2010

MILLENNIUM DEVELOPMENT GOALS IN KAZAKHSTAN

MILLENNIUM DEVELOPMENT GOALS IN KAZAKHSTAN

2010

Table of Contents:

Acronyms and Abbreviations

ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral
ARVI	Acute Respiratory Viral Infection
AS	Agency for Statistics
BCM	Billion Cubic Metres
BF	Breast-feeding
BS	Basic school
CAR	Central Asian Region
CC	Criminal Code of the RoK
CCC	Country Coordination Committee
CCS	Criminal Correction System of the Ministry of Justice
CEDAW	UN Convention on the Elimination of All Forms of Discrimination against Women
CEE	Central and Eastern Europe
CFH	Committee for Forestry and Hunting
CIS	Commonwealth of Independent States
CSW	Commercial Sex Worker
DFID	Department of International Development
DHS	Demographic and Health Survey
DL	Distance learning
DOTS	Directly Observed Treatment Short-course
DST	Drug-susceptibility testing
EBF	Exclusive breast-feeding
EDI	All Development Index
EFA	Education For All
ELBW	Extremely low-birth-weight group
ESD	Education for Sustainable Development
FAD	Folic Acid Deficiency
FWF	Flour Wheat Fortification
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GFATM	Global Fund For AIDS, Tuberculosis And Malaria
GHG	Greenhouses Gases
GNP	Gross National Product

GPS	Global Positioning System
GSE	General secondary education
HDI	Human Development Index
HEC	High Education Coverage
HIPCI	Debt Relief Under the Heavily Indebted Poor Countries Initiative
HIV	Human Immunodeficiency Virus
HPU	Housing and Public Utilities
ICCIDD	International Council for Control of Iodine Deficiency Disorders
ICD	International Classification of Diseases
ICT	Information and Communication Technologies
ID	Iodine Deficiency
IDA	Iron-deficiency anaemia
IDU	Injection Drug User
IMCI	Integrated Management of Childhood Illness
IOM	International Organisation for Migration
IPCC	Intergovernmental Panel on Climate Change
ISC	Interim State Control
ISCED	International Standard Classification of Education
KNCV	Royal Netherlands Tuberculosis Association
KZT	Kazakhstan Tenge
LBD	Live birth definitions
LDC	Limited Development Capacity
LDC	Least developed countries
LLL	Life Long Learning
LMC	Lingaphone and Multimedia Classroom
LMR	Language and multi-media rooms
LSC	Life Skills Concept
MCM	Million Cubic Metres
MDG	Millennium Development Goal
MDR TB	Multi-Drug Resistant Tuberculosis
MDRI	Multilateral Debt Relief Initiative (International Monetary Fund)
MIA	Ministry of Internal Affairs
MICS	Multiple Indicator Cluster Survey
MJ	Ministry of Justice
MLSP	Ministry of Labour and Social Protection
MM	Mass Media
MMR	Maternal Mortality Ratio

MOA	Ministry of Agriculture
MOD	Ministry of Defence
MOEP	Ministry of Environmental Protection
MoES	Ministry of Education and Science
MoH	Ministry of Healthcare
MMR	Maternal Mortality Ratio
MOODLE	Modular Object Oriented Digital Learning Environment
MSM	Men having sex with men
NAPEH	National Action Plan for Environmental Hygiene
NEQAC	National Education Quality Assessment Centre
NGO	Non-Governmental Organisation
NIC	National Informatization Centre
NMNS	National Micro-nutrient Survey
NTCA	Nerve tube congenital abnormalities
NTBC	National TB Centre
ODA	Official Development Assistance
OECD/DAC	Organisation for Economic Cooperation and Development / Development Assistance Committee
OSCE	Organisation for Security and Cooperation in Europe
OVW	Office on Violence Against Women
PA	Protected Area
PAL	Permissible Alcohol Limit
PCP	Purchase capacity parity
PHC	Primary Health Care
PLH	People Living with HIV
PMTCT	Preventing mother-to-child transmission of HIV
PPP	Public-Private Partnership
PS	Primary school
PSC	Psychosocial counselling
PSO	Pre-school Organisation
RoK	Republic of Kazakhstan
SDLC	Satellite distance learning channel
-2SD	Two standard deviations
-3SD	Three standard deviations
SFF	State Forest Fund
SME	Small and Medium-Sized Enterprises
SNNP	State National Nature Park
SNR	State Nature Reserve

SOP	Standard operating procedures
SS	Sentinel Surveillance
SS	Secondary school
STI	Sexually Transmitted Infection
SUPWV	Special units for the protection of women against violence
SW	Sex Worker
TB	Tuberculosis
TC	Trust Centres
TCS	TB Control Service
TIMSS	Trends in International Mathematics and Science Study
TOE	Tonnes of oil Equivalent
TFOE	Tonnes of Fuel Oil Equivalent
TOR	Terms of Reference
TSA	Targeted Social Aid
TVE	Technical and vocational education
TWG	Technical Working Group
UNGASS	United Nations General Assembly Special Session
UN	United Nations Organisation
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UNT	Uniform National Testing
UNU	United Nations University
UPE	Universal primary education
US	Ungraded School
USAID	US Agency for International Development
USD	United States Dollar
VAD	Vitamin A Deficiency
VCT	Voluntary Counselling and Testing
VL	Vocational lyceums
VS	Vocational schools
WB	World Bank
WHO	World Health Organisation
WTO	World Trade Organisation

Foreword
by the Government of Kazakhstan

Kazakhstan recognises the UN as the most authoritative and universal international organisation. The basic principles and objectives declared by the UN 65 years ago are still relevant and demanding in the 21st century. Kazakhstan attaches great importance to and promotes, in every possible way, the role of the UN as a key body in the maintenance of international peace and security. We are confident that at the current stage of human development the issues of paramount importance such as war and peace, economic and social development, environment and other relevant issues should be addressed through this organisation which represents the will and interests of the global community. There is no alternative to global multilateral cooperation between states.

During the visit of the UN Secretary-General Mr. Ban Ki-moon to Kazakhstan early this year, President N. Nazarbayev noted: "The objectives put forward and pursued by Kazakhstan are obviously aligned with the priorities of the participating states of the 2000 World Millennium Summit. The ways of accelerated economic, social and political modernisation of the country presented in my recent Address to the People of Kazakhstan are aimed at achieving the Millennium Development Goals as fast as possible for Kazakhstan. We highly appreciate the UN's efforts in assisting our country to achieve the Millennium Development Goals".

This report is the result of close cooperation between the Government of Kazakhstan and the UN country team. It was prepared in anticipation of the UN Summit in September, which will be attended by world leaders, to boost the efforts for achieving the Millennium Development Goals.

Highly appreciating the level of collaboration with the UN agencies, funds and programmes in Kazakhstan, including those related to the implementation of the Millennium Development Goals, the Government of Kazakhstan is looking forward to continued cooperation for the benefit of the people of Kazakhstan.

Kanat Saudabayev,
State Secretary,
Minister of Foreign Affairs Republic of Kazakhstan

Foreword

It is my honour to introduce to you the 2010 Millennium Development Goals in Kazakhstan Report.

I am especially pleased to present the report this year as the UN Secretary General announced 2010 as the Year of Development and has called on us to boost the progress towards achievement of the Millennium Development Goals (MDGs). "MDGs are too important for us to fail to achieve them. We are ready for action, ready for achievements and ready to make 2010 the year of results for the people".

Since the Millennium Summit, the United Nations agencies have been working towards the intentions of the Millennium Declaration signed by the world leaders, including President Nazarbayev, in New York in September 2000. Such intentions, called the Millennium Development Goals (MDGs), set specific and measurable targets, which should be achieved by participating countries by 2015 in their pursuit to improve quality of life for millions of people.

MDGs cover such essential development areas as poverty reduction, improvement of child and maternal health, gender equality, combating major diseases, enhanced access to primary education and environmental sustainability.

Since Kazakhstan has already achieved some of the original targets of the MDGs, such as poverty reduction, access to primary education and promotion of women's rights, the government has made commitments under the MDG+ agenda. This comprises expanded targets, adapted for Kazakhstan, which are based on the analysis of national priorities, national statistics and relevant government programmes, as well as the experience of other countries.

This is already the fourth report prepared by Kazakhstan. It is the result of the joint work of the Government of Kazakhstan and the UN country team. Taking this opportunity, I would like to thank our national partners for their valuable contribution to, and comments on the report.

This report is a call to all stakeholders, including the Government of Kazakhstan, the business community and civil society, to make concerted efforts to make sure that the development goals set out in the Millennium Declaration are achieved by Kazakhstan by 2015.

Hanaa Singer
UN Acting Resident Coordinator
in the Republic of Kazakhstan

Executive Summary

Since the Millennium Summit, the UN agencies have been working towards the objectives of the Millennium Declaration signed by the world leaders, including President Nazarbayev, in New York in September 2000. These objectives are referred to as the Millennium Development Goals (MDGs), and set specific and measurable targets to be achieved by the countries by 2015 in their pursuit to improve quality of life for millions of people.

This is already the fourth Millennium Development Goals Report prepared by the Government of Kazakhstan together with the UN Country Team.

The first MDG Report for Kazakhstan was published in 2002, and became the first report of this type in the Eastern Europe and CIS region. In 2005, the UN country team together with the Government of the Republic of Kazakhstan (the Government) prepared the second MDG report, which included the analysis and assessment of MDG achievements both at the national and oblast levels. The 2007 report offers not just a summary of the overall progress by indicators, but wide discussion of the existing issues as well and recommendations for the future. This 2010 report provides a definition of major issues hindering the achievement of some goals and targets and contains conclusions, including forecasts as to whether these targets can be achieved by 2015, along with practical recommendations and steps to be made by the Government to achieve MDGs by 2015.

Since Kazakhstan has already achieved some of the original targets of the MDGs, such as poverty reduction, access to primary education and promotion of women's rights, the Government has made further commitments under the MDG+ agenda. These comprise expanded targets adapted for Kazakhstan, which are based on the analysis of national priorities, national statistics, relevant governmental programmes, as well as the experience of other countries.

However, there are still problems related to other MDGs that require special attention from the Government. Thus, for example, child and maternal mortality, HIV/AIDS and tuberculosis remain very serious. Environmental sustainability is also still a complicated issue. As of today the progress in achieving MDGs in Kazakhstan can be described as follows:

GOAL 1. To Eradicate Extreme Poverty and Hunger

Target 1. To halve, between 1990 and 2015, the proportion of people whose income is below the subsistence minimum

Kazakhstan achieved Target 1 of MDG 1 in 2004. However, poverty is still a serious issue for the country, especially in rural areas. For this reason, the 2007 Report proposed a new MDG 1+: to halve the proportion of people in rural areas whose income is below the subsistence minimum.

Notwithstanding some progress in the reduction of income poverty, there is a certain risk for a quite considerable proportion of the population living near the poverty line to fall into poverty. Virtually 80 percent of the population in the country have an income twice the level of the subsistence minimum. Earned income remains at a level insufficient for a decent income, thus reducing the attractiveness of productive employment. Regional differences in poverty remain and rural poverty is deeper in all regions. Levels of rural poverty are still almost twice as high as urban poverty.

Public social policy for the protection of vulnerable categories should be an effective mechanism of a poverty reduction strategy. The strategy should be designed to further enhance the system for protection of the most vulnerable categories, especially those living in rural areas, the self-employed, large and incomplete families, old people, disabled people and migrants.

Achievement of this target by 2015 will require an enabling environment in rural areas for the development of entrepreneurship, an enabling legislative framework for the employment of migrants and their access to entrepreneurship activities. This will also require enhanced access for disadvantaged people, especially women, migrants, refugees, young and old people and disabled people, to the social safety system and development of social services involving NGOs as service providers.

Target 2. To halve, between 1990 and 2015, the proportion of people who suffer from hunger

In Kazakhstan Target 2, calling for halving the proportion of people worldwide who suffer from hunger as part of MDG 1, to eradicate extreme poverty and hunger, has now been achieved. For Kazakhstan, the issue of hunger is no longer urgent. Therefore, Target 2 was adapted in 2007 to a national target of halving the proportion of people having no access to balanced nutrition.

A substantial proportion of the population, especially those from risk groups including children and women of reproductive age, need to have better nutrition. Particularly, some children under five, who are under-weight and under-height,

factors which characterise nutrition quality. Deficiency of some micro-nutrients remains high among risk groups; such deficiency is called 'hidden hunger'.

The reduction and eradication of micro-nutrient deficiency will help to significantly improve health and reduce child and maternal mortality, which is a contribution to the achievement of MDG 4 and 5. This will require preparation, government approval and implementation of a comprehensive programme on balanced nutritition for children under five and prevention of malnutritition and nutritional status abnormalities.

GOAL 2. To Achieve Universal Primary Education

Target 3. To ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Following on from the MDG 2002 and 2005 reports, MDG 2 in its original version has already been achieved in Kazakhstan. Based on the analysis of national priorities, statistics and state education programmes, and given other countries' experiences, it was decided that there is a need for the assessment of the secondary education system as a whole, with a focus on the quality of education and the enrolment of children with special needs and students from socially vulnerable groups. The MDG 2007 report takes into account this conclusion and determined Target 3+, ensuring universal secondary education, for further monitoring of the achievement of the expanded version of MDG 2.

The review demonstrated that at present, in ensuring universal secondary education, there have been considerable achievements, but there remain unresolved issues related to educational policies, quality of education, statistical support, and institutionalisation, human resources capacity and the financing of education. To overcome the existing barriers the Government and other relevant stakeholders should implement a number of strategic actions, including the renewal of educational substance, development of a uniform standard of national educational statistics and enhancement of teachers' training.

GOAL 3. To Promote Gender Equality and Empower Women

Target 4. To eliminate gender disparity in primary and secondary education, preferably by 2005 and at all levels of education no later than 2015

This target, which pertains to the elimination of gender disparity in primary and secondary education has been achieved in Kazakhstan. However, one has to recognise that differences between women and men are still significant in Kazakhstan. Therefore the new targets of 4+, which were adopted in 2007, are:

- To ensure adoption and implementation of measures aimed at increasing representation of women in legislative and executive bodies.
- To ensure legislative and enforcement measures to prevent and eliminate violence against women.
- To ensure sustainable gender mainstreaming of national planning and budgeting, especially aiming at minimising the gender wage gap.

One of the recommendations for achieving the additional targets in the public administration area is to establish effective mechanisms for progressive implementation of the Law 'On Equal Rights and Equal Opportunities of Men and Women'. Political parties should promote equal representation and participation of women in the governing party's bodies for meaningful participation of women in the political processes.

Although there is on-going progress in improving the legal framework for the protection of women's rights to a life free of violence, the mechanisms for its enforcement have still not been fully put into practice. Hence, an effective system needs to be put in place for applying protection warrants and government standards of assistance to victims of violence and to persons who have committed violence, using available similar international experience. This work should be supported by Governmental budget allocations for public service delivery.

GOAL 4. To Reduce Child Mortality

Target 5. To reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Like previous reports, this MDG 4 progress report has exposed challenges that are governed by corresponding Governmental resolutions and orders of the Ministry of Healthcare. Unfortunately, they are not enforced well enough locally, which may be due to misunderstanding of the essence of the orders due to insufficient awareness of new perinatal technologies and their organisational support by health staff.

The findings of the analysis and evaluation of the MDG 4 status in Kazakhstan allow the following conclusions to be drawn, and recommendations on the implementation mechanism be proposed:

- to introduce regionalisation of perinatal care into obstetric practice and to provide full financing of these services;
- to identify financing for the introduction of further sustainable Effective Perinatal Care programmes into obstetric practice and WHO Integrated Management of Childhood Illness (IMCI) in primary hospitals and primary healthcare facilities;
- to undertake research to explore the causes of accidents involving a wide range of ministries (healthcare, education, road and transport, etc.);
- to conduct a study to assess the true frequency and causes of congenital malformation;
- to amplify usage of the BABIES matrix for proper management decisions in obstetrics throughout the country.

GOAL 5. To improve Maternal Health

Target 6. To reduce by three quarters, between 1990 and 2015, the maternal mortality ratio. By 2015, to achieve universal access to reproductive health

The relevance of MDG 5 in Kazakhstan has to do with the fact that maternal health indicators in the country are still quite low and the maternal mortality ratio is several times as high as that in the WHO European Region. To achieve MDG 5, Kazakhstan needs to reduce its maternal mortality ratio (MMR) from 55 per 100,000 live births in 1990 to 14 in 2015. Is this achievable? During the next five years MMR needs to be almost halved compared to the current indicator. Over the 19 years since 1990, MMR has been reduced by less than 2 times. It is clear that as the MMR is being reduced, each subsequent reduction will be most probably more difficult to achieve.

Nevertheless, progress achieved in recent years in decreasing maternal mortality in Kazakhstan, inspires cautious optimism. Achievement of MDG 5 in Kazakhstan will depend on how fast the legislation will change, how successful healthcare institutional reforms will be, and how efficiently maternal mortality reduction programmes will be managed and financed.

Achievement of MDG 5 requires a strengthened multi-sectoral approach to addressing maternal health improvement, for which purpose the education sector, healthcare, mass media and non-governmental sector need to join and coordinate their efforts to achieve a substantial improvement in awareness of the population, primarily youths, about the prevention of unwanted pregnancies, STIs and HIV/AIDS.

MDG 5 can only be achieved if investment into sexual and reproductive health is increased, with available resources to be allocated in a way to ensure maximum benefits to a maximum number of people.

GOAL 6. To combat HIV/AIDS and Tuberculosis

Target 7. To halt, by 2015, and begin to reverse the spread of HIV/AIDS

As at 1 January 2010, there were 13,784 cases of HIV infection registered in the Republic of Kazakhstan. Since 1987, there has been an increase in new HIV infection cases every year other than 2009. The HIV incidence rate among population aged 15-49 is 0.15 percent. As before, intravenous drug use is a dominant transmission mode accounting for 67.5 percent of cases, with sexual transmission accounting for 24.4 percent. HIV infection is concentrated among injection drug users (incidence rate is 2.9 percent).

The situation analysis shows that though Kazakhstan does manage to restrain the HIV epidemic at its initial stage (HIV is concentrated primarily among injection drug users), there remains the possibility for deterioration. This is because the behaviour practiced, in the first instance, by drug injectors is not safe, the level of awareness of young people about HIV transmission modes and ways to avoid HIV infection is not always sufficient and access to treatment is not secured in full. Despite significant progress in combating the HIV epidemic, the following efforts need to be reinforced in order to achieve the target:

- The strengthening political commitment to HIV and AIDS;
- Providing access to ARV therapy for all patients in need;
- Raising of youth awareness;
- Ensuring sustainable prevention programmes for the most vulnerable groups;
- Further improvement of the epidemiologic tracking system;
- The strengthening of cooperation with NGOs.

Target 8. To halt, by 2015, and begin to reverse the incidence of tuberculosis

In Kazakhstan, tuberculosis is considered to be an established disease, determined by social factors and remains a serious problem for public health.

According to WHO official data, Kazakhstan leads in terms of the incidence of registered tuberculosis (TB), and is one of 18 priority countries for TB in the WHO European Region. In addition, multi-drug resistant tuberculosis (MDR TB) incidence is one of the highest in the world. Though the epidemiological situation is difficult, Kazakhstan can progress towards the target, provided that the Government will take measures to achieve the target. This will require the Government:

- to make further efforts for the high-quality introduction of and improvement in all components of the basic DOTS strategy;
- to ensure universal application of International Standards for Tuberculosis Care in defining tuberculosis cases and treatment results in order to improve the quality of services and monitor their performance;
- to secure TB infection control measures at all healthcare levels;
- to raise awareness of governmental, non-governmental and donor organisations about importance of the tuberculosis problem including spread of drug-resistant TB forms;
- to strengthen intra- and inter-agency integration of the TB control programme with the general healthcare network, HIV/AIDS prevention and control programme, rehabilitation service for timely detection, treatment and management of cases.

GOAL 7. To Ensure Environmental Sustainability

Target 9. To integrate the principles of sustainable development into the country's policies and programmes and reverse the loss of environmental resources

The lack of an ecosystem approach in developing and implementing economic and social programmes, and non-compliance with the principles of comprehensive and balanced environment quality management have been named as the main issues in achieving the environmental sustainability.

However, Kazakhstan has achieved some progress across a number of indicators during the reporting period. Specific measures undertaken to improve the regulatory framework include; optimisation of the bio-diversity management structure and regulation processes; an active involvement in the international projects, which will allow us to predict whether this target will be achieved, provided there are continuous positive dynamics in the indicators.

In the future it is necessary to continue the efforts undertaken to improve the legislation related to nature and resources, in compliance with the accepted international conventions and regional documents; to put in place sustainable mechanisms for cooperation with the Central Asian States to develop a regional environmental policy to help address transboundary environmental issues. Studying the international experience with environment insurance and off-budget environment funds is important with the view of potential implementation in Kazakhstan.

Target 10. To halve, by 2015, the proportion of people without sustainable access to clean drinking water and main sanitary technical facilities

In terms of water supply, Kazakhstan is one of the Eurasian countries suffering from water deficit. The main issue is related to the safe water supply and waste management, which are the key factors that impact public health. As of today, at least 10 percent of households do not have running water and about a quarter of the population has no access to a proper sewage system.

To mitigate the above institutional challenges, it is necessary to give statutory authority to the Water Resources Committee of the Ministry of Agriculture to approve the technical requirements for the rural water supply facilities at the stage when the TOR for design engineering are issued. The other issue that needs to be addressed, is the implementation of the National Programme on Integrated Water Resources Management in Kazakhstan. The quality of water supply networks can be improved through the use of the state-of-the-art energy and resource saving technologies, equipment, materials and water consumption metering devices. It is necessary to review and reduce the water consumption rates for both the urban and rural population and to enhance the mechanisms for drinking water supply subsidies.

Target 11. To achieve, by 2020, a significant improvement in the lives of the rural population residing in the most unfavourable social, housing and ecological environment

Addressing this target seems quite challenging when it comes to rural areas. In spite of a number of programmes implemented by the government to enhance villages and develop the agricultural sector, the living standards of rural population are much lower, compared to those of the urban population. There are reasons for this, including the left-over fund-

ing applied to the rural social sector (especially true in times of economic downturn), under-developed infrastructure, primarily in the transport and telecommunications networks. Funding of small and remote villages is not economically profitable, which results in their degradation and outmigration and aggravates employment and housing issues. This problem requires conducting a detailed review and taking comprehensive decisions involving all government levels. Special focus should be on awareness, education and advocacy activities.

The positive trends in the indicators based on the official statistical data reflect the effective efforts undertaken to address the issues by 2009. However, as the indicators show, the proportion of the rural population with access to improved sanitation systems has not yet reached 50 percent. Some hope can be derived from the implementation of the Road Map Programme, which has commended itself highly in the conditions of downturn both in urban and rural areas.

GOAL 8. To Develop a Global Partnership for Development

Partnerships at the national and international levels are important factors for achieving development goals and objectives. Kazakhstan continues developing cooperation and partnerships at the international level (including trade, donor and financial institutions), and with private sector and civil society within the country.

Kazakhstan is an active player in the international arena as well as in different regional and international organisations. International (external) partnerships where Kazakhstan is involved fully support and promote its development objectives. At this stage the most active relationships are in the areas of trade, investments, finance, IT and communications, as well as regional and international cooperation.

Domestic partnerships are different in scope and progress. The partnership with the private sector is gaining momentum whereas the dialogue with civil society has a slower progress. In the future, the domestic partnerships should focus on addressing the most essential development issues: inequality and marginalisation, local level development, employment of youths and women.

In partnerships with the civil society the priority should be assigned to enhancing the existing (and creation of new) mechanisms of dialogue and collaboration. One of the promising streams is to involve NGOs into social service delivery.

GOAL 1
To Eradicate Extreme Poverty and Hunger

TARGET 1

To halve, between 1990 and 2015, the proportion of people whose income is below the subsistence minimum

The baseline for Target 1 monitoring is 1996 data, this being the year when the Agency for Statistics, with the World Bank's support, performed a quantitative poverty assessment in Kazakhstan for the first time since independence, yielding a poverty level of 34.6 percent.

As noted in the 2005 National MDG Report, Kazakhstan had already achieved Target 1 of MDG 1, halving the proportion of people with incomes below the subsistence minimum, in 2004. Poverty, however, remains a serious problem for the country, especially in rural areas, which is why the 2007 MDG report proposed a new MDG 1+ target, which is halving the proportion of people in rural areas with incomes below the subsistence minimum.

New 1+ indicators were adopted to measure the achievement of this target:

- increasing twofold, by 2015, the size of the subsistence minimum;
- the proportion of poor people versus the size of the subsistence minimum;
- the ratio between maximum and minimum size of pecuniary gains of the population in each region.

In 2006, Kazakhstan put in place a new subsistence minimum assessment methodology. Re-assessment of the 2005 subsistence minimum on the basis of the new methodology resulted in its increase by 26.7 percent. As a result, the reassessed poverty level for 2005 rose from 9.8 percent to 31.6 percent.

Figure 1.1. Percentage of population with (consumption) income below the subsistence minimum
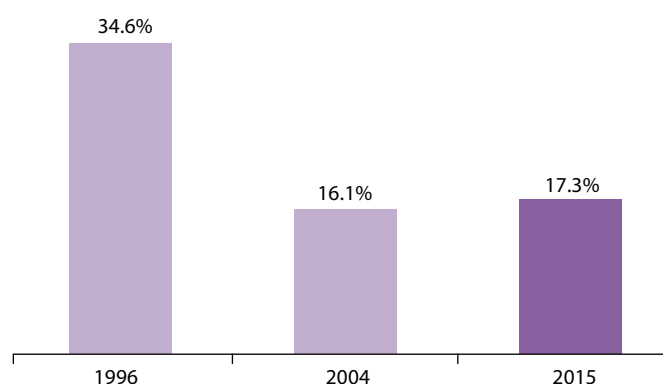
For the sake of comparability with the 2006, and subsequent years' data, the Agency for Statistics recalculated the subsistence minimum and related poverty indicators since 2001 using the new methodology (see Table 1.1).

Thanks to the timely actions taken by the Government and notwithstanding the global financial crisis affecting the Kazakh economy since the second half of 2007, the economic downturn was not too significant, though it did reduce growth rates noticeably. Employment and real incomes continued to grow, which reduced in 2009 the poverty level by 2.2 times from 2006, down to 8.2 percent. If this progress is compared to the 2001 poverty level calculated on the basis of the subsistence minimum using the 2006 methodology, the poverty rate has dropped by 5.7 times

Table 1.1 Incidence of Poverty in Kazakhstan 2001-2009

Poverty indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009
Average per capita household consumption income, KZT	5,729	6,518	7,569	8,387	9,751	13,723	16,935	20,037	21,348
Subsistence minimum based on the 2006 methodology, KZT	4,945	5,655	6,003	6,457	6,785	7,618	8,410	9,653	1,2364
Consumption income as a percentage of the subsistence minimum	101.3	108.6	117.2	123.6	128.0	163.2	175.4	162.1	168.6
Subsistence minimum based on the pre-2006 methodology, KZT	4,007	4,596	4,761	5,128	5,427				
Percentage of population with incomes below the subsistence minimum	46.7	44.5	37.5	33.9	31.6	18.2	12.7	12.1	8.2
Poverty depth, %	14.8	13.3	10.2	8.3	7.5	3.9	2.4	2.3	1.3
Poverty acuteness, %	6.5	5.5	3.9	2.9	2.5	1.3	0.8	0.7	0.3
'Food basket' based on the 2006 methodology, KZT	2,967	3,393	3,602	3,874	4,071	4,571	5,046	5,792	7,418
Percentage of population with incomes below the 'food basket'	16.1	13.8	9.1	6.3	5.2	2.7	1.4	1.2	0.6

Source: Agency for Statistics.

(46.7 percent). The proportion of population with incomes below the food basket cost has declined over the same period by 27 times, from 16.1 down to 0.6 percent.

It should be noted that the poverty rate depends considerably on by how much the average per capita income exceeds the subsistence minimum, increasing or decreasing it significantly. The correlation ratio between these two indicators testifies to a very close relationship between them (-0.98). For example, in 2001, the population's income only marginally exceeded the subsistence minimum (by mere 1.3 percent), with nearly half of the population (46.7 percent) having incomes below the subsistence minimum, whereas in 2009 this ratio was 1.7, with the poverty rate declining to 8.2 percent.

For obtaining a more precise poverty profile, indicators of poverty 'depth' and 'acuteness' are determined. Poverty 'depth' means the average income shortfall of the poor to the poverty line calculated in relation to the entire population of the country. Thus, from 2001 to 2009 the poverty depth shrank by 11.4 times and is currently 1.3 percent.

The other indicator is the poverty 'acuteness', which shows inequality amongst the poor, i.e. the extent of dispersion of incomes of the poor around their median. Poverty acuteness shows how 'poor' the poorest person in the country is, thus describing inequality among the poor. Over the past nine years, poverty acuteness has decreased by 21.7 times and is currently 0.3 percent.

Social stratification by income level and economic inequality magnitude are measured with the help of specific differentiation coefficients describing the ratio of income of the wealthiest and poorest groups. One is the fund coefficient, describing the ratio of cash incomes of the richest 10 percent and the poorest 10 percent of the population in the country. Between 2001 and 2009, this ratio declined by 1.7 times and currently amounts to 5.33.

Another measure of income inequality is the income concentration ratio (Gini coefficient)[1]. This indicator has decreased by 1.3 times, from 0.339 (noticeable inequality) to 0.267 (moderate inequality). The 0.4-0.5 range of the Gini coefficient is considered to be a significant indicator of income inequality in the society.

The share of the poorest quintile of the population in na-

Figure 1.2. Distribution of Consumption Income by Quintile Groups 2001-2009 (%)
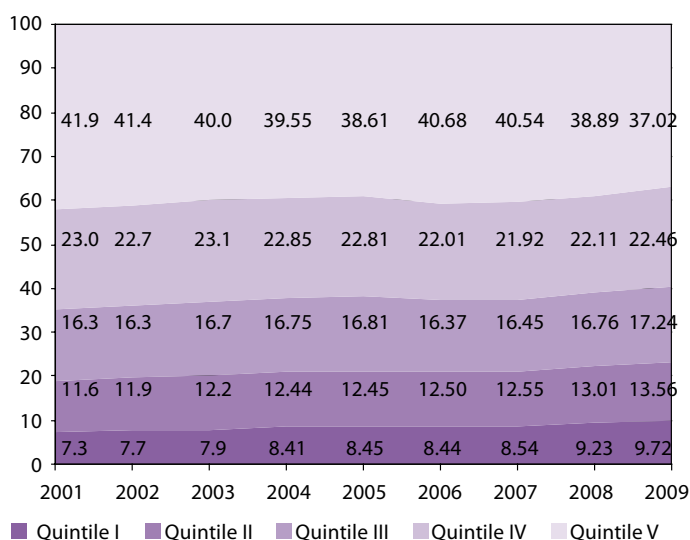
Source: Agency for Statistics.

tional consumption is also a measure of poverty. The share of income of the richest proportion of the population can be reduced in favour of the poorest. Between 2001 and 2009, Kazakhstan experienced a systematic increase in the share of the poorest quintile, by a total of 2.42 percentage points, whereas the share of the richest quintile shrank by 4.88 percentage points. As a result, the ratio between the incomes of the latter and first quintiles has decreased from 5.74 to 3.81.

It should be noted that the RoK's Agency for Statistics uses the equivalence scale when assessing the poverty rate in Kazakhstan. The scales allow income levels of households consisting of one member and those consisting of more than one member to be more comparable.

The income of a one-member household is compared to the subsistence minimum and, based on this, a member of a household is classified either as poor or not. As far as the average income of a household consisting of several members is concerned, the income of the first member and the other members of a household is compared to 100 percent and 80 percent of the subsistence minimum, respectively. It is assumed that the first member of the household pays

Table 1.2 Economic Inequality in Kazakhstan 2001-2009									
	2001	2002	2003	2004	2005	2006	2007	2008	2009
Fund coefficient	8.8	8.1	7.4	6.8	6.8	7.4	7.2	6.2	5.33
Income concentration ratio (Gini coefficient) by 10% groups	0.339	0.328	0.315	0.305	0.304	0.312	0.309	0.288	0.267

* Since 2003 data have been obtained using the income equivalence scale.

Source: Agency for Statistics.

---

[1] The Income concentration ratio or Gini coefficient allows for a quantitative assessment of the extent of income inequality. It measures the degree of deviation of actual income distribution by quantitatively equal groups from the equal distribution line. It ranges from 0 (absolute income equality among all groups of population) to 1 (absolute inequality when all income is received by one person).

Table 1.3. Income Distribution by 10 percent Groups, 2009

Deciles	Income Range, KZT	Percentage of Income in the Range	Average Monthly Per Capita Income in the Range, KZT	Increase in the Average Monthly Per Capita Income as % of Subsistence Minimum
1	0-10,509	4.20	8,772	
2	10,510-12,404	5.52	11,511	21.6
3	12,405-14,140	6.37	13,311	14.2
4	14,141-15,880	7.19	14,997	13.3
5	15,881-17,950	8.10	16,899	15.0
6	17,951-20,290	9.14	19,084	17.3
7	20,291-23,341	10.40	21,705	20.7
8	23,342-27,377	12.06	25,165	27.3
9	27,378-34,655	14.61	30,482	42.0
10	34,656-157,568	22.41	46,789	128.8
Total		**100.00**		

Source: Agency for Statistics.

expenses common for the entire household, amounting to 20 percent of the subsistence minimum. If the equivalence scale is not used in assessment of the poverty level, the latter is overestimated.

The 2009 data on decile (tenth) income distribution show that 20 percent of households had incomes less than 12,405 KZT, with the subsistence minimum being 12,660 KZT. When equivalence scales were used, the poverty level was only 8.2 percent (i.e. two and a half times less).

Decile income distribution demonstrates a slight increase in the average per capita income in each subsequent decile other than the last two. Thus, for deciles 3-6 an increase in the subsistence minimum was only 13.3-17.3 percent. In fact, 80 percent of the country's population has incomes not exceeding two subsistence minimums.

When the subsistence minimum methodology was revised in 2006, it was not only the food basket serving as the basis for assessment of the subsistence minimum that was revised and expanded, the share of non-food items in the subsistence minimum also increased from 30 to 40 percent, with the food basket now accounting for 60 percent of the subsistence minimum.

It should be noted that recently the pattern of cash expenses has been demonstrating a reverse trend, with the share of food and non-food products and services being 40 percent and 60 percent respectively.

The Ministry of Labour and Social Protection has set a task to increase the subsistence minimum as the basic social

standard. The best way to achieve this is to do it gradually, first increasing the share of the non-food component to 50 percent, thus raising the subsistence minimum by 20 percent, and then to 60 percent, increasing the subsistence minimum by another 25 percent. The country has the financial capacity to do this as annual cash revenues in nominal terms are expected to grow at about the same pace.

Given an annual inflation rate of 6-8 percent, the share of non-food items in the subsistence minimum should be increased every two years. These structural changes can be implemented, for example, in 2012 and 2014. Such changes in the subsistence minimum pattern are reasonable and based on the fact that the structure of consumers' expenditures, in particular, the share of food consumption in total expenditures, is also seen as a poverty measure. The definition of this indicator suggests that whenever a household spends more than 50 percent of consumer expenditures on food, it is considered to be poor.

Regional Poverty Differences in Kazakhstan

Regional differentiation by poverty level, assessed on the basis of the new subsistence minimum methodology introduced in 2006, tends to decline, but remains significant. For example, in 2003 it was 12.1 times: 54.6 percent in South Kazakhstan Oblast and 4.5 percent in Astana. In 2009, the differentiation by the level of poverty had been reduced to 7.6 times: 22.6 percent in Kyzylorda Oblast and 3 percent in Almaty.

In 2007, Karaganda and Pavlodar Oblasts joined the group of the most prosperous regions, with the lowest poverty levels. In 2008, Aktobe and Karaganda Oblasts entered this group, but were replaced in this group by West Kazakhstan and Zhambyl in 2009 along with the cities of Astana and Almaty.

In 2008 and 2009, the highest poverty levels were observed in Kyzylorda, Almaty and Mangistau Oblasts. In 2007, this

Figure 1.3. Percentage of Population with Income below the Subsistence Minimum, by Regions of Kazakhstan, 2003 and 2009 (%)
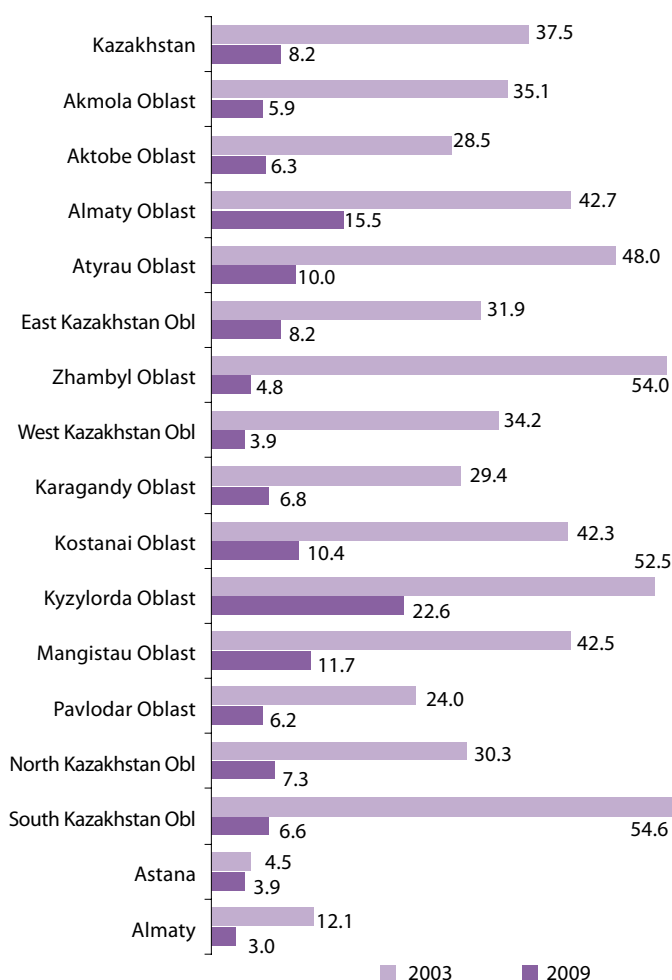
Source: Agency for Statistics.

group also included Akmola and North Kazakhstan Oblasts.

Others are regions with an average poverty level. In the past two years, these have included Akmola, East Kazakhstan, Kostanai, Pavlodar and North Kazakhstan Oblasts as well as Atyrau and South Kazakhstan Oblasts, which, on a number of occasions, were among the group of regions with the highest poverty levels.

Urban and Rural Poverty

Regional differences in poverty levels are accompanied by differences between urban and rural areas. In 2007 and 2009, the population with income below the subsistence minimum accounted for 18.1 percent and 12.1 percent of the rural population respectively; the subsistence minimum was KZT 9,653 and 12,660 in 2007 and 2009 respectively[2]. As a whole, the rural poverty level remains almost twice as high as the urban one. The highest rural poverty level was in Mangistau Oblast, with 63.5 percent of the rural population having consumption income below the subsistence

Table 1.4. Poverty Level in Kazakhstan, by Regions in 2009

Poverty Grouping	Region
Low (3-4.8%)	Cities of Almaty, Astana; West Kazakhstan and Zhambyl Oblasts
Medium (5.9-10.4%)	Akmola, Pavlodar, Aktobe, South Kazakhstan, Karaganda, North Kazakhstan, East Kazakhstan and Atyrau Oblasts
High (11.7-22.6%)	Mangystau, Almaty and Kyzylorda Oblasts
Source: Agency for Statistics.	

---

[2] Based on data of the Agency for Statistics of the Republic of Kazakhstan http://www.stat.kz

minimum in 2008, with the poverty level for the entire Oblast being 32.4 percent. This Oblast also saw the widest gap between rural poverty and urban poverty, standing at five times. The highest levels of rural poverty remain in Kyzylorda (23.6 percent), Almaty (22 percent) and Atyrau (17.5 percent) Oblasts[3]. The rural poverty level in Karaganda, Pavlodar, Kostanai and Aktobe Oblasts is four or more times as high as the urban one. In Kyzylorda Oblast, the level of urban poverty remains the country's highest at 25 percent in 2008, exceeding rural poverty by 1.4 percent.

The rural poverty situation is determined by the following factors and challenges:

- rural families have many children, which is also typical of oralmans families, which prefer to settle down primarily in rural southern oblasts;

- migration (especially that of young people) from rural areas to large cities due to lack of employment opportunities, low wages and lack of access to vocational training;

- private sector underdevelopment in rural areas exacerbated by poor infrastructure and difficult access to markets and money – often people cannot start their business due to lack of collateral to back up loans and credits;

- local governments lacking human and financial resources to promote development issues.

Vulnerable Groups in the Context of Poverty

Poverty and Employment

The main factor in reducing poverty and achieving economic well-being is a person's ability to engage in productive employment. The labour market situation is determined primarily by two groups of indicators: employment and unemployment, i.e. availability and type of employment and wage indicators. The employment rate in the country rose, from 92.2 percent in 2006[4] to 93.4 percent in 2009. However, compared to 2004, when this rate was 91.6 percent, this upward trend appears to be quite significant. The unemployment rate has decreased respectively: from 7.8 percent in 2006, to 6.6 percent in 2009. Youth unemployment dropped even more dramatically, by almost two times: from 12.1 percent in 2006, to 6.7 percent in 2009.

The most vulnerable among the employed population are the self-employed accounting for 33.7 percent of the employed population in 2009, dropping by a mere 1.8 percentage points in 2006. Southern regions, Zhambyl (52.1 percent) and South Kazakhstan (48.4 percent) had the largest share of self-employed population in 2009. Low productivity and earnings from this form of employment increase the poverty risk for the self-employed, leaving them

---

[3] Standard of Living in Kazakhstan, 2004-2008. Statistics Digest. Astana, 2009.

[4] Since release of the 2007 Millennium Development Goals Report.

on the sidelines of the pension, social security and workers' rights protection system. The self-employed in rural areas are exposed to a greater poverty risk as subsistence farming is their main source of income and they become ineligible for targeted social assistance. Only one percent of the self-employed benefited from state targeted social assistance in 2008.

Gender Poverty Aspects

The 2006-2016 Gender Equality Strategy adopted in 2005[5] in the Republic of Kazakhstan targets gender equality and women's better competitiveness in the labour market as one of the gender policy areas.

The level of women's economic activity as a whole has not grown significantly, from 64.8 percent in 2004 and 2006 to 66.1 percent in 2009, remaining lower by 9.8 percentage points than that of men. This has to do primarily with earlier retirement, and, as a consequence, women leaving their working careers earlier than men.

Men's economic activity had tended to decrease until 2006 (74.9 percent), rising slightly in 2007 and 2008, only to drop in 2009 to 75.9 percent. Thus, since 2006 it has risen by a mere one percentage point, which partly has to do with a high incidence of occupational injuries[6].

Men account for 38.7 percent of the economically inactive population, with the number of economically inactive women being more than 1.5 times as high, at 61.3 percent (2009).

Though decreasing, in 2009, women's unemployment, at 7.5 percent, remains higher than that of men, at 5.6 percent. In long-term unemployment, proportion of women is twice as high as that of men.

Given that a majority of the working population works for hire, wages in many respects determine the level of financial well-being of individuals and households and opportunities for investing into human development. Significant differences in men's and women's wages still remain. In 2009, women's average wage was 65.1 percent of the average men's wage[7], having increased by 2.8 percentage points since 2006.

The wage differences for men and women are, in many respects, related to the nature of men's and women's concentration in economic sectors and professions (horizontal segregation) with corresponding differences in wages, and distribution in professional hierarchy within jobs and types of activity (vertical segregation). In each type of economic activity, men's wages remain higher than women's by 1.1-1.8 times. Even in sectors with a traditionally high concentration of women (public healthcare and education) men's wages are 10-20 percent higher than those of women, which is caused, at least in part, by the over-representation of men in better-paid executive positions.

The economic vulnerability of women in the labour market is also determined by their over-representation in the self-employment category with lower wages and larger social vulnerability.

The limited access for women to financial resources and information, and a lack of liquid collateral for loans considerably impairs rural their entrepreneurship activities. As a result, only 12 percent of the country's farms are headed by women, who own about three percent of agricultural land.

Migrants

The economic, political and demographic development of Kazakhstan has led to its position in the Central Asian Region (CAR) as a destination country for labour migration from Kyrgyzstan, Uzbekistan and Tajikistan.

Labour migrants are vulnerable to poverty, especially female labour migrants. Female labour migration in Kazakhstan accounts for a significant component of total labour migration stocks. Female labour migrants are engaged in such sectors as agricultural work, services and trade. Men are primarily engaged in construction and repair sectors. The differences in men's and women's wages favouring the former, is due to the different nature of the work they do.

Problems of male and female migrant workers result from poor awareness of the existence of organisations dealing with protection of the rights of migrant workers, non-observance of occupational safety rules and rights in employer-employee relations, irregular salaries and access to public healthcare services, which is not fully guaranteed. An accessible state mechanism for protecting migrants' rights is not in place yet, whereas the NGO and trade union system protecting migrants' labour and social rights is underdeveloped[8].

