	1.4	1.4	
Urban population (as % of total)			64.6	64.3	64.2	64.2	64.1	64.1	64.1
Urban population annual growth rate (%)			-0.9	-0.5	-0.2	0.02	0.03	0.01	0.16
Population in cities of more than 750 thou		% of total population	34.3	34.3	34.3	34.3	34.3	34.3	34.3
		% of urban population	53.2	53.4	53.4	53.4	53.5	53.5	53.5
Largest city		City	Yerevan						
		Population (thou)	1104.4	1103.3	1102.0	1101.9	1102.9	1103.8	1104.9
Dependency ratio (%)			66.6	66.2	63.1	60.4	57.9	54.8	
Population aged 65 and above (% to total population)			9.7	9.6	9.9	10.2	10.5	10.8	
Likelihood of dying after age 65	Heart disease (per 1000 people)	female	34.3	32.0	35.6	34.8	33.5	33.6	
		male	35.7	36.4	38.5	39.2	37.8	39.4	
	Cancer (per 1000 people)	female	4.7	4.8	5.0	5.3	5.4	5.7	
		male	9.1	9.3	10.4	10.7	10.8	11.2	
Divorces (per thou married)			122	144	123	118	116	148	166
Live births to mothers aged 15-19 (per thou mothers)			31.6	27.7	27.6	29.3	29.8	26.8	

5. Social Sector Indicators

		2000	2001	2002	2003	2004	2005	2006
Pregnant women aged 15-49 with anemia (%)		15.7	14.0	13.2	13.2	11.6	10.7	
Births attended by trained personnel (%)		99.1	99.7	99.7	98.1	99.5	99.4	
Low birth weight infants (up to 2500 grams,% of live births)		8.2	8.2	8.2	8.0	7.5	7.3	
One-year-olds fully immunized against	tuberculosis (%)	96.8	96.4	97.1	92.1	95.8	94.8	
	measles (%)	91.6	95.6	78.3	93.8	91.5	94.4	
AIDS cases (per 100 thou people)		0.0	0.1	0.1	0.4	0.7	1.3	
Tuberculosis cases (per 100 thou people)		143.5	152.3	152.3	188.9	191.7	200.5	
Malaria cases (per 100 thou people)		3.8	2.1	1.6	0.9	1.5	0.2	
Contraceptive prevalence rate, any method (per 1000 women of fertile age)		50.1	33.6	25.7	16.9	16.1	12.4	
The number of people attending per doctor		310.0	279.0	279.0	276.0	282.2	261.4	
The number of people attending per nurse		168.0	186.0	186.0	176.0	174.8	176.6	
Hospital beds (per thou people)		5.5	5.0	4.4	4.4	4.4	4.5	
People with disabilities (as % of total population)		2.7	3.3	3.4	3.4	4.2	4.4	4.6
Daily newspapers (circulation per 100 people)		5.4	5.8	5.8	12.7	6.2	8.3	9.3
Printed books and brochures (per 100 thou people)		14.2	29.4	11.7	20.6	13.4	24.8	22.6
Obligatory education (duration by years)		8.0	8.0	8.0	8.0	8.0	8.0	
R&D scientists and technicians (per thou people)		1.71	1.83	1.83	1.9	2.1	2.1	
Education system enrollment, persons	general , total	564600	538436	523079	501886	488124	477857	
	girls	271488	270264	259678	247508	240381	234715	
	boys	293112	268172	263401	254378	247743	243142	
	vocational, total	26870	31057	29417	31115	30483	30818	
	female	17551	20616	19861	21676	21062	20620	
	male	9319	10441	9556	9439	9421	10198	
	higher, total	60726	65550	72283	77944	85109	97765	
	female	33325	36078	39095	43514	47510	53563	
	male	27401	29472	33188	34430	37599	44202	
Prisoners (per 100 thou people)		178.7	171.1	150.2	142.2	135.1	119.1	100.6
Under aged prisoners (% of total prisoners)		3.9	4.6	4.2	4.3	5.1	5.0	5.2
Intentional homicides by men (per 100 thou people)		4.8	3.4	3.8	4.7	5.4	4.9	3.7

	2000	2001	2002	2003	2004	2005	2006
Drug crimes (per 100 thou people)	12.7	12.8	13.1	10.8	12.8	22.9	29.7
Reported adult rapes (per 100 thou people)	0.4	0.5	0.3	0.5	0.2	0.4	0.3
Injuries and deaths from road accidents (per 100 thou people)	5.6	7.4	7.3	7.8	4.8	5.8	6.1

6. Labor Market Indicators

		2000	2001	2002	2003	2004	2005	2006
Labor force (thou people)	total	1447.2	1411.7	1240.1	1232.4	1196.5	1195.8	1201.3
	female	689.4	677.9	613.1	610.5	577.3	569.7	570.7
	male	757.8	733.8	627.0	621.9	619.2	626.1	630.6
Share of earned income (%)	female	38.9	35.0	35.9	34.0	36.0	37.0	
	male	61.1	65.0	64.1	66.0	64.0	63.0	
Women and men earned income ratio		0.637	0.537	0.560	0.510	0.562	0.588	
Female administrators and managers (%), at the beginning of the year	female	31.3	37.0	33.4	34.0	32.7	32.9	
	male	68.7	63.0	66.6	66.0	67.3	67.1	
	female and male ratio (%)	52.7	58.6	50.2	51.6	48.5	49.0	
Female professional and technical skilled workforce (% of total)	female	65.2	65.2	67.8	65.7	63.6	63.4	
	male	34.8	34.8	32.2	34.3	36.4	36.6	
Professional and technical workers	female share (% to total)	64.6	65.2	67.8	65.8	63.6	63.4	
	female and male ratio (%)	182.5	187.5	210.7	191.8	175.0	173.4	
Clerical and sales workers (trade and catering only)	female share (% to total)	36.9	37.5	50.3	59.2	60.9	50.4	
	female and male ratio (%)	58.5	59.9	101.2	145.3	155.7	101.7	
Services sector workers	female share (% to total)	62.4	62.8	63.5	62.5	60.6	59.8	59.8
	female and male ratio (%)	159.7	168.8	174.2	166.5	153.7	148.9	148.9
Women in government	general share (% to total government system workers)	39.0	39.1	39.0	40.4	40.3	42.4	
	on sub-ministerial level (%)	2.4	2.4	4.1	4.1	4.1	4.1	4.1
Seats in Parliament held by women, at the beginning of the year	% to total seats	3.1	3.1	3.8	5.3	5.3	5.3	5.3

		2000	2001	2002	2003	2004	2005	2006
Labor force (% to total population)		38.1	37.1	38.6	38.5	37.2	37.1	37.3
Women's share of adult labor force (%), age 15 and elder		47.7	48.0	49.7	50.0	48.3	47.6	47.5
Future labor force replacement ratio		147.9	119.6	128.3	111.1	100.7	88.4	
Real earnings per employee annual growth rate (%), by average monthly salary		13.3	4.6	10.4	21.6	16.7	19.1	
Involuntary part-time workers (% to total labor force)		2.8	2.2	1.0	0.6	0.8	0.4	
Labor force unionized (% to total)		70.0	72.0	75.0	77.0	77.0	77.1	
Expenditure on labor market programs (% to GDP)		0.092	0.034	0.028	0.026	0.022	0.027	
Unemployed (thou people)		153.9	138.4	127.3	118.6	114.8	98.0	88.9
Unemployment rate (%)	total	11.7	10.4	10.8	10.1	9.6	8.2	7.4
	female	4.2	3.6	3.6	3.2	2.9	2.4	2.1
	male	7.5	6.8	7.2	6.9	6.7	5.8	5.3
Youth unemployment rate (age 18-22, %)	total	0.8	0.6	0.6	0.5	0.1	0.1	0.2
	male	0.3	0.2	0.2	0.2	0.1	0.1	0.1
	female	0.5	0.4	0.4	0.3	0.1	0.1	0.1
Incidence of long term unemployment (six months or more, %)	total	89.5	90.7	90.7	91.5	92.1	90.8	86.4
	female	88.8	89.4	89.2	90.8	91.0	90.4	84.1
	male	90.0	91.3	91.4	91.8	92.5	91.0	87.3