There is a special category of migrants, oralmans, who are ethnic Kazakhs returning to their historical motherland. In 2009, their entrance quota was 20,000 families. Oralmans benefit from state support provided to purchase housing and from access to healthcare, education, social security and employment.

A majority of oralmans families have many children and live in southern densely populated areas with a higher poverty level. This category is also vulnerable to poverty due to problems they face in social inclusion, employment and access to social protection.

Internal migration, especially of young people, from rural areas to cities caused by limited chances to get productive employment and vocational training in villages, also impacts on the level of poverty of this population, frequently raising the urban poverty level.

---

[5] RoK Presidential Decree № 1677 as of 29 November 2005, On approval of the Gender Equality Strategy in the Republic of Kazakhstan for 2006-2016.

[6] Analysis of Development of Gender Equality in Kazakhstan. Astana, 2009

[7] Based on data of the Agency for Statistics of the Republic of Kazakhstan http://www.stat.kz

[8] Needs Assessment of Women Labour Migrants. Public Opinion Survey Centre with the support of UNIFEM Regional Office for CIS. 2009.

Elderly People

From the viewpoint of poverty, elderly people are a vulnerable category. As the country's population grows older, pension coverage becomes particularly important. Adequate financial security in old age is one of main targets of a socially oriented state like Kazakhstan. In this country, this issue has always been of priority and recently it has been positioned as a national-level target. The main reason for this focus is the fact that a majority of elderly people have only one source of income, i.e. their retirement benefit. Well-being of pensioners and duration and quality of their life depend directly on the purchasing power of their benefit.

In 2009, people aged 60 and over accounted for 10.1 percent of the entire population of the country. At the beginning of 2009, the country had 1,640,500 pension recipients, with an average benefit amounting to KZT 13,418 (Table 1.5). This level of the pension benefit exceeds the established subsistence minimum, KZT 12,364 in 2008, which is why pensioners are not classified as poor. However, though they are less exposed to an extreme poverty risk (20 percent of the poorest population), pensioners are better represented in the second 20 percent group and are more exposed to the risk of falling into poverty, living at the subsistence level. Employment reduces the risk of poverty for this category in a significant way. A total of half of the population aged 60 and over are economically active, accounting for 3.2 percent of the employed population.

Differences in men's and women's jobs and incomes make the gender gap in pension provision wider, raising the poverty risk for elderly women. About 70 percent of elderly women fall under the poor category. More pronounced economic vulnerability of women of the retirement age (with pensioners, as a whole, falling into the poverty risk group) is also related to the fact that most of them remain alone in old age due to a significant difference in the life expectancies of men (61.9 years) and women (72.4 years)[9] and men's high mortality.

Table 1.5 The Number of Pensioners and the Average Monthly Pension Benefit									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of pensioners, thousands	1,786.8	1,749.1	1,690.6	1,660.0	1,640.7	1,645.9	1,637.1	1,635	1,640.5
Average pension benefit, KZT	4,298	4,947	5,818	8,198	8,628	9,061	9,898	10,654	13,418
Source: Agency for Statistics, http://www.stat.kz									

---

[9] 2008 Demographic Yearbook of Kazakhstan, Astana, 2009.

People with Disabilities

In 2007, there were 409,200 persons with disabilities registered with labour and social protection authorities, this number not having changed considerably since 2001 and remaining at 26.3 per 1,000 of the population. Pursuant to the 2006-2008 Programme of Rehabilitation of Persons with Disabilities, the social security system for such persons was evolving at three levels. Changes were made to the social standards system, and the subsistence minimum was determined to be the basic social standard for assessing basic disability benefits. The number of benefit recipients has increased by 39,327 over 8 years, with an average benefit up by about KZT 2,990 to KZT 12,000, i.e. by four times, in absolute figures over this period[10].

Due to persistent health problems, persons with disabilities have additional needs that require additional funds. At the same time, the amount of the benefit of an overwhelming majority of persons with disabilities is too small to cover additional needs arising due to disabilities. An overwhelming majority of persons with disabilities are classified as poor and in absolute need of both the state support and care.

Conclusions

Target 1 of MDG 1, halving the share of people with incomes below the subsistence minimum, was achieved in Kazakhstan back in 2004. Poverty, however, remains a serious problem for the country, especially in rural areas.

Notwithstanding some progress in the reduction of income poverty, however, there is a high risk for quite a considerable proportion of the population to fall into poverty. In fact, 80 percent of the country's population has incomes not exceeding two subsistence minimums. Earned incomes remain insufficient to be regarded as decent earnings, reducing the appeal of productive employment. Regional poverty differentiation with more pronounced rural poverty in all regions is still there. Rural poverty continues to exceed urban poverty by almost two times.

In 1994, Kazakhstan became the first post-Soviet country to establish a national model of social partnership and pass the Law 'On Social Partnership in the Republic of Kazakhstan'. Employment, compensation, social guarantees to citizens and social protection of the most vulnerable groups of population were prioritised. State social policies aimed at protecting vulnerable population groups must become an effective instrument of the poverty reduction strategy and should be aimed at further strengthening of protection of the most vulnerable social groups especially those living in rural areas such as the self-employed, large and one-parent families, elderly people, persons with disabilities and migrants.

The principle of non-discrimination on the grounds of gender is enshrined in the laws of the Republic of Kazakhstan including the Constitution and the Labour Code. However, the elimination of sources underlying the gender inequality in this area calls for a clear-cut legislative framework for active implementation of measures aimed at securing equal employment opportunities for women and men. The 2006-2016 Gender Equality Strategy of the Republic of Kazakhstan allows integrating gender aspects into various strategies and programmes of the Government, central and local executive bodies including those on labour migration.

Poverty Reduction Measures

Human potential development and poverty reduction call for:

- setting the stage for development of entrepreneurship in rural areas through:
    - improvement of the rural infrastructure and access to agricultural machinery for small businesses;
    - establishment of a favourable tax regime, subsidies and access to financing for rural entrepreneurs;
    - securing farmers' access to markets where they can sell products at subsidised prices;
    - strengthening of vocational training to attract young people to rural areas;
    - better access to information in rural areas.
- establishing a favourable legislative framework for employing migrants and access to entrepreneurial activity;
- securing better access to the social protection system for vulnerable groups, in particular, women, migrants, refugees, young and elderly people and persons with disabilities;
- further development of social services involving NGOs as suppliers of social services.

To strengthen institutional capacity, the capacity of the workforce, and financing there is a need to:

- use the subsistence minimum as the uniform standard for social aid;
- develop a methodology for determining and improving the economic and social status of the self-employed and provide better access to social protection including the pension system;
- improve the financing of rural infrastructure and small businesses;
- elaborate a development programme for NGOs as suppliers of social services to vulnerable groups locally;
- set up regularly updated registers of socially vulnerable groups for internal record-keeping and using data to provide targeted support;
- strengthen the capacity of local governments in promoting development issues.

---

[10] From Isolation to Equality: Realising the Rights of Persons with Disabilities in Kazakhstan. 2009 National Human Development Report.

GOAL 1
To Eradicate Extreme Poverty and Hunger

TARGET 2

To halve the proportion of people who suffer from hunger between 1990 and 2015

The Relevance of MDG 1 Target 2 for Kazakhstan

Target 2, calling to halve the proportion of people suffering from hunger within MDG 1, Eradication of Extreme Poverty and Hunger, has already been achieved in Kazakhstan. For Kazakhstan, the problem of hunger is no longer relevant. At the same time, a significant share of the population, especially risk groups including children and women of child-bearing age, needs better nutrition. In particular, a proportion of children under five years of age have low weight-for-height ratios, indicating the status of their nutrition. Micronutrient deficiency, the so-called 'hidden hunger' is widespread in risk groups.

In this context, Target 2 was adapted to the situation in Kazakhstan to reflect the target of reduction by half of the proportion of the population that does not have access to balanced and adequate nutrition. Progress in achieving this target has been assessed based on the following indicators:

- Nutritional status of children under five (weight for age, height for age and weight for height ratios);
- Incidence of: vitamin A deficiency, iron deficiency, iodine deficiency and folic acid deficiency, etc. in the population.

Therefore, the resolution of MDG 1 Target 2 'Halving, between 1990 and 2015, the proportion of population that suffers from hunger' remains important and relevant as far as improvement of children's nutritional status, and a decrease in the incidence of 'hidden hunger' in risk groups are concerned.

Analysis of Recent Trends

The Ministry of Health has a regularly updated database on weight-for-height ratios in children. Such a database, if analysed, could provide a good basis for timely measures to be taken to prevent protein-calorie deficiency in children.

A programme to prevent iodine deficiency in the country's population through universal salt iodisation and free iodine supplementation of all pregnant women has been quite successful.

A programme to fight anaemia in the country includes free iron pill supplements for all pregnant women as well as reproductive-age women and children under five with low blood haemoglobin levels.

Promotion of breast-feeding practices and timely introduction of supplementary nutrition are an efficient way to prevent protein-calorie deficiency and ensure survival of infants. In Kazakhstan, the National Programme 'Protection of, Support and Assistance to Breast-feeding' has been implemented since 1997 and aims to improve the nutritional status of infants. The aforementioned programme was effectively implemented for 10 years, but since 2007 it has faced problems primarily due to lack of resources. Further development of the breast-feeding programme in Kazakhstan has been stipulated in the draft of the 2011-2015 Healthcare Development Programme.

The programme to fortify first- and premium-grade wheat flour with six micronutrients (iron, zinc, folic acid, thiamine, riboflavin and nicotinic acid), which was in place between 2003 and 2007, has been suspended in recent years due to cancellation of the legislation mandating flour fortification. In late 2009, the legislation mandating flour fortification was re-adopted. Currently, there is a need to pass bylaws (Government Resolutions) to implement the law on mandatory flour fortification. This programme and achievement of sustainable wheat flour fortification can provide a good basis for preventing deficiency of the above mentioned six micronutrients. Further development of the mandatory flour fortification programme has been stipulated in the draft of the 2011-2015 Healthcare Development Programme.

The country currently lacks programmes to prevent vitamin A deficiency in children under five, although there is a pressing need for such a programme as witnessed by the Section entitled 'Situation Analysis' of the draft 2011-2015 Healthcare Development Programme.

Assessment of the Target 2 Status

A child's nutritional status reflects his or her overall health. When children have access to an adequate food supply, are not exposed to repeated illnesses, and are well cared for, they reach their growth potential and are considered well nourished. Lower weight/height/age ratios in children under five, as a rule, imply protein-calorie deficiency. Hence, by the incidence of low weight/height/age one can assess the nutritional status of children of a certain age group. Progress in achieving this target has been assessed on the basis of the following **three indicators: weight-for-age, height-for-age and weight-for-height.**

For children under five having good and balanced nutrition, there is a standard ratio of weight/height/age indicators that measure acute and chronic malnutrition.

Height-for-age is a measure both of acute and chronic malnutrition, lack of adequate nutrition for a long time and frequent or chronic diseases. Children whose height-for-age is more than two standard deviations (-2SD) below the median are considered short for their age and are classified as moderately stunted. If it is more than three standard deviations (-3SD) below the median, they are considered severely stunted.

Weight-for-height ratio indicates children's nutrition at present. Children whose weight for-height is more than two standard deviations (-2SD) below the average recommended value are considered underweight or moderately wasted. This status shows acute malnutrition in the recent past. If the weight for-height is more than three standard deviations (-3SD), they are considered severely wasted.

The weight-for-age index is an integrated indicator of a child's nutritional status. Children whose weight-for-age is more than two standard deviations (-2SD), but less than three standard deviations (-3SD) are considered to be moderately malnourished. Children whose weight-for-age is more than three standard deviations (-3SD) are considered to be severely malnourished.

The parameters of the 1995 Demographic and Health Survey (DHS, 1995) were taken as the **baseline** nutritional status for children under five. To identify **trends** in incidence of protein-calorie deficiency in children of the specified age group the findings of the 2006 Multi-Indicator Cluster Survey (MICS, 2006[11]) were compared to the baseline.

The most widespread incidence of all forms of moderate deficiency of weight-for-height indicators has been identified, with few exceptions, in the age-band 12-23 months, with the lowest incidence in the age group 0-6 months (Table 1). The age-band 12-23 months is the most vulnerable in terms of development of protein-calorie deficiency in children. The majority of children aged 0-6 months are breast-fed, which,

apparently, protects children from malnutrition in an essential manner. Due to early termination of breast-feeding a significant proportion of children aged 12 to 23 months are deprived of breast-feeding, which can promote malnutrition in them. The incidence of malnutrition in children aged 7-11 months can be explained by the untimely or inadequate introduction of supplemental nutrition.

Regional differences in the incidence of various forms of malnutrition have also been identified. In 2006 children in West Kazakhstan (8.8 percent) and Almaty Oblast (8.1 percent) were more likely to be underweight for their age than other children; as for height-for-age – Aktobe Oblast (23.5 percent), Kyzylorda Oblast (23.3 percent) and Almaty Ob-

Table 1. Comparative incidence (as a percentage) of moderate (-2 SD*) and critical (-3 SD*) deviations in the nutritional status of children under five in Kazakhstan, as per DHS 1995 and MICS 2006

Age, Months	Incidence of Weight-for-Height Deficit, %					
	Height/Age		Weight/Height		Weight/Age	
	1995	2006	1995	2006	1995	2006
Moderate deviations (-2 SD*) in nutritional status indicators						
<6	4.2	5.8	2.1	6.7	1.6	3.3
6-11	9.6	8.2	3.5	5.1	5.1	3.5
12-23	23	16.6	4.1	3.1	11.1	4.9
24-35	16.3	12.5	2.7	2.7	10	4.4
36-47		13.9		3.2		2.7
48-59		13.4		4.4		4.5
Median**	**15.8**	**12.8**	**3.3**	**3.8**	**8.3**	**4.0**
By 1995, %	100.0	81.0	100.0	115.2	100.0	48.2
Changes from 1995, %		−19.0		+15.2		−51.8
Moderate Deviations (-3 SD*) in Nutritional Status Indicators						
<6	1.1	2.2	0.0	2.4	0.0	1.4
6-11	1.3	3.5	0.0	0.6	0.9	0.8
12-23	3.3	4.8	1.5	0.7	1.9	0.8
24-35	5.0	4.1	0.3	0.6	2.0	0.8
36-47		4.4		0.9		0.4
48-59		4.0		1.1		1.1
Median**	**3.1**	**4.1**	**0.6**	**0.9**	**1.5**	**0.8**
By 1995, %	100.0	132.3	100.0	150.0	100.0	53.3
Changes from 1995, %		+32.3		+50.0		−46.7

* - standard deviation;

** - number of surveyed children: 717 in 1995, and 4,193 in 2006

---

[11] Multiple Indicator Cluster Survey (MICS) in Kazakhstan. Agency for Statistics of the Republic of Kazakhstan, UNICEF, Kazakh Nutrition Academy, Astana-Almaty, 2006, p. 198.

Figure 1. Change in incidence of various lower nutritional status indicators in children under five in 2006 (MICS-2006) as a percentage of the 1995 baseline (DHC-1995) taken as 100 percent
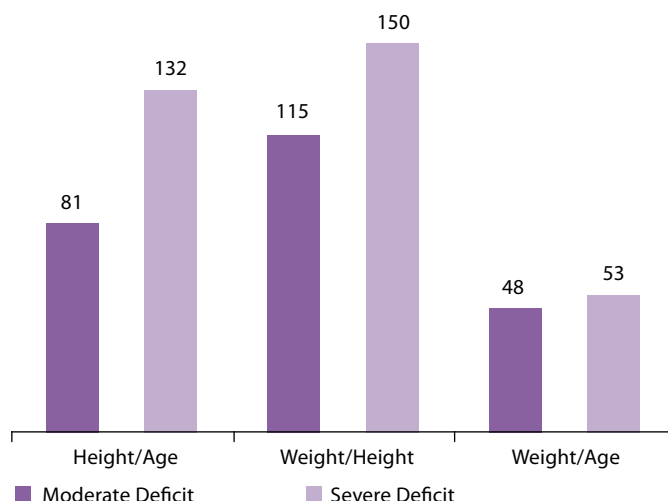
last (22.1 percent). The highest proportion of moderately underweight children for their height was found in West Kazakhstan (12.5 percent) and in Mangistau Oblast (9.3 percent). Furthermore, those children whose mothers have higher levels of education are the least likely to be underweight and stunted compared to children of mothers with primary/incomplete secondary education.

Most widespread was moderate **chronic malnutrition** (15.8 percent in 1995 and 12.8 percent in 2006), or stunting in children as defined by lower a height-for-age ratio. In 2006, this indicator dropped by 19 percent compared to the baseline. Severe height-for-age deficit occurred less often (3.1 percent in 1995 and 4.1 in 2006), with this indicator, on the contrary, growing by 32 percent compared to the baseline in 2006 (Fig. 1).

Moderate wasting resulting from **acute malnutrition** and defined by lower weight-for-height, was found in 3.3 per-

cent of children in 1995 and 3.8 percent in 2006, severe wasting was found in 0.6 percent of children in 1995 and 0.9 percent of children in 2006. This parameter in 2006 had grown by 50 percent compared to the baseline.

A total of 8.3 percent of children in 1995 and 4.0 percent of children in 2006 were found to be moderately malnourished, as defined by the weight-for-age index, and 1.5 percent of children in 1995 and 0.8 percent of children in 2006 were found to be severely malnourished. This criterion is **an integrated indicator of children's nutritional status.** In this context, it is important to note that in 2006 both moderate and severe malnutrition on average halved compared to the baseline. Hence, it can be assumed that **in terms of this criterion, MDGs have already been achieved in Kazakhstan.**

At the same time, in 2006 the incidence of moderate and severe chronic deficiency and the severe malnutrition in children exceeded the 1995 baseline.

Deficiency of such vital vitamins and minerals as iron, iodine, folic acid and vitamin A in a diet is referred to as 'hidden hunger', which has an impact on infant and maternal morbidity and mortality.

Anaemia is viewed as a major problem in global healthcare. It is one of the most alarming healthcare problems in Kazakhstan. Progress in achieving the **target** of halving the incidence of anaemia amongst the population has been assessed on the basis of the **indicators** provided in Table 2.

This subsection provides comparative results and **trends** in the incidence of anaemia received from nationally representative DHS 1995 **(baseline data)** and NMNS 2008[12] (National Micronutrient Survey, 2008). Though severe anaemia occurs quite seldom, moderate and especially mild anaemia is evident in a significant part of surveyed population (Table 3). Anaemia occurs more frequently in ethnic Kazakhs than in Russians. The rural population suffers from anaemia a little more often than urban dwellers.

Table 2. Estimated anaemia incidence based on blood haemoglobin concentrations (g/dl) in different gender and age groups[13]

	Age	No Anaemia	Mild Anaemia	Moderate Anaemia	Severe Anaemia
Children aged:	6-59 months	≥11	10-11.9	7–9.9	<7
	5-11 years	≥11.5	10-11.9	7–9.9	<7
	12-14 years	≥12	10-11.9	7–9.9	<7
Women (≥15 years)	Pregnant	≥11	10-11.9	7–9.9	<7
	Not Pregnant	≥12	10-11.9	7–9.9	<7
Men (≥15 years)		≥13	10-11.9	7–9.9	<7

---

[12] Assessment of efficiency of activities targeting incidence of micronutrient deficiency among most vulnerable population groups. Chapter 1. Almaty, Kazakh Nutrition Academy, 2008, p. 243

[13] Methods of assessing iron status. In: Iron Deficiency Anemia. Assessment, Prevention and Control. A Guide for programme managers. UNICEF, UNU, WHO, 2001, p. 33-46.

Table 3. Incidence of anaemia by severity (as a percentage) among different population groups in Kazakhstan, comparative results of DHS 1995 and NMNS 2008

Description	Total		Mild		Moderate		Severe	
	1995	2008	1995	2008	1995	2008	1995	2008
Children under 15 (n=1,395)		44.9		30.2		14.2		0.6
0-59 months (n=500)	69.2	47.4	30.1	26.0	33.6	20.6	5.5	0.8
5-11 years (n=638)		41.2		30.4		10.2		0.6
12-14 years (n=257)		49.4		37.7		11.7		0.0
Women aged 15-59 (n=1,852)		45.3		33.4		10.9		1.0
15-49 years (n=1,543)	48.8	48.2	37.1	34.7	10.6	12.3	1.1	1.2
50-59 years (n=309)		31.1		27.2		3.9		0.0
Men aged 15-59 (n=759)		28.1		25.6		2.4		0.1
15-49 years (n=631)		26.9		24.2		2.5		0.2
50-59 years (n=128)		33.6		32.0		1.6		0.0
Total surveyed population (n=4,006)		41.9		30.8		10.4		0.7

In 2008, the incidence of anaemia in children under 5 decreased by 31.5 percent compared to the 1995 baseline. The incidence of severe anaemia dropped by almost seven times. However, the incidence of anaemia in reproductive-age women in 2008 did not undergo any noticeable changes compared to the 1995 baseline.

It should be emphasised that in 2008 the incidence of anaemia both among children under five and reproductive-age women was considerably higher than 40 percent, a level suggested by the WHO, United Nations University (UNU) and UNICEF when the situation in the country could be classified as high-risk. Hence, there is not doubt that anaemia remains a priority problem for healthcare in Kazakhstan. This dictates a need to take immediate measures to prevent anaemia in risk groups, which is required to achieve the MDGs in this indicator by 2015.

Progress in achieving the target of halving the incidence of iodine deficiency in reproductive-age women has been assessed on the basis of indicators provided in Table 4.

In Kazakhstan, the issue of iodine deficiency is being successfully resolved through salt iodisation. Since 1999 (baseline) to 2006 the level of good-quality iodised salt

Figure 2. Incidence of iodine deficiency (ID) in different forms of severity (percentage) in reproductive-age women in Kazakhstan, comparative data of DHS, 1999, and MICS, 2006
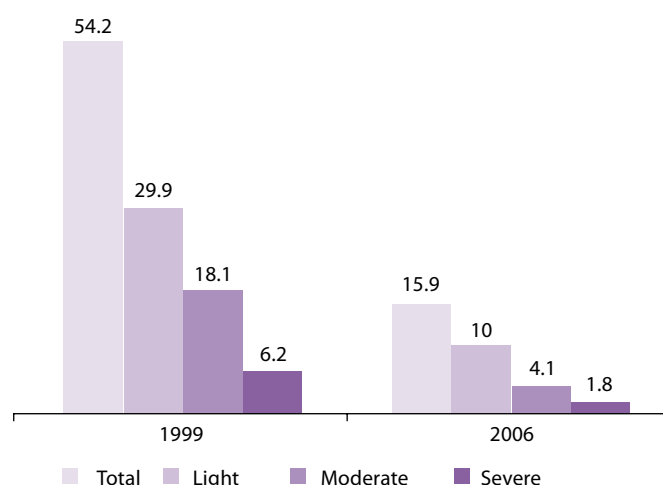
Table 4. Estimated low urinary iodine excretion or iodine deficiency (ID) based on urine iodine concentrations (mkg/l)[14]

Age	Standard	Mild ID	Moderate ID	Severe ID	Above Standard	Excessive Level
Women aged 15-45	100-200	50<100	20<50	<20	201-299	≥300

---

[14] Urinary iodine. In: /Assessment of Iodine Deficiency Disorders and Monitoring their Elimination. A Guide for programme managers. ICCIDD, UNICEF, WHO, 2001, p. 31-36.

Table 5. Vitamin A sufficiency based on blood retinol concentrations (mkg/dl)[15, 16, 17]

Age	Standard	Threshold	Moderate Vitamin A Deficiency (VAD)	Severe Vitamin A Deficiency (VAD)
Children aged 6-59 months	≥30	20<30	10<20	<10

Table 6. Vitamin A status and incidence of vitamin A deficiency (VAD) based on blood retinol concentrations (mkg/dl) in children aged 6-59 months in Kazakhstan, NMNS, 2006

Country	n	Retinol Concentration (mkg/dl) in Blood Serum									
		Normal Level		Threshold Level		Total VAD		Moderate VAD		Severe VAD	
		n	%	n	%	n	%	n	%	n	%
Kazakhstan	1,032	161	15.6	281	27.2	590	57.2±1.07	487	47.2	103	10.0

consumption has increased from 29 percent (DHS, 1999) to 92 percent (NMNS, 2006). Because of this, the level of iodine excretion in urine among women of childbearing age has increased from 93mcg/ml to 230mcg/ml, which meets WHO standards.

In the country, in 2006 an average of 15.9 percent of reproductive-age women had iodine deficiency including 10.0 percent, 4.1 percent and 1.8 percent in light, moderate or severe forms respectively (Fig. 2). These indicators testify to a triple decrease in incidence of iodine deficiency since 1999. Obviously, such differences result from higher production and availability of adequately iodised salt for the population.

Kazakhstan has already been certified as a country that has achieved universal salt iodisation; hence, the MDG in this respect has already been achieved in Kazakhstan.

Vitamin A Deficiency (VAD) causes a depressed immune status and resistance to infections, increased morbidity and mortality of children under five years of age. In this context, VAD prevention is an effective way to reduce infant and child mortality.

Progress in achieving the target to halve the incidence of VAD in children under five is assessed on the basis of the indicators presented in Table 5.

Incidence of vitamin A deficiency was for the first time researched nationally in 2006 (NMNS, 2006). In this context, the findings of NMNS, 2006, on VAD incidence can be used as a baseline due to lack of earlier data. This has to do with

fact that, unfortunately, there is no VAD prevention programme currently in effect in Kazakhstan.

A total of 57.2 percent of children aged 6-59 months were found to have VAD (Table 6). A considerable proportion of the children (27.2 percent) had a threshold value of vitamin A in their blood serum, with a smaller proportion (15.6 percent) having a normal value (Fig. 3). Vitamin A deficiency was mainly moderate (47.2 percent), with severe VAD occurring less often (10.0 percent).

Folic acid deficiency (FAD) in pregnant women leads to nerve tube congenital abnormalities (NTCA) in newborns such as anencephaly, spina bifida and others. In the case of FAD the risk of development of NTCA increases by 10 times[18]. In the case of FAD homocysteine concentration in blood plasma increases[19], which promotes development of cardiovascular pathologies[20], a leading cause of mortality in Kazakhstan.

Folic acid is a part of a premix used to enrich wheat flour in Kazakhstan. One can assume that, if implemented, the flour fortification programme in Kazakhstan will considerably decrease the incidence of FAD and NTCA as well as cardiovascular pathologies in adults.

Progress in achieving the target of decreasing FAD incidence among the population is assessed on the basis of the indicators provided in Table 7.

Incidence of folic acid deficiency in children under five was for the first time researched nationally in 2006 (NMNS, 2006).

---

[15] Saskia de Pee, Omar Dary: Biochemical indicators of vitamin A deficiency: serum retinol and serum retinol binding protein. Presented at the Proceedings of the XX International Vitamin Consultative Group Meeting, Hanoi, Vietnam, February 12-15, 2001. // J. Nutr., Sep. 2002, v. 132, № 9S, p.2895S-2901S.

[16] Ballew C., Bowman B.A., Sowell A.L., Gillespe C. Serum retinol distributions in residents of the United States: Third National Health and Nutrition Examination Survey, 1988-1994. M. J. Clin. Nutr., 2001, v. 73, p. 586-593.

[17] Olmedilla B., Granado F., Southon S. et al. Serum concentrations of carotenoids and vitamins A, E, and C in control subjects from five European countries. Br. J. Nutr., 2001, v. 85, p. 227-238.

[18] Daly, L.E., Kirke, P.M., Molloy, A., Weir, D.G. & Scott, J.M. 1995. Folate levels and neural tube defects. Implications for prevention. JAMA, 274: 1698-1702.

[19] Selhub J et al. Vitamin status and intake as primary determinants of homocysteinemia in an elderly population. Journal of the American Medical Association, 1993, 270:2693–2698.

[20] Scott, J.M. & Weir , D.G. 1996. Homo-cysteine and cardiovascular disease. Q. J. Med., 89: 561-563.

Table 7. Exposure of folic acid deficiency (FAD) on the basis of folic acid (FA) concentrations (mkg/l or ng/ml) in blood plasma[21, 22]				
Description	Severe FAD	Moderate FAD	FA Threshold	Normal FA level
Children and adults	<1.3	1.3<3.0	3-6	>6

In this context, the findings of NMNS-2006 on FAD incidence can be used as a baseline due to lack of earlier data. Unfortunately, FAD incidence in pregnant women and other population groups in Kazakhstan is yet to be researched.

According to the findings of the 2006 national micronutrient research (NMNS, 2006) folic acid deficiency (FAD) occurred in 15.3 percent of population on the average. A significant proportion of children (49.0 percent) had a threshold level of vitamin A in their blood serum, with a smaller part (35.7 percent) having a normal value of folic acid in blood plasma. FAD incidence in urban children was statistically much lower than both the average republican indicator and the FAD incidence in rural children (Fig. 4).

Major problems hindering the achievement of the goal/target

Major problems hindering the achievement of MDG 1 Target 2 have to do with the following factors:

1. Lower incidence and duration of breast-feeding (BF) including exclusive breast-feeding (EBF) in recent years. Thus, EBF incidence in the age 0-3 months was as follows: 12.3 percent in 1995, 46.6 percent in 1999[23], 57 percent in 2002[24] and 24.8 percent in 2006. Incidence of all forms of BF of infants under 12 months of age was as follows: 75.3 percent in 1995, 80.2 percent in 1999[25], 79 percent in 2002 and 61.2 percent in 2006. It is common knowledge that whenever breast-feeding is practiced less, children's nutritional status worsens.

2. Possible irrational diet for children under 5 in children's pre-school organisations and at home. Children's nutritional status in these organisations has not been researched since Kazakhstan's independence.

3. Medical staff's lower capacity to consult parents and introduce rational and adequate nutrition for children.

4. The outreach component of nutritional diversification efforts targeting better awareness of the population about nutritional aspects of anaemia prevention by changing food habits is insufficiently effective.

Figure 3. Frequency of deficiency (VAD), threshold and normal levels of vitamin A in blood serum (percent) in children aged 6-59 months, Kazakhstan, NMNS, 2006
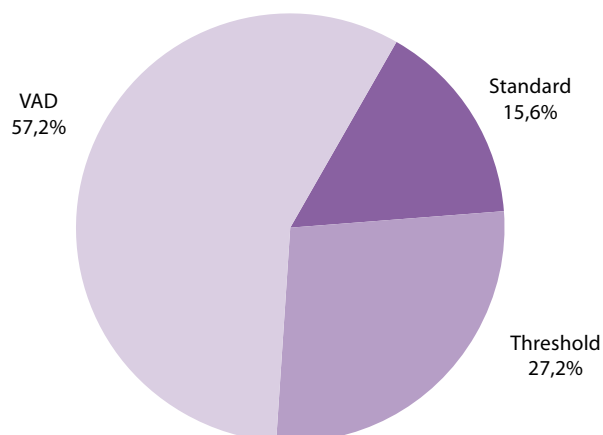

VAD 57,2%
Standard 15,6%
Threshold 27,2%

Figure 4. Percentage of children aged 6-59 months with normal and threshold folic acid levels in blood and folic acid deficiency (FAD) in Kazakhstan, NMNS, 2006

	Urban (n=425)	Rural (n=607)	Total (n=1032)
Normal level (%)	41.4	31.6	35.7
Threshold level (%)	48.7	49.3	49.0
FAD (%)	9.9	19.1	15.3
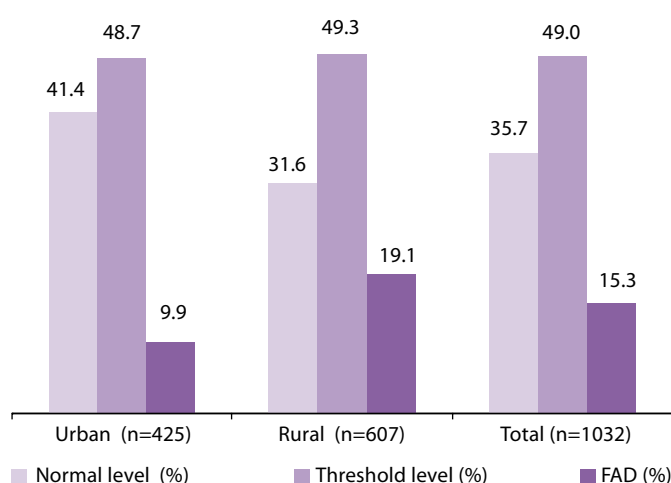
[21] Folic acid deficiency cut off points: moderate deficiency 1,3<3,0 ng/ml or ng/L; severe deficiency <1,3 ng/ml or ng/L. Source: 'Medicine I. o. (2000) Dietary Reference Intakes: thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline. National Academy Press, Washington, D.C.'

[22] Cut off points for folic acid level in blood plasma: marginal level 3-6 ng/ml.; normal level >6 ng/ml. Source: T.Brody, Barry Shane 'Folic Acid'. In: Handbook of Vitamins. Third Edition, edited by R.B.Bucker, J.W.Suttie, D.B.McCormick and L.J.Machlin. New York, 2001, p. 427-462.

[23] Demographic and Health Survey of Kazakhstan, 1999. // Academy of Preventive Medicine, Kazakhstan, and Macro International, USA, November 2000. p. 214.

[24] Tazhibayev Sh., Sharmanov T., Ergalieva A., Dolmatova O., Mukasheva O., Seidakhmetova A., Kushenova R. 'Promotion of Lactation Amenorrhea Method Intervention Trial, Kazakhstan'. //Population Council, Frontiers in Reproductive Health, Washington D.C. May 2004. p. 32.

[25] Demographic and Health Survey of Kazakhstan, 1999. // Academy of Preventive Medicine, Kazakhstan, and Macro International, USA, November 2000. p. 214.

CONCLUSIONS

Conclusion 1

Malnutrition among children under five, as measured by the weight-for-age score, halved in 2006 from 1995 baseline. This is an integrated indicator of a child's nutritional status. In this context, it should be noted that both moderate and severe malnutrition in 2006 dropped, on the average, by two times compared to the baseline. Hence, it can be assumed that the MDG for this criterion has already been achieved in Kazakhstan.

At the same time, in 2006 incidence of moderate and severe chronic malnutrition and severe acute malnutrition among children exceeded the 1995 baseline. This can be caused by the lack of programmes to prevent malnutrition and nutritional status disorders of children under five in the country. There is high incidence of deficiency of several micronutrients (iron, iron deficiency anaemia, vitamin A, folic acid deficiency, etc.) in children under five. A decrease and liquidation of micronutrient deficiency will allow health to be improved considerably and infant and maternal mortality to be lowered, thus contributing to MDG 4 and 5.

Recommendations

To draft, nationally adopt and implement a comprehensive programme targeting balanced nutrition of children under five and prevention of malnutrition and nutritional status disorders.

Actions

1. to continuously raise medical personnel's awareness of children's healthy nutrition; to increase the state order for upgrading doctors' skills with regards to children's nutrition.
2. to ensure an ongoing set of outreach events devoted to children's nutrition among the population, especially mothers including breast-feeding mothers.
3. to provide funds and create conditions required for full-scale continuation of efforts to protect, support and promote breast-feeding and timely introduction of supplementary baby nutrition.
4. to research the status of nutrition in children's pre-school organisations including orphanages, develop and implement recommendations on improvement of nutrition in these organisations.
5. to provide funds for targeted supply of children under five coming from poor families with children's foods.
6. to provide for analysis of a regularly updated children's growth and development data including anthropometric database in the MoH.
7. to monitor and assess the child growth and monitoring indicators including anthropometric data among children under five and to take timely measures to prevent malnutrition.

Conclusion 2

In 2008, the incidence of anaemia in children under five dropped by 31.5 percent compared to the 1995 baseline.

5. In Kazakhstan, causes of anaemia are yet to be studied. It is believed that more than half of anaemia cases have to do with iron deficiency, and that iron deficiency is the main cause of anaemia. Other causes of anaemia include dietary factors including deficiency of vitamins A, B2, B6, B12 and folic acid. Anaemia can also be caused by systemic infections, intestinal parasites, chronic diseases, loss of blood and more rare blood system disorders (e.g., hemoglobinopathy, thalassemia, etc.)[26].

6. Unfortunately, there are no vitamin A deficiency (VAD) prevention programmes in Kazakhstan so far. All main VAD prevention components such as supplementation, fortification and food diversification are lacking.

7. Folic acid is a part of a premix used to enrich wheat flour in Kazakhstan. A provision about mandatory wheat flour fortification was incorporated into the Health and Healthcare Code in late 2009. However, manufacture of FWF is yet to be resumed, since bylaws in the form of corresponding Government Resolutions to implement the specified law of the RoK are yet to be developed and passed.

Assessment of the Impact of the Economic Crisis on MDG Progress

A certain increase in incidence of malnutrition among children under five over the past 2-3 years is quite likely due to a negative impact of the economic crisis on availability of children's foods. This matter, however, is yet to be researched in Kazakhstan.

An increase in the incidence of anaemia and vitamin A deficiency over the past 2-3 years is likely due to a negative impact of the economic crisis on the socio-economic status of the population. This matter, however, is yet to be researched in Kazakhstan.

---

[26] Nutritional Anemia. Edited by Klaus Kraemer Sight and Life Press, Basel, Switzerland, 2007, p. 414.

Incidence of anaemia among women of childbearing age in 2008, however, has not undergone any noticeable changes compared to the 1995 baseline.

In 2008 the incidence of anaemia both among children under five and reproductive-age women was considerably higher than 40 percent, a level suggested by the WHO, United Nations University (UNU) and UNICEF when the situation in the country could be classified as high-risk. This dictates a need to take immediate measures to prevent anaemia in risk groups, which is required to achieve MDGs in this indicator by 2015.

Recommendations

To ensure comprehensive implementation of the main strategy to control iron deficiency anaemia.

Actions

1. to ensure monitoring and assessment of efficiency of the programme on iron and folic acid supplementation of women of childbearing age and children under five, based on which to develop, recommendations on how to improve and increase its efficiency.
2. to develop and adopt a Government Resolution and other bylaws and regulations addressing wheat flour fortification.
3. to achieve fast sustainable fortification of the first- and premium-grade wheat flour in full and to ensure corresponding quality assurance, monitoring and evaluation.
4. to ensure continuation of the programme on iron and folic acid supplementation of women of childbearing age and children under with low haemoglobin until the satisfactory coverage of the flour fortification programme is achieved.
5. to ensure an ongoing set of food diversification outreach events aimed to raise awareness of population about healthy nutrition and dietary aspects of prevention of anaemia and micronutrient deficiency by changing one's eating habits.
7. to set up a state system of monitoring and evaluation of the anaemia control programme including biological monitoring and evaluation of anaemia and iron status and to ensure its sustainable functioning on an ongoing basis.

Conclusion 3

There is a high incidence of vitamin A deficiency among children under, 5 which can be one of main causes of high infant and child mortality in Kazakhstan (up to 60 percent of deaths are caused by measles, more than 20 percent are caused by acute respiratory infections, pneumonia and diarrhoea). In Kazakhstan, there is no programme to prevent VAD in effect yet, though a comprehensive VAD prevention programme has been developed and provided to the MoH by the Kazakh Nutrition Academy.

Recommendations

To ensure comprehensive implementation of core Vitamin A deficiency prevention strategies. This is particularly important due to high VAD incidence and high infant and child mortality in the country.

Actions

1. to urgently consider, amend, adopt and launch the draft comprehensive VAD prevention programme this year.
2. to include vitamin A preparations into a list of Essential Drugs, included into the Basic Benefit Package. To start vitamin A supplements among the specified risk groups this year.
3. to start preparations for vitamin A fortification of the most appropriate product(s).
4. to conduct, on an ongoing basis, a set of outreach events to prevent vitamin A deficiency among risk groups.
5. to monitor and evaluate introduction of the vitamin A deficiency prevention programme and to take timely measures to improve it.

Conclusion 4

Kazakhstan has now been certified as a country that has achieved universal salt iodisation. Incidence of iodine deficiency in 2006 had dropped by 3.5 times compared to 1999. However, the country has yet to put in place a biological iodine deficiency monitoring and evaluation system.

Recommendations

To ensure, on an ongoing basis, biological monitoring and evaluation of iodine deficiency

Actions

1. to provide for and introduce mandatory ongoing biological monitoring and evaluation of iodine deficiency into the state system of monitoring and evaluation of the iodine deficiency prevention programme this year.

Conclusion 5

Incidence of folic acid deficiency in children under five was for the first time researched nationally in 2006 (NMNS, 2006) and was 15.3 percent. Incidence of FAD among pregnant women and other population groups in Kazakhstan is yet to be researched. Folic acid is a part of a premix used to enrich wheat flour in Kazakhstan.

Recommendations

To study incidence of folic acid deficiency in pregnant women and other population groups and, based on research findings, to develop and introduce a set of FAD prevention measures.

Actions

1. to study incidence of folic acid deficiency in pregnant women and other population groups.
2. to perform a set of supplementation and folic acid fortification activities (see actions in Conclusion 2).
3. to conduct, on an ongoing basis, a set of outreach activities to prevent folic acid deficiency in risk groups.
4. to monitor and evaluate, on an ongoing basis, the folic acid deficiency prevention programme including biological monitoring.
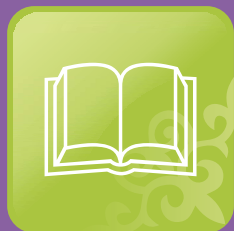
GOAL 2
To Achieve Universal Primary Education

TARGET 3

To ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

National Context (Target 3+): To achieve universal secondary education

Introduction

Despite the financial crisis, education in Kazakhstan has continued to develop steadily in the past three years, turning gradually into one of the human capital investment forms. The Address of the President N. Nazarbayev dd. 29/01/2010 of 'A New Decade, New Economic Growth, New Opportunities for Kazakhstan' contains a section headlined 'The Person as the Main Wealth of the Country' linking success in achieving the key strategic target, the country's modernisation, to knowledge, social and physical health of Kazakhstanis. This document sets outs priorities in development of the educational system in the current decade including implementation of the 12-year education model, rigid alignment of vocational and technical education with the needs of the economy and ensuring conformity of the quality of higher education with international requirements.

The current status of the educational system is characterised by a number of achievements verified through quantitative and qualitative indicators. Thus, in 2009, for the first time in its history Kazakhstan was included into the list of countries with a high human development index (HDI)[27]. Then, the country ranked first among 129 countries in terms of the international Education for All Development Index (EDI)[28] and 67th in the Global Competitiveness Index (GCI): out of 18 parameters describing education and science Kazakhstan's position improved in seven indicators[29]. In terms of its literacy rate, 99.5 percent, it ranks 14th among 177 countries of the world. For the first time, Kazakhstani schoolchildren took part in an international TIMSS 2007[30] comparative study and finished 5th in mathematics and 11th in science out of the 43 countries that attended. Overall, Kazakhstan's team was seventh.

Recently, there has been a stable increase in the number of pre-school education organisations and children attending them. As at 1 January 2010, the country had 4,972 pre-school organisations enrolling 373,100 children, or 38.7 percent of pre-school age children[31], an 11.1 percent increase from 2006/2007. Primary, basic and general secondary education enrolment has increased, standing at 99.8 percent, 100 percent and 99.6 percent of the population of the typical age respectively, in 2008. This compares with attendance figures of 99.5 percent for primary, 99.8 percent for basic and 99.2 percent for secondary education in 2006[32]. In the past three years, enrolment of seven to 17-year-olds in general secondary schools was 99.9 percent. Government funding of education is growing year

---

[27] The 2009 UN Report 'Overcoming Barriers: Human Mobility and Development' ranked Kazakhstan 82nd in the HDI.

[28] EDI ranking includes the following indicators: total primary net enrolment ratio, adult literacy level, gender-specific index and survival rate to grade 5. EDI does not reflect the level of a country's education system, its quality or the country's intellectual level and potential.

[29] 7 indicators: quality of primary education (from spot 68 to 67); quality of the educational system (from spot 68 to 66); quality of math and science education (from spot 80 to 72); quality of management schools (from spot 98 to 97); local availability research and training services (from spot 82 to 68); extent of staff training (from spot 92 to 83); availability of scientists and engineers (from spot 83 to 74).

[30] The Trends in International Mathematics and Science Study - TIMSS.

[31] Based on data of the RoK Agency for Statistics. stat.kz/digital/obraz/Pages/

[32] According to Kazfin.info, the average annual exchange rates were as follows: USD 1= KZT 147.4 (in 2009), USD 1 = KZT 120.3 (in 2008), USD 1 =KZT 122.5 (in 2007), USD 1 = KZT 126.1 (in 2006)

on year. In 2009, the education budget grew by 35.6 percent from 2007 and amounted to KZT 746.5 billion or USD 5.06 billion[33] (in 2007, KZT 480.7 billion or USD 3.9 billion). The share of state budget spending on education has increased: according to the MoES, education spending was 4.4 percent in 2009, compared with 3.7 percent of GDP in 2007.

These achievements resulted from state educational policies, whose principles and content are set out in the RoK's Constitution and the Law 'On Education' updated in 2007.