7. Households Survey Results

		2000	2001	2002	2003	2004	2005
Population with access to	Health care (%)	81.3	81.5	81.5	83.3	85.3	88.6
	Safe water (%)	86.5	85.0	89.1	87.3	88.9	89.4
	Sanitation (% to urban population)	69.1	69.2	73.1	74.1	78.5	77.3
Mothers exclusively breast feeding at four months and more (% to live births)		63.3	72.8	62.8	69.0	73.9	70.1
Daily calorie supply per capita		1810.0	1856.0	1836.0	1951.0	1999.0	2124.0
Food consumption (% to total individual consumption)		69.0	65.0	68.1	68.3	57.4	58.3
Sea food per capita (kg, annual)		4.3	4.3	4.8	4.8	2.6	3.1
Radios (per thou people)		28	25	25	25.0	25.5	25.6
Televisions (per thou people)		230	239	233	235.0	237.0	252.0
Cigarette consumption per adult (cigarettes per day)		15	15	15	15	15	15

8. Industrial Indicators

		2000	2001	2002	2003	2004	2005	2006
Electricity produced	million kw-hour	5959.0	5745.0	5519.0	5501.0	6030.0	6317.0	5941.0
	kw-hour per capita	1850.0	1787.0	1718.0	1713.0	1876.0	1963.0	1844.0
Electricity exported	million kw-hour	814.8	700.9	659.9	583.0	1012.3	1151.1	754.4
Electricity imported	million kw-hour	352.0	330.2	306.2	306.7	259.7	337.6	354.9
Electricity consumed (including losses)	million kw-hour	5105.0	4982.0	4830.0	4912.0	4939.0	5130.0	5202.0
	kw-hour per capita	1585.0	1550.0	1504.0	1530.0	1537.0	1594.0	1615.0
Electric losses	million kw-hour	1514.0	1502.0	1414.0	1240.0	959.0	779.0	650.2
Energy commercial consumption (oil equivalent)	thou tonne	1329.2	1324.5	1147.2	1085.9	1218.3	1334.8	1227.9
	kg per capita	413.4	412.2	357.3	338.0	378.9	414.6	381.0
GDP in oil equivalent	USD/kg	1.438	1.599	2.071	2.585	2.9	3.7	5.2
Glass and glass containers production	million	12.1	18.4	18.0	21.4	22.0	33.4	43.9
Corrugated cardboard production	thou sq. meter	32.6	370.3	1274.4	3145.7	3149.9	3530.9	3348.9
Transportation containers (corrugated wagons) production	thou sq. meter	990.3	1303.0	1248.8	2474.3	3231.2	3547.2	5311.1

9. Communication Indicators

	2000	2001	2002	2003	2004	2005	2006
Post offices (per 10 thou people)	2.4	2.8	2.8	2.8	2.8	2.8	2.8
Length of international telephone calls (minutes per person)	5.0	5.2	5.5	4.9	4.4	3.9	2.7
Cellular mobile telephone subscribers (per thou people)	4.6	7.9	22.4	35.6	63.3	211.2	...
Main telephone lines subscribers (thou)	527.4	520.9	544.9	568.0	582.5	605.2	608.8

10. Available Lands as of July 1, 2006 (see the RA Government decree #1938 of December 28, 2006)

Lands (ha)	Total	Irrigated
agricultural land, including	2129.6	153.9
arable land	452.9	126.2
perennial grass	27.3	26.2
fallow-land	127.5	1.5
plough-land	1125.0	0
other	396.9	0

Lands (ha)	Total	Irrigated
building land, *including*	150.5	52.7
homesteads (dachas and homes with adjacent gardens)	89.1	50.7
land under industrial, extraction and other production units	28.1	0
land under power engineering, communication, transportation, utilities' infrastructure units	11.9	0
major protected areas	220.6	0
special purpose land	31.6	0
woodland	373.0	0.5
land under waters	28.3	0
reserve land	0.7	0

11. Natural Resources and Environment Indicators

		2000	2001	2002	2003	2004	2005
Land area	1 000 ha	2974.3	2974.3	2974.3	2974.3	2974.3	2974.3
Arable land, % to agricultural land							21.3
Irrigated agricultural land, including, % to agricultural land							9.8
	irrigated arable land, % to arable land						27.8
Forests area (excluding major protected areas)	% to land area						10.4
	% to woodland (excluding major protected areas)						82.7
	thou sq. meter per capita						0.96
Annual rate of deforestation, % to woodland (excluding major protected areas)							0.1
Annual rate of reforestation, % to woodland (excluding major protected areas)							3.1
Major protected areas, % to land area							7.4
Internal renewable water resources per capita, thou cubic meter per year		2.81	2.82	2.82	2.82	2.81	2.81
Water consumption, million cubic meter		1871	1726	1732	1976	2803	2771
Water removal, million cubic meter		375	208	237	349	346	340
Polluted waters drainage, million cubic meter		237	94	91	177	138	102
Hazardous substances air venting, thou tonne		30.3	17.0	21.4	28.2	40.7	51.1
Environment protection and nature management expenditure, AMD per capita		249.3	222.1	354.8	354.1	537.8	1065.5
Consumed energy produced waste, annual, tonne of heavy metal		0.2	0.15	0.12	0.21	0.2	0.22
Hazardous waste produced, tonne per sq. meter		0.1	0.1	0.1	14.1	18.3	366.4
Municipal waste generated, kg per person		247	256	257	259	251	260

12. Prices and International Comparisons Indicators

	2000	2001	2002	2003	2004	2005	2006
Average annual inflation rate (%)	-0.8	3.1	1.1	4.7	7.0	0.6	2.9
Inflation rate as of year-end (current year December to previous year December, %)	0.4	2.9	2.0	8.6	2.0	-0.2	5.2
AMD to USD exchange rate	539.52	555.08	573.35	578.77	533.45	457.69	416.04

13. Macroeconomic Indicators

		2000	2001	2002	2003	2004	2005	2006
GDP	million AMD	1031338.3	1175876.8	1362471.7	1624642.7	1907945.4	2243953.1	2665036.6
	million USD	1911.6	2117.7	2376.3	2806.9	3577.0	4902.7	6405.7
GDP per capita	thou AMD	320.2	365.8	424.2	505.9	593.6	697.4	827.4
	USD	593.6	659.0	740.0	874.0	1112.9	1523.8	1988.7
GDP annual growth rate, %		5.9	9.6	13.2	14.0	10.5	14.0	13.4
GDP structure, % to total	agriculture	23.2	25.5	23.4	21.5	22.5	18.7	17.7
	industry	21.9	20.1	18.9	19.3	19.2	18.8	15.1
	construction	10.3	9.7	12.6	15.7	15.6	21.7	26.7
	services	35.5	35.0	35.4	34.4	34.3	32.3	32.3
Consumption, % to GDP	personal	101.2	97.6	92.9	87.2	86.4	80.3	
	state	7.7	7.2	6.2	6.3	6.2	6.5	
Gross domestic investment, % to GDP		18.6	19.8	21.7	24.3	24.9	29.7	
Gross domestic savings, % to GDP		-0.6	3.3	8.0	13.4	15.0		
Net indirect taxes, % to GDP		9.1	9.7	9.7	9.1	8.4	8.5	8.2
Export (services included), % to GDP		23.4	25.5	29.3	32.1	27.4	26.9	
Import (services included), % to GDP		50.5	46.1	46.6	50.0	42.1	39.9	