Education development priorities are set out in a number of strategic documents[34]. The MoES Memorandum on Achievement of GCI Target Indicators is being enforced. An Intersectoral Agreement was signed by the MoES and MIA on the prevention of school non-attendance. The development of the MoES 2010-2014 Strategic Plan is ongoing, as is the Long-Term Education Development Programme until 2020, which includes standards, and a list of state education services; the National Education Quality Evaluation System, which are be-

ing improved. For the first time in the country's history, Kazakhstan has set up a state system to monitor children's rights advocacy. One of goals of these planned educational programmes is to ensure equal opportunities for each national of the country in obtaining high-quality life-long education to achieve the level that suits his or her capacity most[35].

As follows from the MDG 2002 and 2005 reports, MDG 2 in its original version has already been achieved in the country. Based on the analysis of national priorities, statistics and state education programmes and given other countries' experience it was concluded that there is a need for assessment of secondary education as a whole with a focus on the quality of education and enrolment of children with special needs and students from socially vulnerable groups. The MDG 2007 report takes into account this conclusion and determines Target 3+, ensuring universal secondary education, for further monitoring of the achievement of the expanded version of MDG 2. The following parameters have been adopted as progress indicators[36]:

3.1. Enrolment rate in general secondary education (of population of respective age group; availability of schools and places in them)	**3.2. Survival rate of each level of general secondary education (from grade 1 to grade 5, from grade 5 to grade 9 (10)), etc. including secondary education graduates**	**3.3. Enrolment rate in secondary education for children with special needs**
3.4. Gross entry ratio of students enrolled in secondary vocational and higher education	**3.5. Number of children covered by pre-school training and education, especially those living in villages, from poor families and exposed to social risks**	**3.6. Development of a unified standard of the national education statistics mandatory for all**
	3.7. Enrolment rate in secondary education for children doing distance learning in rural area	

Each indicator is characterised both by achievements and unresolved challenges, which the 2009-2011 MoES Strategic Plan determined as systemic issues. In the first instance, this has to do with the provision of equal access to pre-schooling, high-quality educational services, further education programmes in the context of development of life skills and life-long learning opportunities, especially for representatives from rural and remote ar-

eas, and children and teenagers from vulnerable groups. The rate of child homelessness and neglect is going down too slowly; the quality of children's life is not sufficiently secured by economic, social and legal guarantees. Despite an increased state education budget, these funds are not sufficient to ensure sustainability of development of the educational system in line with international standards[37].

---

[33]   National Report on Education Status and Development. Astana. 2009, p. 187

[34]   Kazakhstan-2030 Development Strategy, RoK Strategy of Industrial and Innovative Development for 2003-2015, 2005-2010 RoK State Education Development Programmes, 2008-2012 State Technical and Vocational Education Development Programmes, 2007-2011 Children of Kazakhstan Programmes, 2009-2011 Strategic Plan of the RoK Ministry of Education and Science.

[35]   Draft Long-Term Education Development Programme till 2020. Astana. 2009, p. 7-8.

[36]   The structure of these parameters determines the overall logics of this chapter

[37]   Dakar EFA Conference recommended that state education funding should be 6-7% of GDP.

General Evaluation of Target 3+ Progress based on Adopted Progress Indicators

3.1. Enrolment rate in general secondary education

As reported by the National Education Quality Assessment Centre (NEQAC)[38], in 2008 general secondary enrolment had increased by 0.4 percent compared with 2006, and continues to demonstrate stable progress (Table 1, Figure 1).

Table 1. Dynamics of secondary enrolment, percentage (2006 - 2008)

Education levels	Enrolment rate, %		
	2006	2007	2008
Primary	99.5	99.6	99.8
Basic secondary	99.8	99.9	100
General secondary, total	99.2	99.4	99.6

It should be noted that high HEC has been reached in the context of network reduction (by 147 schools, or 2 percent) and student enrolment (approximately by 4 percent) in comprehensive schools in 2007-2009 including primary, basic and secondary schools (PS, BS, SS)[39] (Table 2). Just as it was three years ago, a majority of schools of all levels are located in the rural area. In the 2007/08 academic year, rural PS, BS and SS accounted for 95.2, 92.7 and 70.8 percent respectively; in 2009/10 their shares were 95.1, 93.5 percent and 69.5 percent[40] respectively.

Higher HEC can be explained, among other things, by the expansion of a network of and enrolment in technical and vocational education (TVE), especially colleges, the latter having increased in number by 85 schools, or more than by 15 percent over the three years, and enrolment has increased by 9 percent (Figure 2). In 2006, the vocational school/lyceum enrolment rate was 5.7 and 15.1 percent of population of typical age (14-19 years) respectively; in 2008 these parameters went up to 6.1 percent and 16.5 percent[41] respectively.

The high secondary enrolment rate is influenced by the fact that schools still practice instruction in several shifts and that urban schools are overfilled. According to the MoES, students attending the second and the third shift accounted, on the average, for 36.6 percent and 0.8 percent in 2006, and 37.2 percent and 0.55 percent in 2008. In the 2009/10 academic year, about 66 percent of daytime comprehensive schools had classes in two and three shifts. A total of 37.1 percent of students had classes in the afternoon[42]. The shortage of school places was 157,225 (5.8 percent) in 2009 and 78,629 (3.1 percent) in 2006[43]. Due to a higher birth rate the shortage is expected to start increasing from 2010 onwards despite the construction of 155 new schools in 2008 and 2009[44].

The decrease in school enrolment and an increase in vocational training observed in the past few years has been caused by a number of factors, including financial problems of families, a decrease in teenagers' interest in school, impossibility to obtain professional qualifications at school[45], unwillingness to participate in Uniform National Testing (UNT) and high tuition fees for higher education.

As noted above, there was an increase in the share of rural schools from 76.4 percent in 2006 to 78.8 percent in 2009 against the background of a reduction in the total number of comprehensive schools; the number of students also increased from 1,285,800 to 1,322,900, (i.e. from 48.1 percent to 52.3 percent). The majority of rural schools are ungraded (US) (Figure 3). In 2009 there were 4,288 USs, accounting for 56.6 percent of all schools in the country and 71.7 percent

Table 2. Dynamics of a network and enrolment in primary, basic and secondary daytime comprehensive schools in 2007/08-2009/10

	Total schools	Students, thousands	PS	Students	BS	Students	SS	Students
2009/10	7,811	2,534	1,076 13.7%	29,729 12%	1,160 14.8%	91,370 3.6%	5,340 68.4%	2,370,103 93.5%
2007/08	7,958	2,627	1,093 13.7%	31,601 12%	1,210 15.2%	101,459 3.9%	5,427 68.2%	2,450,300 93.2%

---

38 National Report on Education Status and Development. Astana. 2009, p. 187

39 Based on data of the RoK Agency for Statistics. stat.kz/digital/obraz/Pages/

40 Ibid.

41 National Report on Education Status and Development. Astana. 2009, p. 187, 188.

42 statistika@stat.kz

43 Collected works, Education and Science in Figures. Astana. 2009. Slide 11.

44 Ibid; RoK MOES 2009-2011 Strategic Plan. Astana, 2008, p. 9.

45 Content of GSE educational programmes is focused on continuation of education, not on obtaining a profession.

of all rural schools. Two years ago this share was smaller: 55 percent and 53.4 percent respectively[46]. Notwithstanding a gradual decrease in the US number, these schools are still attended by 405,772 children, or more than 16 percent of all students. An analysis of sources shows that this type of school is particularly vulnerable in terms of the quality and quantity of the educational services provided, because of challenges such as shortage of qualified staff and poor training facilities. During the period 2007-2009, the number of settlements having no schools grew by 10 percent (from 1,369 to 1,522), whereas the number of children of school age living in such settlements grew by 19.3 percent (from 29,847 to 36,960)[47].

Despite an increased provision of school bus services to take children to schools in 2009 (from 66.5 to 71.6 percent), there is a pressing need for a state-funded programme targeting children in need of such services.

In 2009, 1,898 schools provided enhanced instruction in various subjects, a 15 percent increase from 2007. Such schools enrolled 342,700 and 183,800 students respectively. The share of rural schoolchildren having access to this educational service has not exceeded 5 - 6 percent over the past three years[48]. In 2009, there were 107 organisations offering instruction to gifted children in mathematics, natural sciences, social sciences and humanities, music, art, military science and sports (versus 86 in 2007). According to the assignment given by the President of Kazakhstan to implement innovative social projects, 20 Intellectual Schools of the RoK's First President specialising in physics and mathematics, chemistry and biology have been set up in the country since 2008. Three more Intellectual Schools, providing instruction for 2,214 students were opened in 2009. To meet children's educational needs in a variety of ways, the country has further education organisations gradually increasing in number: about 533 organisations in 2007 versus 620 in 2009. However, in rural areas, access to this service is low (11 percent of children in 2007).

As far as the language of instruction is concerned, the situation in general secondary education is characterised by an increase in the number of schools where the instruction language is Kazakh (from 46.6 percent to 48.2 percent) or mixed (by one percent) and a 2.4 percent decrease in the share of schools where the language of instruction is Russian. According to statistics, children from more than 100 ethnic backgrounds attended schools in 2008/09 academic year, with Kazakhs accounting for 71.4 percent, Russians – 14.7 percent, Uzbeks - 4 percent, Ukrainians- 1.5 percent, Germans - 1 percent, Uigurs – 1.7 percent, others – 5.7 percent. As a whole, school instruction is offered in six languages.

Figure 1. Secondary enrolment in educational institutions, percentage

■ comprehensive schools   ■ vocational lyceums   ■ colleges
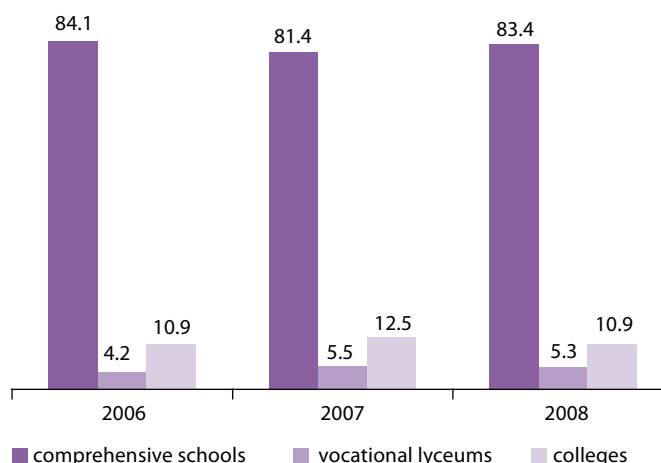
Figure 2. Dynamics of a network of and enrolment in vocational lyceums/schools (VL/VS) and colleges in 2006-2009

■ VS/VL   ■ colleges
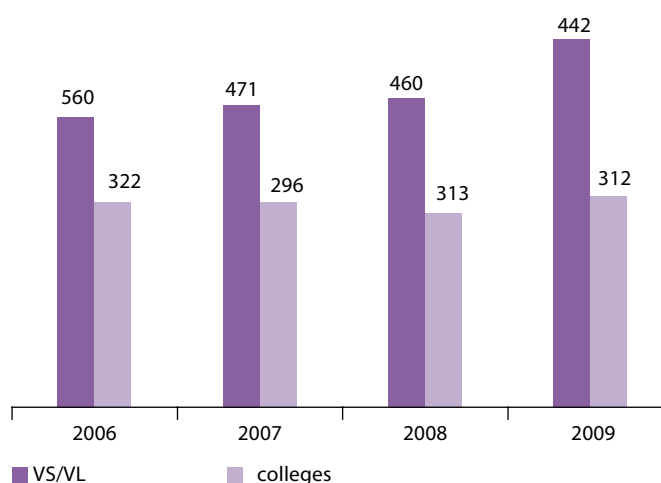
Figure 3. Dynamics of Ungraded Schools network (2006-2009)

---
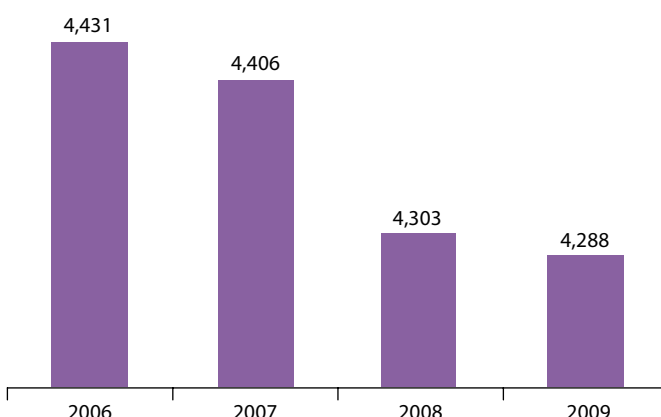
46   Draft Concept of Development of Ungraded Schools ('US') in the Republic of Kazakhstan for 2010-2020, Astana. 2009. p. 3; RoK MOES Collected Works 'Data on Ungraded Schools in 2007', Astana, 2007, p.7.

47   Based on data of the RoK Agency for Statistics.

48   stat.kz/digital/obraz/Pages/

3.2. Survival rate of each level of general secondary education

In 2006-2008, there were no dropout students during the transition from primary school to basic general education. This has been the case over the course of a number of years with regard to the transition of students to general secondary education (GSE)[49]. A total of 53.6 percent of basic secondary education graduates chose to continue education in the 10th grade in 2006, versus 62 percent in 2009. A majority of other students finishing the 9th grade went to TVE organisations (see item 3.4). The outflow of basic school leavers to vocational schools/lyceums and colleges in recent years resulted in a decrease in the senior general secondary education enrolment (84.1 percent in 2008, 83.4 percent in 2006). The GSE graduation rate, as a percentage of the population of typical age, is also going down (2006 - 59.1 percent, 2008 – 47.6 percent).

The lack of official statistics on transition to other educational levels of corresponding year's graduates does not allow for a reliable drop-out analysis and tracking. As a whole, the drop-out rate in general secondary education is insignificant (0.02 percent or 462 persons in 2008) and varies only slightly from year to year[50].

3.3. Enrolment rate in secondary education for children with special needs

According to the Republican Psychological, Medical and Pedagogical Consultation Board the number of children requiring special education has been increasing in Kazakhstan in recent years[51]. In 2007, there were 120,000 children requiring special education, and in 2009, this had risen to 154,870 children. Their enrolment in special educational programmes has increased from 23.0 percent in 2006 to 41.4 percent in 2009. The share of such students in rural areas does not exceed 11 percent. Currently there are 37 special kindergartens and 228 special groups at general kindergartens, which have over 10,000 pre-school-age children with development limitations. Nearly 24,000 school-age children with a limited development capacity (LDC) go to 101 special schools and 820 special classes at comprehensive schools. In 2007, there were 100 special schools enrolling 15,300 children. Special education enrols 6,600 students in 241 comprehensive schools. In 2009, there were 277 such schools enrolling 12,830 students.

To improve learning arrangements for children with LDC, model special comprehensive curricula were developed in 2009, taking into account the severity of disorders in psychophysical development and cognitive capacity. The 'Con-

---

49   National Report on Education Status and Development. Astana. 2009, p. 87.

50   Ibid, p. 90.

51   Draft Concept of Development of Inclusive Education in the Republic of Kazakhstan. Astana, 2009, p.2.

cept of Development of Inclusive Education in Kazakhstan' was also drafted during this period. Integration ideas are gradually acquiring a better understanding and recognition in the public mind. In 2009, over 12,000 children with LDC were integrated into mass schools and kindergartens: 3,000 children attended 395 kindergartens; over 9,000 children of school age went to 769 comprehensive schools offering special teaching support.

Targeted inclusion of children with LDC into a common educational environment is also undertaken through research performed by UNESCO and non-governmental organisations. Enrolment of children with special needs in special educational programmes was made an indicator of monitored performance of the RoK's Oblasts, Almaty and Astana Akims. Nevertheless, in the experts' opinion, this field calls for dramatic improvements in methodological, legal, staffing, teaching, organisational and financial support. Teachers of mass schools do not know how to train children with disabilities as this area was not a part of their university education. As a result, such students often become under-achievers and are unable to adapt socially.

3.4. Gross entry ratio of students enrolled in secondary vocational and higher education

In recent years, basic school graduates have increasingly entered vocational lyceums/schools (11.7 percent in 2006 and 28 percent in 2009) and colleges (34.6 percent in 2006 and 72 percent in 2009)[52]. Many graduates went to colleges hoping to enter a university upon graduation[53]. Thus, in 2006, 64.8 percent of TVE graduates were admitted into universities compared to less than 41 percent in 2009, a reduction of one third; experts believe this is linked to a reduction in the number of universities in 2007-2008 from 176 to 144[54]. As far as 11th grade graduates are concerned, the majority (about 60 percent) were admitted to universities in 2006. Two years later only 38.3 percent of SS graduates were admitted to higher educational institutions, whilst 49.4 percent went to colleges.[55]

3.5. Number of children covered by pre-school training and education, especially those living in villages, from poor families and exposed to social risks

In 2007-2010, the number of organisations of all kinds of pre-school education and training (PSO), especially pre-school mini-centres is growing. According to the MoES the PSO network has increased by about 42 percent over the three years, standing at 4,972 entities in the 2009/10 academic year; PSO enrolment has increased from 27.6 percent to 38.7 percent, pre-primary enrolment went up from 77 percent to 83 percent (i.e. from 242,700 to 271,400). As for rural children, their access to PSO programmes is visibly lower[56] (Table 3, Figure 4).

Notwithstanding the positive dynamics, PSO still remains one of most challenging educational subsectors. Pre-school enrolment and the number of places in PSO still remain very low compared to many other countries, including CIS countries. Over 900,000 children aged one to six

Figure 4 Enrolment of 5-6-year-old children in mandatory pre-primary education in dynamics, percentage (2007-2009)

Total	77	78.7	83.3
Urban	80	82.4	84.6
Rural	74	75	81.8

■ 2007 ■ 2008 ■ 2009
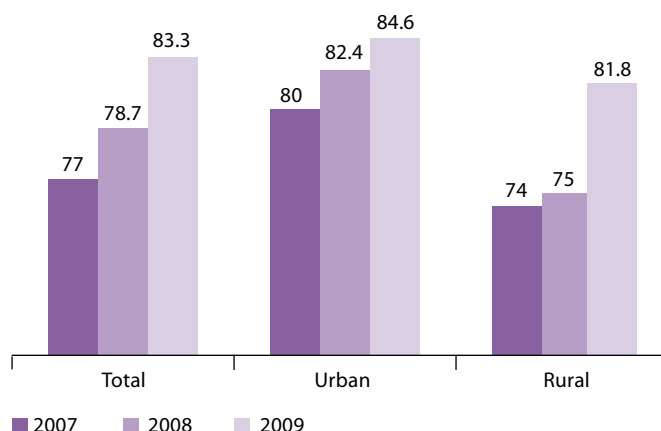
Table 3. Pre-school training and education in the RoK in dynamics, 2007-2010

	PSO Network	Enrolment (thousands)	Enrolment, %	Placement Capacity (children per 100 places)	Urban enrolment	Rural enrolment
2008/09	376.3	324.3	35.6	114	45.2	20.1
2007/08	304.4	283.3	32.3	115	44	20.1
2006/07	2115	230.8	27.6	114	38.7	12.4

---

[52] Based on data of the RoK Agency for Statistics. stat.kz/digital/obraz/Pages/

[53] The principle of continuity of vocational educational programmes allows college graduates to continue their education in higher education organisations in corresponding fields without doing the first and second years as stipulated by admission rules of a specific university

[54] RoK MOES 2009-2011 Strategic Plan. Astana, 2008, p. 5. www.edu.gov.kz.

[55] National Report on Education Status and Development. Astana. 2009, p. 89; National Report on Education Status and Development. Astana. 2009, p. 31

[56] Based on data of the Agency for Statistics. stat.kz/digital/obraz/Pages/

years are not enrolled in organised pre-schooling. A total of 260,000 children are on the waiting list for pre-school organisations.

Demographic forecasts project an increase in the birth rate, thus making the shortage of kindergarten places worse. Pre-school education and training remains unaffordable for many families due to low incomes. State funding of pre-schooling has not exceeded 0.2 percent of GDP during the past three years. Advanced countries spend 1-2 percent of GDP on pre-school funding.

3.6. Development of a unified standard of the national education statistics mandatory for all

Cooperation between Kazakhstan and other countries and international organisations within global educational strategies such as EFA, MDG, LLL[57] and others calls for an adequate supply of information and statistics for this process. It stands to reason that quantitative information should be collected and processed on a regular basis since the country will participate in these global projects in the current and following decades. A shortage of statistical resources, survey data and the need to search for appropriate sources complicates high-quality monitoring, evaluation and analysis of the national education achievements in the context of requirements of international strategies and indicators set out in these strategies.

The Agency for Statistics and the MoES provided the majority of the data required for Chapter 2 herein. However, as was the case for the previous MDG and EFA reports, the available statistics on a number of pressing issues including the following data (broken down by urban and rural area) was not sufficient:

- the transition of students graduating in a corresponding year to other educational levels;
- school-age children from socially vulnerable groups (street children, refugee children, migrants, working children);
- children not attending schools/ drop-outs (children migrating within or outside a city or a region; children on the wanted list; children unwilling to study; children under police investigation, etc.);
- paid services provided by GSE organisations (including contributions made by private sector, families, etc.);
- informal / further education (enrolment / coverage, education costs; informal education as a percentage of total state expenditure);
- secondary enrolment of children doing distance learning in rural areas;
- enrolment / participation in private early development programmes; young children's education and training;
- integration of life skills into GSE programmes.

There are still differences between statistics provided by the Agency for Statistics, education authorities and other departments (on pre-schooling enrolment, secondary education, the number of students at different GSE levels, network of education organisations, school attendance). Some indicators are not correlated with ISCED (International Standard Classification of Education). There is an obvious need for unification and standardisation of national education for all statistics between various departments, especially the Agency for Statistics, MOES and MIA. Incomplete and inconsistent statistics do not allow timely measures to be taken to ensure general and fair enrolment of all school-age children in high-quality training.

---

[57] Life-long learning

3.7. Enrolment rate in secondary education for children doing distance learning in rural area

When scrutinised, materials from the MoES, the Agency for Statistics and other sources demonstrate a lack of official systematic data on this matter. This project does not provide for research into such issues. Therefore, we provide information on general conditions existing in the country for students' distance learning (DL).

This appears to be an area of modernisation relevant for Kazakhstan given its extensive territory and low population density. It is well-known that DL efficiency depends on software, hardware, teaching materials and readiness of teachers and students to use ICT. In 2010, schools had a ratio of 18 students per computer (versus 26 per computer in 2007). A total of 98 percent of schools have Internet access including 97 percent of rural schools. A total of 34 percent of schools have access to broadband Internet. There are national educational websites such as www.eduportal.kz and www.sabak.kz and others for experts, teachers, students and parents[58]. There is a satellite DL channel (SDLC).

Bilim Arnasy educational programmes have been aired weekly on national TV since 2009. There is a DL portal (http://moodle.rcie.kz/moodle/) in the National Informatization Centre (NIC) launched under the UNESCO project 'ICT-enhanced DL for Secondary Schools in Remote and Vulnerable Regions'[59]. A total of 3,385 schools (43.3 percent) have interactive equipment (back in 2006 there were no interactive boards in the country)[60]. A total of 77 percent of school textbooks were converted into e-books. Stage-by-stage upgrade of computers is expected to take place in secondary education organisations, with 60 percent to be upgraded in 2009-2011 and 2012-2014 and 40 percent in 2015-2017 and 2018-2020[61]. According to experts, notwithstanding all achievements, educational institutions, especially rural ones, are not yet ready for fully-fledged distance learning. In rural areas, they still use outdated telephone exchanges, there is an acute shortage of content/software for teacher and student training and self-training[62] as well as e-tools for analysing the quality of the DL-format educational process. There are quite few qualified methodologists, teachers, tutors and web-site administrators. Differ-

ent oblasts have from five percent to 36 percent of digital educational resources for students[63]. A mandatory standard for basic DL technologies is yet to be developed. In other words, as a new educational and socially significant information service for rural GSE institutions, distance learning is, at present, at the start of a long journey.

Quality of general secondary education

Quality of education is determined, in the first instance, by staffing, learning achievements, teaching-methodological materials, financial, material and technical resources[64].

As reported by the MoES, in the 2009/10 academic year there were 274,900 teachers in daytime comprehensive schools, a 2.2 percent increase from 2007 to 2008, with 36.2 percent and 63.8 percent of them working in urban and rural areas respectively. The number of university-educated teachers has increased by 2.7 percent (accounting for 86 percent), the number of young teachers having a teaching experience of less than three years has increased by 0.7 percent; the number of teachers with a teaching experience of over 20 years has dropped by 28 percent. In 2009, 27 percent of teachers had no professional grade; each fifth teacher was over 50 years old. In recent years, schools have been short of teachers of Kazakh, Russian and foreign languages, mathematics, physics and computer science. In 2009, there were 2,440 teaching vacancies. The number of teaching staff in colleges and vocational lyceums has increased (by 4.7 and 13.3 respectively), but the most qualified and promising teachers prefer to quit the TVE system for enterprises; about 12 percent of ET[65] were 55 years old or over.

Education quality indicators are both positive and negative. From 2007 to 2009, UNT average scores improved (from 63.3 to 74.9), just like results of the ISM[66] of grade 9 learning achievement (from 24.7 to 61.6)[67]. A total of 54.5 percent of Altyn Belgi contenders were awarded Altyn Belgi medals (versus 34.3 percent in 2008). A total of 895 people (versus 864 in 2008) won international and republican academic competitions and scientific project contests[68]. At the same time, the number of straight-A students in senior grades is

58 www.schools.kz, www.stportal.kz, www.rumcdo.kz, www.obrazovanie.kz, www.mektep-rk.kz, www.uroki.ru, www.collegy.ucoz.ru.

59 MOODLE (Modular Object Oriented Digital Learning Environment), an open software package designed for PSOs.

60 Speech of Minister of Education and Science J. Tuymebayev at the extended meeting of RoK MOES Board with the participation of the RoK Prime Minister on 03/02/2010. www.edu.gov.kz.

61 Informatization Strategy of the Education System of the Republic of Kazakhstan till 2020, Astana. 2008

62 Extract from an interview of the rector of the International University of Information Technologies D. Shynybekov to BNews.kz news agency on December, 7, 2009

63 Informatization Strategy of the Education System of the Republic of Kazakhstan till 2020, Astana. 2008

64 Experts believe that evaluation of quality based on such a parameter as the number of students per teacher is not reliable or objective in a thinly populated country like Kazakhstan. Because of a plenty of ungraded schools a small number of students per teacher is more of a need than an achievement.

65 Engineers and teachers

66 Interim state monitoring of learning achievements

67 Collected Works, Education and science in figures. Astana. 2009. Slide 11

68 Minister of Education and Science of the Republic of Kazakhstan J. Tuymebayev. 'Falling behind in terms of knowledge should not be allowed. 2009, www.edu.gov.kz

dropping and rural school leavers have been performing 10-15 percent worse at UNT than urban ones for a number of years.

Due to the transition to a 12-year education model, documents governing GSE upgrade strategy including contents were prepared in 2007-2009[69]. Among the expected outcomes, educational standards set out basic competencies. However, the life skills concept is missing. New subjects have been introduced into the school curricula: financial literacy (grades 4-11), basic religion studies (grade 9) and driving (grades 10-11). As far as the TVE system is concerned, a new Occupation Classifier taking into account employers' proposals was developed; six Interregional Centres for Retraining of Vocational Lyceum and College Teachers were established. In 2009, a total of 85,715 school teachers (33 percent) passed retraining courses devoted to the transition to the 12-year educational system and updating of teaching content and technologies.

Efforts are continuing to improve the quality of school textbooks. Towards this goal, Rules for Organisation of Preparation, Review and Publication of Textbooks, Teaching Materials and Manuals were introduced. In 2008, over a thousand textbooks were deemed non-compliant with the new standards and are no longer allowed to be used in the teaching process. A total of 80 percent of students' needs for textbook are met.

School logistics are being improved through equipment in new subject classrooms, language and multi-media rooms (LMR) and interactive boards. In 2009, equipment for 580 biology classrooms, 459 LMRs, interactive boards were delivered to 721 schools (in 2008, schools received equipment for 700 physics classrooms and 483 LMRs). As reported by

the MOES, this year 64.6 percent of schools are accommodated in standard buildings (61.1 percent in 2007), with 35.4 percent accommodated in adjusted premises (versus 38.9 percent in 2007), 201 schools are deemed to be in emergency condition (versus 216 in 2007), 25.1 percent of schools require major renovation (versus 23 percent in 2007). By early 2010, 56 schools (52 in 2007) had been built using republican budget funds and commissioned, 27 had been built using local budget funds and commissioned (25 in 2007). 45.8 percent of centralised networks were connected to the water supply system, 23.8 percent - to the sanitation system and 20 percent of GSE organisations - to the heating system. A total of 82 percent of schools had medical offices. Logistical and teaching-methodical support as well as staffing of ungraded schools require immediate attention.

Social support of poor students has been monitored on a quarterly basis. In 2009, total spending on financial aid to students from socially vulnerable groups exceeded KZT 5 billion or USD 33.9 million (about 2 percent of total school maintenance spending), twice as much as in 2008. Within the annual Republican Action 'Road to School' children from poor families receive financial aid from entrepreneurs, institutions, patron organisations and the civil community. In 2009, over 190,000 children in the country benefited from such support totalling KZT 1 billion or US 6.8 million. (against 100,000 children for KZT 405 million. or USD 3.4 million in 2008)[70]. As reported by the MOES press service, 61.3 percent of school students are supplied with hot meals in schools. Despite these measures, the number of children not attending schools is not dropping. By late 2008/09, 3,512 students were found to have missed school for up to 10 days without a valid reason, with 3,165 children return-

Table 4. Dynamics of state budget education costs by the MoES organisations (KZT million)

Level of Education	2006	2007	2008	2009 [71]
Pre-school education and training	12,937 ($102.6)	20,646 ($168.5)	27,288 ($226.8)	32,067 ($217.5)
% of GDP	0.1	0.2	0.2	0.2
Secondary education	195,271 ($1,548.5)	265,994 ($2,171.4)	292,660 ($2,432.7)	366,643 ($2,487.4)
% of GDP	2.0	2.0	1.8	2.2
TVE (vocational lyceums)	10,406 ($82.5)	14,525 ($118.6,)	19,560 ($162.6)	20,120 ($136.5)
% of GDP	0.1	0.1	0.1	0.1
TVE (colleges)	10,144 ($80.4)	13,310 ($108.6)	14,395 ($119.7)	28,773 ($195.2)
…….				
Total	**331,503 ($2,628.9)**	**480,696 ($3,924)**	**641,060 ($5,328.8)**	**746,477 ($5,064.3)**
% of GDP	3.4	3.7	4.0	4.4

---

[69] Concept of 12-year General Secondary Education in RoK; Upbringing Concept in the System of Continuous Education in the RoK; pre-school education and training standards, primary education standards; draft standards of basic secondary education, standards of general secondary education, conditions for introduction of State Mandatory Educations Standards by educational organisations training children with disabilities; draft concepts of development of field-specific training, ungraded schools, inclusive education

[70] MOES Report. www.bala-kkk.kz/fileadmin/user_upload/files/

[71] When expressed in USD, spending on pre-school education, vocational lyceums and the educational system as a whole dropped in 2009 compared to 2008 due to KZT 18.4 percent devaluation against USD.

ing to school. About 90 percent of children not attending school come from poor and disadvantaged families.

From 2006 to 2009, education costs more than doubled. The share of state budget education costs as a percentage of GDP is growing (Table 4)[72]. This trend is becoming even stronger within the country's long-term educational policies.

Compared with last year, per student costs have increased on the average by 1.3 times at all educational levels. The transition to per capita funding of secondary education, firstly, in 11-12th grades is currently being considered. Compared to 2006, teachers' salaries have increased by 40 percent on the average. However, according to the Agency for Statistics last year's average monthly wages in education were 63.5 percent of the Republican average wages. As reported by different sources including mass-media, notwithstanding improvements in financial aid provided to GSE organisations, families are increasingly contributing to pre-school and secondary education. According to the Union of the Crisis Centres in Kazakhstan, in 2009 schools collected an average of USD 300 or more from each family, in primary grades this amount can be less, in senior grades it is higher[73]. It can become a serious obstacle for children from poor families to access high-quality educational services.

Core problems interfering with MDG2+ achievement

Access to general secondary education

There remains a disparity in access to high-quality educational services, further education at all GSE levels on different grounds, including:

- place of residence (city/village, remote areas);
- family's financial status (low income/ poverty, early child labour);
- health status (children with development disabilities);
- language of instruction;
- ethnic background.

As far as affordability of high-quality education, including pre-school education and training is concerned, there is a dramatic regional difference observed. Informal payments made for children's education are getting higher. However, the relevance of this problem is hard to assess given lack of reliable data.

Adequate mechanisms to track students' attendance are yet to be developed and there is no objective analysis that would reflect the real situation in terms of school absence, to identify its causes and enable efficient measures to be taken.

Informal/further education opportunities for youths, especially in rural areas, remain insufficiently affordable.

Measures taken are aimed primarily at reforms in formal secondary education. Affordability of modern life skills and functional literacy programmes for children and youths depends on place of residence and families' ability to pay.

GSE Quality

The subject approach dominates understanding of education quality. The development of life skills is not integrated into curricula or national standards as expected educational outcomes. Such problems as poor quality and shortage of textbooks, supply of schools for ethnic minorities and educational institutions for children with limited development capacity with textbooks are still relevant. Rural and remote schools are not yet ready for efficient distance learning.

The shortage of qualified teaching staff for pre-school organisations and schools (especially in villages) has not been resolved. The teaching staff tends to 'age'. 'Feminisation' of GSE organisations is continuing, most capable and successful people, especially young and middle-aged, continue to leave the educational system. There is a need for ongoing improvement in teachers' professional level including computer and Internet skills. Not enough attention is paid to the establishment of an educational experts' institute, development of experts' capacity in planning and managing educational services and results-oriented budgeting. Financing is yet to become an effective tool to determine education quality: comparison of UNT results and per student costs shows no correlation between significant costs and the quality of the education.

---

[72] Based on MOES data.

[73] E.g., see information at Nur.kz Kazakhstani Portal dated 25/10/2009.

Children from vulnerable groups: unsolved issues

Identification and effective involvement of children from vulnerable groups into the education system is not a priority. The policy-making approach towards these groups of children remains primarily traditional and is more geared towards provision of special educational services (education for certain groups), rather than inclusive education that would require changes in curricula and training methods at ordinary schools. Achievement of MDG2+, EFA goals is only possible if measures are taken to revise policies targeting these groups of children (growing every year in composition and number).

New understanding of literacy

When determining the literacy level, recent education reviews refer to the results of the 1999 population census in Kazakhstan. Basic literacy is interpreted as a generalised concept meaning skills to read, write and calculate. The UN Literacy Decade Action Plan mentions a need for 'a new vision of literacy … '[74]. Attention is paid not to the presence of basic skills, but people's readiness to apply them in the widest socio-practical context. Unfortunately, attempts to draw attention of the professional community in Kazakhstan to discussions and research on this issue did not yield any noticeable reaction[75], though there is an obvious need for a wider understanding of the contents of literacy and development of corresponding indicators for its assessment. This is proven as true both in practice and by a number of recent policy documents aiming to improve information, computer, financial, legal and other types of literacy of the country's citizens, whose efficiency depends on the level of functional literacy. New approaches to literacy training are connected not only with development of basic skills, but also with the shaping of behaviour strategies enabling flexible, universal and crucial actions.

Coordination and database

As noted earlier, information is not easily accessible and needs to taken from different sources. Even when collected, data are quite often aggregated from different viewpoints and based on different approaches. There is not much statistical data for 2009, for example, GSE enrolment, enrolment of rural children in further education and so forth. The main reason for this is that despite long-standing participation of the country in the MDG and EFA strategies there is no uniform database that could be updated on a regular basis. There is no uniform standard of the national statistics of education mandatory for all[76]. There is no inter-

agency organisational entity willing to assume a key role in coordination of monitoring/evaluation and analysis of achievement of MDG and EFA goals in Kazakhstan. There is no uniform approach to or coordination of actions on the part of ministries and agencies concerned. In cases where there are changes in members of staff who were trained by international organisations in monitoring and analysing technologies, the effect of such training equals to zero since there is no continuity of acquired knowledge and documents.

Assessment of Impact of Economic Crisis on MDG 2 + Progress

The country's core development achievements in 2009 testify to its economic stability[77]. The government has managed not only to retain, but also to increase spending on social programmes, including education. However, as follows from last year's research by the National Analytical Center under the RoK Government, in the course of the crisis Kazakhstani families have become more susceptible to stress since they are more concerned about the future of their children[78]. In spite of the fact that the absolute number of children living in poverty has decreased in recent years, the share of poor children remains high compared to the countries with a similar GDP and rates of development.

Local analysts believe that the economic crisis has had a significantly impact, firstly, on children raised by single mothers, a majority of whom live below the poverty line. According to experts, women in Kazakhstan lose their jobs 10 percent more often than men. At the same time, analytical reviews find no overall significant deterioration in the children's status in the country and only 'limitations' testifying to a negative influence of the crisis on children and youths[79]. School and vocational lyceum leavers' growing demand for universities and colleges boasting time-tested quality of instruction, especially technical and technological institutions guaranteeing employment and providing training in specific jobs (food technologists, non-ferrous metallurgy engineer) can be viewed as an indirect consequence of the crisis. During the year 2008-2009, due to rising university tuition fees a majority of SS graduates wishing to continue their education entered colleges that offer lower tuition fees, smaller tuition period and instruction in occupations that are in demand on the labour market.

---

[74] Literacy Decade of the United Nations Organisation: Education for All; International Plan of Action; implementation of Resolution of the General Assembly 56/6 dd. December 19, 2002

[75] See Kazakhstan's National Human Development Report 'Education for All: the Key Goal for a New Millennium', 2004; National Report 'Mid-term Evaluation of Achievement of EFA Goals', 2006

[76] Statistics challenges are described in Section 3

[77] Kazinform Website dd. 06/02/2010

[78] Novosti-Kazakhstan News agency. Astana. 16/02/2010

[79] Kazinform website dd. 06/02/2010

CONCLUSIONS

Kazakhstan has all prerequisites in place to implement 'Education for All' and switch to high-quality lifelong education for each citizen of the country according to his or her needs and capacity. Within the current decade the country can provide equal and fair access for all children and youths to high-quality secondary education, irrespective of the financial status of a family, place of residence, ethnic background and health status. As stipulated by the adopted long-term strategy, it is planned to ensure universal enrolment of five to six-year-olds in pre-schooling as early as 2011, and 75 percent of children will have access to pre-primary programmes by 2014. By 2015, schools will switch to the 12-year secondary education system. Senior education will be provided on the basis of field-specific instruction. As shown by the review, the target of ensuring universal secondary education has both considerable achievements and many challenges and unresolved problems. The government and other responsible parties should perform the following strategic activities to overcome existing barriers.

Education Policies:

- manifesting more firm and consistent commitment to equity issues and planning goals for reducing inequality in access and quality of secondary education (urban/rural areas, ethnic minorities, financial status, language, physical and financial capacity, regional features);

- strengthening links between education planning and poverty reduction strategy; integrating education into a wider poverty and inequality control strategy context;

- ensuring fulfilment of adopted commitments within the EFA and Education for Sustainable Development (ESD) strategies;

- supporting EFA/MDG goals through adequate financing (6-7 percent of GDP);

- updating literacy policies through integration of new elements reflecting current and future literacy needs of the country and people into current literacy programmes. Towards this end, pilot research should be initiated to define the concept of 'new literacy' taking into account areas of application of literacy skills (including literacy in ICT, information, legal issues, financial literacy and other aspects) most relevant for Kazakhstan; incorporating an updated literacy value as an indicator for pilot assessment of population's literacy in line with contemporary understanding.

Better education quality:

To ensure updating of the content of education through:

- integrating into national education development strategies the inclusive education concept as an integral approach taking into account different needs of all children; improvement of teacher training programmes taking into account the inclusive approach; development of the strategy of partnership and inter-agency cooperation in the area of inclusive education;

- integrating into education contents and technology the life skills concept (LSC) based on national sustainable development and life-long education priorities; LSC introduction into teacher training and retraining curricula and programmes;

- revision of national educational standards and curricula based on the principle of interrelation and continuity of pre-school, primary and secondary education standards;

- effective use of ICT and distance learning (for improving access to education for people with special needs, rural children and youths);

- ensuring regular collection and analysis of data on children, who dropped out of and are not attending school, as a basis for decision-making and follow-up;

- stage-by-stage monitoring of learning achievements.

Goals pertaining to statistics, institutionalisation, staffing and financing capacity:

Developing a uniform standard of national education statistics and, towards this end:

- establishing an inter-agency commission (statistics agency, ministries and agencies concerned) to achieve agreement on the collection and analysis of educational statistics; the commission should undertake regional research on the level of access to educational services and determine vulnerable groups);

- involving NGOs and mass-media into data collection and analysis for summarising independent opinions and collecting statistics.

Organising improvement of qualifications/ expert training:

- in educational statistics: development of indicators, collection and analysis of internationally comparable statistics;

- in national and regional planning and management of education;

- in results-oriented educational budgeting; financing of educational services, strategy of efficient use of resources; development of new education financing mechanisms (per capita financing);

Analysing programmes of retraining institutes, teacher training universities and donors' and international organisations' capacity for preparing teaching staff for institutional changes (political, administrative and financial).

GOAL 3
To Promote Gender Equality and Empower Women

TARGET 4

To eliminate gender disparity in primary and secondary education, preferably by 2005 and at all levels of education no later than 2015

TARGETS 4+

✓ **To ensure adoption and implementation of measures aimed at increasing representation of women in legislative and executive bodies**

✓ **To ensure legislative and enforcement measures to prevent and eliminate violence against women**

✓ **To ensure sustainable gender mainstreaming of national planning and budgeting, especially aiming at minimising the gender wage gap**

Over the last three decades governments, and national and international organisations as well as feminist movement activists have been placing gender equality issues in the focus of human development programme at a number of the UN sessions and follow-up conferences. These have been aimed at reviewing fulfilment of commitments, including the Fourth World Conference on Women in 1995 and the International Conference on Financing for Development in 2002, as well as the recent Conference at the Highest Level on the World Financial and Economic Crisis and Its Impact on Development. These commitments assumed obligations to implement measures for the promotion of gender equality and women's empowerment in such areas as education, health care and employment, as well as in such important areas as infant and maternal mortality. Being involved in those processes, gender equity and women's empowerment activists have realised the need to analyse national and global macroeconomic strategies from the gender perspective[80].

Kazakhstan has identified integration into the world community as its foreign policy priority. Promotion of gender equality and women's empowerment are defined as the third human development goal under the Millennium Declaration, which has been signed by practically all the countries in the world.

Over the years of its independence, Kazakhstan has made progress in the protection of rights and legitimate interests of men and women. In 1998, Kazakhstan joined the UN Convention on the Elimination of All Forms of Discrimination against Women. Kazakhstan has joined over 60 international human rights treaties. In 2003, the Gender Policy Concept was adopted in the Republic of Kazakhstan, based on which the Gender Equality Strategy of the Republic of Kazakhstan for 2006-2016 was developed as initiated by the President on the fourth Congress of Women on 7 September 2004 and later approved by Presidential Decree No.1677 dated 29 November 2005. Gender priorities and monitoring indicators specified in the strategy were developed based on MDG indicators and the 'UN Convention on the Elimination of All Forms of Discrimination against Women' (CEDAW) and aligned with the national objectives. The RoK's Laws 'Prevention of Domestic Violence' №214-4 dated 4 December 2009 and 'State Guarantees for Equal Rights and Opportunities for Men and Women' №223-IV dated 8 December 2009 have been adopted.

In 1995, despite the challenging transition period in the country's life, the Head of State established the Council on Family Affairs and Demographic Policy under the President of the Republic of Kazakhstan. The purpose of the council was to support the family as an institution and to advance the rights of women and children. In 1998, it was reorganised into the National Commission on Family and Women's Affairs under the President of the Republic of Kazakhstan and acquired extended rights and authorities. In accord-

ance with the Presidential Decree №56 dated 1 February 2006, 'The National Commission on Family and Gender Policy under the President of the RoK'; the Commission was established as an advisory authority under the President. In 2008, the Commission was renamed as the National Commission on Family and Demographic Policy under the President of the Republic of Kazakhstan. Similar arrangements were set up under the Akims of regions, cities and districts. At present, there is no such similar reputable family and women's institutional set-up in the CIS countries. The world community has praised this move highly[81].

The statistical yearbook 'Women and Men in Kazakhstan' has been published to reflect gender relations in the country. At the legislative level, the Commission on Family and Gender Policy was established under the Social Council of the Nur Otan National Democratic Party Group in the Mazhilis of the Parliament to protect the interests of the family, women and children.

However, despite of the achievements in gender policies there is still a lot to be done in Kazakhstan to achieve true gender equality in the country. Thus, for example, women in high-level positions are represented noticeably less than men. There were only two female ministers among 19 ministers as of the beginning of 2010 (the Ministry of Labour and Social Protection and Ministry of Economic Development and Trade). The proportion of women in the Mazhilis of the Parliament comprised 18 percent.

Women are less in demand than men in the labour market. Due to various reasons, female employment is more represented in informal economy, particularly amongst the self-employed population. The level of crimes against women remains high.

Public Administration

Currently, women represent 14 percent of the members of Parliament of Kazakhstan; the total proportion of female civil servants comprises 58 percent; 8.8 percent of women hold high-level positions in central executive bodies and 10.3 percent hold decision-making positions in the regions[82]. Adoption of the Law 'On State Guarantees for Equal Rights and Opportunities of Men and Women' (2009) is aimed at promoting better indicators in this area. The law secures guarantees for gender equality for access to civil service and establishes responsibility of all public authorities and employers for ensuring equal rights and opportunities in employment.

Poor female participation in politics in Kazakhstan can be explained by low female representation in electoral groups engaged in politics. Female politicians are mainly representatives of social sectors (healthcare, education, social protection, etc.) and have lesser political experience as compared to men. However, representation of women in

[80] Fatma Gul Unal, Mirjana Dokmanovic, Rafis Abazov. The Economic and Financial Crises in CEE and CIS. Contribution to the Fifteen-year review of the Implementation of the Beijing Platform for Action arranged by the UN Economic Commission for Europe. UNIFEM. New York, 2009.

[81] http://www.akorda.kz/www/www_akorda_kz.nsf/sections?OpenForm&id_doc=EE21A25EF910E1BE462572340019E603&lang=ru

[82] According to the data of the Secretariat of the National Commission on Women Affairs and Demographic Policies under the President of Kazakhstan. Astana, 2010.

Figure 1. Women's representation in the lower chamber (Mazhilis) of the Parliament, by convocations
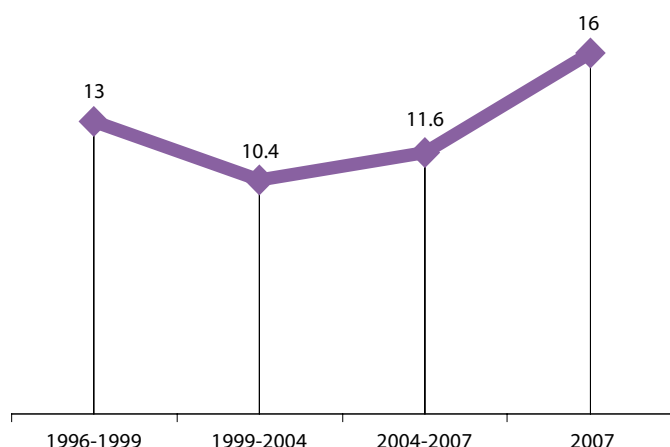
Source: History of Kazakhstan's Parliamentary System Development. www.parlam.kz

the Parliament of Kazakhstan increases from year to year (Figure 1). There were nine women in the Mazhilis of the Parliament (in 1999), which made up 13 percent. There were 19 women (in 2009), or 18 percent. Over 17 percent of representatives in regional legislative authorities of all levels (Maslikhats) are women.

Violence against Women

Combating violence against women is one of the top-priority objectives of social and economic development in Kazakhstan. Accordingly, the Republic of Kazakhstan undertakes important political measures to find new and more effective approaches to combating this phenomenon. Such measures have included Kazakhstan ratifying the UN Convention on Elimination of All Forms of Discrimination against Women on June 29, 1998 and joining its Optional Protocol on July 4, 2001. In 1999, special units for the protection of women against violence (SUPWV) were established in the system of Internal Affairs authorities, down to the district level. It became one of the practical measures to implement gender policies. The main objective of these units is to protect women's constitutional rights and freedoms as well as legitimate interests against unlawful offences. The functioning of the SUPWV is based on strict compliance with the UN Convention on Elimination of All Forms of Discrimination Against Women, the National Strategy of Gender Equality in the Republic of Kazakhstan for 2006-2016, the Law on Prevention of Domestic Violence, the Code on Family and Marriage and the Order of the Ministry of Internal Affairs. The principles of SUPWV activities are to provide assistance to any woman seeking such assistance in the police and to prevent violence against women. SUPWV officials coordinate the activities of different police units to prevent and suppress violence

against women and review reasons and conditions, which cause violence[83].

In 2009, 34,515 cases of violence against women were registered (against 35,131 cases in 2008). Property crimes, personal crimes, crimes against health and morality prevail among the crimes against women. Over a third of crimes of violence are thefts (39.1 percent). In addition, women frequently become victims of robbery (6.6 percent), rapes (14.5 percent), intended bodily harms (5.4 percent) and murders (4.2 percent)[84].

Similar data were presented at the 2007 Millennium Development Goals in Kazakhstan Report for 2006. Data on offences such like assault are still not available.

Taking into account that violent crimes against women are mostly committed at home, the Administrative Code as initiated by the Ministry of Internal Affairs was amended with a new provision added which prescribes liability, including arrest for wrongful acts in the family and domestic relationships (Article 79-5, Administrative Code)[85].

Despite some positive changes in the protection of women's rights at the legislative level, there are still outstanding issues related to the protection of women against violence. Collection of official statistics is an important factor. The disadvantages of the existing data are as follows:

- violence data are submitted by the internal affairs authorities only;
- available legal statistics fail to fully represent the level of violence;
- not all victims, as a rule, report to the law enforcement agencies; and
- there is no unified methodological framework for collection and processing of statistics on violence.

Kazakhstan assigns a high priority to direct work with women who have suffered from violence. For this, internal affairs authorities have established collaboration with non-governmental organisations, including crisis centres; these provide free confidential psychological support, legal advice and social workers' counsellorship to female victims. In fact, only non-governmental crisis centres operating in the country do what they can to help women who suffered from violence.

Today there are 21 crisis centres working with victims of violence: 19 of them are for women with children, including eight centres with shelters and two for men. In 2009-2010, 13 crisis centres were financed from the state budget. Over 31,000 people approached and received support from the crisis centres in 2009. However, there are no crisis centres in Atyrau, West Kazakhstan, Zhambyl, Karaganda and Kyzylorda Oblasts.

These are the oblasts that 'traditionally' are amongst the poorest regions (in 2008, the poverty level was 10.2, 11.3,

---

83   According to the data of the RoK Ministry of Internal Affairs and the National Commission on Women Affairs and Demographic Policies under the President of Kazakhstan, 2010.

84   According to the data of the Secretariat of the National Commission on Women Affairs and Demographic Policies under the President of Kazakhstan. Astana, 2010.

85   According to the data of the National Commission on Family Affairs and Demographic Policies under the President of Kazakhstan, 2010.

Table 1. Non-Governmental Women's Crisis Centres in Kazkahstan and Almaty, 2009

	Number of Women's Crisis Centres	Number of Phone Calls	Including by types of violence (1 – physical abuse, 2 - mental violence, 3 - economic, 4 – sexual abuse, 5 - other phone calls, 6*- trafficking in women)					
Kazakhstan	21	20,096	5,080	5,618	1,177	608	6,981	730
Almaty	1	1,092	323	311	294	17	111	36

Violence Victims by Age, Education and Employment Status, % of total number

By age, years

	Under 20	21-30	31-40	41-50	51 +
Kazakhstan	26	27	29	16	2
Almaty	13.6	25.1	48.6	9.9	2.8

By Education

	Higher education	Incomplete higher education	Vocational education	General secondary education	
Kazakhstan	25	18	30	20	
Almaty	47.5	18.4	24.9	9.2	

By Employment Status

	Employed	Unemployed	Student	Retired	
Kazakhstan	42	31	10	9	
Almaty	56.1	30.6	12.2	1.1	

	Assistance provided			People who used shelter accommodation	
	Crisis centre consultant	Psychologist	Legal Advice	Women	Children
Kazakhstan	17,985	13,572	6,641	4,142	466
Almaty	-	483	935	7	11

* Phone calls from young women and their parents about going abroad to work (usually it is followed by illegal migration with further forced labour and sexual exploitation).

Source: Data of the Secretariat of the National Commission on Women's and Family Affairs and Demographic Policy under the President of Kazakhstan. Astana, 2010.

24.3 and 32.4 respectively, while the national poverty rate was 12.1 percent[86]. As a rule, poverty is one of the main causes of violence.

Briefly analysing the activities of one of the Crisis Centres in Almaty, called 'Helpmates' ('Podrugi') in the 3rd quarter of 2009, more women apply to the Crisis Centres than men for help (309 phone calls to the hotline from women and only 3 from men). Women between 21 and 50 (29 percent between 21 and 30; 42 percent between 31 and 40 and 20 percent between 41 and 50) suffer from major types of violence such as physical abuse (62 percent) and mental violence (24 percent). The majority of victims of domestic violence who applied to the Centre live in Almaty

(26 women), Auezov (33 women), Bostandyk (28 women), Zhetysu (22 women) and Turksib (24 women) districts of Almaty[87].

While working with domestic violence victims who applied to the centre from 1 January to 30 September 2009, the Helpmates Crisis Centre staff identified major factors causing aggression.

- about 30 percent of aggressors had suffered from child abuse from their parents;
- about 50 percent of aggressors had been raised in the families where quarrels were often between parents and usually ended up with beating of their mothers;

---

[86]   Standards of Life: Statistic Yearbook. Astana, 2009.

[87]   According to the data provided by 'Helpmates' Crisis Center

- about 10 percent of aggression was caused by housing problems (an aggressor sees solution of the problem in aggressive actions against his family);
- about 5 percent of cases of violence were caused by relatives' influence on relationships between the husband and wife;
- in 5 percent of cases aggressors have sense of impunity and rightness of their actions and refer to traditions and customs when a man is the head of household and has control over a woman.

Thus, the case study on violence against women in Almaty indicates that this issue remains a severe problem. World practice has a variety of examples of special Safer Urban Design programmes with a focus on women and children because violence against women has far-reaching consequences for the women themselves, their children and the overall society. Female violence victims have a number of health problems; their earning power and ability to contribute into social life is lower; their children have higher risks of health problems, poor academic progress and behaviour disorders.

Summary socio-psychological profile of women who have suffered from domestic violence and who applied to the Helpmates Crisis Centre from 1 January to 30 September 2009[88]

Social status: different but mostly unemployed, having no housing, arrived from other regions, poor.

Psychological characteristics: feared, depressed, embarrassed, having low self-esteem, not able to analyse the situation, irritable, volatile psychological reaction.

Violence types suffered by women: when coming to the centre, a woman is sure that she has suffered from physical abuse only; however, while talking with the centre's staff and analysing the aggressor's behaviour she infers that it was mental violence as well.

Physical characteristics: mainly minor and average assault traces: bruises and scratches.

Particular features: about 13 percent of women who applied to the centre over the period were pregnant.

Economic characteristics: unemployed, no qualification or occupation. No income sources. Living together with husband's parents, no own housing.

Reasons, why victim suffers from violence and continues staying with aggressor include: economic dependence, housing issues, a fear of loneliness and uncertainty.

[88]   According to the data provided by 'Helpmates' Crisis Center

Figure 2. Sex Distribution of Self-Employed, 2003-2008

	2003	2004	2005	2006	2007	2008
Total	2,755.6	2,711.9	2,020.4	2,626.9	2,657.6	2657.8
Men	1,330.4	1,334.8	1,283.4	1,307.9	1,332.4	1,306.8
Women	1,425.2	1,377.1	1,337	1,319	1,325.3	1,351

■ Total   ■ Men   ■ Women
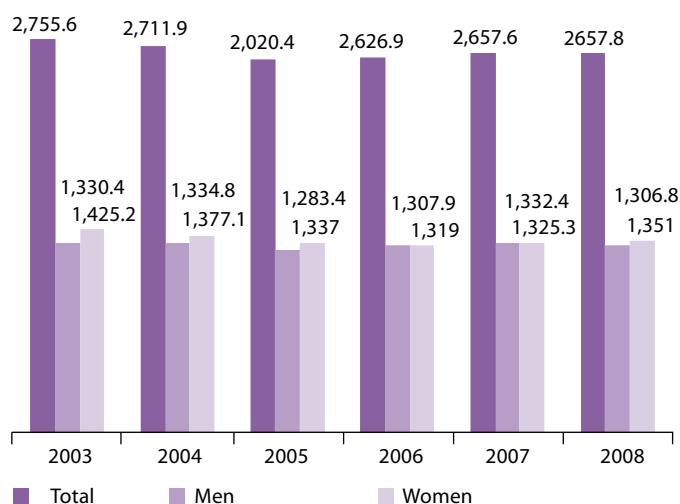
Source: Agency for Statistics. www.stat.kz

Employment

Since the MDG Report 2007, the employment opportunities gap between men and women still remains substantial. According to the statistics provided by the Agency for Statistics, the economic activity of women increased from 65.0 percent to 66.7 percent over the period from 2003 to 2008, though this indicator is lower than the same for men (75.6 percent and 76.1 percent respectively). The percentage of women occupied in non-agricultural sector in 2008 made up 70.8 percent, which is slightly higher than in 2007 when it was 70.3 percent[89].

Despite the growth of economic activity and the slight decline in the number of women among self-employed in the above years, this employment type still prevails among women (Figure 2).

This distribution is the result of the fact that self-employment in Kazakhstan offers broad opportunities for private entrepreneurship. As a rule, the self-employed are involved in market and retail trade as such activities do not require long-term training, work experience, additional training and allows them to have comparatively stable income. During the economic crisis, women particularly were able to adapt to changing circumstances and find earnings mainly in the informal economy.

The informal economy represents a stand-alone sector in the modern labour market of Kazakhstan, considerably influencing employment in general and women's employment in particular.

Employment in the informal sector in 2008 amounted to 1.86 million people (or 23.7 percent of the overall employment). As compared to 2005, employment in the informal sector increased by 5.5 percent. Among the informally employed, about 7 percent is represented by those from governmental institutions and 38 percent from non-governmental ones. Over 35 percent of those employed informally are employed by individuals; 19.9 percent work for farmers. The self-employed make up 40.6 percent[90] of all informal workers.

A study organised and held in 2008 as requested by the Ministry of Labour and Social Protection and the National Commission on Women and Family Affairs and Demographic Policy under the President of Kazakhstan and supported by the UN Development Fund for Women (UNIFEM), 'Socio-Economic Profile of the Self-Employed in Kazakhstan (case study of Yenbekshy Kazakh District of Almaty Oblast)', demonstrated that:

- The self-employed are represented by young and middle-aged people, most of whom are women (59 percent of respondents), mainly Kazakhs (43 percent of respondents) and Russians (41 percent of respondents). Kazakhs and Russians are the prevailing ethnicities in the country. Such demographic profile can be explained by the fact that women represent a majority in the overall population and for different reasons have no or limited access to other employment types;

- Respondents were mostly employed in the service industries (49 percent of respondents) and trade (38 percent of respondents). Over a half of respondents (55 percent) have been self-employed for more than five years and the majority of them are women. Such a record of self-employment, especially among women, allows us to assume that this type of employment is larger than as presented by the official statistics of the executive authorities responsible for employment issues. Hence, the mechanisms for registering this group of people should be improved taking into account different forms of labour activities.

- Self-employment represents special types of private business activities having a place in the overall national employment structure as the employment type of a majority of people involved in the informal sector of the economy as 61.3 percent of respondents work without a licence / permit. This means that this sector of the employed population does not participate in contributions to the pension system and are not covered by the social insurance system. As a result, they have no paid sick leaves and do not benefit from the pension and social funds, etc.

Nowadays, there is an obvious premise that self-employment will increase, especially among women, as the economic crisis has affected the national labour market and caused an abrupt release of employees, resulting in increased numbers of the unemployed. According to the 2008 official statistics, unemployment among women reduced by 2.5 percent and by 1.9 percent among men compared to 2005; while the overall unemployment rate reduced by 2.2 percent (Figure 3).

The Almaty Safe City Project is being implemented in Kazakhstan, initiated by UNIFEM and UNESCO. The project is aimed at supporting a systematic and coordinated partnership among local authorities, the national government, non-governmental institutions and community for sharing ideas, knowledge, experience and resources; such sharing will help to fulfil obligations related to the development and implementation of local measures to prevent crimes in public places.

---

89   Ibid.

90   Based on the materials of the Conference of the RoK Ministry of Labour and Social Protection 'Discussions of the Concept of State Policy at the Labour Market and Employment in Kazakhstan for 2010-2019'. Astana, 25 February 2010.

A survey was conducted under the project: 146 out of 200 women respondents who were citizens of Kazakhstan were not residents of Almaty. This demonstrates increasing internal migration and is directly related to such factors as the economic crisis, unemployment, low living standards which urged the respondents to look for jobs in the megalopolis. Given that this category of people came to Almaty to earn money due to unstable living standards in their own areas of residence, they are mostly involved in trade, usually without proper registration, i.e. they are self-employed in the informal sector.

Labour Migration

The economic, political and demographic development factors demonstrate that Kazakhstan has become an increasingly attractive country for migrants in the Central Asian region (CAR); the destination for labour migration from Kyrgyzstan, Uzbekistan and Tajikistan. The labour migration from these countries bears both positive and negative implications. The migration is not just a survival strategy for hundreds of thousands or even millions of households in the Central Asian countries, but it has also become an important factor regulating the social and economic development processes, both in the countries of origin and destination.

The fact that labour migration in Kazakhstan is widely spread in the informal sector of economy and supported by labour migrants and their local employers, indicates the lack of effective mechanisms for government control and regulation of labour migration processes in Kazakhstan.

As regular statistics are limited, surveys are widely recognised as acceptable methods for analysing migration processes. In 2008, UNIFEM organised and conducted a needs assessment survey among women migrant workers (Central Asia and Russia). Exploring employment issues of women migrant workers in Kazakhstan is very timely as the labour migration issue has became very important for the Republic given all the impacts on the overall social and economical development.

Speaking about migration of women, we face a great outfield in the social and economic life of the entire region. One should bear in mind that women arriving to the country as migrant workers, either on their own or with families, face with a number of particular problems. This is, first of all, has to do with the fact that employment of women migrant workers is different from typical male employment. Men migrant workers, as a rule, work in a destination country in teams, and women work individually and this naturally affects job-seeking schemes, working conditions and relationships with an employer. Female employment has an even more latent and 'shadow' nature as compared to male employment. Women are less noticeable in the official migration and formal channels are therefore even narrower for them than for men.

Female labour migration from the reviewed countries of origin has become a conventional and long-term phenomenon for Kazakhstan (seasonal for farm work). Such migration is mainly irregular and represents a significant component in the overall labour migration. In Kazakhstan, there are both geographical and sector-specific distribution patterns of female labour migration. In South Kazakhstan Ob-

Figure 3. Unemployment by sex, 2003–2008, %

Men — Women — Total
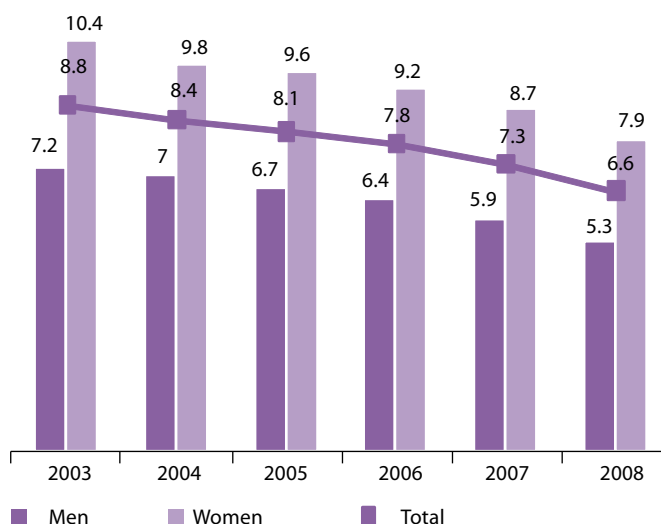
Source: Agency for Statistics. www.stat.kz

last women are employed from Uzbekistan for farm work (cotton, vegetables) and in the service industry. In Shymkent women from all three reviewed countries of origin are employed in the service industry (including domestic), trade and other services (including sexual services). In Almaty women from all three reviewed countries of origin are employed in the service industry (including domestic), trade and other services (including sexual services). In Almaty Oblast women from Kyrgyzstan are employed for farm work (tobacco, vegetable) and in Astana women from all three reviewed countries of origin are employed in the service industry (including domestic) and trade.

Being actually 'on the fringes of society', female migrants have no chances for fair consideration and protection of their labour and other rights. Another important factor is that women should have protection of their rights and basic social security guarantees, which include, for example, maternity allowances. Wages of women migrant workers are directly linked to the work performed and are lower than the wages that would be paid to local workers. The differences in pay levels between men and women are caused by the differences in the work they perform. However, potential double discrimination of women migrants, both as migrants and women, cannot be disregarded either.

Problems of women migrant workers arising while working in Kazakhstan tend to be addressed by money payments. Migrant women are not aware of or have a dim idea about the existence of organisations dealing with the protection of migrant workers' rights (other than applications to embassies or consulting with their fellow nationals). The State mechanism of protection of rights is still poor and almost not accessible for migrants (for example, they have no access to courts or such judicial recourse would be not effective for them), the NGOs network is poorly developed and trade unions insufficiently protect labour and social rights of migrants.

In 2010-2012, the International Organisation for Migration (IOM) and UNIFEM with financial support from UK Department of International Development (DFID) will launch a joint programme aimed at protecting human rights and promot-

ing the social and economic status of labour migrants, men and women, and their families in Central Asia and Russia.

Particularly, the programme will focus on addressing the following interrelated issues:

- Inefficient migration policies at the national and regional levels are mainly caused by shortcomings of the labour migration legislation
- The lack of coordinated collection of information and data for true measurements of labour migration; such measurements are required to build effective national migration policies
- Drawbacks in labour migration laws and policies as concerning human rights and gender equality
- Insufficient capacity of government authorities for addressing labour migration issues and insufficient understanding of a direct link between labour migration and development
- Lacking or insufficient conditions for providing services to labour migrants and their families both in countries of origin and host countries
- The high level of discrimination and xenophobia in host countries against labour migrants from Central Asia

CONCLUSIONS

Public administration

According to the results of activities of the National Commission on Family Affairs and Gender Policy presented at the Fifth Women's Forum in Kazakhstan, over the last ten years Kazakhstan has been effectively implementing policies towards gender equality in public administration. The number of women at the decision-making level increased during these years. As of the beginning of 2010, there were 19 women in the Parliament Mazhilis, or 18 percent of the total number of Mazhilis members.

Protection of women's rights and further promotion of the gender balance, ensuring equal rights and opportunities for women in social and political life, as well as non-discrimination of women are the priority objectives for Kazakhstan, at present acting as the OSCE Chairman-in-Office.

One of the central recommendations for achieving expanded targets in public administration area is to develop effective instruments for progressive implementation of the adopted the RoK Law 'On Equal Rights and Equal Opportunities for Men and Women'. Political parties should promote equal representation and equal participation of women in governing bodies of parties for the full involvement of women in political processes.

Violence Against Women

One of the effective preventive measures against domestic crime is public advocacy. For this police officers work regularly and actively with the public through both mass media (TV, radio, printed publicity materials) and training workshops inviting experts working with violence victims as well as through engaging the resources and opportunities of non-governmental organisations. Non-governmental organisations, in their turn, bolster their efforts in protecting women against violence through expanding their activities for raising awareness among at-risk groups.

Women's rights are to be protected in situations of domestic violence, and such protection is promoted by the Law 'On Combating Domestic Violence'. This Law allows not only eradicating impunity for domestic violence, but also envisages comprehensive measures for the prevention of physical, psychological, sexual and economic violence against women. According to this law, victims are guaranteed special social services[91].

With the adoption of this law and in order to ensure safety for domestic violence victims the law enforcement authorities will start issuing notices of protection providing for a

---

[91] Special social services are services providing a person (family) in hardship with possibilities for overcoming the accrued social problems and aimed at creating opportunities for such person to participate in social life equally to the other people. RoK Law 'On Special Services' № 114-4, as of от 29.12.2008.

number of limitations for people who have committed domestic violence, whereas administrative liability for violence will be introduced only after the Law 'On Prevention of Offences' is enacted.

Though there is an ongoing progress in improving the legal framework for the protection of women's rights, its enforcement mechanisms have still not fully been put into practical action. Hence, an effective system needs to be put in place for applying protection warrants and government standards of assistance to victims of violence and to persons who have committed violence, with reliance on available similar international experience. This work should be supported by government budget allocations for public service delivery.

Employment and Labour Migration

The laws of Kazakhstan widely recognise the principle of gender-identity non-discrimination, including recognition at the level of the Constitution and Labour Code. At the same time, there is no clear legal framework for active implementation of measures aimed to promote equal employment rights for women and men and to eradicate sources of gender inequality in this area.

The self-employed population of Kazakhstan constitutes one third of all employed and there are more women in this category of the employed population than men. There are different approaches to defining the self-employed in Kazakhstan in employment and tax legislation as well as in the guidelines for labour and employment public statistics. The definition of 'self-employed' in the Law 'On Employment' is very general, and therefore given the political situation allows for classifying a wide range of people as self-employed who are actually not self-employed.

The spread of self-employment phenomenon in the country is due to the regional disaggregation of the poverty level, thus we can assume that these two phenomena are in direct proportion. It means that self-employment as a type of business activity is more common in regions with a high and average share of people whose income is below the minimum subsistence level. Such distribution shows that among the self-employed there are people with unstable and low incomes, i.e. this category of people, women in particular, is at risk of becoming poor, and thus of increasing the burden on the social care system.

Kazakhstan is efficiently using gender equality promotion instruments in different areas of social and economic development. During special economic shocks, such as the economic crisis, self-employment may become one of the basic forms of employment for both men and women. In this context, there is a need to enhance public patronage of social welfare for this category of people and to develop a preferential taxation system or other simplified financial controls in order to encourage people to formally register their entrepreneurship activities with the relevant executive authorities.

Local governments should give more attention to developing these types of entrepreneurship activities to enhance

its stability, especially for women, by creating new job opportunities. In this situation, the development of regional infrastructure (urban and rural) becomes critical, firstly, through creating conditions for private businesses. It is these private businesses that can absorb the labour outflows, including women. Meanwhile, effective training and retraining system should be created for occupations enabling further employment to newly created jobs.

In 2009, following the President's instructions at the Fourth Women's Forum in Kazakhstan the National Commission on Women Affairs and Family and Demographic Policies under the President of Kazakhstan, the 2009-2015 Programme for Conditional Placement of Funds in Commercial Banks for Micro-crediting of Women Private Businesses was developed. The programme was approved by the Board of Directors of DAMU Business Development Fund. The allocations in 2009 totalled KZT 450 million and KZT 835 million in 2010; the allocations for 2011-2015 will be estimated according to the Budget Programme. The measures for promotion of women's entrepreneurship have resulted in achieving 52 percent of women among SMEs operating as legal entities and 66 percent among registered self-employed entrepreneurs. Thus, one can say that the social and economic development policies pursued in Kazakhstan promote gender equality in the society.[92]

However, the role of civil society (non-governmental organisations, research organisations, professional organisations, mass media and businesses) should be increased in the development and monitoring of targeted programmes aimed to enhance safety, particularly safety of women employment in the informal economy, including migrant workers.

Today the fundamental internationally accepted statutory instruments for Kazakhstan to promote gender equality in labour migration are the International Covenant on Economic, Social and Cultural Rights and the UN Convention on Elimination of All Forms of Discrimination against Women. These treaties provide the basis for determining and implementing general measures for providing equal rights for men and women in labour and employment.

The 2006-2016 Strategy of Gender Equality, adopted in 2005 in Kazakhstan, identifies the achievement of gender equality in the economy and competitive recovery of women in the labour market as some of the main focuses of the strategy. This document may provide the basis for gender mainstreaming in various strategic and programme documents of the Government, central and local executive authorities, including those related to the labour migration. However, the issues of gender equality in labour and employment are not adequately prioritised in the current activities of the National Commission on Women's Affairs and Family and Demographic Policies under the President of Kazakhstan and relevant commissions under local governments. Currently, such activities are mainly focused on gender mainstreaming in budget planning and development of social and economic development programmes and not considering this issue in the context of the migration policies and labour migrants working in Kazakhstan.

---

[92] http://www.zakon.kz/166828-gendernyjj-aspekt-poslanija-glavy.html

GOAL 4
To Reduce Child Mortality

TARGET 5

To reduce by two thirds, between 1990 and 2015, the under-five mortality rate

The Relevance of MDG 4 for Kazakhstan

Infant and child mortality are key indicators of the quality of a country's healthcare system and are used for making management decisions on how to improve it.

As reported by official statistics, until 2007 infant mortality in Kazakhstan had demonstrated a stable downward trend from 19.6 in 2000 to 14.4 per 1,000 live births in 2007. However, UNICEF 2006 Multiple Indicator Cluster Survey (MICS, 2006) reported infant mortality at a level twice as high as the official rate, at 31.8 per 1,000 live births.

In this context, MDG 4 and Target 5, 'reducing by two-thirds (65 percent), between 1990 and 2015, the under-five child mortality' remains one of the most important and relevant targets for Kazakhstan, since children are the future of every nation.

Progress in achieving this goal/target has been assessed on the basis of the following indicators:

- under-five child mortality rate;
- infant mortality rate.

Figure 1. Unde-five child mortality ratio (per 1,000 live-births) in the RK
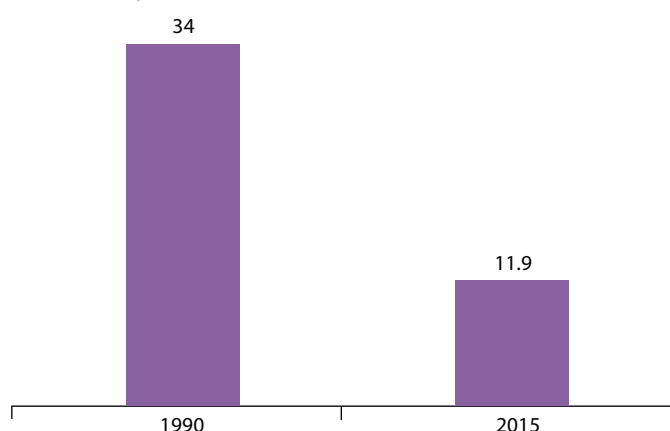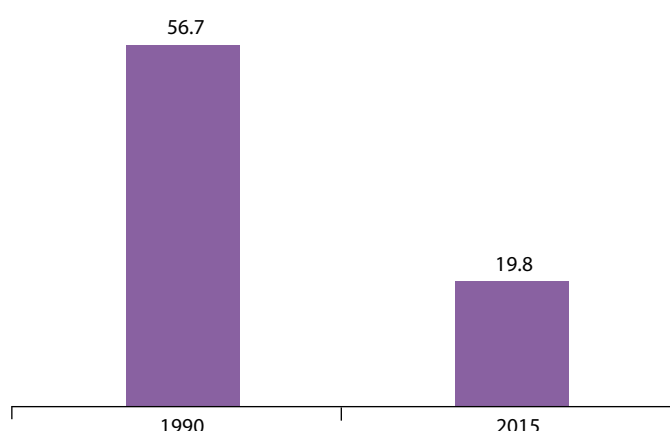

Figure 2. Unde-five child mortality ratio (per 1,000 live-births) in the RK

The first MDG report released in 2002 showed that Kazakhstan needs to reduce under-five child mortality from 34.0 in 1990 to 11.9 per 1,000 live births in 2015 (Figure 1).

As reported by an independent research (DHS, 1989-1999), Kazakhstan's average weighted under-five child mortality rate was 56.7 per 1,000 live births. Therefore, to meet MDG 4, under-five child mortality needs to be reduced to 19.8 per 1,000 live births by 2015 (Figure 2).

Analysis of Latest Trends

The 2005-2010 State Healthcare Reform and Development Programme identified a set of measures aimed to develop affordable, high-quality, socially-oriented and cost-efficient medical assistance. According to this Programme, Stage I targeting large-scale investment into the sector (technical upgrade, development of infrastructure) was completed in 2007; the issues of strengthening of primary care, formation of a healthy lifestyle and improvement of the quality of medical care were also addressed. The healthcare sector is now embarking on institutional reforms, development of potential of human resources and provision of high-quality medical services.

In 2008, the country started the sectoral Maternal and Child Mortality Reduction Programme for 2008-2010, which introduced international live birth definitions (LBD)[93] and certain efficient technologies in perinatal medicine. Apart from this, it stipulates further improvement of logistics in obstetric and children's facilities, construction of new maternity and children's hospitals.

As a whole, Kazakhstan has an adequate legislative and regulatory framework and the Government is fully committed to ensuring child mortality reduction in the country.

Notwithstanding certain positive demographic changes, however, the health of women, who give birth to low birth weight and sick babies, remains a pressing problem in Kazakhstan. It is common knowledge that the health of newborns (levels of their development, morbidity and mortality) depends heavily on the health of their parents. Health of a newborn, in turn, determines a child's further development, adaptive capacity, morbidity and probability of fatalities from diseases later in his or her life.

In the context of the country's transition to international live and still birth criteria, official statistics reported an increase in infant mortality up to 20.7, and under-five child mortality to 23.5 per 1,000 live births in Kazakhstan in 2008 (Table 1). In 2009, these indicators dropped slightly to 18.2 and 21.2 per 1,000 live births, remaining high compared to other WHO European countries. In the Global Competitiveness Index[94] (GCI), Kazakhstan ranks 107th in the world, in terms of infant mortality rate.

Mortality of boys (22.92 per 1,000 live births, 2008) is higher than that of girls (18.48 per 1,000 live births, 2008), whereas child mortality in rural areas (29.61 per 1,000 live births, 2008) is higher that in urban areas (24.6 per 1,000 live births, 2008).

---

[93] In line with the Convention on the Rights of the Child adopted by the UN General Assembly and ratified by the Law of the Republic of Kazakhstan on June 8, 1994.

[94] Global Competitiveness Report. 2007-2008 (World Economic Forum, 2007)

Evaluation of MDG 4 Status

In Kazakhstan, under-five child mortality is primarily determined by infant deaths. Thus, in 1990 infant mortality was 26.4 per 1,000 live births, i.e. 77.6 percent of total mortality of children nought to five years old (34.0 per 1,000 live births) in the same year. Therefore, in order to meet MDG4 the country should focus its core actions on reducing infant mortality.

The highest infant and child mortality are registered in Atyrau, East Kazakhstan, Zhambyl, Kostanai, Kyzylorda, Mangystau and South Kazakhstan Oblast (Table 1).

Article 5.7 of the International Classification of Diseases, 10th revision (ICD-10) 'Statistics for International Comparison' does not recommend '… inclusion of the extremely low-birth-weight group (ELBW)' as it 'disrupts the validity of comparisons'.

In Kazakhstan, infant mortality, without taking into account newborns with an extremely low birth weight (Figure 3, 4) in 2009 was 14.9 per 1,000 live births, slightly differing from the 2007 level at 14.4 per 1,000 live births. Early neonatal mortality remains high, both without taking into account newborns with an extremely low birth weight, 7.4, and with taking them into account (10.3 per 1,000 live births).

Therefore, since publication of the last 2007 report the MDG 4 status has not changed significantly.

Newborns dying in the early neonatal period accounted for 55.9 percent of all under-five child deaths in 2008, against 52.4 percent in 2009 (Figure 5 and 6). Conditions arising during the perinatal period (perinatal conditions) accounting for more than 50 percent of all deaths of infants under 1 year of age (51.5 percent in 2008 and 58.4 percent in 2009) in the infant mortality pattern (Figures 7 and 8).

At first glance, the situation may seem to be fine, as far as perinatal indicators are concerned, since the general opinion is that in most cases perinatal deaths cannot be prevented.

In countries boasting well-organised perinatal care and low infant mortality (less than 4 per 1,000 live births) perinatal conditions are caused by reasons that are hard to prevent (extremely low birth weight, extreme immaturity at the gestational age of less than 26 weeks).

In Kazakhstan, mortality in newborns with a birth weight from 500 to 1,500g in the early neonatal period is primarily caused by severe respiratory disorders (asphyxia + respiratory distress syndrome in 32.8 percent in 2008 and 35.7 percent in 2009). Conditions caused by reasons that are hard to prevent (connected with extreme immaturity) were

Table 1. Infant and child mortality in the Republic of Kazakhstan in 2006-2009

Name of Region	Infant mortality (per 1,000 live births)				Child mortality (per 1,000 live births)			
	2006	2007	2008	2009	2006	2007	2008	2009
Kazakhstan	13.91	14.57	20.76	18.23	17.54	17.91	23.52	21.28
Akmola Oblast	11.84	12.11	17.58	17.18	15.73	14.15	19.87	20.06
Aktobe Oblast	14.37	13.89	19.05	17.81	17.08	17.08	21.66	20.76
Almaty Oblast	10.10	9.30	14.81	13.64	13.90	12.30	18.04	17.33
Atyrau Oblast	12.41	13.74	21.27	18.78	16.47	17.61	23.92	21.55
East Kazakhstan Oblast	15.96	15.32	22.03	22.72	19.24	18.49	24.56	25.74
Zhambyl Oblast	13.42	13.87	22.92	18.40	16.86	17.21	25.25	21.79
West Kazakhstan Oblast	12.72	11.96	18.19	15.31	16.23	14.84	20.69	18.17
Karagandy Oblast	11.04	11.53	19.80	17.99	13.97	14.47	22.99	20.50
Kostanai Oblast	11.62	14.13	19.86	16.46	15.95	16.96	23.67	19.99
Kyzylorda Oblast	22.69	20.59	23.89	24.96	27.29	25.04	27.24	30.06
Mangystau Oblast	17.08	17.21	21.20	20.44	20.45	21.72	24.35	24.59
Pavlodar Oblast	14.51	10.79	20.50	17.34	18.14	12.72	22.30	19.10
North Kazakhstan Oblast	10.79	15.22	21.05	13.91	13.96	18.61	22.78	17.06
South Kazakhstan Oblast	16.41	19.29	25.56	20.98	21.66	24.16	29.36	24.52
Almaty	11.76	13.29	19.21	15.18	12.94	14.68	20.12	16.27
Astana	10.98	10.97	13.45	14.08	12.57	12.39	15.21	15.89

Data of the Ministry of Healthcare of the Republic of Kazakhstan

cited as the cause of death for 29.0 percent of newborns with a gestational age (GA) below 26 weeks in 2008 and 2009 (Figure 9, 10).

Specific indicators of still births, early and late neonatal and post-neonatal mortality calculated by weight categories in

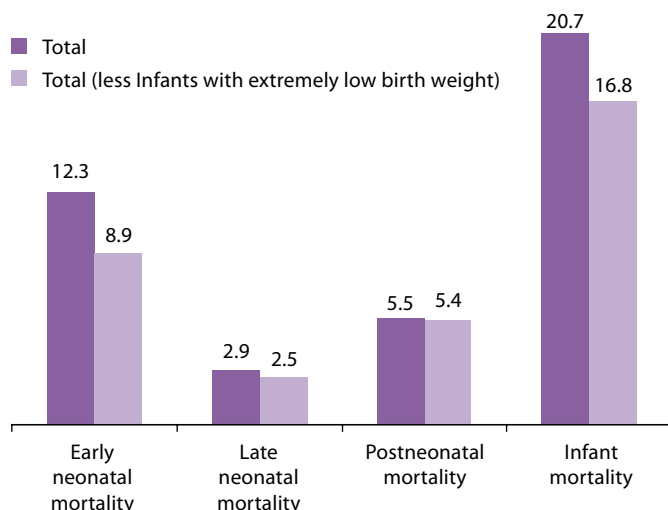### Figure 3. Under-one child mortality, 2008 (‰)

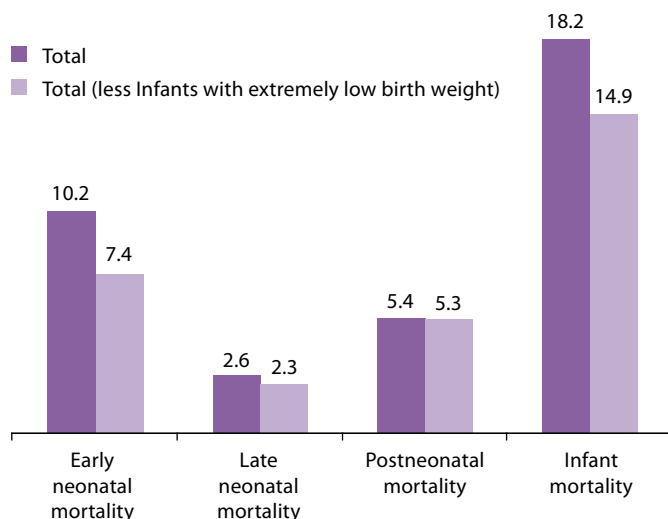### Figure 4. Under-one child mortality, 2009 (‰)
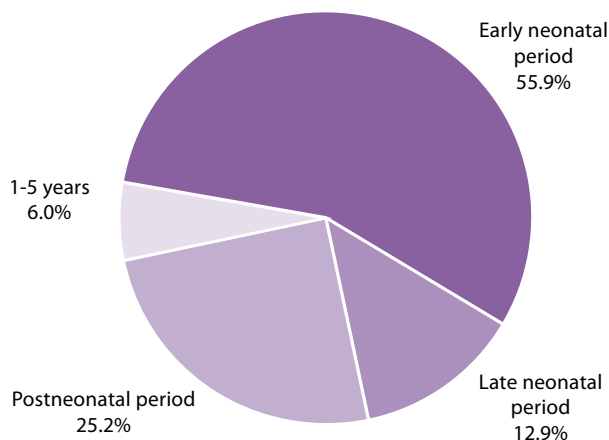
2009 show that with a total level of feto-infant mortality at 30.9 per 1,000 live births, all children weighing 500-999 grams, every second infant weighing 1,000-1,499g, every tenth infant weighing 1,500-2,499g and every 90th weighing 2,500 grams and more (table 2) die.

Such high mortality in newborns with an extremely low and very low birth weight has to do with severe respiratory disorders resulting from lack of or incomplete steroid therapy in pregnant women going into pre-term labour, which aims to prevent respiratory distress syndrome. Furthermore, resuscitation and subsequent intensive care including artificial lung ventilation are inadequate and use rough regimes without tracking blood gases, metabolites and electrolytes, which results in air leak syndrome, bronchopulmonary dysplasia and death of newborns. This has to do with the fact that local maternities received equipment for artificial lung ventilation, but the staff have not been trained to use it.

In many regions of the country, regionalisation of perinatal care aiming at using efficient perinatal technologies to care for pregnant women taking into account the degree of risk for them, fetuses and newborns is yet to be resolved. This results in premature babies weighing less than 1,500g being born in hospitals that are not properly equipped and staffed to manage premature labour and care for the specified category of children.

It is common knowledge that developed economies have managed to reduce mortality in children with a birth weight of 500 to 1,000g from 90 percent to 20 percent, and a birth weight of 1,000 to 1,500g from 50 percent to 5 percent due to the following factors:

• regionalisation of perinatal care
• steroid therapy in pregnant women going into preterm labour
• use of antibiotics during labour
• improvement of lung ventilation methods
• application of surfactant preparations
• improved neonatal care.

Mortality in newborns with a body weight of 1,500g and above remains high. Congenital disorders diagnosed in 21.7 percent and 25.5 percent of cases in 2008 and 2009 respectively dominate the pattern of causes of early neonatal mortality in newborns (Figures 11 and 12).

Figure 5. Child Mortality, by Age Period, 2008

Figure 6. Child Mortality, by Age Period, 2009

Figure 7. Infant mortality pattern, by causes, (0-1 year), 2008

perinatal conditions 51.5%

others 13.6%

accidents 2.6%

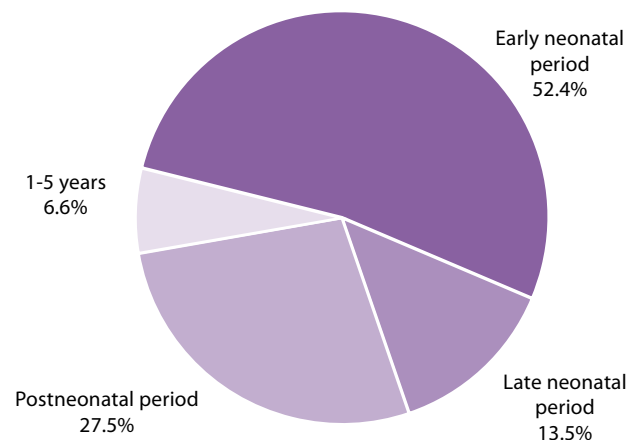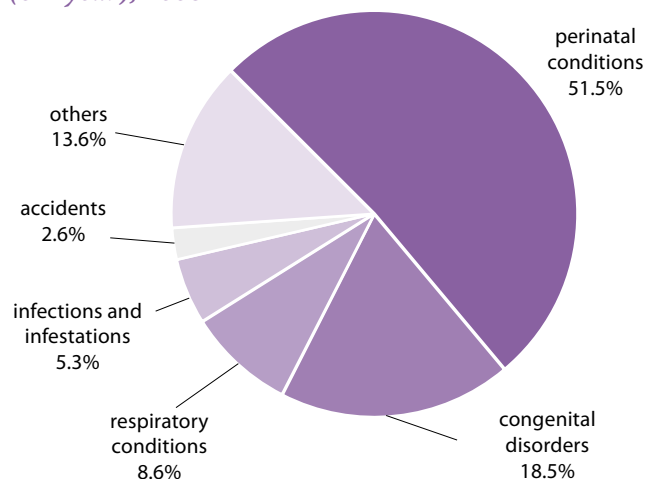infections and infestations 5.3%

respiratory conditions 8.6%

congenital disorders 18.5%

Figure 8. Infant mortality pattern, by causes, (0-1 year), 2009

perinatal conditions 58.4%

others 6.5%

accidents 3.5%

infections and infestations 3.1%

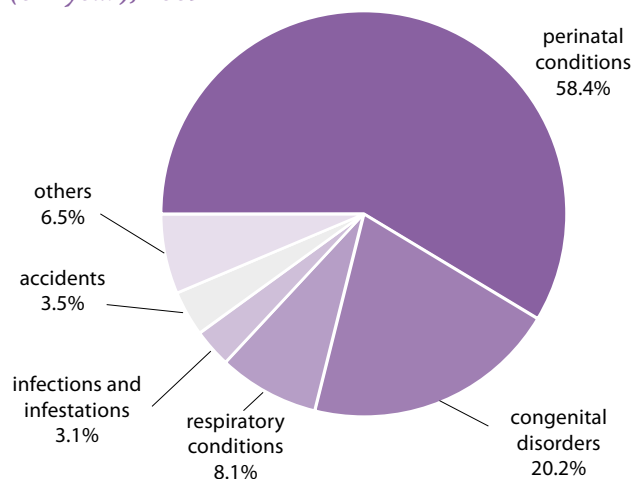respiratory conditions 8.1%

congenital disorders 20.2%

As reported by WHO (2004), the frequency of occurrence of congenital disorders is quite low and does not exceed eight percent of mortality in children under one year of age. If the quoted child mortality from congenital defects is true for Kazakhstan, this situation poses a serious threat to the health of the nation.