14. State Financial Indicators

		2000	2001	2002	2003	2004	2005	*2006
External national debt	million USD	859.5	905.5	1025.5	1097.7	1182.9	1099.2	1205.6
	% to GDP	45.9	42.8	43.2	39.1	33.3	22.4	18.8
Taxes and duties revenues, % to GDP		14.8	14.4	14.7	14.0	14	14.4	14.2
Government expenditure, % to GDP		21.6	20.8	19.4	19.3	17.5	18.6	17.1
Defense expenditure	% to GDP	3.6	3.1	2.7	2.7	2.7	2.9	2.9
	million AMD	36715.9	36772.6	36755.6	44326.0	52315.8	64414.1	78294.2
	% to total education and health expenditures	93.2	80.7	81.3	80.9	71.5	69.4	72.9
State budget expenditure, million AMD		222886.4	244381.4	263912.4	312697.8	333969.8	417505.9	454977.6
Social expenditure, million AMD		64099.0	76440.0	75324.7	97793.8	115609.7	146460.5	173140.1
social allowance, million AMD		21953.0	26108.0	23792.0	29255.1	34987.5	44145.7	53039.8
education, including, million AMD		27176.0	27312.0	26406.1	31895.6	44125.4	56702.6	65379.4
general,million AMD		21675.0	21523.4	20354.1	25077.9	36874.8	47851.2	54610.4
vocational, million AMD		1113.5	1072.4	1131.6	1159.5	1235.4	1439.3	1813.1
higher, million AMD		3101.4	3358.7	3538.5	3952.5	3852.9	4318.2	5294.7
science, million AMD		1420.0	1725.0	2683.3	2953.7	3320.1	4124.9	5160.9
health care, million AMD		9846.0	15746.0	15965.6	19598.6	24691.2	31079.7	35963.1
culture, sport, etc., million AMD		3704.0	5549.0	6477.7	14090.8	8485.5	10407.6	13596.9
Community budget expenditure, including, million AMD		12714.0	14940.9	18220.7	21415.5	26037.5	32600.8	38079.6
education, million AMD		2369.2	2515.3	2829.1	3287.8	4327.5	4972.1	6084.3
Expenditure, % to GDP	social	6.22	6.50	5.53	6.02	6.06	6.53	6.50
	education	2.86	2.54	2.15	2.17	2.54	2.75	2.68
	health care	0.95	1.34	1.17	1.21	1.29	1.39	1.35
	science	0.14	0.15	0.20	0.18	0.17	0.18	0.19
	social allowance	2.13	2.22	1.75	1.80	1.83	1.97	1.99

* The data does not include amounts of transactions of externally financed target programs' implementation units.

15. Balance of Payments and Foreign Trade Indicators

		2000	2001	2002	2003	2004	2005	2006
Food imports, % to total merchandise imports		24.8	24.2	20.2	17.5	20.9	17.5	15.6
Cereal imports (thou tons)		375.2	295.9	330.5	339.2	438.6	339.8	350.2
Food aid in cereals (thou tonne)		51.8	22.8	1.8	0.4	0.6	0.5	0.4
Official development assistance	million USD	104.5	75.8	56.2	62.0	62.96	69.7	*42.6
	% to GDP	5.5	3.6	2.3	2.2	1.8	1.4	*1.1
	per capita GDP	24.5	19.9	17.5	19.3	19.6	21.7	13.2
Net foreign direct investment (% to GDP)		5.4	3.3	4.6	4.3	6.1	5.1	*4.9
Export to import ratio, %		46.2	55.2	51.2	53.4	53.5	54.1	45.8
Current account deficit, excluding official transfers, million USD		-380.9	-272.4	-214.7	-253.2	-224.7	-263.0	* -288.6
Export (services included), % to GDP		23.4	25.3	29.6	32.0	27.5	27.3	*24.7
Import (services included), % to GDP		50.5	46.2	46.8	59.0	42.3	40.5	*40.4
Commodity export only, % to GDP		23.4	25.3	21.7	24.6	20.6	20.5	*21.9
Export annual growth rate (% to import annual growth rate)		111.0	119.0	131.4	101.6	99.9	101.0	*84.6
Trade openness (dependence of trade)	import plus export, % to GDP	73.9	71.7	76.4	91.0	69.9	67.0	*65.0
Net cash transfers from those working abroad	million USD	78.2	84.2	88.1	91.0	178.2	207.7	*286.9
Current account	million USD	-278.4	-200.5	-148.0	-186.7	-161.6	-193.3	*-246.6

* nine months data

ANNEX 2

Human Development Indicators
Human development index

Human development index (HDI) estimates are based on three components whose indicators are estimated as indices. The indicators are: life expectancy (estimated as expected longevity of a newborn), education level (estimated as aggregate indicator of adult population literacy rate, accounting for ⅔, and combined first, second and third level enrollment ratio, accounting for ⅓), and standard of living (estimated as GDP per capita, international dollar).

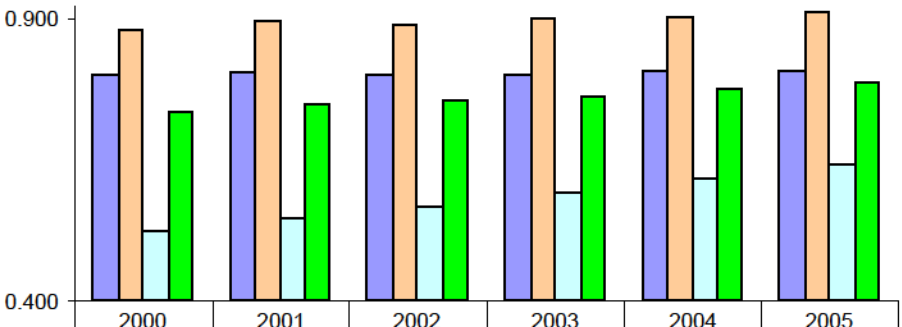
The indices of HDI components are estimated as a ratio of an indicator's actual and minimum values difference to maximum and minimum values difference, excluding the standard of living index that takes on a ratio of logarithms rather than absolute values.

The indicators' minimum and maximum values as defined by international organizations:

- expected longevity: 25 and 85 years,
- adult population (age 15 and elder) literacy rate: 0 and 100%,
- combined enrollment ratio: 0 and 100%,
- GDP per capita: 100 and 40,000 international dollar:

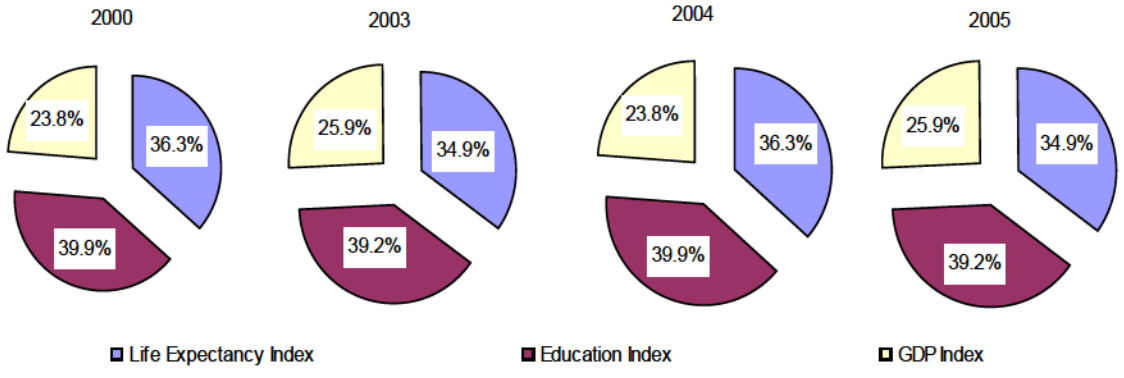
GDP per capita calculations (international dollar) are based on the World Bank published data on PPP$ (see http://ddp-ext.worldbank.org/ext/DDPQQ)

Graph 1. *Dynamics of HDI and breakdown of indices, 2000-2005*



	2000	2001	2002	2003	2004	2005
Life Expectancy Index	0.798	0.802	0.800	0.798	0.807	0.808
Education Index	0.879	0.896	0.889	0.898	0.903	0.908
GDP Index	0.524	0.544	0.566	0.592	0.616	0.642
Human Development Index	0.734	0.747	0.752	0.762	0.775	0.786

Graph 2. *Breakdown of HDI*



Gender-related Development Index

The Gender-related Development Index (GDI) accounts for discrepancies between the achievement level of females and males according to index indicators.

Its estimation involves three stages:

First, female and male indices for each component are calculated according to the general approach for human development indices as a ratio of actual value of the indicator less its minimum value to maximum value of an indicator less its minimum value. This approach is common for expected longevity, education level and living standard indices' estimation.