However, previous UNICEF research (2002 and 2006) shows that this diagnosis is used to conceal some controllable causes of children's death. Nevertheless, the presence of congenital defects in the child mortality pattern dictates a need to improve pre-natal diagnostics practice.

Kazakhstan has Order №335 dd. 02/08/2006 issued by the MoH and prescribing introduction of efficient perinatal technologies in obstetric care facilities. Analysis has shown that they have not been introduced actively enough as demonstrated by deaths of newborns with a birth weight of more than 1,500g from preventable causes.

Thus, in early neonatal child mortality infections rank equal with congenital disorders, standing at 21.4 percent in 2008

and 20.5 percent in 2009 (Figure 11 and 12). The main cause for infections is inadequate infection control arrangements that are governed by the outdated Order of the MoH №420 dd. August 17, 1998.

Other reported causes of deaths of newborns are asphyxia (18.0 percent in 2008 and 16.9 percent in 2009), birth injuries (3.1 percent and 3.0 percent respectively) indicating lack of partogram monitoring and aggressive labour management (Figure 11-12).

Inexpensive perinatal technologies are required to prevent these conditions. It will be sufficient to introduce into obstetric care practice efficient perinatal technologies stipulating warm chain, early skin-to-skin-to-skin contact of mothers and infants and their subsequent rooming-in, early breast-feeding and subsequent breast-feeding on demand, as often and as long as the baby wants, and strict compliance with hand-washing rules. All this, along with qualified labour management and efficient (non-aggressive) resuscitation promotes a reduction in mortality of newborns by 30 percent to 70 percent (WHO, 2002).

Figure 9. Causes of mortality in newborns with birth weight less than 1,500g in early neonatal period, 2008

32.8%
29.0%
21.8%
16.2%
12.9%
11.0%
9.5%
5.6%
3.9%
0.7% 0.3% 0.3%
5.8%
2.5% 3.3%
22.1%
12.8%
9.3%

Asphyxia + RDS | Immaturity conditions | Infections | Birth injuries | Congenital disorders | Others

■ Total
■ Birth weight of 500-999g   ■ Birth weight of 1,000-1,499g
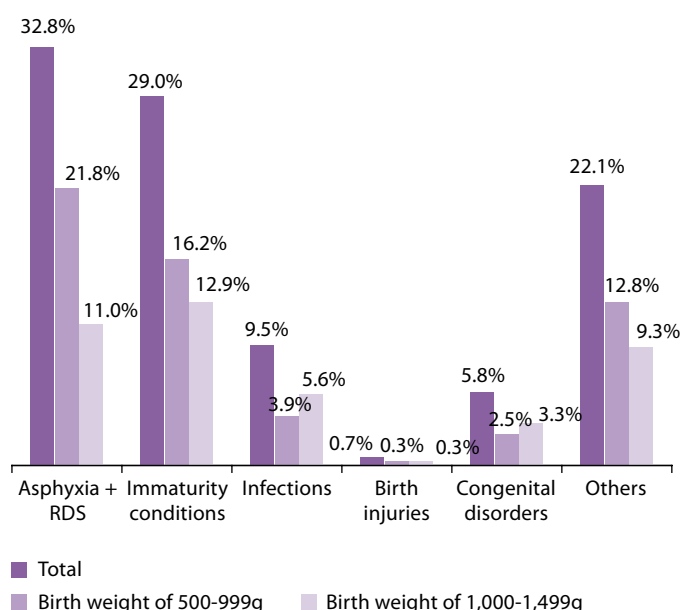
Figure 10. Causes of mortality in newborns with birth weight less than 1,500g in early neonatal period, 2009

35.7%
29.1%
24.6%
16.0%
13.1%
11.1%
11.3%
6.6%
4.7%
0.5% 0.2% 0.3%
5.1%
2.0% 3.1%
19.3%
11.6%
7.7%

Asphyxia + RDS | Immaturity conditions | Infections | Birth injuries | Congenital disorders | Others

■ Total
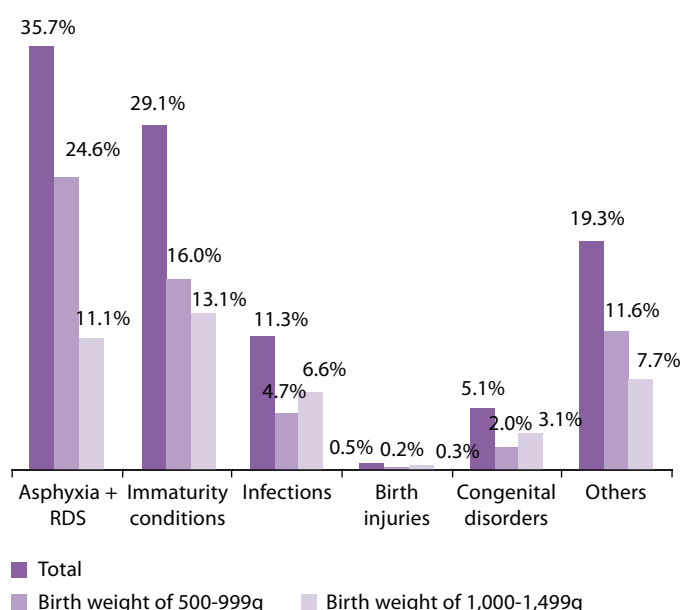■ Birth weight of 500-999g   ■ Birth weight of 1,000-1,499g

Table 2. Stillbirth and infant mortality in Kazakhstan in 2008 (per 1,000 births in the respective birth weight category)

Birth weight, g	Time of Death					
	Antepartum	Intrapartum	0-6 days	7-28 days	28 days - 1 year	Total
500-999	344.5	77.4	440.1	43.2	20.8	926
1,000-1,499	170	21.8	279.1	57.7	21.4	560.2
1,500-2,499	43.1	5.8	59.7	14.4	18.9	141.8
2,500	2.7	0.9	3.5	1.3	4.3	12.6
Total	8.8	1.9	12	2.8	5.4	30.9

Despite the adoption of the Programme on Support and Promotion of Breast-feeding (Order of the MoH №113 dd. 25/07/97) few obstetric care facilities realise the importance of exclusive breast-feeding and early skin-to-skin contact of mothers and newborns in preventing infectious diseases in babies. Assessment of the existing situation in obstetric facilities in Kazakhstan (UNICEF, 2006) shows that though 97 percent and 54 percent of obstetric facilities practice early breast-feeding after normal labour and caesarean section respectively, in 50 percent of cases the first breast-feeding does not last longer than 10-15 minutes instead of recommended 60-90 minutes. Such situation implies brief skin-to-skin contact of mothers and infants, which means lack of passive transfer of colostral antibodies from mother to child and primarily nosocomial colonisation with subsequent severe bacterial infections.
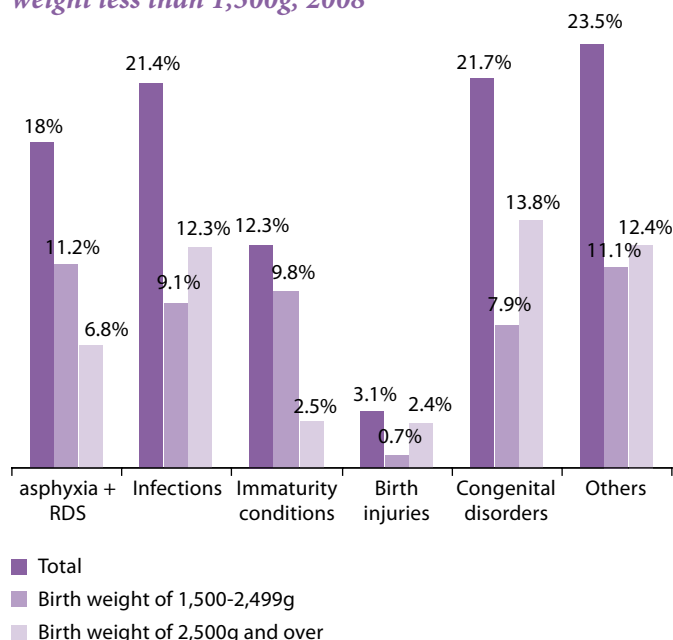
Thus, in most cases diseases and deaths of newborns with a birth weight exceeding 1,500g in the early neonatal period is not a consequence of severe perinatal pathologies and occurs due to lack of quality perinatal care. The introduction of exclusive breast-feeding and efficient evidence-based perinatal technologies recommended by the WHO into obstetric care will promote the survival of the majority of newborns with an intermediate (1,500-2,499) and normal birth weight and decrease their mortality by at least 50 percent.

In most cases mortality of children seven days to one year old (late neonatal and post-neonatal periods, Figure 7-8) is caused by congenital disorders (18.5 percent in 2008 and 20.2 percent in 2009), i.e. one in every four babies with this pathology. In absolute numbers, 1,343 children died of congenital disorders in 2009 in Kazakhstan, exceeding the number of deaths from respiratory diseases (514 – 8.1 percent) and infections (476 – 5.3 percent) taken together.

There is doubt about validity of this indicator, since if these were fatal disorders, in most cases infants would die in their early neonatal period. Nevertheless, this situation calls for a thorough check. It could be that in children with congenital disorders, any secondary disease, in particular, an infection or a respiratory disease proceeds with more complications than without a disorder and can result in a fatal outcome. Nevertheless, in this case the main cause of death is a disease, not a development disorder.

Second among significant causes of mortality in children seven days to one year old are respiratory diseases (ARI, pneumonia) and infections (Figure 7-8). A major determinant of child mortality in the aforementioned cases is poor performance of primary healthcare (PHC and hospitals) in clinical case management and patronage care for child for disease prevention.

The country still reports high within-day mortality (10.2 to 11.1 percent) of children admitted to hospitals. This has to do with parents' unawareness of danger signs as pointed out in UNICEF's Multi-indicator Cluster Survey (MICS, 2006).

Figure 11. Causes of mortality in newborns with birth weight less than 1,500g, 2008
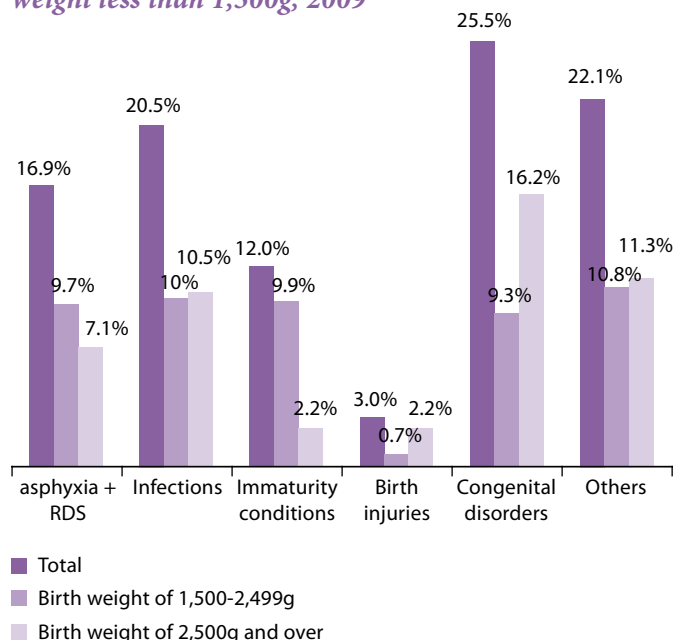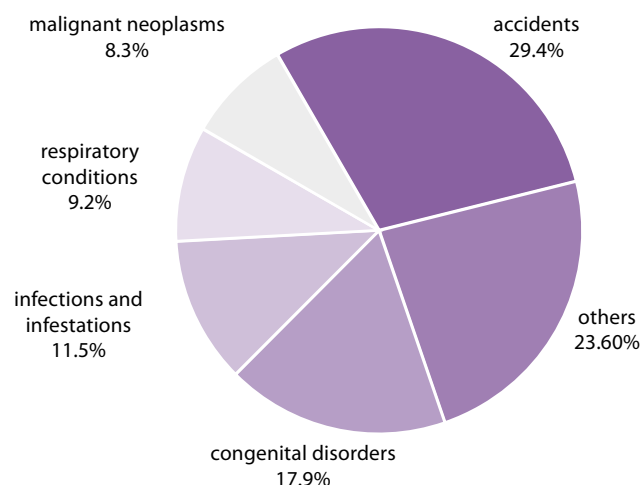

Figure 12. Causes of mortality in newborns with birth weight less than 1,500g, 2009

Figure 13. Causes of mortality in children 2 to 5 years old, 2008

malignant neoplasms 8.3%

accidents 29.4%

respiratory conditions 9.2%

infections and infestations 11.5%

others 23.60%

congenital disorders 17.9%

Figure 14. Causes of mortality in children, 2 to 5 years old, 2009

congenital disorders 10%

accidents 29%

respiratory conditions 14%

infections and infestations 5%

others 32%

malignant neoplasms 10%

An alarming issue is the registration of malignant neoplasms (8.3 percent in 2008 and 10 percent in 2009) among causes of mortality in children two to five years old (Figure 13, 14), which calls for a dedicated inquiry into their causes.

Child mortality from accidents is also a problem. For the most part, children die from trauma and injuries, poisoning and burns reported during the post-neonatal period and in the age two to five years. In the post-neonatal mortality pattern, child mortality from accidents in 2008 and 2009 was 9.8 percent – 9.9 percent and, in the age two to five years, 29.3 percent – 28.8 percent, exceeding mortality from respiratory diseases and infections taken together. Development of actions to prevent mortality of this category should involve not only physicians, but also a wide range of other persons concerned.
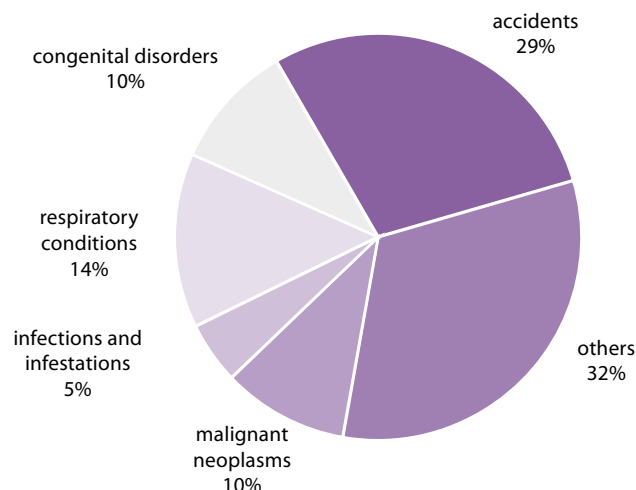
Main problems interfering with achievement of the goal/target

In 2008, Kazakhstan introduced BABIES matrix-based calculation of feto-infant mortality taking into account birth weight and time of death of newborns and infants into statistical reporting. Such analysis of statistics facilitates identification of problems responsible for feto-infant mortality at the country, region and healthcare facility level and selection of corresponding intervention packages aimed to solve identified problems.

Currently, all oblast healthcare departments assess specific and proportional indicators based on the BABIES matrix. However, proper interpretation of obtained data is lacking, and, thus, problems connected with infant and child mortality causes are not identified and measures to address the situation in a rational manner and develop adequate strategies and policies are not taken.

The MoH needs to conduct meetings of its maternal and infant mortality reduction centre based on the findings of feto-infant mortality monitoring and evaluation using the BABIES matrix and to make proper management decisions.

Thus, based on the matrix calculations (table 3) the most important problem determining high feto-infant mortality is the health status of women in Kazakhstan (11.5 percent). The most significant factor is women's reproductive health disorder, which is the main cause of premature births of babies with an extremely low (500-999) and very low (1,000-1,500) birth weight. Caring for this cohort of newborns requires expensive technologies (equipment and medicines), whereas actions aiming to improve reproductive health of women experiencing recurrent miscarriages will cost much less.

In this context, the MoH needs to develop an efficient healthcare programme to improve women's reproductive health since the current programme fails to yield the coveted result.

The second most important problem is inadequate newborn care in obstetric care facilities (7.2‰), the third is infant care after discharge from a maternity hospital (6.2 percent) and finally pregnancy care including antenatal and labour care (6.0 percent). All this yields high feto-infant mortality, 30.9 percent (11.5 percent + 7.2 percent + 6.2 percent + 6.0 percent), and testifies to inadequate management and use of outdated technologies in the provision of health services and care for women and children.

Thus, the analysis of under-five child mortality causes and evaluation of feto-infant mortality indicators revealed the following problems in the healthcare system interfering with the achievement of MDG 4:

1. Lack of regionalisation of perinatal care services;
2. Inadequate perinatal, neonatal and post-neonatal care for newborns and infants;
3. PHC underperformance.

On December 21, 2007, the Ministry of Healthcare issued Order 746 'On Regionalisation of Perinatal Care in the Republic of Kazakhstan'. Unfortunately, the order is not being enforced, which prevents pregnant women and newborns from receiving timely and efficient care based on their perinatal pathology risk level.

Oblasts lack regionalisation models compliant with local capacities; not all perinatal centres have a structure compliant with regulatory requirements (Order No.742 dd. December 19, 2007); regions still do not have enough beds and intensive newborn care units; it is not possible to

Table 3. Determinants of feto-infant mortality in Kazakhstan, 2008					
Birth weight, g	Antenatal mortality	Intranatal mortality	Early neonatal mortality	Late neonatal mortality	Post-neonatal mortality
500-999	Pre-pregnancy health: 11.5‰				
1,000-1,499					
1,500-2,499	Pregnancy care: 6.0‰		Newborn care:		6.2‰
2,500			7.2‰	Baby care:	

transport sick newborns with an extremely low and very low birth weight in an efficient way.

One of significant reasons for insufficient introduction of effective perinatal technologies in the country is the MoH Order №335 dd. 02/08/2006 is not binding as it has not been yet approved by the Ministry of Justice, whereas the current Order №420 dd. August 17, 1998. This contradicts the MoH Order №335 dd. 02/08/2006 and thus hampers considerably the introduction of effective perinatal technologies.

The MoH admits that introduction of the WHO Integrated Management of Childhood Illness (IMCI) Programme in children's hospitals and PHC facilities is a vital component of improvement of child healthcare quality. However, to date, this strategy has only been implemented in certain oblasts using funding provided by international organisations.

It is common knowledge that healthcare quality is determined not only by access to quality healthcare, knowledge, skills and commitment of medical staff to their job, but also by such factors as health system financing. Furthermore, the quality of healthcare is most optimal when the structure, staffing and equipment are not limiting factors.

By the end 2009, Kazakhstan had a total of no more than 300 neonatologists, which testifies to a very low staffing level of obstetric and child-care facilities with such experts, especially in the context of the country's transition to international criteria of live birth.

Absence of neonatologists and high work-load of those who are working make their work conditions rather stressful (non-observance of workload per doctor), which, undoubtedly, affects their performance.

When making staffing lists for obstetric care facilities, the Ministry of Healthcare needs to take into account the fact that neonatologists are not only neonatal therapists, they are also resuscitators, intensive care specialists, neurologists, cardiologists and doctors capable of timely diagnosis of a surgical pathology, etc. Workload per doctor should be revised in line with the level of an obstetric care facility.

Assessment of Impact of Economic Crisis on MDG Progress

To date, the main concerns such as infant and maternal mortality, child morbidity and access to quality healthcare are primarily resolved in Kazakhstan through national planning processes and state policies, in particular, through the National Development Strategy (Kazakhstan-2030 Strategy), Targeted Social Aid (TSA) since 2005 and the Children of Kazakhstan Programme. The goal of the latter is to improve the living standard of children. These programmes have led to a stable increase in state social spending since 2002, the Government's commitment to support this investment level during the financial crisis in response to growing poverty following several years of poverty reduction. According to independent experts (UNICEF, 2009) children in Kazakhstan are protected from many negative consequences of the financial crisis. Kazakhstan stood strong and managed to meet challenges of the financial crisis by allocating considerable financial resources to stimulate the economy tanks to reasonable management of financial resources over the past decade. Kazakhstan's financial status is considered to be quite stable and solid to survive the current crisis. The country's position is expected to start improving in 2011 (UNICEF, 2009)[95].

Nevertheless, despite the country paying due attention to pregnant women and children, some population groups remained not covered by social aid such as chronically ill children including those suffering from HIV/AIDS, children with disabilities, children and youth with mental disorders (Kowalewski, 2009)[96]. Despite the state commitments to reduce maternal and child mortality it is obvious that following the onset of the crisis no additional control over the quality of nutrition of vulnerable groups, pregnant women, breast-feeding mothers and babies was performed in order to provide them with additional nutrition to prevent under-nourishment. These facts taken together give a reason to believe that if the crisis lingers on, risks of deterioration of children's and adults' physical and mental health can increase, which makes control over key child and maternal health and nutrition indicators necessary.

The current crisis could be used as grounds to revise priorities in maternal and child health, which is not comparable to other sectors as far as allocated investment, as a percentage of GDP, is concerned[97].

[50] Impact of the Economic Crisis and Food and Fuel Price Volatility on Children and Women in Kazakhstan, UNICEF, 2009

[50] UNICEF/Kowalewski, 2009

[50] Impact of the Economic Crisis and Food and Fuel Price Volatility on Children and Women in Kazakhstan, UNICEF, 2009

The 2005-2010 State Reform and Development Programme provides for an increase in state public health spending to 4 percent of GDP; however, the draft 2009-2011 state budget implies that this target will not be achieved.

Progress in public health depends on Government's effective intervention, which, in its turn, can be achieved through improved coordination, consultation and communication between ministries and departments. Any public health reform should be viewed as a programme involving several ministries and departments, not just the Ministry of Healthcare alone.

CONCLUSIONS

Like previous reports, this MDG 4 progress report has exposed challenges that are governed by corresponding Governmental resolutions and orders of the Ministry of Healthcare. Unfortunately, they are not enforced locally well enough, which may have to do with misunderstanding of the essence of the orders due to insufficient awareness of new perinatal technologies and their organisational support by health staff.

The findings of the analysis and evaluation of the MDG 4 status in Kazakhstan allow the following conclusions to be drawn and recommendations and the implementation mechanism be proposed.

Conclusion 1

Most deaths of under-five children occur in the early neonatal period, with up to 50 percent of them being preventable through improvement of perinatal care.

Recommendations:

To introduce regionalisation of perinatal care into obstetric care.

Actions:

1. To develop a perinatal care regionalisation model in line with local capacities in each oblast, to ensure full financing of obstetric care regionalisation, to initiate equipment inventory-taking and staffing at all levels of obstetric facilities. If possible, to reallocate equipment depending on functional duties of units, to bring the structure of all perinatal centres in line with regulatory requirements of MoH Order №742 dd. December 19, 2007.

2. To take measures to provide obstetric facilities with neonatalogists, to approve the staffing list for corresponding hospitals (units) depending on the level of rendered assistance;

3. To develop a long-term programme to supply women of reproductive age and newborns with quality health and care on the basis of perinatal care regionalisation;

4. To determine funding for further sustainable implementation of Effective Perinatal Care programme and to develop respective instructions explaining each item of the programme;

5. To ensure full incorporation of such programmes as 'Breast-feeding Counselling', 'Newborn Resuscitation and Intensive Care' into training for healthcare managers, staff and all teachers of respective departments of medical schools, doctor retraining departments and medical colleges.

Conclusion 2

The infant and child mortality pattern is dominated by infections, with up to 50 percent of them being preventable through improved organisation of work of primary hospitals and PHC facilities, clinical case management and patronage care for children to prevent diseases.

Recommendations:

To introduce WHO Integrated Management of Childhood Illness (IMCI) programme in newborn pathology units, primary hospitals and primary health care facilities. To conduct a study to determine the real frequency and causes of congenital abnormalities.

Actions:

1. To determine funding for further sustainable implementation of WHO IMCI programme in primary hospitals and PHC facilities;

2. To train health managers, staff and all teachers of respective departments of pre-service and in-service medical universities and colleges in WHO IMCI programmes for primary hospitals and PHC facilities;

3. To dramatically improve information access of population through improved PHC performance (effective patronage, healthy child rooms, work with family and communities).

Conclusion 3

Infant and child mortality pattern still demonstrates high child mortality from trauma and accidents.

Recommendations:

To undertake research to explore the causes of trauma and accidents involving a wide range of ministries (healthcare, education, road and transport, etc.).

Actions:

To develop programmes to alleviate child mortality from trauma and accidents

Conclusion 4

To monitor and evaluate changes in feto-infant mortality in regions on the basis of the BABIES matrix in order to provide sufficient management information to make decisions on how to reduce it.

Recommendations:

To widen the use of BABIES matrix for adequate decision making at the level of obstetric care facilities in all regions of Kazakhstan.

Actions:

To train health managers, staff and all teachers of respective departments of pre-service and in-service medical universities and colleges in using the BABIES matrix for monitoring and evaluation of performance of health facilities and development of programmes aimed at reducing feto-infant mortality.

GOAL 5
To Improve Maternal Health

TARGET 6

✓ *To reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.*

✓ *By 2015, to achieve universal access to reproductive health.*

Introduction

Millennium Development Goal 5 (MDG 5) is about improving maternal health. According to estimates made with the support of the Bill and Melissa Gates Foundation[98] in 2008, over 340,000 women died during pregnancy and labour[99] in 181 countries. According to another estimate made with the support of WHO, UNFPA, UNICEF and the World Bank about 540,000 mothers worldwide died in 2005[100]. As a rule, maternal deaths resulted from obstetrical hemorrhage, abortions, eclampsia and extra-genital diseases arisen or aggravated during pregnancy, whereas given the current level of development of medicine and healthcare, an overwhelming majority of maternal deaths can be prevented!

To achieve MDG 5, the global community has set two interrelated targets:

- to reduce by three quarters, between 1990 and 2015, the maternal mortality ratio (MMR)[101].
- by 2015, to achieve universal access to reproductive health.

The latter target is a way to prevent abortions, unwanted pregnancies, sexually transmitted infections (STIs), including HIV (relating to a heightened maternal death risk) as well as infertility and habitual miscarriages.

The relevance of MDG 5 in Kazakhstan has to do with the fact that maternal health indicators in the country are still quite low and the maternal mortality ratio is several times as high as that in the WHO European region[102]. According to the 2007 MDG 5 progress report, direct causes of high maternal mortality in the country are:

- non-compliance with modern evidence-based clinical protocols of perinatal care, management of labour and labour complications both in the primary healthcare settings and in higher-level obstetric facilities;
- poor quality family planning, STI and HIV prevention services including those provided to young women and girls;
- low incidence of preventive behaviour among women and men, and, first of all, young women and men (i.e. prevention of STIs, unwanted pregnancies, timely seeking for help in case of pregnancy complications), which has to do with their poor awareness.

The aforementioned direct causes are under-pinned by systemic gaps, in particular:

- an insufficiently clear regulatory framework regarding introduction of contemporary evidence-based practices and ensuring high standards of medical care;
- an inadequate healthcare infrastructure, which does not allow for appropriate surgical activities in emergency obstetric cases;

- incomplete regionalisation of perinatal care and, therefore, access of mothers to emergency obstetric care and high-level specialised aid;
- the shortcomings of logistics and supply of medications including contraceptives;
- inadequate capacity of medical staff;
- a disintegrated system of healthcare with regards to reproductive health, STIs and HIV/AIDS medical care, including inadequate access to youth-friendly sexual and reproductive health services;
- activity-focused management; under-developed monitoring and evaluation of programmes targeting maternal health strengthening;
- relatively low investment in maternal health protection programmes and low efficiency of these investments;
- lack of a multi-sectoral approach to this issue that would not be limited to healthcare sector activities alone, but would include communications, education, training, counselling of girls, women and men on sexual and reproductive health, community and nongovernmental sector mobilisation; and
- gender stereotypes forcing women to give birth to children irrespective of their health status and limiting their ability to choose when to give birth to children and intervals between births.

Clearly, all these reasons influence the socially vulnerable population most, as they have no money to mitigate their dependence on the shortcomings of the system.

---

[98] Hogan M., Foreman K.J., Nafhavi M.et al. Maternal mortality for 181 countries, 1980—2008: a systematic analysis of progress towards Millennium Development Goal 5//Lancet, Vol. 375, Issue 9726, P. 1609 – 1623.

[99] Maternal mortality is defined as the deaths of women while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

[100] Hill K, Thomas K, AbouZahr C, Walker N, Say L, Inoue M, et al.: Estimates of maternal mortality worldwide between 1990 and 2005: an assessment of available data. Lancet 2007, 370:1311-1319.

[101] Maternal mortality ratio is the number of maternal deaths per 100,000 live births

[102] Based on the most recent global estimates (reference 98), in 2008 MMR in Kazakhstan was six times as high as that in Western Europe.

This report analyses the progress in mitigating the impact of or eliminating direct causes of maternal mortality and underlying cases of quite poor maternal health indicators for Kazakhstan and, on this basis, provides recommendations on achievement of MDG 5 in the country.

Maternal health trends in Kazakhstan

Kazakhstan sees a clear trend towards a gradual drop in MMR. This is particularly clear when one reviews summary indicators over a span of 3 years, thus neutralising random fluctuations (Table 1).

### Table 1. Maternal mortality ratios in Kazakhstan[103]

1999-2001	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009
58.2	53.2	46.9	42.8	39.8	41.2	44.5	40.8	38.0
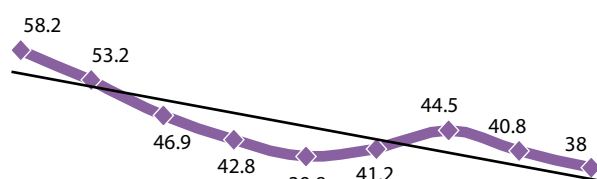
In 2009, mothers primarily died of cancer, tuberculosis, pneumonia and cardiac failures caused by congenital heart diseases, i.e. conditions aggravated by pregnancy. These causes accounted for more than half of all registered cases. In rural areas, the maternal mortality ratio continued to exceed the urban maternal mortality ratio by 1.5 times.

In 2009, MMR was 36.8 per 100,000 live births (28.8 in urban and 45.0 in rural area), 1.3 times lower than in 2007 (46.2) and 1.7 times lower than in 1999 (65.3)[104]. One should note changes in the pattern of preventable maternal mortality causes. The 2007 report mentioned that the majority of maternal deaths were connected with obstetric hemorrhages, abortions and eclampsia, whereas the 2009 data highlights fatalities caused by indirect obstetric causes (extra-genital pathology). Unlike maternal mortality caused by hemorrhages, artificial abortions and eclampsia that are dropping steadily, maternal mortality caused by extra-genital diseases demonstrates considerable growth[105] (Figure 1).

Figure 1. Maternal mortality ratios in Kazakhstan from different causes[106]
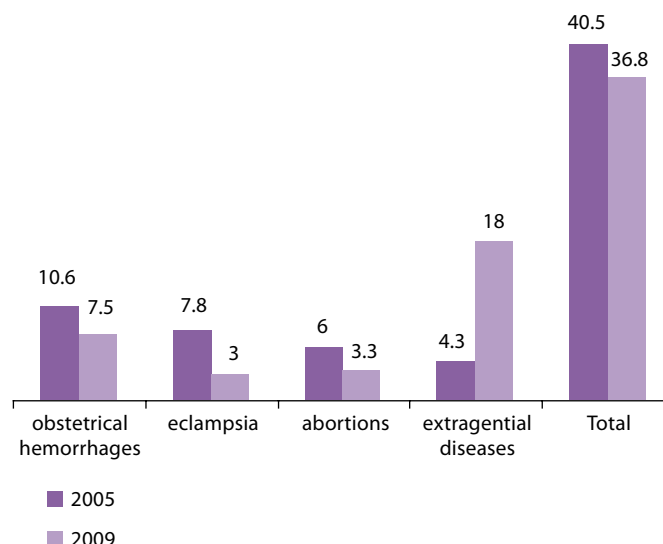
A decrease in maternal mortality from preventable obstetric causes testifies to improved pregnancy care, management of labour and their complications. This statement is in line with a reduction in obstetrical intra-partum hemorrhages from 5.2 percent in 1999 to 4.2 percent in 2009. Of primary importance are now timely diagnostics and treatment of extra-genital diseases and prevention of unwanted pregnancies, which depend on the efforts of the primary healthcare network and are in many respects determined by population's awareness, its access to high-quality healthcare and contraceptives.

It is characteristic that maternal mortality from extra-genital diseases was growing in the context of changes in reproductive behaviour of women leading to a rise in births. Since 1999, the birth rate among women aged 15-49 rose by 1.5 times from 53.5 to 80.4 per 1,000, which, apparently, to a certain extent has to do with pro-natal social policies pursued by the country. The extent, to which these policies impact on women's and couples' decision-making, in defiance of a woman's health, requiring that she should postpone or not have a baby at all, needs to be studied. However, it is absolutely clear that at the moment there is a pressing need for strengthened capacities of primary healthcare and women's access to information, communication, counselling and contraceptives for the sake of informed decision-making on pregnancy and labour planning. A need for a change in the social environment, in particular, gender stereotypes condemning and degrading a married woman if she has no or does not want to have more children, should be taken into consideration.

---

[103] Data of the Ministry of Healthcare of Kazakhstan based on registered cases.

[104] Almost all countries report differences between registered maternal mortality cases and the true maternal mortality rate due to challenges in its measuring (Yazbeck A.S. Challenges in measuring maternal mortality//Lancet 2007, vol. 370, issue 9595, P. 1291-1292). Dynamics of registered cases is informative on the assumption that the error of measurements based on registered cases is constant.

[105] Data of the Research Center of Obstetrics, Gynaecology and Perinatology of the Ministry of Healthcare of the Republic of Kazakhstan based on the official audit findings

[106] Confidential maternal mortality audit performed in Kazakhstan in 2009 can yield different ratios of MMR from different causes. Comparison of official clinical audit data is based on the assumption that percentage of errors in reports on maternal mortality causes was the same in the two compared years.

Assessment of progress in eliminating and mitigating the impact of maternal mortality factors

Success in overcoming any phenomenon is determined by the efficiency of actions targeting its causes and the focus of these efforts on priority causes. Kazakhstan has actually achieved universal access to antenatal care (Table 2) since the Soviet times. In 2009, almost all women visited a doctor or a midwife at least once during their pregnancy as recommended by the WHO. Almost universal access to skilled birth attendance (Table 3) has now been provided in Kazakhstan.

In 2009, only a few births were not delivered by skilled healthcare personnel. Mothers, as a rule, benefit from emergency obstetric care whenever needed. The frequency of caesarean sections varies around 10 percent (9.8 percent in 2009) in line with the WHO standards. Thus, as a whole, key maternal health macro-indicators in Kazakhstan have reached their optimum.

Nevertheless, one should still note inequality of scope and quality of antenatal care and obstetric aid in regions. Currently, a lack of disaggregated statistics prevents us from assessing the consequences of this inequality. In the context of insufficient healthcare funding hardly covering basic needs of the population when the effect of even a small amount of extra health protection spending is noticeable, these consequences cannot but be seen. In 2008, local budget healthcare spending per person averaged KZT 22,100 (about USD 175) across the country, varying within a range of ±30 percent depending on the region (KZT 20,100 and 22 percent respectively in 2007)[107]. Thus,

inter-regional differences in healthcare financing do not tend to even out. It is common knowledge that financing of reproductive health protection services is not a separate budget line, and is still a part of overall funding targeting maintenance of the overall healthcare infrastructure.

Table 2. Percentage of women visiting a doctor or a midwife, at least, once during pregnancy [108]

1999	2006	2009
99.4	98.2	98.7

Also, there are no disaggregated data of access to antenatal care and obstetric care on the part of persons with disabilities, migrants, persons living below the poverty line, representatives of marginal population groups, PLH, etc.

Table 3. Percentage of childbirths in Kazakhstan attended by obstetrician-gynaecologists or certified midwifes,%[109]

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
99.7	99.8	99.9	100	100	99.9	100	100	100	100

Along with the above-stated indicators, progress in achieving MDG 5 should be measured by other indicators based on the above mentioned causes of still high maternal mortality.

---

[107] Based on the data provided in the statistic yearbook 'Health of Population of the Republic of Kazakhstan and Activities of Healthcare Providers in 2008', Astana, 2009.

[108] Data of the Research Center of Obstetrics, Gynecology and Perinatology of the Ministry of Healthcare of the Republic of Kazakhstan

[109] Estimated based on the data provided in the statistic yearbook 'Health of Population of the Republic of Kazakhstan and Activities of Healthcare Providers in 2008', Astana, 2009 (available in Kazakh and Russian only).

Extent of implementation of modern evidence-based clinical protocols to manage pregnancy, labour and their complications

There is no national data on percentage of reproductive health and obstetric aid organisations using evidence-based clinical protocols recommended by WHO. However, with the support of the MoH and assistance from WHO and UNFPA the above-mentioned protocols are known to be increasingly implemented in the reproductive health and obstetric aid services. Clinical protocols and protocol-based internal standards of pregnancy, labour and labour complications based on evidence-based medicine are currently used in a large number of obstetric facilities in Astana, Almaty, South-Kazakhstan, Aktobe, Karaganda, East Kazakhstan and other oblasts of Kazakhstan.

Family planning, STI and HIV/AIDS prevention

There is no data on the percentage of population covered with family planning and STI and HIV prevention services. Only use of contraceptives by women registered with obstetrician-gynaecologists is accounted for. In total, based on 2008 statistics, 1.78 million women (out of total 4.42 million women aged 15-49) used contraceptives. Just like before, almost all family planning facilities recommend at least three modern contraception methods, but, as a rule, contraceptives are prescribed and not distributed free of charge to people, including socially vulnerable groups. According to the 2006 survey approximately a half of women of child-bearing age, currently married or in continuous sexual partnership, report the use of contraception, with an overwhelming majority of them using modern contraceptives. The other half did not use contraceptives (Table 4).

Table 4. Use of contraceptives by women aged 15-49 currently married or in union, % [110]

Not using any method	Using					
	Intrauterine devices	Pills	Injections	Male condoms	Any modern method	Any traditional method
49.3	36.2	6.7	0.3	4.8	48.7	2.0

A 2009 survey reported an unsatisfied need for modern contraception[111] in South Kazakhstan Oblast (14 percent), and the former Semipalatinsk nuclear range (11 percent)[112]. In 1999, the unsatisfied need for contraception was 9 percent in Kazakhstan as a whole[113]. Thus, no progress in meeting women's need for contraceptives has been observed. Meanwhile, according to registered statistics, one out of four pregnancies in the country ended in an abortion in 2009.

Available statistics show a decrease in the abortion rates in Kazakhstan. Over the past ten years the ratio of registered pregnancies to abortions has dropped from 2.5:1 to 4:1. It should be noted that this might have to do with decreased registration of abortions rather than a true drop in the abortion rate. In the experts' opinion, it is quite possible that:

- the share of unregistered paid services in total abortion services including informal ones in state facilities has increased;

- the informal practice of medical abortions has expanded both in and outside of medical facilities;

- abortions for the population of Kazakhstan, in particular, that in southern regions, are increasingly performed in bordering countries (Uzbekistan, Kyrgyzstan) for a lower fee, including informal fees: the healthcare price gap between these countries and Kazakhstan is growing steadily.

To confirm or challenge a genuine reduction in abortions in Kazakhstan, each of the provided alternative assumptions needs to be checked and more data needs to be obtained.

In some cities in Kazakhstan, the reproductive health network is complemented by youth-friendly clinics (youth health centres) and friendly facilities for hard-to-reach groups which are most vulnerable for HIV transmission (primarily injecting drug consumers, sex workers and men having sex with men). Youth health centres are still few in number, and their functions basically boil down to education, information and counselling. These centres do not provide family planning, STI treatment or safe abortion services. A 2008 survey[114] has shown that, as a rule, socially vulnerable young people do not consider centres with a limited range of services to be useful and do not visit them, though 10 percent responded that they need help. Meanwhile, in 2009 the birth rate among teenage girls aged 15-19 years, 31.1 per 1,000 girls of this age-group, was too high to be acceptable and has not been declining over the past few years (Table 5).

---

[110] 2006 Multiple Indicator Cluster Survey, final report, Astana, 2007

[111] i.e. percentage of fertile sexually active women who do not want to become pregnant within the upcoming 2 years and are not using modern contraceptives

[112] Study on introduction of effective perinatal technologies and family planning in South Kazakhstan Oblast, Center for Public Opinion Surveys, Almaty, 2009; Research on introduction of effective perinatal technologies and family planning in East Kazakhstan Oblast, Center for Public Opinion Surveys, Almaty, 2009 (available in Russian only).

[113] Kazakhstan: Health and Demographic Survey 1999, Almaty, 2000

[114] Survey on sexual and reproductive health needs of vulnerable young people in Kazakhstan: results of the survey, Center for Public Opinion Surveys, Almaty, 2009 (available in Russian only).

Table 5. Birth rate among teenagers aged 15-19 in Kazakhstan per 1,000 girls of this age[115]				
	1999	2006	2007	2008
Urban	31.3	30.5	32.9	35.0
Rural	36.9	24.9	25.9	27.5
Total	33.8	27.9	28.5	31.1

Preventive behaviour and population awareness

In Kazakhstan, women are quite highly aware of ways to prevent unwanted pregnancies. As mentioned before, the 2006 Multiple Indicator Cluster Survey reported that 50.7 percent of women aged 15-49 currently married or in continuous sexual partnership used contraception, with 96 percent of them choosing modern methods of contraception. Youths are less aware of sexual and reproductive health.

During a 2009 survey of young people about their sexual and reproductive health needs, less than half of respondents knew that oral contraceptives provide reliable protection from unwanted pregnancies and are sold without prescription in drugstores. About one fifth of surveyed young people aged 15-24 did not use a condom during their last sexual intercourse with a non-regular partner. Only 30 percent of young people aged 15-24 correctly identified ways of preventing HIV transmission and rejected misconceptions about its transmission[116]. Thus, no essential progress has been achieved in ensuring preventive behaviour among youths.

Progress in eliminating system gaps underlying low maternal health indicators

In recent years, the country has considerably strengthened its political commitment to achieving the goals of strengthening maternal and child health. The halving of maternal and child mortality is a major indicator of implementation of the strategic plan of development of Kazakhstan until 2020 signed by President N. Nazarbayev. Strengthened maternal health and decreased maternal mortality are among priorities of the 2008-2011 Strategic Plan of the Ministry of Healthcare of the Republic of Kazakhstan. The Code of the Republic of Kazakhstan 'On Public Health and Healthcare System', effective since 2009, guarantees protection of reproductive human rights including the right to protection of women's health during pregnancy, labour and the postpartum period, the right to use contraception, induced termination of pregnancy and other rights.

The extent to which the healthcare regulatory framework ensures implementation of internationally recognised maternal health protection standards is yet to be analysed. Nevertheless, data obtained from national experts proves that a number of essential incongruities including weak mechanisms to ensure the observance of pregnant women's rights to high-quality specialised medical care. The existing practice prevents pregnant women from being admitted to specialised hospitals that could offer more skilled aid for their conditions including severe diseases of blood and cardiovascular systems, lung diseases, among others. Pregnant women with severe extra-genital diseases are quite often admitted to obstetric facilities, which cannot offer high-quality treatment and, as a rule, provide limit specialised aid to one-off consultation with a specialised doctor. Some experts believe that this situation leads to deaths of several mothers every year.

Further examples demonstrate contradictions in the regulations of the Ministry of Healthcare. These regulations provide, on the one hand, for delivery in a private delivery ward in the presence and with the support of her partner (husband or relative) as recommended by WHO, whilst on the other hand, observance of sterility during labour as prescribed by the sanitary and epidemiologic service, which excludes the presence of relatives.

The period 2007-2009 saw positive changes in the infrastructure of obstetric care. Many obstetric hospitals were converted into structural divisions of multi-type hospitals, which has considerably enhanced and facilitated emergency surgery and resuscitation interventions. It is planned to

---

[115] Demographic Yearbook of Kazakhstan: Statistics Digest, Astana, 2008; Demographic Yearbook of Kazakhstan: Statistics Digest, Astana, 2009 (available in Kazakh and Russian only).

[116] Data of the Ministry of Healthcare of the Republic of Kazakhstan

accommodate obstetric facilities within the new multi-type hospitals, being constructed as a part of the social programme '100 schools, 100 hospitals' initiated by the President of the Republic.

The Republic has some regulations on the regionalisation of perinatal care aimed at providing pregnant women with access to higher-level medical facilities, which can offer them more skilled care. Nevertheless, there is no data on the share of women, whose condition required hospitalisation and who were admitted to second- or third-level obstetric facilities. Meanwhile, in 2009, one in every four mothers died in conditions when the regionalisation principle was not observed, i.e. at the first level, in the central regional hospital or during transportation to a higher-level obstetric facility. In some cases, first-level maternity hospitals were not ready to provide emergency aid.

Nevertheless, one should admit that progress has been achieved in the way to regionalisation of perinatal care. Compared to 2006, in the context of an essential reduction in maternal mortality the share of mothers, who died in first-level hospitals, dropped by almost two times in 2009 (Figure 2). In 2009, the majority of deceased mothers had been offered medical care of quite high level.

No data are available on the extent of supply of mothers with essential life-saving drugs, though clinical protocols stipulating the use of corresponding medicines and a list of essential drugs have been approved. However, according to experts, in 2009 obstetric facilities still faced a deficit of required medicines including Oxytocin, Magnesium sulphate, Poractant alpha, and Nifedipine, among others. An unresolved issue is the regular supply of women, at least, from socially vulnerable groups, for whom contraceptives are provided for free, or at discounted prices at the state budget's expense. This casts doubt on the country's progress in uninterrupted supply of population with reproductive health commodities.

Despite the revision of standards of care to mothers, the percentage of obstetrician-gynaecologists and midwifes, who have learned how to apply relevant modern approaches, is still not measured. Although the outcomes in this area remain uncertain, one can assume that that limited progress has, nevertheless, been achieved in this respect. A number of medical universities, including the Almaty Extension Course Institute for Medical Practitioners and the Medical University of Semei have changed their graduate and postgraduate training curricula accordingly. National obstetrics and gynaecology methodical centres have launched master classes on the introduction of new perinatal technologies. WHO and UNFPA continue supporting training of health professionals involving international experts.

Progress achieved in integrating reproductive health, STIs and HIV/AIDS care is primarily determined by the high coverage for pregnant women with HIV with antiretroviral pre-

Figure 2. Maternal Mortality in the Republic of Kazakhstan, by place of death[117]

Level I
Level II
Level III
Others
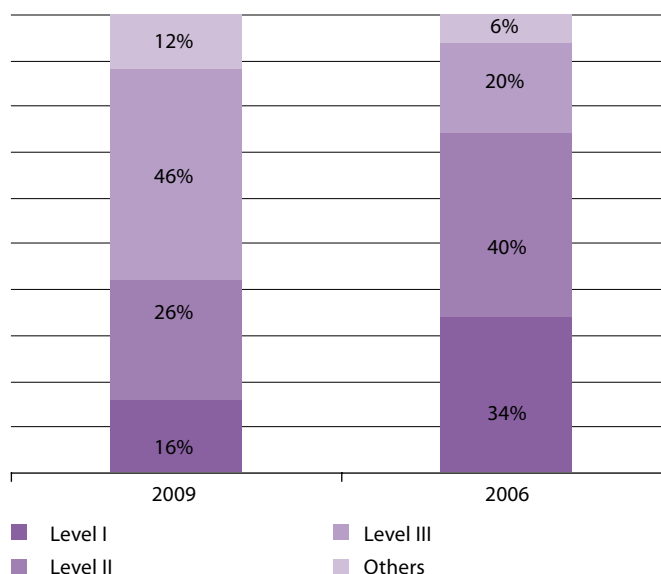
ventive treatment for the purpose of decreasing the risk of HIV transmission to a child (94.1 percent in 2009). This has to do with large-scale HIV testing of pregnant women initiated by the reproductive health service provider[118].

At the same time, the reproductive health system has failed to cover the full scope of STIs care contrary to WHO recommendations. Reproductive health entities are not authorised to treat syphilis, gonococcal and chlamydial infections in women and their partners, and whenever the specified infections are detected, patients are referred to dermatological / STD dispensaries. Given that an overwhelming majority of laboratories are not equipped to diagnose correctly half or more cases of gonococcal and chlamydial infections in women, a significant proportion of patients of the reproductive health service having genital lesion symptoms as well as their partners are not treated adequately. As a result, infection agents resulting in habitual miscarriages and infertility circulate among population. It comes as no surprise that STIs are so widespread, as indicated by incidence of easily recognisable syphilis, which agent's antibodies were found by sentinel surveillance to be present in 2-3 percent of pregnant women in 2006-2007[119].

Recent progress in improving maternal health monitoring has to do with the undertaking of confidential audits in certain regions of Kazakhstan, which have allowed the true causes of fatalities and critical conditions in mothers to be identified and measures to be taken to avoid them in the future. Confidential audits on a national scale have yet to be introduced.

As a whole, development of the monitoring and evaluation system remains one of the main problems to be resolved. The existing system does not provide the information required to ensure results-oriented management. As

[117] Data of the Research Center of Obstetrics, Gynecology and Perinatology of the Ministry of Healthcare of the Republic of Kazakhstan

[118] UNGASS National Progress Report, Kazakhstan, Reporting Period: January 2008 – December 2009, 2010

[119] UNGASS National Progress Report, Kazakhstan, Reporting Period: January 2006 – December 2007, 2008

seen from numerous previous examples, results of efforts made to change the maternal health situation for the better, namely, outcomes and outputs of programmes and strategies are, as a rule, not measured. Programme management is primarily aimed at activities. Furthermore, maternal health strengthening programmes implemented at different levels, including the 2008-2010 Maternal and Child Mortality Reduction Programme approved by Governmental Resolution, and to be completed in 2010, are not measured from the viewpoint of their cost-effectiveness, efficiency, impacts and sustainability.

Rather modest progress has been achieved in raising awareness and counselling of girls, women and men on sexual and reproductive health. A course in biology, a mandatory secondary school subject, does not comply with UNESCO standards on raising students' awareness of reproductive health and HIV/AIDS. In 2008, 88 percent (73 percent in 2007) of secondary comprehensive schools reported the introduction of Natural Science and Safe Living Basics as an optional subject providing full coverage of respective matters. However, no data is available on how well the new subject is taught and, the most important thing, whether students' knowledge and skills have improved.

Peer-to-peer training has not achieved essential progress either. Thus, in South Kazakhstan Oblast, where UNFPA have supported the peer-to-peer movement for five years, over four-fifths of young people participating in the 2009 survey replied that they had never heard about such a movement. In addition, half of the respondents, who knew about the 'peer-to-peer' movement, could not answer a

question about the area of its activities[120]. The application of 'peer-to-peer' training still remains limited. It is not yet included into the non-governmental sector's social service commissioning. Experts believe that no noticeable success has been achieved in strengthening the interaction of the healthcare and non-governmental sectors in addressing sexual and reproductive health problems.

No essential progress has been achieved in fighting gender stereotypes, which impact on sexual and reproductive health. Stability of these stereotypes has not yet been measured. Counteracting violence against women has not been integrated into public healthcare. However, the Law 'On Prevention of Domestic Violence', passed in 2009, opens new prospects for improving the conditions for women to exercise of their reproductive rights, which should have a positive impact on maternal health.

Changes in reproductive health investments over the past three years are hard to measure since, as mentioned above, the healthcare budget does not contain a separate item on investments. However, in 2009, Kazakhstan's total healthcare expenses remained quite low, only 3.7 percent of the country's GNP versus an average of 8.4 percent of GNP (2006) in the WHO European region[121]. In 2009, healthcare expenses per capita in Kazakhstan totalled KZT 30,373, equivalent to USD 225, or eight times lower than the average expenses in the WHO European region. Considerable amounts have been spent on construction of buildings and facilities as well as the creation and maintenance of large well-equipped clusters (including obstetric-gynaecologic

---

[120] Report on assessment of youth awareness of reproductive rights and sexual health in South Kazakhstan Oblast: Center for Public Opinion Surveys, Almaty, 2009 (available in Russian only).

[121] World Health Statistics, WHO, Geneva, 2009

clusters) in the centre, whereas many primary- and secondary-level facilities in provinces, which provide care an overwhelming majority of women, had no conditions required for providing high-quality obstetric care in line with modern requirements. As mentioned above, the supply for vulnerable groups, including the poor, large families, migrants, women with complicated extra-genital pathology, making a pregnancy contraindicative, and marginal groups with contraceptives remains unresolved.

Thus, over the past three years, progress on the way to MDG 5 has been observed, although not all reserves have been used to strengthen maternal health.

Main barriers and risks towards the achievement of MDG 5

The main MDG 5 barriers have legal and socio-economic components. Though the current legislation does proclaim guarantees of citizens' rights to protection of reproductive health and state-guaranteed amounts of free medical care, it does not define the mechanisms to secure the largest possible package of medical care. Meanwhile, Article 12 of the International Covenant on Economic, Social and Cultural Rights ratified by Kazakhstan calls for recognition of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. Since 2010, the country has implemented the Uniform National Healthcare System aiming to promote open competition between medical organisations. The system stipulates that a client is free to choose a medical entity and a doctor, whereas the uniform payer, Ministry of Healthcare, makes payments within the scope of guaranteed amount of health care for each client. Given the initial uneven development of the various healthcare entities, and social differences among the population, the concept of the Uniform Healthcare System carries a risk of financial insolvency of small hospitals, deterioration of their infrastructure and outflow of staff. This is particularly true in rural areas and small towns where hospitals provide much-needed health services to the socially vulnerable sectors of the population.

Age limits on young people's legal capacity to make decisions on health care pose a serious obstacle on the way to achievement of universal access to reproductive health. According to the National Centre for Problems of Healthy Lifestyle Development, quite often teenagers have their first sexual experience at the age of 15 or younger. The criminal law of the country considers a girl capable of making deciding on having a sexual intercourse when she turns 16. However, the legislation does not recognise a teenager's right to be examined by a gynaecologist, to be treated from STIs, to receive contraceptives or to decide on termination of pregnancy without the consent of her parents or legal guardians until she turns 18. This situation excludes a range of friendly services to teenagers, whose majority is only willing to receive confidential free services. As a result, teenagers do not seek help they need, get unwanted pregnancies, high-risk labour and STIs.

Another important obstacle to achieving MDG 5 is certain inertness of health staff in introducing modern evidence-based technologies. This includes conservatism of some leading scientists and experts trained in the 'Soviet' school of obstetrics and gynaecology, which did not always follow the principles of evidence-based medicine, and often relied on subjective clinical experience. Quite often WHO-supported approaches of evidence-based medicine and approaches described in treatises of representatives of the Soviet school of obstetrics and gynaecology differ considerably. It is not always easy for obstetric scientists to rethink paradigms that until recently had seemed to be so unshakeable; furthermore, these are the paradigms they had been relied on for many years in their treatises, teaching materials and lectures.

These doubts are quite often well-tuned to moods reigning in obstetric facilities. As informal fees are paid to delivering staff, obstetrician-gynaecologists can be willing to act as recommended by the Soviet school and to speed up delivery (which turned out to make complications more frequent) without sufficient reasons, as far as WHO experts are concerned. Similarly, in order to prevent the attendance of physiological delivery by midwives strongly recommended by WHO experts doctors can remain committed to outdated labour medicalisation recommendations recognised by the WHO experts to be unnecessary and harmful.

Attempts continue to prove the unacceptability of recommendations of the WHO, with a presumably very low index of the health of fertile aged women in the country, which makes Kazakhstan different from other countries. According to available estimates, there are, on average, 31 percent of pregnant women with pathologies in Kazakhstan, with a very large variation (±40 percent) between oblasts[122]. However, this indicator has never been studied within the framework of clear-cut criteria of customer classification as healthy, apparently healthy and sick. The health index was measured through a retrospective data collection with no standard methodology for initial examination. Women's classification under one of these categories has been determined by the depth of the examination, the doctor's ability to correctly diagnose and classify diseases and their subjective attitude towards a need to write a diagnosis in medical records. No prospective studies to confirm the validity of reference to health index have been ever held.

A serious barrier is the inertness of the management system, which is focused on activities, rather than on outputs, and tracking of their effects on outcomes and the ultimate achievement of the goal. Cited above are examples of lacking information on basic indicators describing short-term outcomes of maternal health strengthening programmes, which are directly linked to the causes of quite high maternal mortality in the country. Their values should be measured during programme interventions. High-quality strategic planning is in absolute need for data on the degree of regionalisation of perinatal care, the extent of the introduction of evidence-based clinical protocols of pregnancy, labour and their complications, the level of a satisfied need

---

[122] Data of the Research Center of Obstetrics, Gynecology and Perinatology of the Ministry of Healthcare of the Republic of Kazakhstan

Economic crisis and MDG progress

A recession in a number of sectors has expanded the socially vulnerable population in the country including women, and has therefore provided a negative impetus to the progress in the advancement of MDG 5. This macro-phenomenon is linked to the fact that healthcare funding does not cover the needs of the population for a guaranteed free healthcare package, due to insufficient allocations. Free healthcare is being replaced by paid services. In practice, it means that it is hard for vulnerable groups to receive an appropriate package of healthcare, including reproductive healthcare.

In 2009, for the first time in its history, Kazakhstan adopted a three-year 2009-2011 republican budget; however, the 2009 budget was cut due to the global financial crisis. The 2010 budget was based on harsh austerity. However, in 2009, Kazakhstan experienced real growth in gross domestic product of 1.1 percent and found it possible to avoid cutting the healthcare budget. Moreover, in the first quarter of 2010, state budget healthcare expenses increased compared to the first quarter 2009 (with 2010 budget revenues exceeding those of Q1 2009 in parity prices by several times, which may indicate the end of the crisis).

In the course of the global crisis, Kazakhstan managed to prevent stagnation of its healthcare system. One can anticipate that the global market recovery and growing demand for hydrocarbons will be quick to eliminate the consequences of the crisis. If the policy of increasing investments into reproductive healthcare is continued, the global crisis will have no essential impact on the achievement of MDG 5 by Kazakhstan.

CONCLUSIONS

To achieve MDG 5, Kazakhstan needs to reduce its MMR from 55 per 100,000 live births in 1990 to 14 in 2015. Is this achievable? During the five years to come, MMR needs to be almost halved compared to the current indicator. Over the 19 years since 1990, MMR was reduced by less than two times. It is clear that as the MMR is being reduced, each subsequent reduction will be most probably more difficult to achieve.

Progress achieved in recent years in decreasing maternal mortality in Kazakhstan, nevertheless, inspires cautious optimism. In the 1990s, the MMR increased, which coincided with the socio-economic stagnation period. However, since 1999, this indicator has decreased on average faster than by five percent annually (Figure 3). Its 11-year evolution is approximately described by the linear equation $y = -2.5x + 61.1$, where x is the number of years since 1999 (1999=1). It should be emphasised that that in order to achieve the planned target by 2015, the country should double the current maternal mortality reduction rates over the next five years.

One should mention that the world has seen examples of fast decline in maternal mortality. For example, according to modelling-based estimates using special-temporal regression (the database was formed on the basis of demo-

for basic drugs and contraceptives, on a national scale, and other related data. However, these are neither established nor used. In addition, there is no reliable data on financing of the reproductive health protection system. The lack of disaggregated data describing maternal health in the context of resource inequality between regions, urban and rural areas, and mothers belonging to socially vulnerable groups, hinders appropriate intervention focus.

As practice shows, adequate resources are key to the success of any social programmes. At the moment, the healthcare budget is still set and spent taking into account needs for maintaining the infrastructure rather than implementation of programmes including achievement of MDG 5. In the course of the implementation of programmes relevant to the achievement of MDG 5, low-efficiency institutions are still supported instead of efficient allocation of funds into priority areas. For example, as far as STI treatment is concerned, arrangements providing privileges to dermatovenerologic dispensaries are supported, the redundant hospital bed stock in the context of new perinatal technologies is still retained.

The last, but not the least obstacle is poor inter-sectoral coordination in the maternal health improvement area, which traditionally is considered to be a healthcare problem. Meanwhile, the state of maternal health and reproductive health depends not only on the quality of healthcare services, but on public behaviour, gender stereotypes generated with the help of education, the mass media and civil society.

graphic statistics, population census, surveys and verbal autopsies[124]), Egypt's average maternal mortality declined during the period 1990-2008 at 8.4 percent per year. Over this period, Egypt's MMR has dropped from 195 to 43 per 100,000 live births. In Romania, the MMR dropped from 92 to 26 per 100,000 live births over the same period. (For Kazakhstan, similar estimations yield an MMR of 61 and 44 respectively).

Achievement of MDG 5 in Kazakhstan will depend on how fast the legislation will change, how successful healthcare structural reforms will be and how efficiently maternal mortality reduction programmes will be managed and financed. To advance the achievement of MDG 5 it is necessary to:

• develop mechanisms for implementing law-enshrined guarantees for population, first of all, vulnerable groups, to receive the highest possible standard of reproductive health services;

• legislate guarantees for young people including teenagers to receive full scope of youth-friendly services in the area of sexual and reproductive health at their personal discretion;

• harmonise pronatal strategies and strategies of preventing unwanted pregnancies and family planning in the course of development and implementation of demographic policies;

• bring regulations of the Ministry of Healthcare into conformity with the requirements of modern standards of perinatal care technologies;

• toughen control over the quality of obstetric care on the basis of evidence-based clinical protocols;

• revise pharmacological support policies to ensure the uninterrupted supply of health facilities with essential reproductive health goods and socially vulnerable groups with contraceptives, for free or on a subsidised basis, to meet the family-planning needs of the population;

• legislate unconditional access of pregnant women with extra-genital diseases to specialised facilities;

• integrate medical care in case of STIs into reproductive health services;

• include prevention and mitigation of consequences of violence against women into healthcare sector activities;

• introduce results-oriented management in sexual and reproductive health programmes including maternal health programmes; and

• improve monitoring and evaluation of programmes guaranteeing availability of required data, including those of confidential audits of maternal mortality and near-miss cases, their analysis and use to enable a fast response.

Figure 3. Evolution of annual maternal mortality rates in Kazakhstan since 1999 [123]
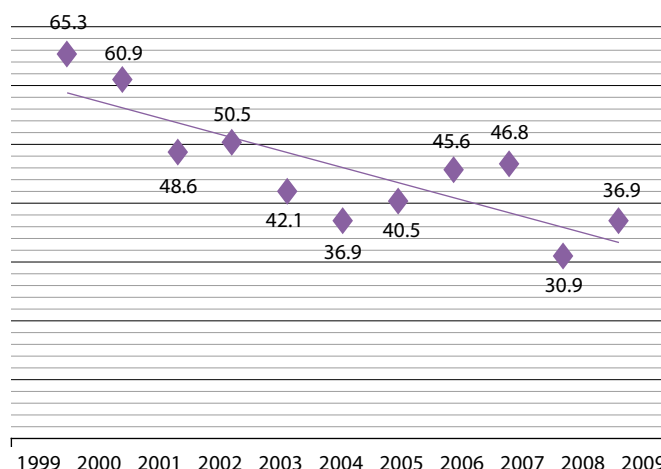
Achievement of MDG 5 will depend on adequate doctor and midwife training. In this context, essential efforts need to be taken for academic and methodological entities of the Ministry of Healthcare to:

• revise curricula and programmes of post-graduate and graduate expert training, prepare and publish relevant recommendations, manuals and textbooks;

• improve on-the-job training;

• improve the quality of family planning services, including those at the primary care level;

• build capacity primary healthcare workers in early detention of extra-genital diseases in women; and

• teach communication skills to medical workers.

Achievement of MDG 5 requires a strengthened multi-sectoral approach in addressing maternal health improvement, for which purpose the education sector, healthcare, mass media and non-governmental sector need to join and coordinate their efforts to achieve a substantial improvement in awareness of the population. This includes, in the first instance, raising awareness amongst youths, about prevention of unwanted pregnancies, STIs and HIV/AIDS. To meet this end, it is necessary to:

• ensure relevant training in secondary schools under the standards compliant with UNESCO recommendations;

• develop a network of informal teenager-to-teenager education; ensure social service commissioning to expand the non-governmental sector's activities in peer-to-peer training;

• increase the number of publications of preventive materials in the mass media.

MDG 5 can only be achieved if investment into sexual and reproductive health is increased, with available resources to be allocated in a way ensuring maximum benefits to a maximum number of people.

_____

123 Data of the Ministry of Healthcare of Kazakhstan based on registered cases

124 Hogan M., Foreman K.J., Nafhavi M.et al. Maternal mortality for 181 countries, 1980—2008: a systematic analysis of progress towards Millennium Development Goal 5//Lancet, Vol. 375, Issue 9726, P. 1609 – 1623.

GOAL 6
To Combat HIV/AIDS and Tuberculosis

TARGET 7

*To halt, by 2015,
and begin to reverse the
spread of HIV/AIDS*

Relevance for Kazakhstan

In Kazakhstan, HIV-infection is recognised as a significant problem. In this context, combating the spread of the HIV epidemic is one of priorities set forth in the overall long-term development strategy of Kazakhstan till 2030. The 2006-2010, the AIDS Epidemic Counteraction Programme approved by the Government Resolution №1216 dd. December 15, 2006, is under way and has helped to stabilise the spread of HIV infection at its initial stage, having prevented its transition to a generalised infection. The 2011-2015 National Healthcare Development Programme of the Republic of Kazakhstan is being developed and will incorporate activities targeting HIV-infection.

Regional and agency programmes (those of the Ministries of Justice and Defence, work plan of the Ministry of Education and others) have been based on the national programme. HIV Coordination Councils are functioning both at the national, regional and city levels. In 2009, the Country Coordination Committee (CCC) for Global Fund for AIDS, TB and Malaria was renamed the CCC for Cooperation with International Organisations, which is why the CCC composition was changed and its functions were expanded. Civil sector representatives, including people living with HIV (PLH) account for 40 percent of the Country Coordination Committee. It was the first time that a representative of Kazakhstan's Union of People Living with HIV was elected as CCC Vice-President in Kazakhstan.

Progress in achieving Target 7 of MDG 6 was assessed on the basis of the following indicators:

1. the percentage of women and men aged 15-49 who are HIV-infected
2. the percentage of injection drug users who are HIV-infected
3. the percentage of injection drug users reporting the use of sterile injecting equipment the last time they had an injection
4. the percentage of young women and men aged 15-24 with correct knowledge of HIV transmission modes
5. the percentage of sex workers reporting condom use
6. the percentage of HIV-positive pregnant women and babies born to HIV-positive mothers, who received full-course antiretroviral prophylaxis
7. the percentage of PLH needing and receiving ARV therapy
8. the percentage of donor blood samples tested for HIV

Analysis of HIV epidemiologic situation in Kazakhstan

As at 1 January 2010, there were 13,784 cases of HIV infection registered in Kazakhstan. Since 1987, there has been an increase in new HIV infection cases every year other than 2009 (Figure 1).

HIV incidence rate amongst the population aged 15-49 is 0.15 percent. As before, intravenous drug use is a dominant

Figure 1. Development of HIV-infection epidemic in the RoK's population in 1987-2009 (absolute numbers)
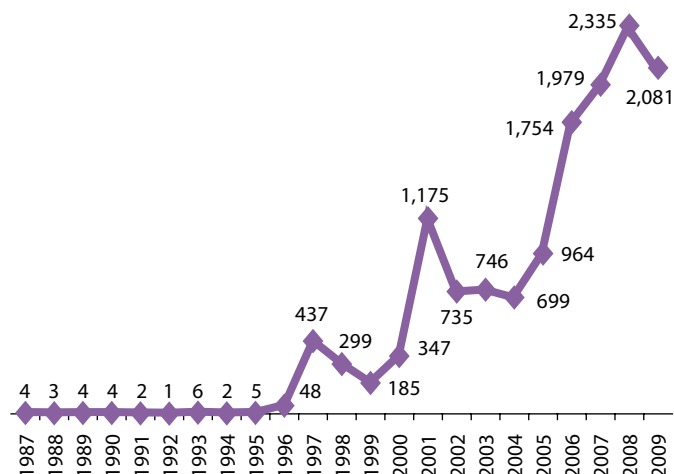
Figure 2. Percentage of sexual and injection (injecting drug use) HIV transmission modes, 2001-2009
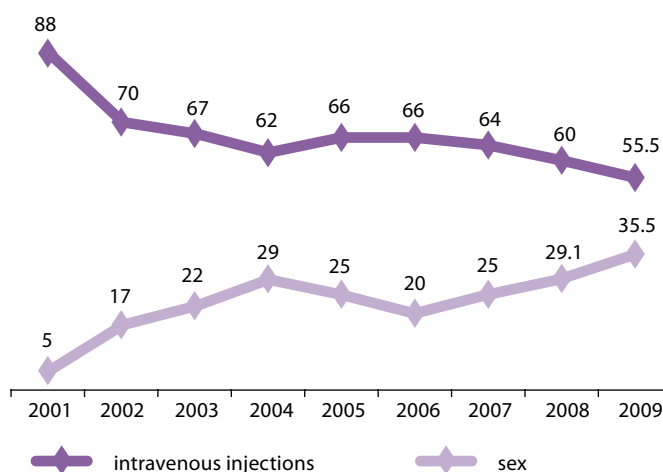
transmission mode accounting for 67.5 percent of cases, with sexual transmission accounting for 24.4 percent. HIV infection is concentrated among injection drug users (the incidence rate is 2.9 percent).

HIV transmission through intravenous drug use is the leading mode, but year-on-year dynamics shows an increase in the share of sexual transmission (from five percent in 2001 to 35.5 percent in 2009) (Figure 2).

In 2009, there were 2,081 HIV cases registered including 73.0 percent of urban residents, 27.0 percent of rural residents, 67.0 percent of men (1,394 cases) and 33.0 percent of women (687 cases). The distribution of registered HIV cases by transmission modes and factors in 2009 is as follows: injection drug users account for 55.5 percent of HIV cases (60.4 percent in 2008), with the sexual transmission mode accounting for 35.5 percent (29.1 percent in 2008).

In terms of socio-professional status, HIV cases detected in 2009 are distributed as follows:

- 71 percent – non-workers

HIV transmission among men (2009)

HIV transmission among women (2009)

*Figure 4. Planned Programme financing by sources of
funding (KZT million)*

Republican budget

Targeted transfers from republican budget

Grants from international organizations
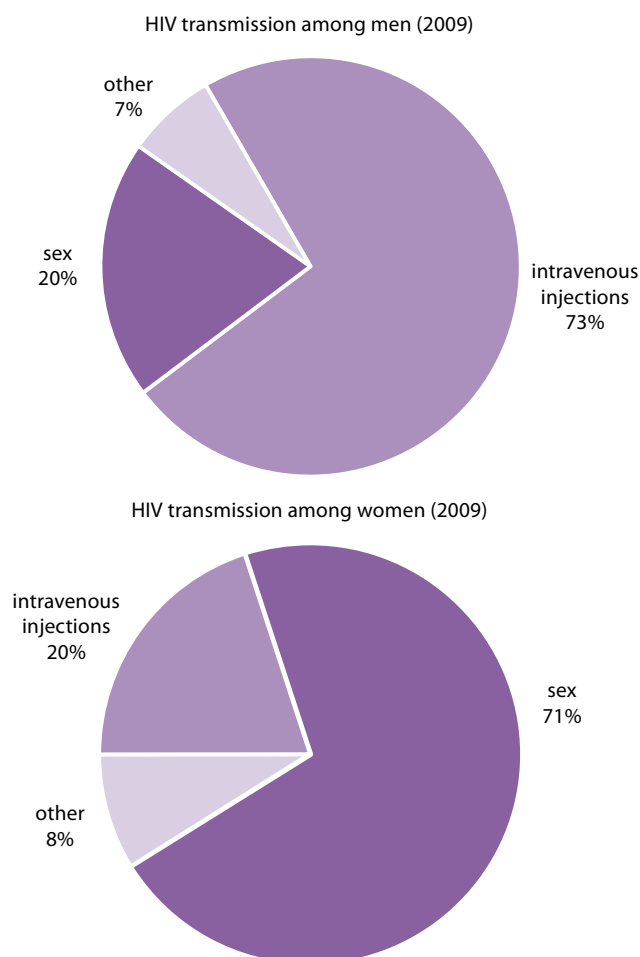
- 15 percent – workers

- 3 percent – employees

- 7 percent – foreign citizens

As follows from the analysis of the epidemiologic situation, in 2009 intravenous drug injection practice (73 percent) was the prevailing infection mode for newly registered HIV cases among men, with sexual transmission accounting for only 20 percent. Meanwhile, for women the main transmission mode is sex (71 percent), with injection transmission through intravenous drug use accounting for 20 percent only (Figure 3).

HIV cases demonstrate an uneven distribution in the country. Most HIV cases are concentrated in Almaty, 2,823 (183.9 per 100,000 population), in Pavlodar Oblast, 1,459 (159.1 per 100,000 population) and Karaganda Oblast, 2,598 (127.9 per 100,000 population). The HIV incidence rate above the national average rate is registered in East Kazakhstan Oblast (1,406 cases, 92.2 per 100,000 population) and Kostanay Oblast (842 cases, 84.0 per 100,000 population).

In 2009, sentinel surveillance yielded the following results:

- among IDUs, incidence rate of HIV was 2.9 percent, HCV – 60.3 percent, Treponema pallidum antibodies – 11 percent

- among SWs, incidence rate of HIV was 1.3 percent, HCV – 11, Treponema pallidum antibodies – 18 percent

- among MSMs, incidence rate of HIV was 0.3 percent, HCV – 4, Treponema pallidum antibodies – 5 percent

- among prisoners, incidence rate of HIV was 2.6 percent, HCV – 43 percent, Treponema pallidum antibodies – 11 percent

- among patients with STI symptoms, incidence rate of HIV was 0.3 percent, HCV – 3 percent, Treponema pallidum antibodies – 15 percent

- SS findings demonstrate a drop in the national average HIV incidence rate among IDUs.

Realising the severity of the problem, the Government of Kazakhstan consistently increases financing of HIV prevention activities. Thus, the share of state budget financing of the AIDS Epidemic Counteraction Programme was 65 percent in 2009 and should increase to 72.0 percent in 2010.

Assessment of results (based on indicators) and identification of existing problems

Implementation of prevention programmes for the population

Monitoring has demonstrated that in 2008 a total of 856,141 copies of information and educational materials were published in order to secure access of various population groups to information. Each year special awareness programmes cover school and university students, MIA and MOD cadets, with staff of the Criminal Correction System Committee of the Ministry of Justice and prisoners also receiving training. The year 2009 saw continued interaction under approved tripartite Agreements between

Oblast Akimats, employers' associations and trades unions, which included HIV and AIDS prevention issues. HIV and AIDS outreach activities cover workers of industrial enterprises, with information booklets distributed. Though HIV incidence among the population aged 15-49 is low, standing at 0.15 percent, there is a possibility for deterioration, as the HIV awareness level among young people is quite low, at 30 percent.

Drug use harm reduction strategy

The harm reduction strategy includes awareness-raising efforts and provides all willing IDUs with training, information and counselling on individual risks and prevention of HIV transmission. The country has a total of 168 trust centres, with 19 new Trust Centres (TC) opened and the number of mobile centres increased from 15 to 24 in 2008-2009. According to the monitoring data 47 percent of IDUs are covered with prevention programmes, compared to 29 percent in 2007. Trust centres provided 20,510,779 syringes to IDUs, 350 syringes per each IDU involved in the prevention programme; IDUs also received 7,099,650 condoms (4,156,715 in 2008) and 160,553 copies of information booklets (126,075 in 2008).

In 2009, out of 52,135 TC customers, 43,010 IDUs, i.e. 82.5 percent, were covered with Voluntary Counselling and Testing VCT services. A total of 28,674 TC customers received medical advice including that from narcologists, phthisiatricians, STI and skin doctors, gynaecologists, surgeons, therapists, etc. As a result of the harm reduction programmes, HIV incidence among IDUs dropped from 3.9 percent in 2007 to 2.9 percent in 2009, for the first time in Kazakhstan.

A total of 30 percent of all registered people living with HIV are in prisons. In Kazakhstan, prisoners are one of priority groups covered by preventive actions under the agency programme, e.g. dissemination of information booklets, disinfectants and condoms. Peer-to-peer training has been provided to medical personnel, prison staff and prisoners. However, HIV incidence among prisoners is growing year by year, reaching 2.6 percent in 2009. It is obvious that activities performed are not sufficient and there is a need for harm-reduction programmes and opioid replacement therapy in penitentiary facilities.

Prevention of sexual HIV transmission

The country is raising awareness of and supplying vulnerable groups (IDUs, SWs, MSMs, prisoners) with high-quality condoms. Kazakhstan has 29 friendly clinics for vulnerable groups. In 2009, friendly clinics were visited by 22,021 people, including 4,220 IDUs, 8,957 SWs, 415 MSMs and 8,450 young people. A total of 15,037 people received syndromic treatment of sexually transmitted infections. Friendly clinics introduced rapid HIV diagnostics. In 2009, sex workers received 5,090,026 condoms.

The country has seven registered NGOs engaged in advocating the rights of sex minorities and preventing HIV and STI among MSMs.

Establishing and maintaining psychosocial counselling and HIV testing

HIV testing and counselling are required for timely exposure, prevention of transmission and prophylaxis of HIV or antiretroviral therapy. Since 2006, Kazakhstan has changed its testing policies focusing HIV testing efforts on HIV concentration groups. Every year more than 10 percent of the entire population is tested for HIV. The existing policies prescribe voluntary and free testing accompanied by mandatory pre-test and post-test counselling. Given that HIV tests are usually made for adult population aged 15-49 accounting for a half of the entire population of the country, 17 percent of this category is covered by HIV testing.

The network of psychosocial counselling and HIV testing facilities is expanding. In 2009, there were 362 psychosocial counselling (PSC) and 299 anonymous testing facilities. In 2009, 3,475,305 and 18,809 persons received HIV counselling and anonymous testing respectively.

Preventing mother-to-child transmission of HIV (PMTCT)

The MoH issued Order №699 dd. December 29, 2008, approving the healthcare standard 'Prevention of Mother-to-Child Transmission of HIV', which governs PMTCT efforts.

Since 2007, all obstetric facilities have been provided with free rapid HIV tests and introduced rapid diagnostics for pregnant women admitted to maternity hospitals without examination. Access to medicated prevention of mother-to-child HIV is provided to all HIV-infected pregnant women, who need it. In 2009, 3,582 doctors were trained in accordance with the vertical HIV transmission prevention action plan.

Post-contact prevention

All regions of Kazakhstan are provided with antiretroviral medications for post-contact treatment. Workshops conducted in treatment and prevention facilities include post-contact prevention issues. Antiretroviral medication supplies that should never be reduced are stored at central ambulance stations, large hospitals and AIDS centres.

Prevention of secondary diseases in HIV-infected people

In 2009, chemoprophylaxis of secondary diseases (1,674 pneumocystic pneumonia and toxoplasmosis patients) in HIV-infected adults and children was performed (98.5 percent coverage with preventive treatment). All regions are supplied with medications for TB chemoprophylaxis in new HIV-infected cases.

Preventing HIV transmission through blood transfusion. To prevent transmission through blood transfusion, ongoing control over the safety of prepared blood and its components is performed. Donor blood HIV testing quality is controlled through external quality assessment performed by territorial and Republican AIDS centres.

Treatment, care and support programmes

This area of work is one of priorities. In two years, Kazakhstan has made a significant leap forward in covering HIV cases with treatment and care. Over the past two years, the number of PLHs covered with ART has increased, with over 70 percent of treated PLHs being injection drug users.

The range of ARV medications has been expanded, with 24 medications for HIV treatment registered to date. In 2009, antiretroviral treatment of adults and children was state-funded. All HIV-infected adults and children are provided with free ARV medications and other medicines within the guaranteed healthcare volume.

However, full coverage with treatment is yet to be achieved. Only 75 percent of those in need receive modern antiretroviral treatment. One of the main problems is the high cost of antiretroviral therapy, a limited list of generic HIV medications and lack of medicines to treat hepatitis B and C. ARV medication procurement planning and management requires further strengthening. Annual growth in the number of PLHs requiring ARV therapy can become a concern.

Social projects for people suffering from HIV

Kazakhstan provides support to people living with HIV (PLH) such as computer workshops, retraining and training arranged by the Employment Department and social programmes under the Social service project. They receive grants and assistance in employment and legal counselling.

Improvement of epidemiologic tracking, monitoring, evaluation, planning and projection of response measures

The Sentinel Surveillance (SS) system became a great achievement of Kazakhstan. Since 2003, SS was in four pilot regions. Since 2005 it has been performed nationally in all regions of Kazakhstan every year. Sentinel Surveillance is performed in five sentinel groups (injection drug users; sex workers; men having sex with men; patients with symptoms of sexually transmitted infections; prisoners). Related serologic and behavioural surveys are performed among sentinel groups during the SS.

The results described above are represented in the following indicators used for assessing progress in the achievement of Goal 6, Target 7:

1. HIV incidence rate among the age group 15-49 is 0.15 percent, i.e. the epidemic was restrained at its initial stage;
2. HIV incidence among injection drug users is 2.9 percent.
3. A total of 63 percent of injection drug users reported using sterile injecting equipment;
4. Only 30 percent of young people aged 15-24 correctly identify HIV transmission modes;

5. A total of 96 percent of sex workers reported condom use;
6. ARV treatment is provided for 94 percent of HIV-positive pregnant women, who decided to keep their babies and children born to HIV-positive mothers;
7. A total of 75 percent of people living with HIV have access to modern antiretroviral treatment;
8. Donor blood safety is being secured, i.e. 100 percent HIV testing of donor blood is performed.

CONCLUSIONS

The situational analysis shows that though Kazakhstan does manage to restrain the HIV epidemic at its initial stage (HIV is concentrated primarily among injection drug users), there is a possibility for deterioration. This is due primarily to the fact that the behaviour practiced by drug injectors is not safe, the level of awareness of young people about HIV transmission modes and ways to avoid HIV infection is not always sufficient, and access to treatment is not always available in full.

Recommendations

Despite significant progress in combating the HIV epidemic, the following efforts need to be strengthened in order to achieve Target 7 of MDG 6:

1) Strengthen political commitment to HIV and AIDS: This includes the incorporating all necessary HIV-related activities into the 2011-2015 National Healthcare Development Programme, their financing from the state budget, maintaining and developing the institutional AIDS system at the republican, regional and city levels.
2) Provide access to ARV therapy for all patients in need. There is a need to revise HIV treatment protocols in line with modern international requirements, develop protocols for diagnostics and treatment of opportunistic infections, develop programmes on commitment to ARV therapy and expand palliative care programmes. Furthermore, there is a need to promote wider involvement of PLH into aid and mutual aid programmes and to form commitment to the ARV therapy.
3) Increase Youth awareness on HIV and AIDS issues remains insufficient. There is no integration of HIV and AIDS issues into the mandatory training curricula; HIV education programmes for youth need to be improved.
4) Ensure sustainable prevention programmes for the most vulnerable groups: injection drug users, sex workers, men having sex with men, migrants, prisoners, etc.
5) Further improve the epidemiologic tracking system including sentinel surveillance and strengthening of technical capacity of experts.
6) Strengthen cooperation with NGOs. Facilitating broader involvement of PLH and representatives of vulnerable groups into combating HIV; promoting partnership and dialogue on HIV counteraction between the government, NGOs and private sector.

GOAL 6
To combat HIV/AIDS and tuberculosis
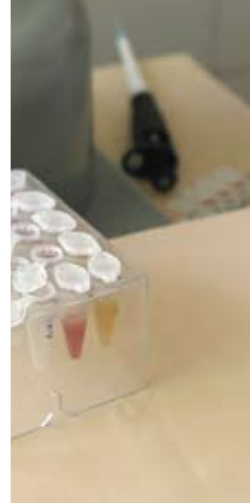
TARGET 8

To halt, by 2015, and begin to reverse the incidence of tuberculosis.

The Millennium Development Goals view a reduction in global TB incidence by 2015 as the primary target of combating tuberculosis. Additional MDG-related targets provide for halving tuberculosis incidence and mortality rates by 2015 compared to 1990. The results of the national TB control programme backed up by mathematical modelling show that in the absence of HIV infection if 70 percent of infectious TB patients are identified during one year and, at least, 85 percent of them are cured, TB incidence will drop by 5-10 percent a year. A 16.7 percent decrease in TB incidence in Kazakhstan between 2007-2009 achieved in the short term should secure achievement of the global targets and the indicator of 66 new TB cases per 100,000 population compared to 1990.

National policies and changes in the legislative framework in 2007-2009. Follow-Up Analysis

The Kazakhstan-2030 Development Strategy has set forth health and well-being of citizens as main national long-term priorities. In this context, Government Resolution №1263 dd. December 21, 2007, 'On Measures to Protect Population from Tuberculosis in Kazakhstan', and the 2008-2012 Inter-Agency Work Plan for Coordination and Implementation of TB Control were passed.

Legislation and regulations adopted in Kazakhstan promoted the following important activities combating tuberculosis infection:

- Improvement of the tuberculosis regulatory framework: including reform of reporting documentation, approval of the developed Tuberculosis Control Manual and Multi-Drug Resistant Tuberculosis Control Manual,

Recommendations on Monitoring and Evaluation of TB Control Actions in Kazakhstan, Recommendations on the Role of Primary Healthcare Network in Tuberculosis Control and the Guidelines for Assessment of Need for TB Drugs.

- The National TB Patient Tracking Register, which provides for entry of all active TB patients into the database, has been adjusted.

- Restructuring of TB facilities aimed at establishing an infection control system, preventing spread of intra-hospital TB infection through clear-cut separation of the patient inflow by type, infection status and presence of multi-drug resistance.

- Use of TB in-patient facilities in the country is primarily aimed at hospitalising certain cohorts of patients. Towards this end, the MoH Order №221 dd. 29/04/2009 'On Approval of Inter-district Tuberculosis Hospital Regulations' was approved.

- The country is performing GFATM Rounds 6 and 8 actions.

- Backed up by the Global Fund for AIDS, Tuberculosis and Malaria ('GFATM') Round 6, in 2008-2009 bacteriological laboratories of oblast and regional TB control dispensaries were re-equipped with contemporary laboratory equipment for an amount of $882,188 (108 binocular microscopes, 19 laboratory centrifuges, 19 steam sterilisers (autoclaves), 19 shakers, 15 serum coagulation and inactivation devices, 15 pH meters, 19 dry-air sterilisers, 15 water baths and 19 biological storages) and supplies for an amount of $158,908.

- GFATM Round 6 funds were used to purchase 22,506 high-protection face-piece respirators for staff of bacteriological laboratories and units treating multi-drug

resistant TB (MDR TB) patients of oblast and regional TB dispensaries.

- In 2009, NTBC relocated the National Reference Laboratory to a reconstructed and renovated building in line with WHO standards, which has dramatically improved staff's working conditions and allowed modern laboratory TB diagnostics standards to be used.

- Rapid TB and MDR TB diagnostics are being introduced, for which purpose the MoH procured BACTEC-Mgit-960 laboratory equipment for nine Oblasts and Almaty in 2008-2009, which will enable correct culture testing of sputum and other pathological samples and subsequent drug-susceptibility testing (DST) of mycobacterium tuberculosis.

- The country has a monitoring group consisting of 2-3 experts for the purpose of evaluation of results of TB control activities in oblast and regional TB dispensaries.

- An order of the MoH prescribes annual Monitoring and Evaluation of TB facilities, PHC network and healthcare facilities.

- The National Tuberculosis Control Programme sets forth treatment of tuberculosis and multi-drug resistant tuberculosis (MDR TB) as a priority. Every year since 1998 the Government of Kazakhstan has earmarked budget funds for purchase of TB drugs supplied to oblasts and regions.

- Opening of a model unit for treating MDR TB patients in Almaty TB dispensary in 2009 due to the financial support of GFATM Round 6.

- Second-line anti-TB drugs were purchased for 4,191 patients in 2009, 2,714 MDR TB patients in 2008, 2,036 patients in 2007, 1,880 patients in 2006 and 1,689 patients in 2005.

- Under the Green Light Committee initiative (WHO), high-quality second-line anti-TB drugs were purchased for 210 MDR TB patients in Almaty in 2009.

- To control sanitary and anti-epidemic (preventive) activities aimed to prevent the spread of tuberculosis in Kazakhstan, TB units coordinating activities of TB facilities were set up at all oblast state sanitary and epidemiologic supervision divisions.

- The elaborated training programme designed for TB facilities, PHC units, sanitary and epidemiologic supervision entities, CCS, the RoK MIA and MOD and addressing exposure, diagnostics and treatment of TB and MDR TB, Monitoring and Evaluation in line with the WHO Stop TB strategy is under way. It trained 1,290 and 1,228 people in 2009 and 2008 respectively.