Next, female and male indices for each component are combined in a way that penalizes differences between men and women, avoiding devaluation of (formal attitude towards) overcoming those: the resulting index, referred to as the equally distributed index, is calculated according to this general formula:

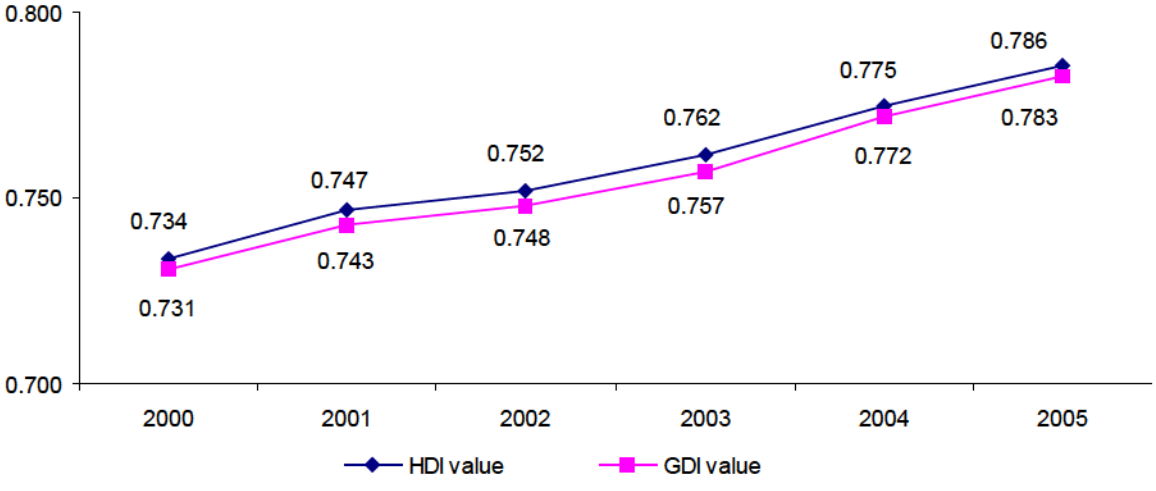
$$\text{Equally distributed index} = \{[\text{female population share} \cdot (\text{female index}^{1-\varepsilon})] + [\text{male population share} \cdot (\text{male index}^{1-\varepsilon})]\}^{1/1-\varepsilon},$$

where ε is the size of the penalty for gender inequality. The larger the value, the more heavily the society is penalized for having inequalities. If ε=0, gender inequality is not penalized, the GDI would have the same value as the HDI. For the present estimations, we assume ε=2 that reduces the general formula to the harmonic mean of the female and male indices.

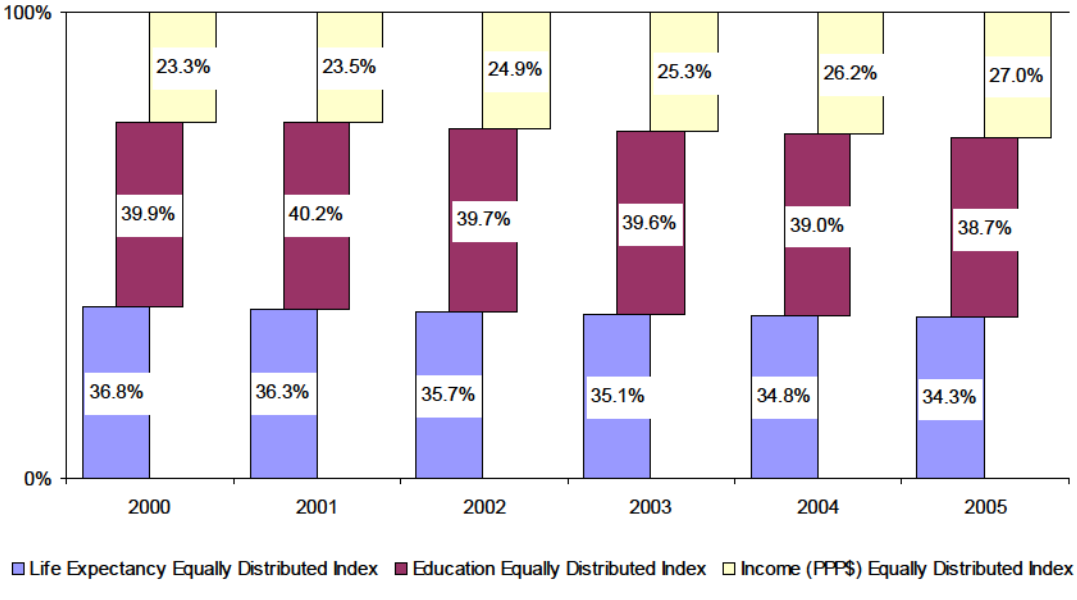
Third, gender-related development index was calculated as unweighted average of components:

Estimation methodology is presented in detail, particularly, in the Technical Note 1 to the HDR 2005 (see http://www.un.org/russian/esa/hdr/2005/hdr05_ru_backmatter.pdf). GDP per capita calculations (international dollar) are based on the World Bank published data on PPP$ (see http://ddp-ext.worldbank.org/ext/DDPQQ):

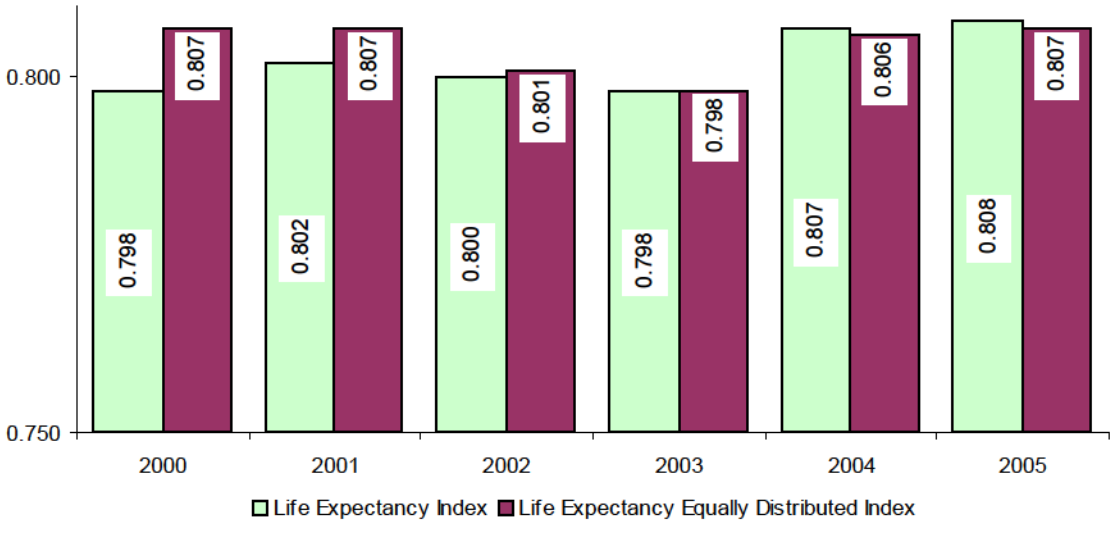
Graph 1. *Dynamics of HD and GD Indices, 2000-2005*



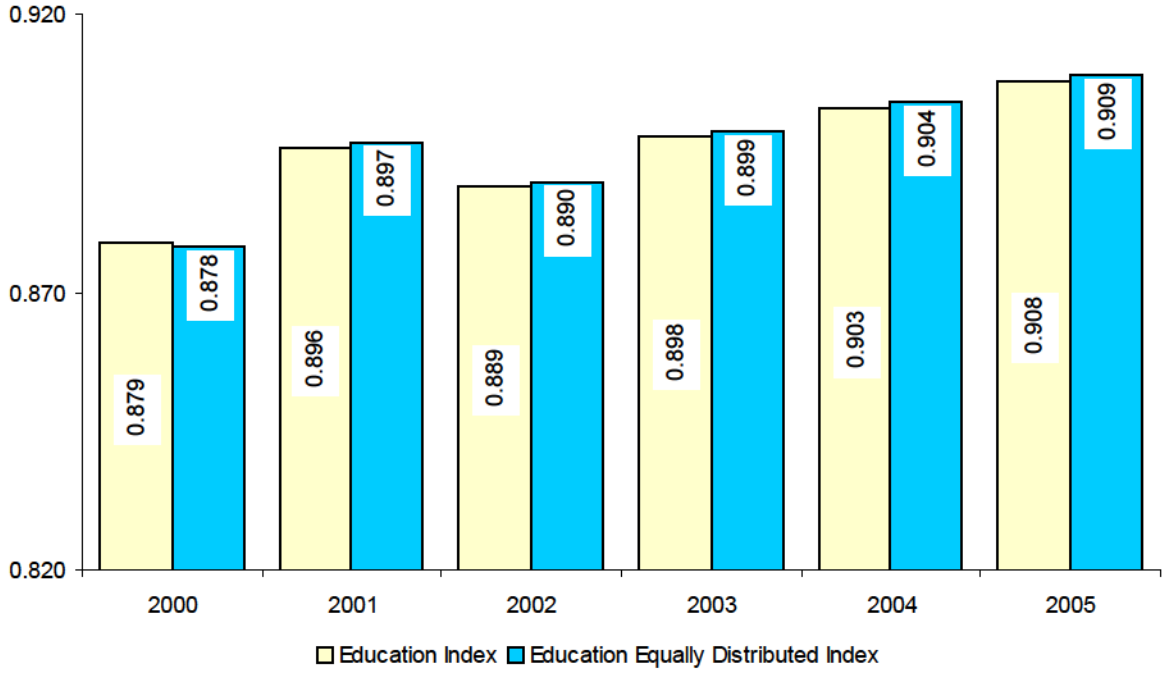
Graph 2. *GDI structure, 2000-2005*



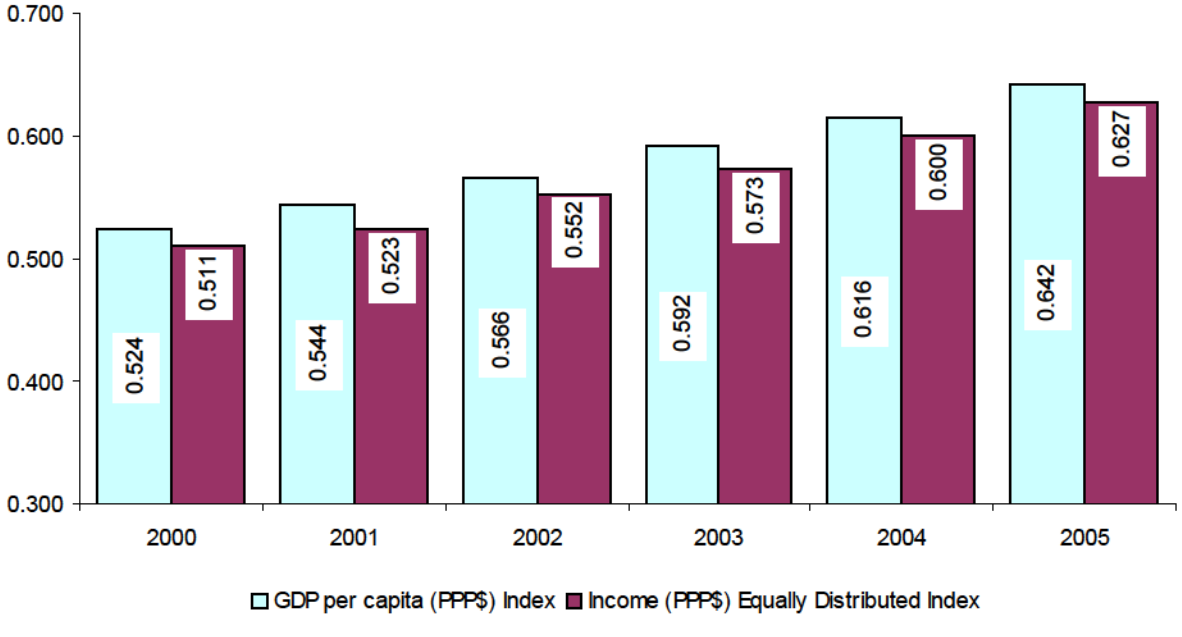
Graph 3. *Expected Longevity (according to HDI) and Equally Distributed Average Longevity Indices (according to GDI), 2000-2005*



Graph 4. *Education Index (according to HDI) and Equally Distributed Education Index (according to GDI), 2000-2005*



Graph 5. *Adjusted GDP (according to HDI) and Equally Distributed Income Index (according to GDI), 2000-2005*



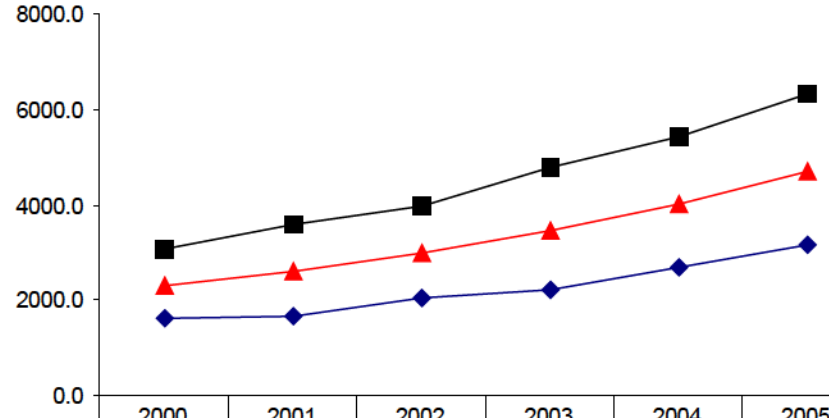
Estimated Female and Male Earned Income

This indicator provides the most complete information possible on female and male earned income (unavailable from statistical data tables of HD Reports).

Income can be seen in two ways: a resource for consumption and as earnings by individuals. The use measure is difficult to disaggregate between men and women because they share resources within a family unit, thus disaggregating would require the creation of distribution indicators, which is either impossible or meaningless. By contrast, earnings are separable because different members of a family tend to have separate earned incomes, thus it is realistic to account for women's and men's earned incomes separately. However, this approach also encounters difficulties that relate, particularly, to distribution of produced goods by family members (moreover by gender) in rural areas.

Because data on wages in rural areas and in the informal sector is rare, the Report has used nonagricultural wages and assumed that the ratio of female wages to male wages in the nonagricultural sector applies to the rest of the economy. Interestingly, the estimations use not absolute values but relative indicators that reflect the gender structure of labor force.

Graph 1. *Dynamics of female and male earned incomes and GDP per capita, 2000-2005*



	2000	2001	2002	2003	2004	2005
Estimated Female Income (PPP$)	1629.8	1658.9	2042.8	2242.2	2694.1	3160.0
Estimated Male Income (PPP$)	3060.2	3611.9	3981.1	4773.3	5411.9	6336.1
GDP per capita (PPP$)	2315.0	2596.5	2974.8	3461.0	4017.6	4693.3

Gender Empowerment Measure

Gender Empowerment Measure (GEM) focuses on women's opportunities in political and socio-economic areas rather than on their capabilities. Three major dimensions are accounted for:

First, political participation and decision-making power, as measured by women's and men's percentage share of parliamentary seats;

Second, economic participation and decision-making power, as measured by two indicators – women's and men's percentage shares of positions as legislators, senior officials and managers and women's and men's percentage shares of professional and technical positions;

Third, power over economic resources, as measured by women's and men's estimated earned income (see "Estimated Female and Male Earned Income").