- Under a WHO Global Drug Facility's grant, a 3-year supply of TB drugs produced in child dosages was purchased in 2008, which will allow all TB-infected children to be covered with treatment.

- Introduction of a pilot DOTS-Plus project in TV facilities of Karaganda and Pavlodar Oblast penitentiary institutions.

Tuberculosis Situation in the Country

TB incidence and mortality rates are main criteria determining the severity of the epidemiological situation.

In 2007-2009, TB incidence in Kazakhstan dropped by 16.7 percent from 126.4 to 105.3 per 100,000 population.

TB Morbidity and Incidence in Kazakhstan per 100,000 population
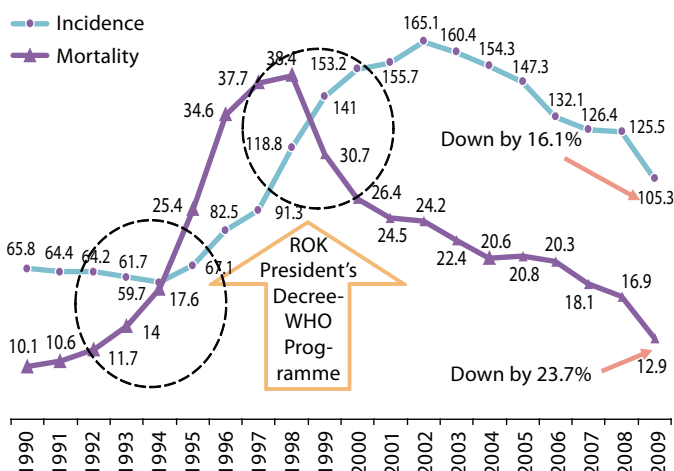
The decrease in incidence rates are not the same in all oblasts and varied from 5.9 percent in East Kazakhstan Oblast to 26.2 percent in West Kazakhstan Oblast in 2009.

Notwithstanding positive changes in this indicator throughout the country, high incidence compared to the republican level (105.3) is observed in Akmola Oblast (158.3), Atyrau Oblast (123.1), East Kazakhstan Oblast (121.4), Kyzylorda Oblast (118.5), Mangistau Oblast (118.4), North Kazakhstan Oblast (119.5) and in Astana (191.8 per 100,000 population).

Tuberculosis Incidence in Kazakhstan per 100,000 population
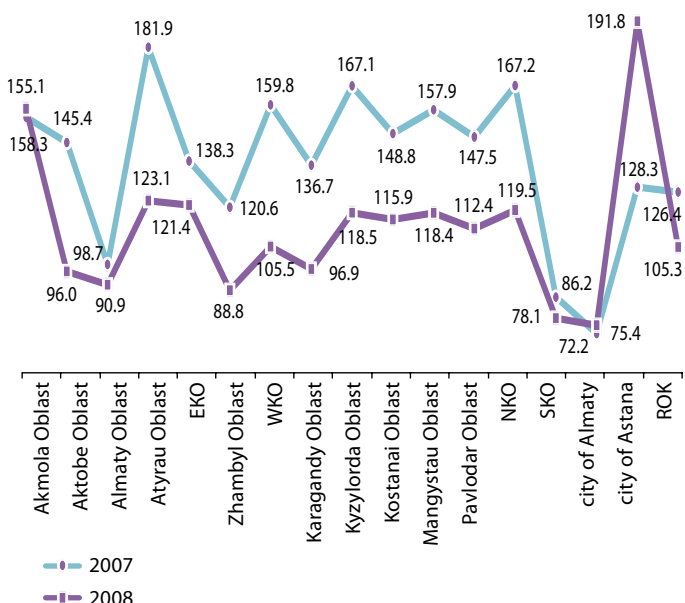
The child morbidity pattern has also demonstrated positive trends by declining from 30.5 to 20.9 per 100,000 population at a decrease rate of 31.5 percent. Particular attention should be paid to the epidemiological situation among teenagers, which initially had the same indicators as that among adults. Thus, teenager morbidity remains high, standing at 117.1 per 100,000 population in 2009.

Age-Specific TB Incidence in Kazakhstan per 100,000 population
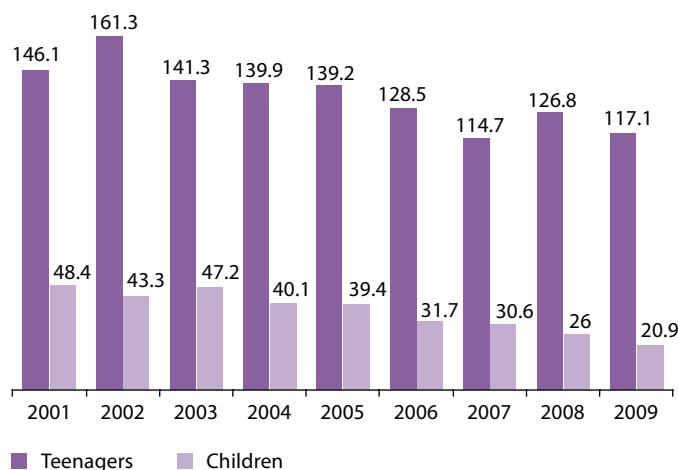
The country reports a decline in bacillary TB incidence. Bacillary TB cases accounted for 37.3 percent of new cases. An annual decrease in the number of infectious TB patients should be noted. In 2009 there were 5,352 new smear-positive cases against 6,197 in 2007, despite an increase in the number of surveyed patients every year.

In Kazakhstan, particular attention is paid to registration of neglected and severe TB cases. Over the past 3 years (2007-2009) registration of neglected cases in the country has persistently decreased from 1.6 percent in 2007 to 0.7 percent in 2009 and is accompanied by a reduction in TB meningitis incidence both in adults (from 21 to 18 cases) and in children (from 6 to 3 cases). As a whole, a decrease in TB meningitis incidence is an indirect indicator of shrinking infection reservoir. However, registration of neglected TB cases and TB

MDR TB Incidence, per 100,000 population
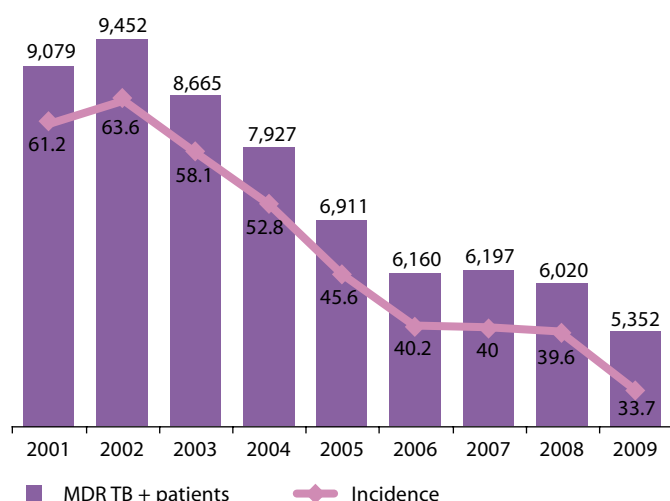
meningitis cases testifies to still insufficient cooperation of the TB control service ('TCS') and the PHC network and need to raise awareness of early TB detection.

Due to the introduction and implementation of the tuberculosis control strategy in the country, TB mortality has been decreasing since 1999.

Between 2007-2009 alone, mortality has decreased by 28.7 percent due to timely detection and adequate treatment, standing at 12.9 in 2009 versus 18.1 in 2007 per 100,000 population.

The most significant drop in mortality, by 41.4 percent, has been observed in new cases, with a majority of fatalities being among patients with chronic complicated TB forms.

The TB Control Programme in Kazakhstan has combating multi-drug resistant tuberculosis ('MDR TB') as one of priorities. This form of disease occurs in 18.5 percent of new cases and in 45.2 percent of re-treatment cases.

In controlling MDR TB, the main evidence is bacterial diagnostics and drug susceptibility testing. In this respect, the bacteriological laboratory of NTBC, which passed the quality control test in the Borstel supranational laboratory and obtained the status of the National Reference Laboratory, controls the quality of culture testing and determines drug resistance of mycobacterium tuberculosis in 21 bacteriological laboratories in oblast and regional dispensaries. In the country, coverage of newly diagnosed cases with culture testing was 90 percent in 2008 against 95 percent in 2009. Coverage with the first-line anti-TB drug susceptibility test (DST) was 85 percent and 90 percent of new cases in 2008 and 2009, and 30 percent and 35 percent of retreatment cases in 2008 and 2009; in 2010 it is planned to cover 40 percent of the above mentioned cohort. This is facilitated by re-equipment of bacteriological laboratories in oblast and regional TB dispensaries with modern laboratory equipment, supplies and reactants.

Establishment of a laboratory facility and introduction of the DOTS-Plus programme in the country have made it possible to treat patients with second-line anti-TB drugs, covering 85.8 percent (4,366 patients) in 2008-2009. Analysis of the effectiveness of MDR TB treatment in Kazakhstan in 2006 shows that the 'cure' rate hit 78.9 percent. In Kazakhstan, the supporting phase of MDR TB treatment is arranged through 2,000 PHC controlled treatment (DCT) centres, which allows the place of treatment to be made as close to the place of residence of a patient as possible. At the same time, efficiency of treatment of new TB smear-positive cases in the country does not exceed 64 percent, which may be caused by late TB diagnostics and drug resistance.

Arrangement of long-lasting out-patient treatment requires expertise in MDR TB case management. In this context, within the GFATM Round 6 project phthisiatricians from the civil sector and CCS remote colonies receiving training in TB and MDR TB control standards. In 2008-2009, 186 experts involved in diagnostics and treatment of MDR TB were trained in MDR TB issues (including seven from the CCS), the training was funded by the MoH, WHO, GFATM,

the US Gorgas Fund and KNCV. Since 2000, the country has conducted annual international conferences on management of MDR TB cases involving foreign experts.

With an increased survey coverage, MDR TB incidence has increased, standing at 8.5 in 2009 versus 5.8 per 100,000 population in 2007. High MDR TB incidence per 100,000 population remains in Atyrau Oblast (16.7), Mangystau Oblast (15.1), East Kazakhstan (13.7) and Kostanai Oblast (12.5).

In the context of the adopted TB Control Strategy, the MoH focuses on the need to detect patients with infectious TB by microscopy at the PHC network level. In 2008, the number of TB suspects surveyed by microscopy was 132,600 versus 133,100 in 2007, with 4,474 TB cases (4,244 in 2007), or 69 percent of the expected detection rate, detected.

The 'cure' rate for new microbiologically proven cases in 2007 rose to 71.8 percent versus 70.7 percent for the same period in 2006. In 2008, however, this rate again dropped to 68.5 percent. This can be explained by improved drug resistance and late TB diagnostics.

MDR TB Incidence, per 100,000 population

2001	2002	2003	2004	2005	2006	2007	2008	2009
3.1	6.4	5.0	5.4	4.6	3.7	5.8	8.5	8.5
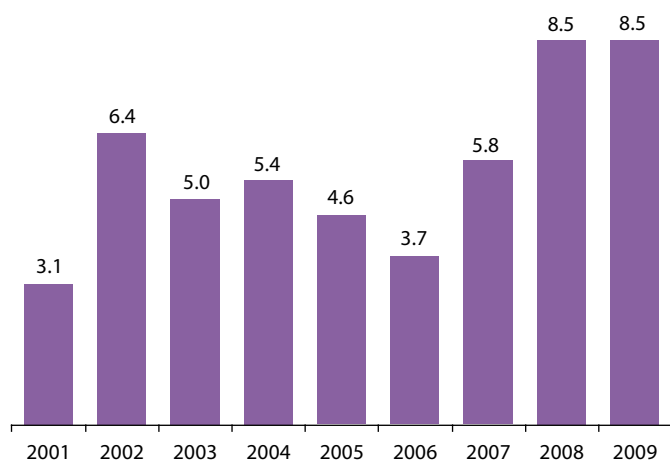
In order to improve the existing MDR TB situation, Kazakhstan has passed statutory acts on MDR TB detection, diagnostics, treatment and monitoring, 'Manual on Management of Multi-Drug Resistant Tuberculosis Cases in Kazakhstan' as recommended by the WHO. During 2003-2008, a joint MDR TB pilot project between NTBC, Almaty TB Dispensary and University of Alabama developed contemporary protocols for MDR TB detection, diagnostics, treatment and monitoring based on WHO recommendations and principles of evidence-based medicine.

Kazakhstan has started a fundamental restructuring of the hospital bed space at oblast, regional and rayon TB dispensaries in order to divide the patient inflow depending on their epidemiological status, which has improved performance of specialised units for MDR TB patients, patients with infectious TB forms, patients evading treatment, and smear-positive patients with chronic TB forms.

With the support of GFATM Round 6, a model unit observing infection control measures (plenum and exhaust ventilation) was set up in the Almaty TB Dispensary.

Sanitary rules and standards were developed for TB facilities (TBF).

During 2008-2009 rapid TB and MDR TB diagnostics techniques based on contemporary laboratory equipment, BACTEC-Mitgit-960, and molecular Hain test have been put in place in TB facilities. This approach calls for high-quality research, the presence of an entire set of equipment compliant with international standards, sufficient laboratory staffing with trained personnel, sufficient power supply, reactants, and pure first- and second-line drug substances.

Tuberculosis is a leading opportunistic infection and the main cause of deaths among patients with HIV co-infection. In Kazakhstan, the resistant TB form is the main cause of up to 70 percent of deaths among HIV-infected people. A considerable proportion of TB patients with HIV co-infection is concentrated in the penitentiary system. The National TB Patient Tracking Register recorded an increase in TB/HIV patients from 213 in 2007 to 249 in 2009. The MoH has approved national protocols on assistance to and treatment of HIV patients; these protocols include a TB section. A high-level Technical Working Group (TWG) including a TB/HIV subgroup was established in 2004 under the MoH of Kazakhstan.

Tuberculosis in the Penitentiary System

The tuberculosis situation in the penitentiary system remains complicated due to a high incidence, mortality, drug resistance, poor logistics, lack of the infection control system and staffing problems. Incidence in the CCS is quite high and exceeds that in the civil sector by six and more times. In 2009, the incidence rate per 100,000 prisoners was 643.9 versus 767.6 in 2008. TB mortality among prisoners exceeded the mortality rate in civil sector by 8.3 times, standing at 107.7 versus 115.9 per 100,000 prisoners in 2008 (in 2009, the incidence and mortality rates are 105.3 and 12.9 respectively in Kazakhstan).

TB Incidence and Mortality in Prisoners in TB Facilities of CCS, per 100,000
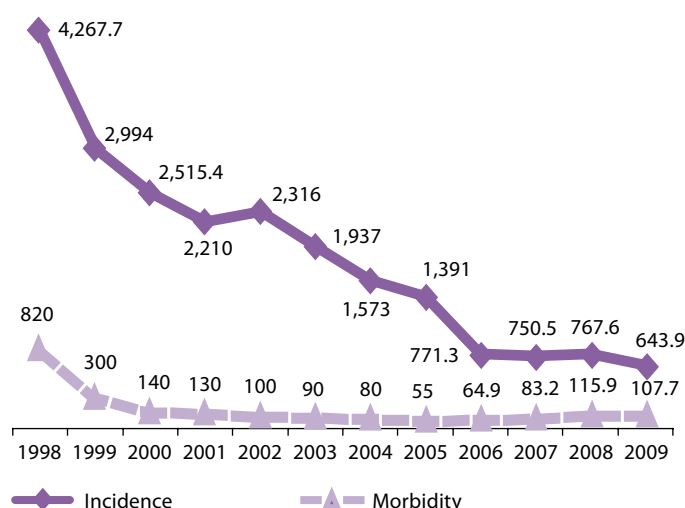
CCS facilities report a high MDR TB incidence. According to the research performed by the CCS Committee and the NTBC, with the support of the Royal Netherlands Tuberculosis Association (KNCV), multi-drug resistant TB in the CCS in three Oblasts was observed in 23.1 to 58.6 percent of new TB cases and 54.0 to 89.1 percent of re-treatment cases in 2006. As reported by the laboratory of Karaganda Oblast Division of the CCS Committee, the share of first-line and second-line MDR occurs in 40 percent and 82.2 percent of cases.

Given that multi-drug resistance is complicated by the fact that 60-80 percent of prisoners with TB in the penitentiary system have resistant forms and in order to strengthen efforts to prevent the emergence of resistant forms. In 2009-2010, measures were launched to introduce and implement pilot projects to treat MDR TB in patients in Karaganda and Pavlodar Oblasts, and later replicate the pilot project in TB facilities of other oblasts' CCS.

CONCLUSIONS

Main successes achieved in fighting TB:

- Measures taken by the Government and the MoH are aimed at decreasing the TB and MDR TB burden.
- High political commitment of the Head of the State and the Government, and introduction of the TB control strategy promoted a decrease in TB incidence and mortality rates in the country.
- In 2007-2009, epidemic indicators have dropped, with incidence dropping by 16.7 percent and mortality rate by 28.7 percent.
- Rapid TB and MDR TB diagnostics is being introduced using state-of–the-art laboratory equipment and new molecular testing technologies in line with international standards.
- A total of 85.8 percent of MDR TB patients (4,366) covered in 2008-2009 versus 24.5 percent in 2007.
- The country is implementing Global Fund's Round 6 actions to prevent and control TB. The application was approved and GFATM 8 TB-related actions for an amount equivalent of $69,880,918 were launched.

Problems interfering with the stabilisation of and improvement in the epidemiological tuberculosis situation in Kazakhstan include the following:

- The incidence of multi-drug resistant tuberculosis (MDR TB) in Kazakhstan is one of the highest in the world[125].
- The remaining high incidence, mortality and drug resistance among prisoners in the penitentiary system.
- The reduced efficiency of treatment of new smear-positive TB cases, 68.5 percent in 2008 compared to 2007 (71.8 percent). The main reasons of low efficiency are late diagnostics and inadequate treatment of drug-resistant TB forms.
- Insufficient inter-agency integration of the TB control service with PHC network, state sanitary and epidemiologic supervision division, HIV/AIDS units, Ministry of Labour and Social Protection, MIA and MJ.
- Lack of appropriate infection control measures at all healthcare levels.
- Lack of a strategic HR development plan within the national tuberculosis control programme.
- Lack of the programme of social support of TB patients during the entire treatment course and its implementation mechanism.
- Significant internal and external migration of population, for whom TB is the main disease.

---

[125] Data of the WHO Global Report, 2007

Recommendations

- To take further efforts on the high-quality introduction of and improvement in all components of the basic DOTS strategy.
- To ensure universal application of International Standards for Tuberculosis Care in defining tuberculosis cases and treatment results in order to improve the quality of services and monitor their performance.
- To revise and bring respiratory infection control provisions and standards into line with the international standards.
- To secure TB infection control measures at all health-care levels by focusing on administrative control measures: early detection of bacillary TV forms, separation and isolation of TB patients depending on the infection status and classification of TB cases.
- To ensure development of standard operating procedures (SOP) for all levels of bacteriological laboratories.
- To develop a national HR development strategy, which will facilitate development of HR capacity, improvement of vocational training of staff, improvement of the management system and coordination between various service providers.
- To raise awareness of governmental, non-governmental and donor organisations about the importance of the tuberculosis problem including spread of drug-resistant TB forms in order to attract investments and improve healthcare quality.
- To improve pre-degree and post-degree training programmes in line with the national and international recommendations.
- To develop a uniform HR training action plan, to create a HR database, to arrange regular on-the-job train-ing (clinical, laboratory, management subjects) for all healthcare staff involved in the TB control programme.
- To strengthen intra- and inter-agency integration of the TB control programme with the general healthcare network, HIV/AIDS prevention and control programmes, penitentiary service for timely detection, treatment and management of cases.
- To expand psychological support to TB patients and apply effective social mobilisation methods involving local communities and non-governmental organisations in order to improve patients' commitment to treatment
- Given the incidence of drug resistance in the country, control over use of TB drugs in the general clinical practice should be strengthened; to take effective measures to prohibit free sale of anti-TB drugs (fluoroquinolone series, rifampicin, aminoglycosides, etc.) in drugstores.

Use of innovative approaches and mechanisms

To secure more resources from national and international sources to support initiatives covering the following activities:

- strengthening of the interaction between TB and HIV-infection programmes;
- expansion of access to guaranteed-quality drugs to treat TB and MDR TB using such mechanisms as Global Drug Facility and Green Light Committee;
- using the initiative to improve treatment of respiratory diseases as a whole, and, at the same time, expanding high-quality TB control activities (introduction of a PAL-strategy);
- practical research aimed at creating initiatives on development of new evidence-based TB control approaches.

GOAL 7

To Ensure Environmental Sustainability
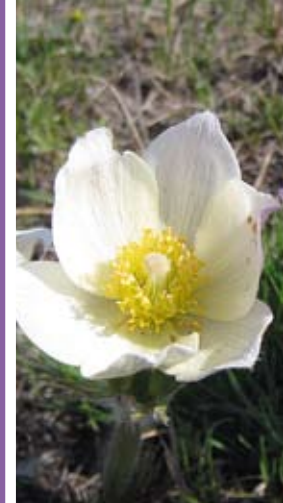
The prospects of Kazakhstan achieving MDG 7 are generally reflected in the Kazakhstan-2030 Strategy and the Strategic Development Plan of the Republic of Kazakhstan by 2020, which set out a long term development of the sovereign state aimed at transforming the country into one of the most secure, stable and environmentally sustainable developing countries of the world[126].

Kazakhstan has already made progress in complying with its commitments declared in relation to the country's transition to sustainable development. At this stage, the localisation of targets and expansion of the list of environmental sustainability indicators have been completed, which enables a more objective assessment of the changes that take place. This also allows combining, in an optimal way, the economic growth and achieving environmental sustainability at the early planning stage.

TARGET 9

To integrate the principles of sustainable development into the country's policies and programmes and reverse the loss of environmental resources

[126] Strategic Development Plan of the Republic of Kazakhstan by 2020. Approved by the Decree of the President of Republic of Kazakhstan as of 1 February 2010, №922.

Target importance and key indicators

Achieving this target would require a consistent and continuous integration of sustainable development principles into the national and regional/local programmes, legislation and legal regulations in order to prevent degradation/loss of environmental resources and allow their possible recovery.

The current economy of Kazakhstan is focused mainly on the extraction of minerals and, partially, on the initial processing of such minerals. This resource-focused nature of economy, as was pointed out in the previous 2007 report, results in the loss/depletion of natural resources and anthropogenic impact on environment in megalopolis and industrial areas. There is a real threat to the agricultural bio-diversity, as a result of both anthropogenic and natural factors. A lack of eco-system based approach in developing and implementing economic and social programmes, and non-compliance with principles of comprehensive and balanced environment quality management have been named as the main issues in achieving the environmental sustainability. At the same time, it is worth saying that some fragments of sustainable development, to some extent, have been incorporated into most state programme papers and legislative acts issued in the reporting period.

To assess the progress in this situation, the following global environment indicators have been adopted as key indicators:

- the percentage of the territory covered by forests;
- the percentage of protected areas to maintain bio-diversity of ground environment;
- carbon dioxide emission (per capita) and use of ozone-absorbing substances;
- ecologic-economic indicator – GDP power intensity.

Trends Analysis

The 2007 National Report on the state of the environment in the Republic of Kazakhstan noted the active involvement of Kazakhstan in international cooperation, as well as the progress in achieving the international standards. This, in its turn, requires a thorough analysis of the existing Environmental Protection system, a conceptual review of the environment policy priorities and environmental security objectives. The most important issues identified include climate change, ozone layer depletion, progressing desertification, bio-diversity reduction, industrial waste utilisation, and consumption and air basin pollution.[127]

The need to address the above environmental issues have under-pinned the adoption of a number of normative and legislative acts by the national and local governments. As an example, the Register of Environmental Issues of the Republic of Kazakhstan[128] developed in compliance with the Environment Security Concept of the Republic of Kazakhstan for 2004-2015 in order to implement the Environmental Protection Programme for 2008-2010 sets out the ways to address these issues as well as steps to achieve this target.

---

[127] 2007 National Report on the State of Environment in the Republic of Kazakhstan / Editor M.K. Baekenova, RoK Ministry of Environmental Protection. Kazakh Science and Research Institute of Ecology and Climate, 2008.

[128] Register of Environmental Issues of the Republic of Kazakhstan. Approved by the Order of the Minister of Environmental Protection №15 as of February 4, 2008,.

Table 7.9.1 Major Forestry Indicators

Years	2003	2004	2005	2006	2007	2008	2009	2010*
Total forestry area, million ha	26.1	26.5	26.8	26.8	27.8	27.8	27.8	28.4
Woodlands, million ha	11.7	12.4	12.3	12.3	12.3	12.3	12.3	12.3
Total stock of standing wood, million m³	373.6	375.8	375.8	375.8	375.8	380.7	380.7	380.7
Afforested-land percentage	4.3	4.6	4.5	4.5	4.5	4.5	4.5	4.5

* Data of the Committee for Forestry and Hunting of the Ministry of Agriculture
Source: Agriculture, Forestry and Fishery of Kazakhstan. Statistical Yearbook. Astana, 2009.

Table 7.9.2. Forest Fires

Years	2004	2005	2006	2007	2008	2009
Number of fires, incidents	1315	780	959	505	901	529*
Forest area affected by fires, ha	59,570	14,551	21,900	67,398	5,913*	2,114*
Fire caused damage, in current prices, KZT MM	137.1	724.1	387.3	501.9	586.9	90.8*

* Data of the Committee for Forestry and Hunting of the Ministry of Agriculture
Source: Agriculture, Forestry and Fishery of Kazakhstan. Statistical Yearbook. Astana, 2009.

Forestry State[129]

The total area of state forests as of January 1, 2010 is 28,419,400 ha which makes 10.4 percent of the total territory of the Republic. Woodlands cover 12,293.8 ha or 43.3 percent of the total forests area. The percentage of afforested-land is 4.5 percent.

The area of afforested-land of protected areas in the Republic is 5,271,600 ha including protected afforested-land located in the jurisdiction of the Committee, the Burabai State National Natural Park and the Medeu State Natural Park.

The statistical data show that the forestry and bio-diversity indicators are stable overall. The total area of forest and woodlands as well as percentage of forest lands have virtually seen no change during the reporting period.

The 2008 saw an increase in the number of fires and related damage compared to the previous year, although the total area caught by fires was the smallest since 2004. This can be attributed both to effectiveness of fire-fighting measures and, conversely, the lack of preventive measures at the same time. The operational data of the CFH for 2009 show a significant improvement across the indicators under review.

Protected Areas (PAs)

The total area of protected bio-diversity conservation areas is gradually growing and is currently 22,648,200 ha (8.3 percent of the country's total area). Protected areas with a legal entity status cover 5,277,000 ha, which is 1.9 percent of the total country area.

Currently, the system of protected areas in Kazakhstan includes 10 state natural reserves (SNRs), 10 state national natural parks (SNNPs), four state natural reserves (SNRs), 26 nature monuments of republican significance, three zooparks (in Almaty, Karaganda and Shymkent), five republican botanical gardens (in Almaty, Karaganda, Reeder, Zhezkazgan, and Bakanas), five republican state reserve zones and two state natural parks of local significance.

The Resolution of the Government of the Republic of Kazakhstan No.914 dated 8 October 2007 adopted the Programme of Conservation and Rational Use of Water Resources and Fauna and Development of Protected Areas Network for 2008-2010.

On 7 July 2008, the 32nd Session of the World Heritage Committee adopted Resolution No.1102 resolving to include the nomination of Sary Arka: Steppes and Lakes of Northern Kazakhstan on to the UNESCO World Heritage List.

The Naurzum and Korgalzhyn state natural reserves have become the first protected areas in Kazakhstan and Central Asia to receive the high status of World Natural Heritage sites. The Government Resolution №1183 dated 18 December 2008 expanded the area of the Korgalzhyn SNR up to 284,000 ha.

The Government Resolution №119 date 6 February 2009 created the Akzhaiyk nature reserve. In the same year, 2009, the areas of the Alakol State Natural Reserve, the Karkaraly and the Charyn State National Nature Parks were expanded.

Kazakhstan has 52 wildlife parks covering the area of 6,020,300 ha. The largest of these are: Almaty Integrated

---

[129] Data of the CFH of the RoK Ministry of Agriculture, 2008.

Table 7.9.3. Nature reserves and state national parks

Years	2002	2003	2004	2005	2006	2007	2008	2009
Number of nature reserves, state national parks and state nature reserves	25	18	20	20	21	23	23	24
Area, thousand ha	2,833.4	3,262.0	3,427.1	3,463.6	3,816.5	4,794.1	4,811.6	4,821.4
Headcount	1,790	2,597	3,012	3,304	3,446	3,768	3,806	3,375*

excluding regional state natural parks

Source: Agriculture, Forestry and Fishery of Kazakhstan. Statistical Yearbook. Astana, 2009.

Wildlife Park located in the Ili (Zaili) Alatau mountains (542,400 ha), Karoi and Pribalkhash Zoo Park located in the Ili river delta (509,000 and 503,000 ha), Turgai Zoo Park located in the Lower Turgai river (348,000 ha), Lepsy and VerkhneKoksu Zoo Parks located in the Zhetysu (Dzhungar) Alatau (258,000 and 240,000 ha), Smirnov Zoo Park located in Northern Kazakhstan (240,000 ha), the Aktau-Buzachi and Karagie-Karakol Zoo Parks located in the Mangistau oblast (170,000 and 137,500 ha).

The country is undertaking efforts to conserve its bio-diversity. A GPS based information database has been created for the forest and fish cadastres, PAs cadastre, fauna and flora cadastres.

A total of 140 (78.6 percent) out of the existing 178 mammals are protected in the existing reserves including the Kazakhstan Red Book mammals. Protected areas are necessary in the wild ram – Altai, Kazakhstani, Karatau and Kyzylkum – habitats. There are not enough protected areas for desert mammals such as goitred gazelle, koulan, manul, caracal, and marbled polecat. A total of 37 mammals (21.1 percent) are not to be seen in the protected areas at all including the 12 Red Book mammals such as a desman, a marten and a marshotter inhabiting in the Ural river valley and a giant mole rat inhabiting the Volga-Ural sands. The endemic of the West Tien Shan, Marmot menzbieri, inhabiting this area is not to be seen in the Aksu-Dzhabagly Reserve.

Three hundred forty bird species nest in the reserves, which is 87.4 percent of all the bird species nesting in Kazakhstan. Among them are 39 rare and endangered species – 76.5 percent of all Red Book birds nesting in Kazakhstan. The golden eagle, eagle owl and flamingo are provided with enough protected areas. However, PAs do not cover in full the habitats of Dalmatian pelican, spoonbill, glossy ibis, bustard, houbara, little bustard, ibis, black-bellied sandgrouse, and some other Red Book birds.

The plan is to expand by 13 percent the national bio-diversity index by increasing the area and the number of the protected areas, enhancing sustainable nature use and undertaking measures to preserve species, population and eco-systems.

Greenhouse Gases (GHG)

For assessing the GHG emissions in Kazakhstan, 1992 is used as the base year. Our country informed the international community of this at the Conference of Parties to the UN Framework Convention on Climate Change (Nairobi, Kenya, 2006). In 2007, GHG emissions, excluding outflow, comprised 72.4 percent of the 1992 level.[130]

The GHG inventory results in Kazakhstan show total greenhouse gas emissions in 2007 (excluding CO_2 forest absorption) at 246.74 million tonnes of CO_2 equivalent including 189.71 million tonnes of emissions produced by energy sector; 18.52 million tonnes produced by industrial processes; 14.35 million tonnes produced by agriculture; and 4.6 million tonnes produced by wastes. The forest and land tenure absorption of CO_2 was 9.2 million tonnes in 2007. The total net emissions, taking into account land tenure absorption of CO_2 and changes in the land tenure and forestry, were estimated at 237.54 million tonnes of CO_2 equivalent. Total CO_2 emissions in 2007 (Table 2, Annex) amounted 208.23 million ton, if the forest absorption is not taken into account (or 199.03 million tonnes if the latter is taken into account).

Figure 7.9.1. GHG emissions produced by all source categories, 1990-2007
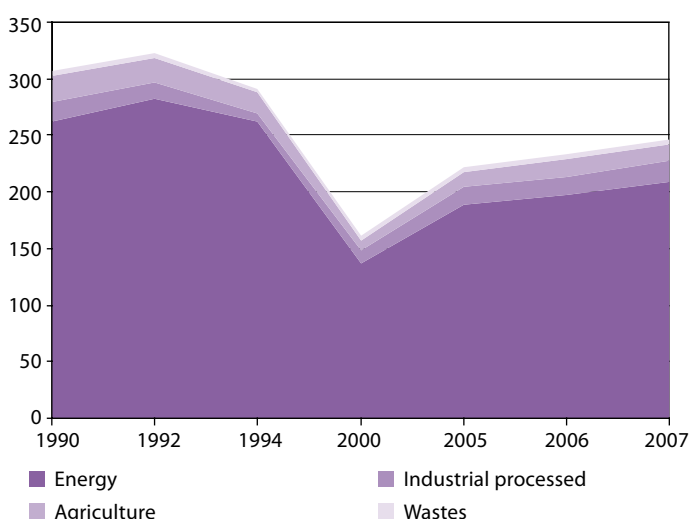
Source: www.climate.kz (Kazakh Science and Research Institute of Ecology and Climate)

---

[130] Quantitative Assessment of Greenhouse Gas Emissions / Report of the Kazakh Science and Research Institute of Ecology and Climate, Almaty, 2008.

Energy — Industrial processed
Agriculture — Wastes

Source: Quantitative Assessment of Greenhouse Gas Emissions // Report of the Kazakh Science and Research Institute of Ecology and Climate, Almaty, 2008.

The dynamics of aggregate anthropogenic GHG emissions by sectors identified by the Intergovernmental Panel on Climate Change (in CO_2 equivalent) is shown in Figure 7.9.1.

During the period 1990-2000, the Republic of Kazakhstan saw a reduction in the GHG emissions in all sectors attributed by the downturn in the real sector of economy.[131] In 2000, total national emissions were 49 percent less than the 1990 level and 51 percent less than the 1992 level. In spite of the current growth, the aggregate GHG emis-

sions in 2007 remain significantly lower of the 1990 level. Throughout 1990-2007, the sector distribution of emissions saw little change. The energy sector still played a dominant role contributing 80 percent and 79.4 percent of total emissions in 1992 and 2007 respectively. It is worth mentioning that these emission and absorption data are different to some extent from the data given in the First National Communication (FNC) of Kazakhstan submitted to the UN Framework Convention on Climate Change (UNFCCC) in 1998, which can be attributed to the optimisation of cadastre indicators (the cadastre improvement is a requirement of UNFCCC guidelines).

The emissions of the main GHG, carbon dioxide, in Kazakhstan are produced from fuel combustion and some other technological processes used in the industrial production not involving fuel combustion. The energy sector contribution in this period to the CO_2 emissions is mainly from industrial processes and amounts some 91-97 percent of the total CO_2 emissions. In Kazakhstan, total GHG emissions in 2007 were 15.8 tonnes per capita, including CO_2 share of 13.37 tonnes. In 2006, those indicators were 16.2 and 12.3 respectively.

GDP energy intensity

The ecological and economic indicator, GDP energy intensity, is the ratio of total energy consumption to GDP. Usually in characterising a particular economy, this ratio is used along with the energy consumption per capita indicator. Highly developed countries have a high energy consumption per capita and low GDP energy intensity while

Table 7.9.4. Production growth and energy consumption indicators

Indicators	2002	2003	2004	2005	2006
Gross Domestic Product (GDP), KZT billion	3,747.2	4,611.97	5,870.13	7,590.59	10,213.73
Gross Domestic Product (GDP), USD million	24,636.4	30,832.8	43,150.1	57,123.7	81,003.5
Gross Domestic Product in USD billion taking into account the purchase capacity parity (PCP)	74.54	93.76	102.53	105.87	117.14
Physical Volume Index, percentage of the previous year	109.8	109.3	109.4	109.7	110.7
Gross consumption of thermal power engineering, million tonne of equivalent fuel	92.048	96.062	100.099	102.805	109.234
Electricity consumption, billion KWT/hour	49.83	52.74	53.30	57.99	71.8
Proportion of energy intensity of GDP, TOE/USD thousand accounting for PCP	0.62	0.53	0.53	0.5	0.52
Proportion of energy intensity of GDP, TFOE / USD thousand accounting for PCP	0.885	0.757	0.757	0.714	0.742
Proportion of electric power intensity of GDP, KWT/hour/ USD accounting for PCP	0.67	0.56	0.52	0.55	0.61

[131] Economic downturn between 1990 and 1996 had a significant accumulated time lag and was most conspicuous in the industry sector. The positive changes were observed in 2000 with the GDP growth reaching 9.5 percent. To have a significant economic impact on the negative social processes (poverty, unemployment, low life standards, marginalization) would require an annual economic growth of 5-8 percent during 5-10 years [*Source: 2000 National Report on Human Development in Kazakhstan, Astana, 2001, p. 6].

countries with lower income per capita have a high GDP energy intensity. Reducing energy intensity and increasing revenue generation (GDP) would require a structural transformation of economy, transition to new technologies, and a tightening of standards and requirements set to the energy consuming equipment.

As of today, most of the fixed assets of local enterprises are worn out, the equipment is out of date and introduction of new technologies is slow. This is coupled with the high energy intensity of GDP in Kazakhstan: the survey by the Kazakhstan Institute of Strategic Research shows the GDP energy intensity in the country 2-3 times higher than in many developed countries. This also signals that the equipment used in Kazakhstani enterprises does not meet modern requirements[132].

International experience shows that an effective energy saving policy is based on well-developed legislation. In the U.S. some fifty energy related laws have been adopted during the last 25-30 years with half of them relating to energy saving.[133] In Kazakhstan, the Energy Saving Law No.210-1 was adopted on 25 December 1997 and is still in effect with the amendments introduced on December 20, 2004 (Ref. №13-III). With the aim to remove inconsistencies in the effective legislation, the Law was adopted to support renewable energy sources (RoK Law No.165-IV dated July 4, 2009) and stage 1 of the Comprehensive Energy Saving Plan for 2009-2010 was endorsed (Government Resolution No 221). The Republican Energy Saving and Energy Efficiency Centre (at the Academician Chokin Kazakh Science and Research Institute of Power Engineering) devised the Energy Saving Programme by 2015[134]. This document contains a number of indicators for calculating proportional energy intensity of GDP using different methodologies (see Table 7.9.4).

In order to put the tracking system in order and to provide users with the information on the current status of the global energy resources and the role and place of Kazakhstani resources at the global market, the Agency for Statistics of Kazakhstan has planned to undertake some analytical work in 2010 on Energy Resources in the world and Kazakhstan. The national economic development indicator used is power intensity of economy calculated in tonnes of oil equivalent per million tenge of GDP (http://www.stat.kz/publishing/Pages/publications.aspx/ноябрь). The frequency of data analysis is once per year.

Energy intensity reduction is important for ensuring production intensification and resource saving. This can be achieved through implementation of a set of technical, technological, organisational, economic and educational measures aimed at comprehensive enhancement of production processes and energy consumption.

The biggest issues are related to the domestic energy prices policy aimed at keeping the prices below the cost recovery level, which results in less incentives for energy

Table 7.9.5. Energy intensity of GDP in Kazakhstan, tonnes of oil equivalent per USD thousand in 2000 prices

Years	2004	2005	2006	2007	2008
GDP power intensity	2.00	1.77	1.85	1.71	1.77

Source: Fuel and Energy Balance of Republic of Kazakhstan / Statistical Yearbook, Astana, 2009.

saving and investment into more clean technologies. This also requires setting relatively higher energy prices as the big difference between the domestic and outside energy prices does not stimulate energy saving and limits investment into energy effective technologies.[135]

A crucial role in reducing energy intensity of products belongs to capital reconstruction of the fuel and energy balance and extensive use of energy saving technologies. Production of energy-saving engines that consume less fuel and oil; enhancement of the heating and lighting equipment; stimulation of energy saving and setting penalties for over-consumption will allow us to reduce gradually the energy intensity of the national product and national income. Reduction of energy intensity of products, works and services will require an active administrative and economic state management.

It is critical to develop energy consumption from renewable sources. In this regard, it is worth mentioning that the Law of Republic of Kazakhstan 'On Support of Use of Renewable Energy Sources' was adopted on 4 July 2009. Currently, the Ministry of Energy and Mineral Resources of Republic of Kazakhstan and the Agency for Statistics are undertaking some work to develop the methodology and statistical tools for recording the renewable sources. This work is scheduled to be completed by 2014.

It is necessary to develop a system for encouraging enterprises and individuals to introduce energy saving technologies and equipment. Additional measures include:

- setting up statistical recording of the fuel and energy saving through energy saving measurements
- development and endorsement of sector methodologies for calculating fuel and energy saving as a result of introducing the energy saving technologies and equipment
- development of an action plan to promote energy saving technologies and the use of renewable energy sources and local fuels.

---

[132] http://www.nomad.su/?a=4-200712060032

[133] http://www.rg.ru/2008/07/01/energoemkost.html

[134] energy.vko.gov.kz

[135] http://www.energosovet.ru/bul_stat.php?idd=18

Challenges

Percentage of forest areas. In spite of some increase in the current year of the forest stock area, a number of issues still remain outstanding related to the structural and organisational, human resources, technical as well as funding issues.

A strategic goal would be to shape a long-term government policy centred on the harmonisation of the country's economic development goals with the forest stock conservation. The next priority would be to ensure a clear distribution of roles and an effective coordination system between central and local government. Effectiveness of forestry institutions and implementation of bio-diversity conservation programmes would depend on qualification level of the implementing personnel, which would require a system in place for personnel training, retraining and qualification upgrade at all levels. It is necessary to secure sufficient funding given that this sector is originally funded from government subsidies and therefore cannot be self-sustainable. In addition to the above, experts note lack of forest culture fund and advanced forestation growing technologies.

Proportion of protected areas for bio-diversity conservation.

The challenges in achieving this objective are related to:

- the lack of scientific framework for planning and organising the PAs activities
- undeveloped infrastructure including in ecotourism; insufficient funding coupled with limitations to get any off-budget revenues
- weak social protection of PAs personnel and a low professional level of ordinary personnel
- conflict of interests between local communities and Pas
- insufficient environmental education on the importance of forest and bio-diversity conservation.

Carbon dioxide emissions (per capita) and consumption of ozone-absorbing substances.

The challenges here include:

- the use of physically and morally worn out equipment
- ineffective technologies in the energy sector
- growth of the transport fleet coupled with the low requirements to fuel quality at both production and consumption stages.

Ecological and economic indicator – GDP energy intensity.

The challenge for production energy intensity and consumption reduction is the lack of scientific framework and pilot implementation, and the lack of incentive system for using energy saving technologies in energy production and consumption.

CONCLUSIONS

The challenges in achieving Target 9 are typical for the entire Central Asian Region. Their resolution would depend much on having an effective mechanism of interstate cooperation in joint use and fair distribution of benefits from natural resources use (e.g. use of the trans-boundary rivers) and equally on the global environmental risks reduction such as the drying-out of the Aral Sea and desertification, etc. This region is exposed to natural disasters risks including earthquakes, landslides, droughts, torrents and others, which also impacts the specific efforts undertaken by authorities to maintain the environment sustainability.

The extractive nature of economy (extraction of oil and gas and solid minerals, ferrous and non-ferrous metallurgy) creates an additional pressure on the environment in terms of air, water and land pollution.

However, Kazakhstan has achieved some progress across a number of indicators during the reporting period. Specific measures undertaken to improve the regulatory framework; optimisation of the bio-diversity management structure and regulation processes; an active involvement in international projects allows us to predict that this target will be achieved provided there are continuous positive dynamics in the indicators.

In the future it will be necessary to continue the efforts undertaken to improve the nature and resources legislation in compliance with the accepted international conventions and regional documents, and to put in place sustainable mechanisms for cooperation with the Central Asian states to develop a regional environmental policy to help address trans-boundary environmental issues. Studying the international experience with environment insurance and off-budget environment funds is important with a view to potential implementation in Kazakhstan.

In order to optimise nature management and Environmental Protection, it is necessary to set up an automated database and a system of state natural resources cadastres as well as a single automated IT system for monitoring and projecting environmental risks, and to actively introduce resources and energy saving technologies and stimulate waste processing and recycling. Other measures to take should include:

- enhance awareness and advocacy to educate the public in environmental protection and rational use of natural resources;
- facilitate development of public environmental movements, associations and groups
- enhance interaction between non-governmental organisations and government authorities in the area of environmental protection.

Special attention should be paid to improving environment and natural resources management with a focus on the recommended indicators.

GOAL 7
To Ensure Environmental Sustainability

TARGET 10

To halve, by 2015, the proportion of people without sustainable access to clean drinking water and main sanitary technical facilities

Target importance and key indicators

The progress in achieving this target is assessed based on the indicator of the proportion of population with a sustainable access to safe water supply.