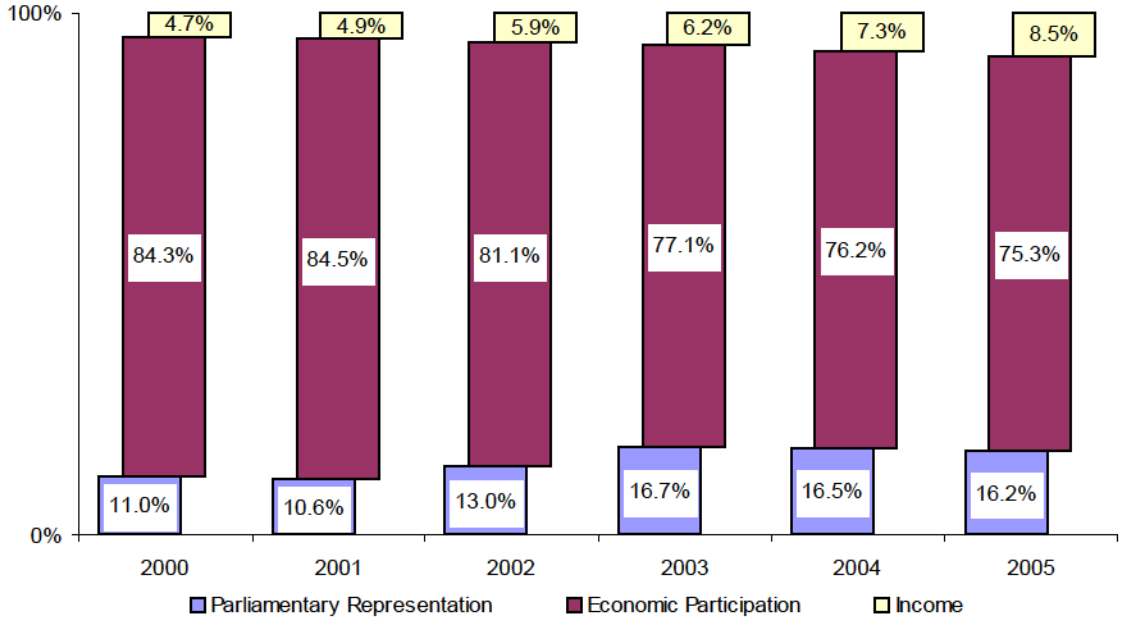
For each of these three components, equally distributed indices are calculated (see "Gender-related Development Index"): Female and male population shares are used as the indices' weights, and the society's aversion to inequality is measured by coefficient $\varepsilon=2$, thus the common methodology for human development indices estimation is preserved:

The indices bear the same sociological meaning as women's and men's participation shares in political and socio-economic areas: The higher the difference between the shares, the lower the indices are; they are zero if women do not participate. For political and economic participation, the indices are further divided by 50 to reflect that in a society with equal empowerment of genders women's participation share would reach its maximum and equal men's share for each component.

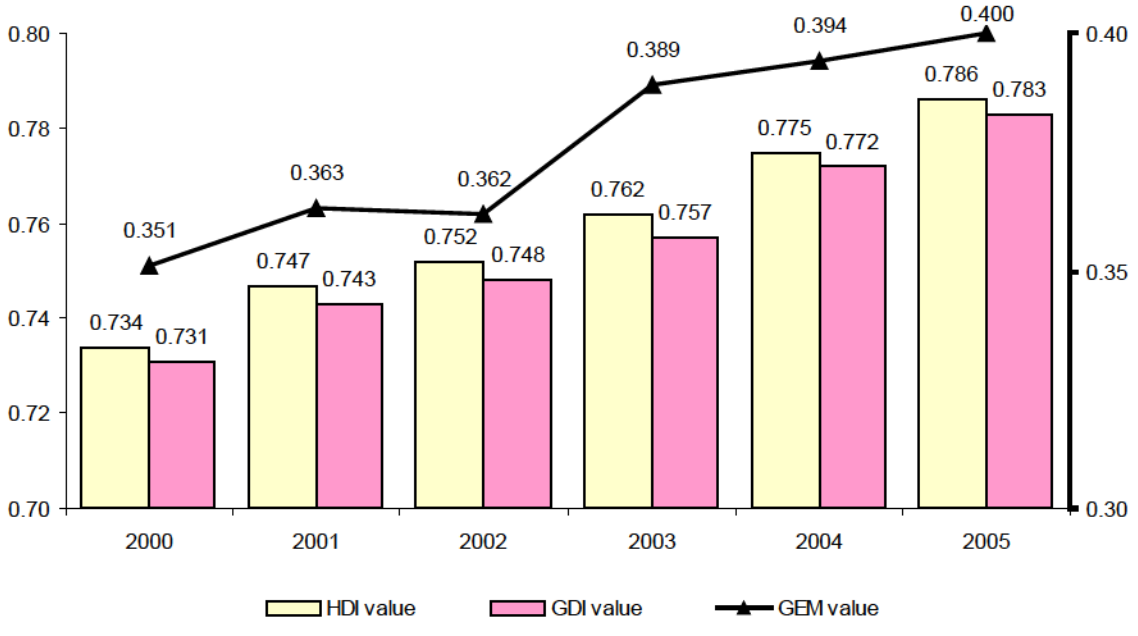
Finally, GEM is calculated as a simple average of the three equally distributed indices.

Estimation methodology is presented in detail, particularly, in the Technical Note 1 to the HDR 2005 (see http://www.un.org/russian/esa/hdr/2005/hdr05_ru_backmatter.pdf).

Graph 1. *GEM structure, 2000-2005*



Graph 2. *Dynamics of HD, GD indices and GEM, 2000-2005*



Human Poverty Index-1

This indicator is designed to define the extent of deprivation in the most important components of human life: longevity, knowledge, decent standard of living and social inclusion that are reflected in the Sustainable Human Development Index. HP indices are estimated for developing countries as well as for industrial countries. Differences in methodology come from the number of index components and their extreme values.

Results of HDI estimations for Armenia (as a developing country) are stated below.

Definitions and estimation methodology of index components are as follows. The first dimension's indicator, P_1, refers to survival and describes the likelihood of not reaching a relatively early age; it is the part of population (%) that, as expected, will die before the age of 40. The second component, P_2, refers to education deprivation and describes exclusion from the world of reading and communications; it is part of the illiterate adult population (15 years and older, %). The third component, P_3, is related to insufficient economic reserves and subsequent low living standards and is estimated as an unweighted average of three elements: $P_3 = ⅓ (P_{31} + P_{32} + P_{33})$. Here P_{31} is the part of population (%) lacking access to safe water, P_{32} is the part of population (%) lacking access to health services, and P_{33} is the part of children under five (%) who are moderately or severely underweight.

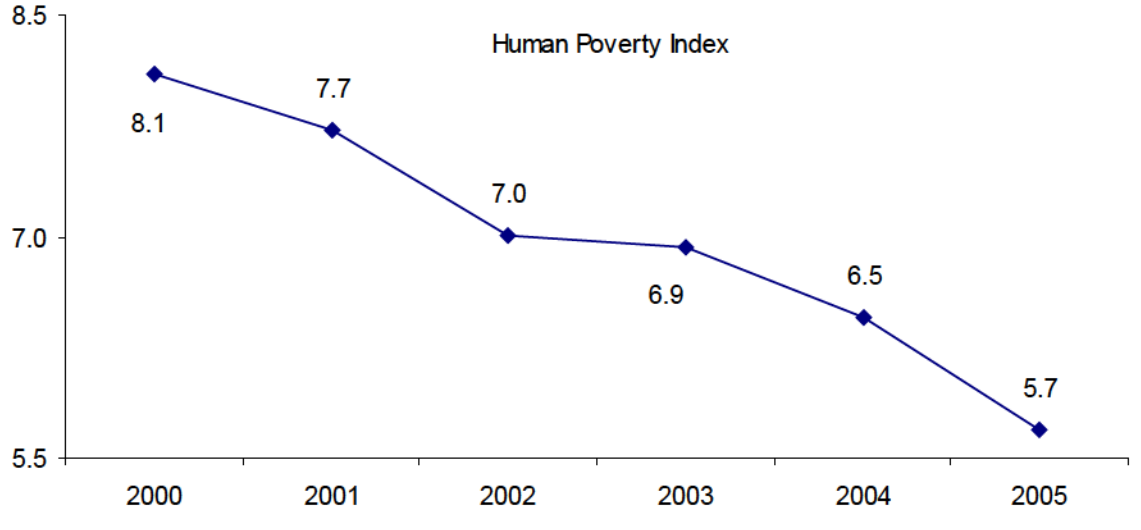
According to human development indices methodology, human poverty index for developing countries is estimated through

$$\text{HDI-1} = \left[\tfrac{1}{3}\left(P_1^3 + P_2^3 + P_3^3\right)\right]^{1/3}$$

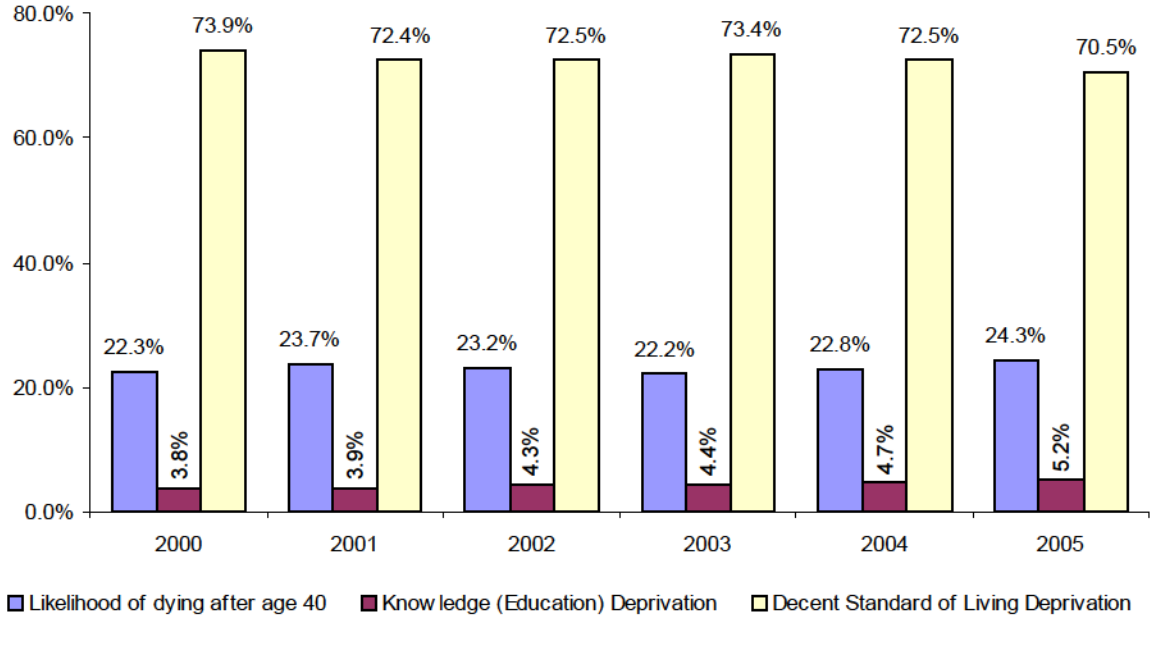
Estimation results are as follows:

	P_1, %	P_2, %	P_{31}, %	P_{32}, %	P_{33}, %	P_3, %	ՔԱՀ-1
2000	3.5	0.6	13.5	18.7	2.5	11.57	8.10
2001	3.6	0.6	12	18.5	2.5	11.00	7.72
2002	3.2	0.6	10.9	16.7	2.4	10.00	7.01
2003	3	0.6	12.7	14.7	2.3	9.9	6.93
2004	2.9	0.6	11.1	14.2	2.3	9.2	6.45
2005	2.8	0.6	10.6	11.4	2.3	8.1	5.69

Graph 1. *Dynamics of HDI-1, 2000-2005*



Graph 2. *HDI-1 structure, 2000-2005*



Environmental Factor as a Dimension of HDI

Economic activity of mankind influences the natural environment negatively, and each level of human development entails a certain level of environmental change. In 1995, Armenian scientists devised a methodology to account for environmental change that is essentially a calculation of the integral coefficient of variations in the state of natural environment (PE). According to them, some indicators of HDI dimensions, particularly, average longevity, indirectly and partially describe the state of nature protection in the region as a whole. However, that is not sufficient, because:

- average actual longevity is a function of multiple equally valuable arguments, particularly, social and life conditions, health care system development level and accessibility, etc.,
- impact of environmental pollution on longevity is lengthy over time, and adverse reaction of human organism becomes evident after a certain time period,
- longevity indicator may reflect environmental crisis much more readily than environmental sanitation and efficient use of natural resources,
- sustainable development implies use of ecosystem within its replenishment capacity that would preserve viable natural environment for future generations.

The authors' opinion is that the "weight" of the environmental change integral coefficient is of comparable strength to other HDI components; thus, including that into estimations enriches HDI and provides a more comprehensive HD Environmental Index (HDEI):

$$HDEI = \frac{\text{Longevity Index + Education Index + + GDP Corrected Index + Environmental Condition Index}}{4}$$

It is appropriate to define the environmental component as an unweighted average of territory, environmental condition (A), and human activity environmental assessment (B) indicators: The first indicator, as a function of the second, bears certain restrictions: it is dependent on natural and climatic conditions on the territory concerned; it involves impact lags inherent in the first indicator; it is to a certain extent inert—i.e. not dynamic enoughc. On the other hand, this two-component estimation approach enables reciprocal control over indicators and minimization of possible inexactitude. With minor reservations, dynamic confrontation of the two indicators may serve as a basis for eco-prognosis for the region as a whole. Methodology devised is based on international experience, on UNDP methodologies in effect, and on the following approaches:

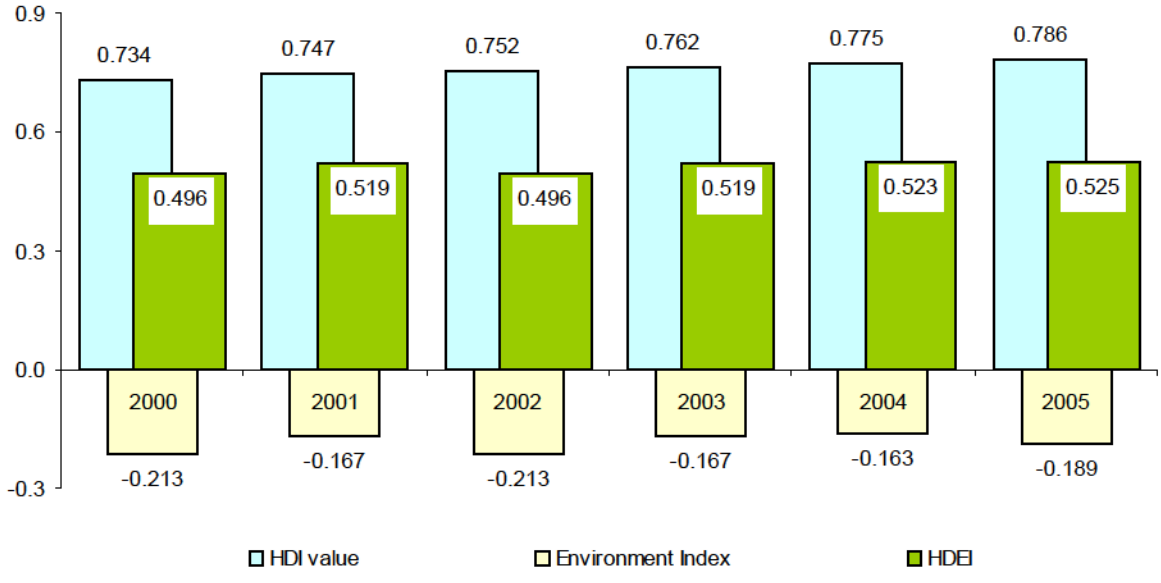
- use few indicators of the highest possible capacity,
- wherever extreme values are needed for estimations, use those defined by international organizations,
- use simple and comprehensive estimation methods,
- use commensurable indicators.

Discrepancies with previous years indicators proceed from corrections both to initial data and to estimation methodology.

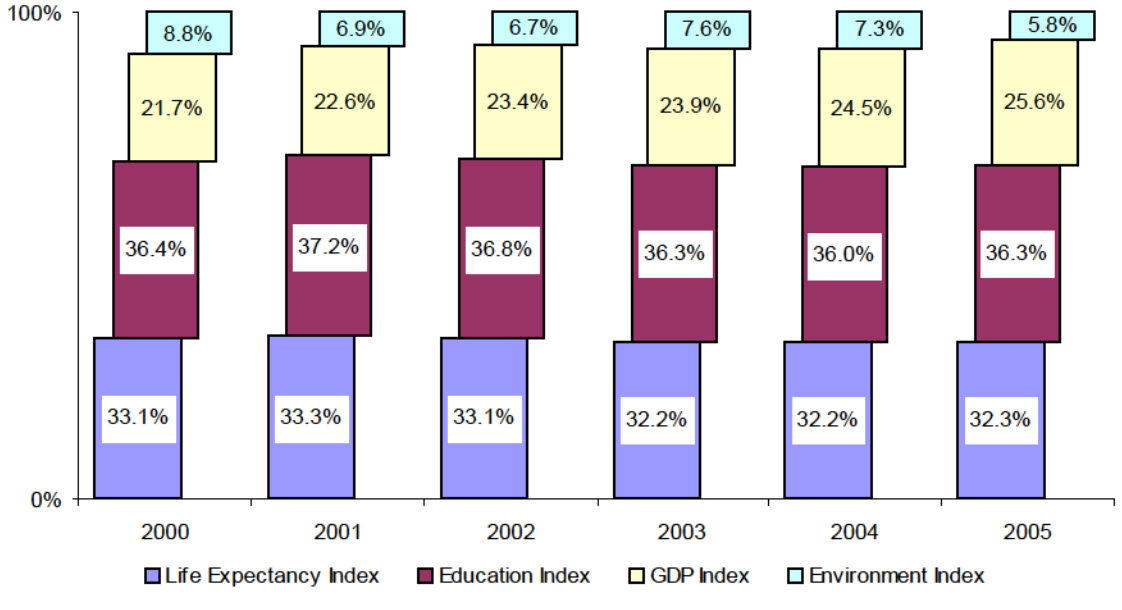
Human Development Environmental Index and its elements, 2000-2005

Code	Name	2000	2001	2002	2003	2004	2005
A - Territory Environmental Condition Indicator							
A1	Air-basin condition indicator	-0.115	-0.078	-0.075	-0.073	-0.108	-0.164
A2	Water resources (Surface water) condition indicator	-0.132	-0.130	-0.138	-0.142	-0.135	-0.132
A3	Land resources condition indicator	-0.035	-0.033	-0.034	-0.034	-0.035	-0.034
A4	Biodiversity condition indicator	-0.320	-0.319	-0.322	-0.329	-0.330	-0.329
A		-0.151	-0.140	-0.142	-0.145	-0.152	-0.165
B - Human Activity Environmental Assessment Indicator							
B1	Pollutant's emissions purification indicator	-0.565	-0.236	-0.276	-0.575	-0.552	-0.268
B2	Water resources consumption rationality degree indicator	-0.411	-0.420	-0.373	-0.374	-0.390	-0.323
B3	Solid waste management indicator	-0.769	-0.788	-0.790	-0.792	-0.742	-0.746
B4	Energy consumption efficiency indicator	-0.135	-0.119	-0.087	-0.065	-0.055	-0.039
B5	Biodiversity protection indicator	0.583	0.583	0.583	0.616	0.616	0.616
B6	Ecological investment indicator	0.006	0.012	0.014	0.019	0.025	0.021
B7	The indicator of damage to a unique nature object of international of regional significance	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
B		-0.276	-0.193	-0.183	-0.234	-0.214	-0.126
P_E		-0.213	-0.167	-0.163	-0.189	-0.183	-0.145
HDI		0.733	0.747	0.752	0.762	0.775	0.786
HDEI		0.496	0.519	0.523	0.525	0.536	0.553

Graph 1. *HDI, Environment Index (P_E) and HD Environmental Index, 2000-2005*



Graph 2. *HDEI structure, 2000-2005*



ANNEX 3

Number of State and Non-State Higher Educational Institutions (HEI) and Secondary Vocational Educational Institutions (SVEIs) in Armenia, Different Years

	Academic Year	1989 / 1990	1990 / 1991	1991 / 1992	1992 / 1993	1993 / 1994	1994 / 1995	1995 / 1996	1996 / 1997	1997 / 1998	1998 / 1999	1999 / 2000	2000 / 2001	2001 / 2002	2002 / 2003	2003 / 2004	2004 / 2005	2005 / 2006
1	Multi-Profile HEIs	1	1	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4
2	Specialized HEIs	12	13	12	12	12	12	13	13	14	14	14	15	16	16	16	16	18
3	State HEIs (total)	13	14	14	14	14	14	15	15	16	16	16	19	20	20	20	20	22
4	State SVEIs	69	70	69	70	69	72	72	72	75	78	77	75	77	77	81	81	83
5	Non-State HEIs	2	10	24	33	35	40	40	75	87	84	82	71	71	72	73	68	67
6	Non-State SVEIs	0	0	0	0	0	0	7	12	12	12	34	30	22	23	24	27	28
7	Branches of Foreign HEIs, Joint HEIs	0	0	0	0	0	0	1	4	5	5	7	9	14	17	17	17	17

Source: *RoA NSS, Armenia Statistical Yearbook and "Social Situation in the Republic of Armenia" Statistical Handbooks.*

ANNEX 4

Change in Number of Non-State HEIs and Their Students, 1988-2006

	1988 / 1989	1989 / 1990	1990 / 1991	1991 / 1992	1992 / 1993	1993 / 1994	1994 / 1995	1995 / 1996	1996 / 1997	1997 / 1998	1998 / 1999	1999 / 2000	2000 / 2001	2001 / 2002	2002 / 2003	2003 / 2004	2004 / 2005	2005 / 2006
Number of Non-State HEIs	1	2	10	24	33	35	40	40	75	87	84	82	71	71	72	73	68	67
Number of Students in Non-State HEIs (thousands)	0,3	0,9	3,2	7,3	12,0	13,3	14,5	14,5	18,3	20,2	21,2	22,0	17,1	18,2	18,2	22,0	22,6	24,1

Source: *RoA NSS, "Social Situation in the Republic of Armenia" Statistical Handbooks.*

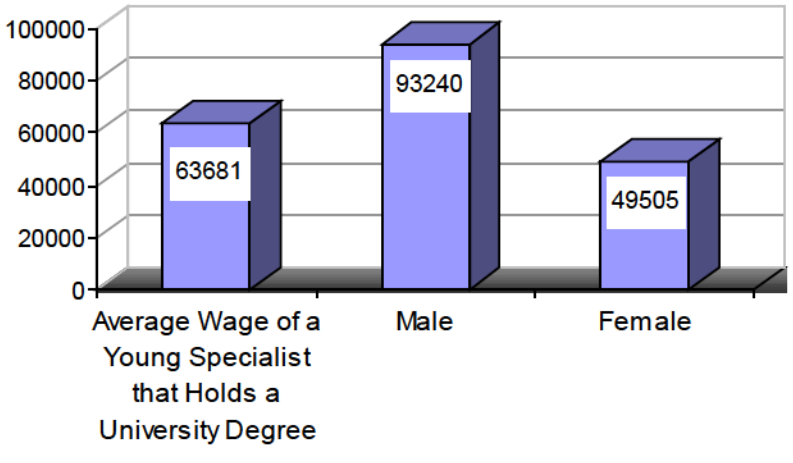
ANNEX 5

Wages, Estimates of Young Specialists that Graduated from Armenian HEIs 3 Years Ago and Have Permanent Employment

81.9% of the specialists that graduated from Armenian HEIs three years ago, find their employment compensation inadequate in terms of financial security (purchasing an apartment, furniture, and a car); 47.9% find it inadequate in terms of current household expenses. 49.4% find their wages more or less sufficient in terms of current household expenses.

According to surveys, the average wage of young specialists that hold university degrees is 63,681 drams. Male specialists earn about twice as much as female specialists. *See Figure 8.11.*

Figure 8.11. *Average Monthly Income of Specialists that Graduated from Armenian HEIs in 2002, Breakdown by Gender*



Armenia 2007

National Human Development Report

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