One of the priorities set in the State Programme 'Health of the Nation'[136] and the National Action Plan for Environmental Hygiene (NAPEH) is to provide the population of the country with a sufficient supply of safe drinking water. The Action Plan for the State Programme of Rural Areas Development of Republic of Kazakhstan for 2007-2009 and the Sectoral Programme of Drinking Water (Stage 2) for 2006-2010[137], set a number of objectives to improve water supply. This will be done through construction and restoration of water pipelines, network refurbishment, drilling of artesian wells, using disinfecting chemical agents in the pipelines, timely emergency mitigation on water intake facilities and rural pipeline network. As a result of the scheduled actions, 77.2 percent of the rural population will have had access to quality drinking water by the end of 2010.

Trend analysis

The annual average water supply in the Republic which had shown a strong tendency to grow between 2002 (with the reference indicator at 14,930 MCM) and 2005 (21,422 MCM) has currently stabilised and did not exceed 20 BCM in the recent years (Table 7.10.1). Reduced water consumption for irrigation and agricultural needs is partially offset by the increased industrial and household consumption.

Eighty five percent of water supply comes from the surface water sources with the remaining water supply coming from underground, sea and run-off waters. The bulk of water resources (78 percent) is used by the agricultural sector.

The construction of water supply and draining facilities in cities and villages and irrigation facilities in pastures is funded mainly from the national and local budgets.

According to the regional departments of state sanitary and epidemiological supervision, the population of the

Table 7.10.2. Ratio of various water consumption

Republic of Kazakhstan	Water consumption, percent				
	Total	domes-tic	indus-tries	agricul-ture	Other
	100	5.0	16.0	78.0	1.0

Republic benefited some KZT 2034.0 million in 2009 to address drinking water issues, including access to 55.1 MCM of drinking water for 1,761,600 people.

KZT 26.3 billion (total 329 water supply facilities) of targeted transfers were given to the oblasts and Astana and Almaty cities for the development of their water supply systems. KZT 9.5 billion were provided for the construction and reconstruction of 30 drinking water supply facilities.

The funding provided in 2008 for the development of rural drinking water supply amounted KZT 29.5 billion, including KZT 16.9 tenge provided from the Republican Budget.

Status

In accordance with the Strategic Development Plan of the Republic of Kazakhstan by 2010, the reduction of water deficit and water supply enhancement are named as some of the current strategic priorities of the Government. One of the main documents that regulates drinking water supply is a sectoral programme Drinking Water for 2002-2010. In addition, funding of drinking water supply is provided as part of the State Programme for Rural Areas Development for 2004-2010 and the Programme for Small Towns Development for 2004-2006. The Decision of the Government of the Republic of Kazakhstan №956 dated 16 October 2007 amended the sectoral programme Drinking Waters for 2002-2010 and approved an updated Programme with the funding of KZT 300 billion, including KZT 168.8 billion from the Republican Budget. The Programme envisages covering all residential areas that require water supply system reconstruction and overhaul with the aim of preventing the use of imported wa-

Table 7.10.1. Use of fresh water, MCM (million m³)

Years	2002	2003	2004	2005	2006	2007	2008
Total, including:	14,930	15,242	20,204	21,422	18,442	19,906	18,034
Irrigation, watering and agricultural water supply	10,590	10,573	12,021	11,329	10,897	11,512	10,002
Industrial needs	3,710	3,983	4,442	4,062	4,419	5,133	5,199
Household needs	600	601	621	694	698	709	735

Source: Kazakhstan in 2008. Statistical Yearbook / Editor A.A. Smailova. Astana, Agency for Statistics of Republic of Kazakhstan, 2009, p.493.

[136] State Programme 'Health of the Nation' approved by the Decree of the President of the Republic of Kazakhstan № 34153 dated 16.11.98 (with amendments introduced by the Decree of RoK President № 1016 dated 15.01.03)

[137] Sectoral Programme 'Drinking Waters for 2002-2010' (approved by the Resolution of the Government of the Republic of Kazakhstan № 93 dated 23.01.2002).

Table 7.10.3. Proportion of population with access to piped water, percentage

	2001	2002	2003	2004	2005	2006	2007
Republic of Kazakhstan	74.0	73.7	75.1	76.4	77.4	78.7	79.4
Akmola Oblast	77.0	77.7	74.4	76.1	77.8	79.8	79.0
Aktobe Oblast	75.8	76.2	71.3	71.0	71.3	71.7	71.9
Almaty Oblast	77.6	75.9	79.5	81.0	78.6	79.7	80.1
Atyrau Oblast	61.9	63.8	65.6	67.0	68.9	73.5	81.2
East Kazakhstan Oblast	68.7	68.4	70.2	72.4	73.6	74.9	75.3
Zhambyl Oblast	60.6	61.4	64.7	65.5	67.0	68.2	68.2
West Kazakhstan oblast	56.8	61.2	63.8	65.3	71.7	74.3	76.9
Karagandy Oblast	88.0	88.8	86.7	90.0	91.8	92.2	92.9
Kostanai Oblast	57.1	62.9	64.4	64.8	67.5	68.4	72.2
Kyzylorda Oblast	74.4	76.5	82.4	84.3	86.3	86.7	87.0
Mangistau Oblast	70.1	70.3	70.6	70.4	73.3	72.5	79.8
Pavlodar Oblast	75.4	76.8	73.9	74.4	73.6	75.5	76.7
North Kazakhstan oblast	51.2	52.3	55.5	56.9	63.2	64.6	71.9
South Kazakhstan oblast	61.1	62.5	63.7	65.5	65.7	67.5	67.5
Astana City	100	100	100	100	100	99.6	100
Almaty City	100	100	100	100	100	100	100
Transport central health authority	89.2	88.0	93.7	91.8	92.5	94.7	0.0

Source: Protection of Environment and Sustainable Development of Kazakhstan. Statistical Yearbook/Editor A.Meshimbayeva/Astana, 2008.

ter and untreated water from open sources, which will allow to address the issue of a guaranteed quality drinking water supply.[138]

The overall structure of water supply in rural settlements is shown in Table 7.10.4 and Figure 7.10.1.

As at 1 January 2009, 267 rural settlements use imported water; most of these settlements are located in the South Kazakhstan (57), Kostanai (61), Akmola (30) and Atyrau (25) oblasts. Residents of 4,114 rural settlements use decentralised water supply sources.

Sanitary epidemiological examinations were undertaken at 371 construction and reconstruction facilities; out of this number, 58 facilities (15.6 percent) were found to be non-compliant.

Overall piped water supply in the Republic rated up to 76.8 percent as of 1 January 2009 (76.4 percent in 2007). A total of 19.2 percent of the population of the Republic (19.9 percent in 2007) still use water from non-centralised water sources. More than 206,000 people, i.e. 1.2 percent of total population (1.7 percent in 2007) drink water from open water reservoirs and more than 411,000 people (2.2 percent) use imported water of unsafe quality.

Figure 7.10.1. Drinking water supply systems
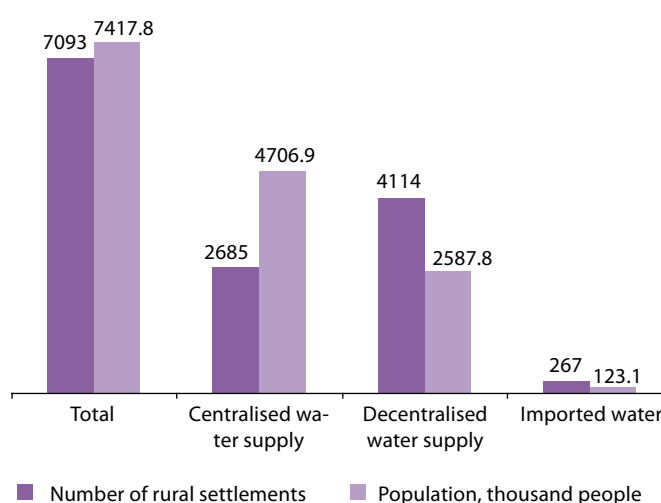
■ Number of rural settlements   ■ Population, thousand people

Source: Presentation on Implementation of Sectoral Programme Drinking Water for 2002-2010/ www.carecnet.org

---

[138] A.Ryabtsev, Chairman of the Water Resources Committee of the Ministry of Agriculture of the Republic of Kazakhstan. Report at the 5th World Water Forum. Istanbul, 2009.

Table 7.10.4. Structure of water supply in rural settlements

	Total	Centralised water supply	Decentralised water supply	Imported water
Number of rural settlements	7,093	2,685	4,114	267
Number of population, thousand people	7,417.8	4,706.9	2,587.8	123.1

Source: Presentation on Implementation of Sectoral Programme Drinking Water for 2002-2010/ www.carecnet.org

Insufficient piped water supply remains an issue in the North Kazakhstan (63.2 percent), Kostanai (67.5 percent), West Kazakhstan (66.3 percent), Zhambyl (67 percent), South Kazakhstan (65.7 percent) and Atyrau (68.9 percent) oblasts.

Urban water consumption per capita rates are between 50 and 350 litres per day while in rural areas this rate ranges between 25 and 250 litres per day. This issue has been fully resolved in major cities thanks to the centralised water supply (Tables 7.10.5 and 7.10.6). Given the existing water supply network development and the use of state-of-the-art autonomous water supply systems in rural areas, the projection that this target will be achieved at the country level is quite positive.

Table 7.10.6. Drinking water supply from decentralised water supply sources, 2005-2009

	2005	2006	2007	2008	2009
Total Republic	20.9	20.6	20.2	19.9	19.2
Astana city	-	-	-	-	
Almaty city	-	-	-	-	
Transport central health authority	2.2	3.6	3.4	4.1	3.5

Table 7.10.5. Piped water supply, 2005-2009

	2005	2006	2007	2008	2009
Total Republic	74	77.4	73.7	75.1	76.8
Astana city		100	100	100	100
Almaty city		100	100	100	100
Transport central health authority	89.2	92.5	88	93.7	91.8

As a result of the Sectoral Programme Drinking Water and Village Support Programme, in 2009 the total number of water pipelines increased by 61 to reach 2,617 against 2,556 in 2007. The number of rural pipelines increased by 57 to reach 2,311 against 2,254 in 2007. The number of idle pipelines was reduced from 237 down to 216 (by 21) including reduction of rural pipelines from 219 in 2007 down to 207 (i.e. by 12). Out of all existing working pipelines, 329 (including 302 in rural areas) do not meet the sanitary requirements (292 in 2007 including 272 in rural areas), which is 13.7 percent of the total number (12.5 percent in 2007).

The health authority undertook control over the action plan implementation and conducted monthly monitoring over the drinking water quality in accordance with the order of the chief state sanitary doctor of the RoK dated 28 May 2004, No 17.

The inspection ratio per water supply facility in 2007 was 5.1 including a laboratory inspections ratio of 5.6.

Centralised drinking water quality saw an improvement against 2007. The proportion of water samples non-com-

pliant with the sanitary chemical standards at the national level remained the same as in the previous year, i.e. 4.3 percent (2008), while samples non-compliant with microbiological standards saw some reduction, 2.5 percent as against 3.0 percent in 2007. However, the average national indicator was exceeded in the following oblasts, with regard to the sanitary and chemical standards non-compliance:

- Kyzylorda (13.5 percent in 2008, compared with 14.9 percent in 2007)
- Akmola (6.5 percent)
- North Kazakhstan (5.8 percent in 2008, 7.4 percent in 2007)

The national average was exceeded in the following oblasts with regard to microbiological standards non-compliance:

- Akmola (5.2 percent in 2008, 4.8 percent in 2007)
- Kyzylorda (6.9 percent in 2008, 7.4 percent in 2007)

The proportion of non-compliance in terms of coliphage virus at the country level was 3.5 percent (1.7 percent) with South Kazakhstan (4.5 percent) and Atyrau (3.9 percent) oblasts exceeding this average national indicator, while the Transport central health authority being at 51.3 percent. Out of 8,602 samples taken for parasitological examination, all were negative.

In 2009, 6,330 non-centralised water supply facilities were monitored (6,803 in 2007). The proportion of non-compliant samples taken from the non-centralised water supply reached the following indicators at the national level: sanitary and chemical non-compliance – 7.1 percent (9.2 percent in 2007), microbiological non-compliance – 4.5 percent (5.3 percent in 2007).

In 2009, the sanitary service at the oblast level monitored 1,046 water reservoirs (1023 in 2007). All of these reservoirs were examined with the examination frequency at 1.7 per facility. The quality of water in the reservoirs still remains much to be desired. The proportion of samples from open reservoirs non-compliant with sanitary norms is at the same level.

On average, the proportion of samples non-compliant with the sanitary and chemical norms at the national level is 6 percent (7.7 percent in 2007 and 9.1 percent in 2003). The pollution level still remains high in the Kyzylorda oblast – 57.8 percent (69.8 percent in 2007 and 74.4 percent in 2003), South Kazakhstan – 15.1 percent, and Karaganda oblast – 10.2 percent (12.1 percent in 2007 and 14.9 percent in 2003). In other regions, the situation is stable and there is some reduction in the samples non-compliant with the chemical requirements.

The main reasons for water pollution still include non-compliance with the size requirements set for water protection zones; creation of uncontrolled domestic waste dumps; industrial and agricultural sewage; residential and industrial construction on the river banks without obtaining permission of the sanitary epidemiological service; sewage networks failures and others.

In order to address the water supply issues and to provide population with the quality drinking water, the Republican Health Authority proposes the following actions:

1. Continue the work started to implement the Sectoral Programme Drinking Waters for 2002-2010, with the aim of upgrading the water supply facilities and providing the population with quality drinking water with a special focus on rural pipelines. These data are to be fed to the Republican Health Authority on a quarterly basis.

2. Ensure that detailed information is available on the condition of regional water supply facilities including laboratory control and infectious intestinal diseases data. Develop specific measured aimed to improve this situation.

3. Ensure enhanced monitoring during the pre-epidemic period for intestinal diseases over the water supply facilities with increased examinations as needed.

4. Enhance sanitary and epidemiological monitoring over open water reservoirs.

5. Conduct wide advocacy among population encouraging the use of bottled water and domestic water filters with the aim to prevent infectious diseases transmitted through water.

Use of water for domestic and drinking needs

Supply of water for drinking and domestic needs is one of the priorities in the water use, although the proportion of drinking water use in the total water consumption does not exceed 5 percent.

Water consumption for domestic needs of cities, workers' camps and industrial enterprises increased in 2002 against the previous year by 3 percent to make 0.61 m3. In future, the domestic water consumption in the republic is expected to grow on average by 4 percent annually. Along with the overall domestic water consumption growth, there is a tendency for increase in the per capita water consumption.

Public utilities enterprises waste into surface water facilities amounts about 0.14 m3, out of which only 0.05 m3 is

Table 7.10.7. Total water intake by sectors of economy from various sources (projections for 2020), km³

Consuming sectors	Total intake	Including				Planned		Total water consumption
		surface waters	under-ground waters	mine waters	Sea waters	drain waters	waste waters	
Public utilities	1.244	0.545	0.677	0	0.022	0	0.023	1.267
Industries	5.575	4.023	0.341	0.20	1.011	0	0.10	5.675
Agriculture including:	16.248	15.78	0.468	0	0	0.064	0.127	16.439
- regular irrigation	12.226	12.196	0.03	0	0	0.064	0.087	12.377
- estuary	1.14	1.14	0	0	0	0	0.04	1.18
- flood hayfields	2.318	2.318	0	0	0	0	0	2.318
- agriculture	0.441	0.083	0.358	0	0	0	0	0.441
- irrigation of pastures	0.123	0.043	0.08	0	0	0	0	0.123
Fishing	0.174	0.174	0	0	0	0	0	0.174
Total	23.241	20.522	1.486	0.20	1.033	0.064	0.25	23.555

treated up to comply with the normative requirements. The situation is aggravated by the fact that a significant amount of industrial waste (up to 24 percent in some cities) is drained to the treatment facilities that are not designed for that purpose.

According to the projections, the population of the republic is expected to reach 17.98 million people by 2020, including 9.784 million of urban population. The growth is expected to be higher in Astana and Almaty cities with an expected 0.84 and 1.5 million people respectively.

This sector saw a clear tendency for growth in the last 4-5 years in terms of water consumption due to population growth and overall water infrastructure enhancement. This tendency for growth will remain, and is expected to reach 1,100 and 1,267 million m3 in 2010 and 2020 respectively. The increased demand will be covered through state investment in the sector; potential use of alternative drinking water sources; enhancement of water management and rational use of water resources in all sectors of economy.

Water consumption by recreational sites is currently not recorded in full. In future this will be recorded as part of the public utilities sector. However, further down it can be treated as a separate sector if needed.

The total water intake by sectors of economy across water basins and oblasts with a breakdown by sources is shown in Table 7.10.7.

The total intake volume is expected to grow 1.13 times by 2020 to make 23.555 km³, which is quite in line with the expected economic growth.

Against the base year (1990), the water intake volume has grown by 64 percent.

Growth has been observed across all sectors in proportion to the total volume growth as follows:

public utilities	1.3
industries	1.2
agriculture	1.1
fishing	3.5

The share of various sectors in the total water intake (Figure 7.10.2) is as follows:

public utilities	5.38%
industries	24.09%
agriculture	69.79%
fishing	0.74%

In the total water consumption, the share of surface waters will prevail (above 90 percent). The share of sub-surface waters is currently at the same level as in the base year (1990), 6.5-7 percent, and is expected to remain the same in the future.

The refocus of water supply networks on other water sources is not expected and the priority remains to use subsurface waters for residential areas in future.

Water supply of the capital of the Republic depends on the waters resources of the Yesil River. In order to ensure a sustainable water supply of Astana, the diversion of runoff from Kanysh Satpayev Canal is envisaged using a 'compensatory' regime: with a maximum water supply during low water levels and no water supply in high water years.

The water supply of the Karaganda and Temirtau industrial zones will be still provided from the Satpayev Canal. In or-

Figure 7.10.2. Share of sectors of economy in total water intake, percentage

agriculture
69.79

fishing
0.74

public utilities
5.38

industries
24.09
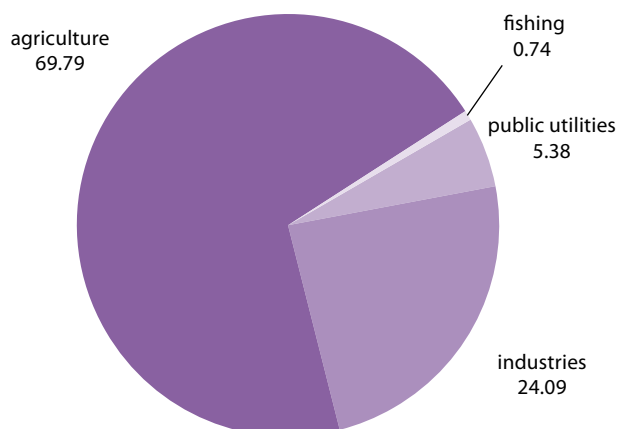
der to secure water supply for the oil producing areas of the Atyrau and Mangistau oblasts it is expected to increase supply from the Volga River transmitted through the Astrakhan-Mangyshlak Conduit.

Challenges

Addressing this issue will require a well-defined national policy regarding access to water resources and maintenance, to deal with the opposing issues of the decrease in drinking water stock and demand growth in water consumption. The challenges can be addresses through enhancing control over the implementation of the Sectoral Programme for Drinking Water, in rural areas in particular; modernisation and expansion of the water supply network; tariff policy optimisation including possible tariff increase and differentiation based on consumption and end-consumers. At the same time, Kazakhstan observes inefficient and irrational water use resulting in the significantly higher water consumption compared with other developed countries.

Other pending challenges worth mentioning include:

- insufficient coordination between nature and resource agencies in complying with the regulations and legislative acts issued by the Government of Kazakhstan;
- in spite of the fact that the main functions of water resources regulation lie within the competencies of the Water Resources Committee of the Ministry of Agriculture, some of these functions are within the jurisdiction of the Ministry of Environmental Protection (as related to water quality) and Ministry of Energy and Mineral Resources (as related to subsurface waters) which results in lack of management integration when it comes to the water resources quality and quantity;
- regulation documents adopted by the Government of Kazakhstan as part of the international / interstate relations are more often than not declarative and do not normally contain rigid compliance requirements to the participants, this impacts the programme's effectiveness;
- an insufficient rate of water saving and recording technologies implementation in all sectors
- a low level of competencies and responsibilities among communities and business managers in the rational and safe use of water resources.

CONCLUSIONS

In terms of water supply, Kazakhstan is one of the Eurasian countries suffering from water deficit. The main issue is related to the safe water supply and waste management, which are the key areas that impact public health. As of today, at least 10 percent of households do not have running water and about quarter of the population has no access to a proper sewage system.

As part of the Sectoral Programme for Drinking Water, more than 1,200 km of water pipelines have been constructed, reconstructed and refurbished. This has allowed the authorities to improve water supply for 645 settlements of total population of 450,000 people.

In order to ensure economic accessibility of drinking water for rural population, differentiated subsidies have been introduced which will enable the rural population to pay for the water transportation services using a flat rate.

To address the water saving issues, the Water Code was amended to include a provision obliging water consumers using water from natural reservoirs to equip water intake facilities with meters.

To mitigate the above institutional challenges, it is necessary to give statutory authorities to the Water Resources Committee of the Ministry of Agriculture to approve technical requirements set to the rural water supply facilities at the stage when the ToR for design engineering are issued. The other issue that needs to be addressed is the implementation of the National Programme on Integrated Water Resources Management in Kazakhstan.

The quality of water supply networks can be improved through the use of the state-of-the art energy and resource saving technologies, equipment, materials and water consumption metering devices. It is necessary to review and reduce the water consumption rates for both the urban and rural population and to enhance the mechanisms for drinking water supply subsidies.

GOAL 7

To Ensure Environmental Sustainability

TARGET 11

To achieve, by 2020, a significant improvement in the lives of the rural population residing in the most unfavourable social, housing and ecological environment

Target importance and key indicators

The Republic of Kazakhstan is behind the most developed countries of the world in terms of living standards, which is the main criterion for sustainable development. The health, education and well-being of citizens of Kazakhstan are named as long-term priorities in the Kazakhstan-2030 Development Strategy. Achieving this target mainly concerns rural areas where almost half of the population of the country reside, and where housing conditions are less compliant in terms of safety and comfort levels and about one quarter of the population has an income below the subsistence minimum level.

Progress in achieving this target has been assessed on the basis of the following indicators:

- the proportion of households with access to tenure, owned or leasehold
- the proportion of the population having access to improved sanitation systems

To ensure sustainable development of Kazakhstan it is necessary to undertake further steps in order to eradicate poverty through a set of comprehensive measures, in particular in rural areas.

Status

Access to housing and improved sanitary technical facilities

Improving housing conditions is one of the priorities for the country's sustainable development. Improved public well-being requires enhancement of housing construction and improvement of domestic conditions. At the same time, the situation with housing supply has deteriorated in recent years. One of the reasons for this has been the global economic downturn, which is one of the first sectors to experience the impact of the downturn. Many construction firms were forced to quit the market and shareholders from among ordinary citizens were also affected. Given this situation, the government undertook emergency measures to protect the citizens and revised its housing programme. However, it was not able to fully alleviate the financial implications and is currently undertaking steps to gradually recover the losses. In today's situation, only a few can afford to purchase unsubsidised housing. The situation with illegal residential construction is aggravated in the suburbs of big cities. To some extent, the pressure comes from labour migration (including illegal migration). Thus, the population in Almaty in summer periods doubles due to visitor inflow, including guests and labour migrants. There is no doubt that this problem requires a comprehensive approach covering education, healthcare service, social benefits, employment and other issues.

Table 7.11.2 Housing Stock (million m²)

Housing stock		2004	2005	2006	2007	2008
Total		252.7	254.6	256.1	260.6	267.8
including:	Private	244.9	247.3	248.9	253.7	261.4
	State	7.8	7.3	7.2	6.9	6.4
Urban housing stock						
Total		153.0	155.7	157.2	150.4	153.4
including:	Private	146.3	149.6	151.2	144.9	148.3
	State	6.7	6.1	6.0	5.5	5.1
Rural housing stock						
Total		99.7	98.9	98.9	110.2	114.4
including:	Private	98.6	97.7	97.7	108.7	113.2
	State	1.1	1.2	1.2	1.4	1.2

Source: Kazakhstan in 2008. Statistical Yearbook. Astana, Agency for Statistics of the Republic of Kazakhstan, 2009.

Table 7.11.1. Basic Indicators of Housing Conditions

	2002	2003	2004	2005	2006	2007	2008
Average housing available per capita, m²	16.6	17.0	17.3	17.5	17.6	17.9	18.1
Including:							
urban	17.3	18.0	18.4	18.7	18.9	19.4	19.7
rural	15.6	15.8	15.9	15.9	15.9	16.2	16.4
Percentage of available housing with:							
water pipe	52.4	52.8	53.5	54.4	54.9	56.3	58.9
Sewage system	41.3	43.3	43.7	44.6	45.0	45.6	47.4
central heating			38.1	38.6	38.8	38.9	40.5
baths			37.7	39.5	40.1	40.6	42.4
gas			87.9	87.6	87.3	88.4	87.6
hot water supply			33.7	33.9	34.0	34.0	35.4
Electric cooking appliances			7.0	7.3	7.6	7.6	8.5

Source: based on the materials of the statistical yearbook 'Kazakhstan in 2008' (Agency for Statistics of the Republic of Kazakhstan, Astana, 2009) and the 2007 MDG Report for Kazakhstan.

The conclusions under this issue given in the 2007 MDG report point out the necessity of taking a comprehensive approach in addressing it, and focusing on improving life standards of the poor. Noting some housing poverty level increase in Kazakhstan with more people who cannot afford to buy or maintain housing, experts note a small reduction in the consumer poverty. As Table 7.11.1 demonstrates, progress has been achieved in all indicators against the base year. The relative reduction in the number of residents who have hot water supply and gas in 2007/2008 can be explained by a lag between installation of facilities and housing construction rates at that time.

The total housing stock has seen some progress. However, as Table 7.11.2 demonstrates, the bulk of new construction has been undertaken by private constructors. The government shares, with the Government share reducing in 2004. This is especially true for urban construction. For the rural housing stock, the governmental subsidies did not reach one percent. Therefore, the apparent stability (1.1-1.4 million m²) achieved in recent years is not a real indicator of progress.

The average availability of housing in metres per person and the construction rate in the last decade are shown on Figure 7.11.1. These indicators have seen a stable growth trend. However, the rate of growth in rural areas is 16 percent less than in urban areas.

In terms of construction of residential housing, some slowdown is expected in housing construction as a result of the impact of the mortgage crisis, changes in Government's housing policy and the credit available for construction companies.

The long-term objectives for the improvement of living standards are set out in the Strategic Plan for Development of the Republic of Kazakhstan by 2020[139]. The following objectives and actions are envisaged for housing and public utilities (Table 7.11.3):

Table 7.11.3 Objectives and Targets for the Development of Housing and Public Utilities

By 2020	The normative losses during transportation are expected to be 17 percent for thermal energy, 15 percent for water, and 12 percent for electricity
	Access to the centralised water supply will be 50 percent in rural areas and 100 percent in towns
	At least 70 percent of consumers in each region should be satisfied with the quality of public utilities.
By 2015	The normative losses during transportation are expected to be 20 percent for thermal energy, 19 percent for water, and 15 percent for electricity
	Access to the centralised water supply will be 35 percent in rural areas and 70 percent in towns
	At least 50 percent of consumers in each region should be satisfied with the quality of public utilities
	The condominiums will ensure themselves the standard maintenance of the housing stock.
By 2011	Based on the inventory, housing stock and public utilities infrastructure, databases will be regularly updated
	The Government provides targeted loans to implement housing and public utilities infrastructure modernisation projects
	State-of-the-art management is implemented in public utilities

Challenges

The proportion of households with access to tenure, owned or leasehold property. During the economic downturn, stimulation of rural loan-based construction has turned out to be ineffective. This issue can be addressed as the overall economic situation improves. The achievement of this target will be closely related, on the one hand, to environmental protection, and on the other hand to the potential use of local construction materials by the rural population.

The proportion of the population having access to improved sanitation systems. Addressing this objective will require both time and financial resources. In remote rural areas there are virtually no centralised sewerage and treatment facilities. This problem can be partially addressed through the implementation of new technologies and in using decentralised sewerage networks, including biotechnologies.

[139] Strategic Plan of Development of the Republic of Kazakhstan by 2020/Approved by the Decree of President of Republic of Kazakhstan dated February 1, 2010, №922, Astana, 2010

Figure 7.11.1 Housing availiability, m²/per capita
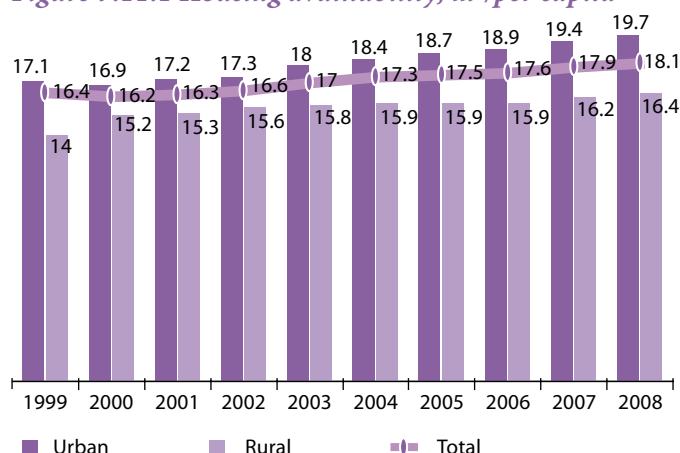
Commissioning of residental housing,% vs. 1998
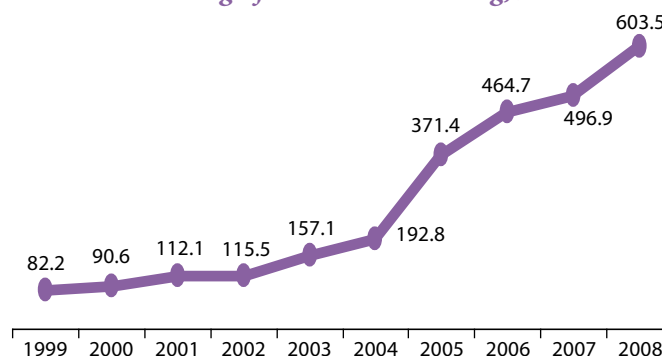
Source: Kazakhstan in 2008. Statistical Yearbook. Astana, Agency for Statistics of Republic of Kazakhstan, 2009.

CONCLUSIONS

Addressing this target seems quite challenging when it comes to rural areas. In spite of a number of programmes implemented by the Government to enhance facilities in villages and develop the agricultural sector, the living standards of the rural population are much lower than those of the urban population. There are several reasons for this, including the left-over funding applied to the rural social sector (especially true in the times of economic downturn), underdeveloped infrastructure, firstly in transport and telecommunications networks. Funding of small and remote villages is not economically profitable which has resulted in their degradation and outward-migration, and aggravates employment and housing issues. This problem requires conducting a detailed review and taking comprehensive decisions involving all Government levels. Special focus should be on awareness, education and advocacy activities.

The positive trends in the indicators based on the official statistical data reflect the effective efforts undertaken to address the issues by 2009. However, as the indicators show, the proportion of the rural population with access to improved sanitation systems has not yet reached 50 percent. Some hope can be attributed to the implementation of the Road Map Programme, which has been highly commended for its response to the downturn in both urban and rural areas.

GOAL 8
To Develop a Global Partnership for Development

The Millennium Declaration underlying the MDGs emphasises that MDGs are interrelated and that their achievement requires a comprehensive multi-sectoral approach. Their success depends on the commitment of the government and the quality of management in each country, but it equally depends on cooperation and collaboration between countries, to enhance the quality and transparency of financial, monetary and trade systems. Developed countries have undertaken additional commitments to ensure favourable conditions for developing countries to participate in the international systems and to link official development assistance (ODA) to national priorities. Therefore, Millennium Development Goal 8 is focused on the value and importance of partners at the international level (global partnerships) and in each country (national partnerships), as such partnerships directly affect the achievement of all development goals by each country. National governments can progress more quickly in implementing their strategies and programmes should they effectively use the capacity of the private sector and civil society. In the international market-place the role of international and regional organisations in promoting national interests is well known. Partnerships help to achieve sustained economic growth, which in its turn may result in innovative models of partnerships.
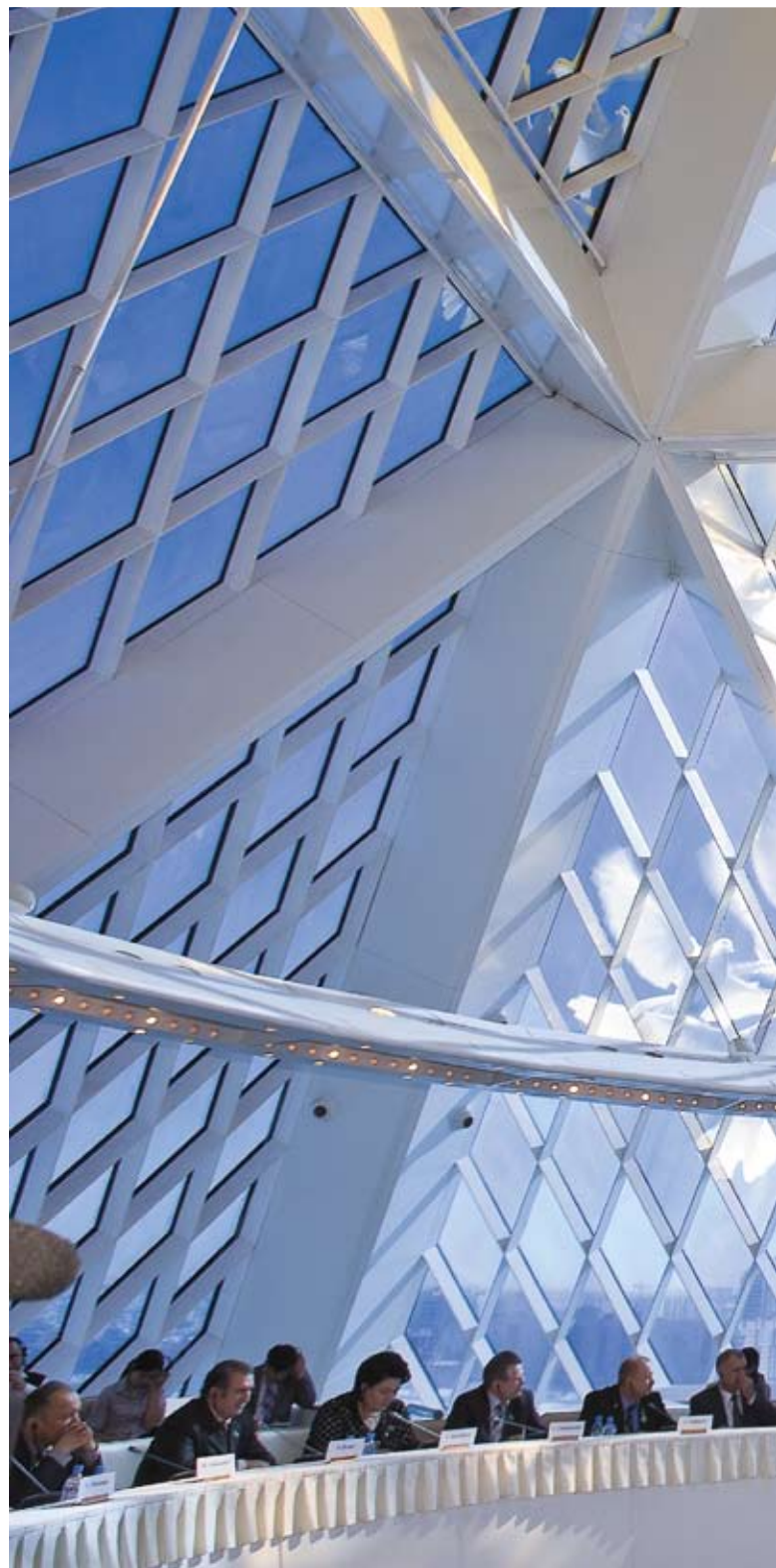
MDG 8 includes five global targets, with different indicators for different categories of countries:

Target 1: To address the special needs of the least developed countries including tariff and quota free access for the least developed countries' exports; enhanced programmes of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction.

This target calls for action by developed countries. Trade is an important engine for growth, and helps to create jobs, but developing countries face difficulties in promoting their goods in international markets. Therefore, Target 1 calls developed countries to implement their commitments to open access to their markets for goods from developing countries, and to remove trade barriers.

Developed countries are also called upon to increase ODA, especially for the least developed countries, which have no infrastructure for mobilising private investments, and to direct ODA for implementation of pro-poor strategies and policies.

Target 2: To further develop further an open, rule-based, predictable, non-discriminatory trade and financial system (including a commitment to good governance, development and poverty reduction – both nationally and internationally).

This target calls upon national governments to enhance the quality of public management (based on the rule of law, good governance and participatory approaches) and to create a favourable environment for capital inflows to the economy. Private capital does not reduce poverty on its own, but it plays an important role in economic growth, through well-functioning financial and investment policies and through public private partnerships.

Indicators for Target 1 and 2:

Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small-island developing States.

1. Net ODA, including total ODA and ODA to the least developed countries, as a percentage of OECD/DAC donors' gross national income

2. The proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)

3. The proportion of bilateral official development assistance of OECD/DAC donors that is untied

4. ODA received in landlocked developing countries as a proportion of their gross national incomes

5. ODA received in small-island developing States as a proportion of their gross national incomes

6. Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty

7. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries

8. Agricultural support estimates for OECD countries as a percentage of their gross domestic product

9. The proportion of ODA provided to help build trade capacity

Target 3: To deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term.

International organisations and developed countries have adopted a number of initiatives (including the Heavily Indebted Poor Countries (HIPC) Debt Relief Initiative) aimed at reducing the debt of developing countries where there are plans and measures for developing national institutions required for development.

Target 3 indicators:

1. The total number of countries that have reached their HIPC decision points and the number that have reached their HIPC completion points (cumulative)
2. Debt relief committed under HIPC and MDRI Initiatives
3. Debt service as a percentage of exports of goods and services

Target 4: In cooperation with pharmaceutical companies, to provide access to affordable essential drugs in developing countries.

This target calls upon national government to development national pharmaceutical companies to enable local production of essential drugs and to invest in innovations for developing new drugs. It also calls upon international pharmaceutical companies to make drugs more affordable, especially in poor countries, and to develop new drugs for diseases most strongly impacting the development of countries.

Target 4 indicators:

The proportion of the population with access to affordable essential drugs on a sustainable basis

Target 5: In cooperation with the private sector, to make available the benefits of new technologies, especially information and communications.

Information and communication technologies (ICT) can be powerful instruments for accelerated growth and sustained development. Many countries have weakly developed ICT systems, and access to information and knowledge, and therefore face marginalisation in today's global economy. The target calls for universal access to ICT, especially in partnership with the private sector.

Target 5 indicators:

1. Telephone lines per 100 population
2. Cellular subscribers per 100 population
3. Internet users per 100 population

Progress towards achievement of MDG 8

Kazakhstan has not defined national targets for MDG 8. The country's progress towards implementation of the goal can be measured only using global targets and only several global targets are relevant to Kazakhstan. The global monitoring of progress towards MDG contains data for Kazakhstan for some targets only.

The partnerships in which Kazakhstan is engaged, and continues to develop are determined by its growth pattern. This chapter further reviews two groups of partnerships: the first group includes the relationships that Kazakhstan develops on the international arena with international organisations (including donors and financial institutions), and in international trade and finance. The second group covers in-country relationships (including partnering arrangements) between the government with the private sector and civil society organisations.

Partnerships with international organisations (donors and financial institutions)

The confirmation of OSCE Chairman in late 2008 and the events in anticipation of the chairmanship in 2010 determined Kazakhstan's relationships over the last three years. Kazakhstan positions itself as a bridge between East and West and as a member of the international community that brings together other actors in order to discuss important issues of geopolitical and international development and makes innovative and forward-looking proposals at the international forums. Kazakhstan's 2010 OSCE Chairmanship with the guiding principles of 'Trust, Tradition, Transparency and Tolerance' has the following priorities: further development of the security architecture in Europe, development of transport and transit capacity, stabilisation of the situation in Afghanistan and promotion of principles of mutual tolerance and peaceful coexistence. In 2011, Kazakhstan will chair the Organisation of the Islamic Conference and in 2010 and 2011 Kazakhstan will host the Ministerial Conferences on Environment in Asia and Pacific and Europe. Other examples of Kazakhstan's role in promoting international dialogue include the annual Congresses of Leaders of World and Traditional Religions and the Eurasian Media Forum, which are held every year in Almaty.

The economic partnerships of the country on the international arena follow the same principles: balanced and multilateral policies. Cooperation with Russia and China has a central role in the national foreign policy and remains strong, and at the same time, much attention is given to relationships with the USA, EU and other countries.

After the global financial and economic crisis broke out, the Government continued to work actively with international financial institutions. These have included Asian Development Bank, the World Bank Group, the European Bank for Reconstruction and Development, the Islamic Development Bank and others to attract experts, lending

Table 1. Data on Kazakhstan's Progress in Available Global Indicators

	ODA to developing land-locked countries, as percentage of gross national income	ODA to developing land-locked countries (USD million)
1990		
1991	0.45	111.5
1992	0.05	11.62
1993	0.08	18.35
1994	0.25	53.25
1995	0.32	64.63
1996	0.6	124.33
1997	0.64	140.45
1998	1.02	222.59
1999	1.07	174.55
2000	1.1	188.74
2001	0.7	147.88
2002	0.8	188.24
2003	0.93	269.97
2004	0.66	267.71
2005	0.43	220.89
2006	0.24	171.76
2007	0.22	202.43
2008		
2009		

Kazakhstan is a land-locked country

and finance to implement innovative projects for overcoming the impact of the international crisis on the national economy.

The country has received general donor assistance programmes, and now its development needs are more focused on specialised and advanced knowledge and practice. The World Bank, USAID and EU Delegation cooperate with the Government of Kazakhstan through joint co-financed programmes to address new development challenges. The United Nations in Kazakhstan has agreed with the Government a new partnership programme for 2010-2015, focused on assisting the government to achieve the Millennium Development Goals especially in the areas where the UN has competitive advantages. The United Nations Development Programme has signed a Memorandum of Understanding with the Government, which confirms the value of partnerships with middle-income coun-

tries, such as Kazakhstan, and reiterates the Government's readiness to co-finance joint initiatives in priority areas. The Government and UNDP already co-finance several projects (assistance to the National Action Plan for Implementation of Kyoto Protocol, preparation to ratification of the UN Convention on the Rights of People with Disabilities by Kazakhstan, and gender equality promotion).

The Ministry of Economy and Budget Planning, as the coordinator of development work and

coordinator for the development organisations, has the capacity and mechanisms in place for regulating and identifying needs for projects and programmes, and for internal coordination formulation, implementation and monitoring processes.

Trade and financial policy as a part of Kazakhstan's international partnerships

The continuing dialogue and partnerships in this area were demonstrated by important events after the global economic crisis in 2007-2008. The Government assessed as successful the Road Map Programme (258,000 temporary jobs were created and financed through the Programme in 2009), and the efforts to stabilise the banking sector. In February 2009, the national currency was devaluated by 20 percent, although it remained stable for the rest of the year.

The Customs Union Agreement signed in November 2009 by Kazakhstan, Russia and Belarus became effective on 1 January 2010. The Customs Union is the next step of inte-

gration of the three countries after the previous free trade zone. The arrangement envisages, in addition to duty-free mutual trade, the application of unified customs tariffs and a unified trade policy with respect to third countries that are not members of the Customs Union as well as annulment of customs borders within the Customs Union. The process of establishing the Customs Union has two stages. From 1 January 2010, these three countries reduced most customs duties for mutual trade and started harmonising customs rules. From 1 July 2010, the countries have adopted unified external tariffs, and will finalise the rules and start redistribution of customs duties.

Considerable preparatory work has been performed since 1 January 2010 to enable Customs Union operations. In particular, about 38 international agreements building the legal framework of the Customs Union have been signed. These treaties envisage application of unified tariff and non-tariff regulation, customs regulation, indirect taxation, etc. In addition, the Customs Union is to set unified customs clearance regulation, i.e. common rules of declaring goods and customs duty payment, unified customs regimes, application of unified rules of determining customs value and country of origin. All this creates the preconditions for uniting customs areas of the member states into a Unified Customs Union Area, i.e. there will be no customs checks at in-union customs borders between the member states, which will make movement of goods between the Customs Union member states virtually free.

The Agreement on the Principles of Indirect Taxation of Exported and Imported Goods, Work and Services in the Customs Union will become effective on 1 July 2010; the agreement envisages national treatment for goods originating from the Customs Union member states.

On 1 January 2010, Unified Customs Tariff became effective as a basis for trade policies with third countries. At the beginning of Unified Customs Tariff, about 40 percent of customs duties of three countries matched together and hence were not changed. When unifying the rest 60 percent of tariffs due consideration was given to the availability and plans for manufacturing goods in the countries. High customs duties were set for manufactured goods already produced within the countries (pipes, some construction materials), as for goods in imports of which Kazakhstan is interested there are mechanisms for exemption from customs duties.

Thus, to avoid the negative impact of increased customs duties on Kazakh companies using feedstock from third countries, or on customers of goods planned to be developed later, Kazakhstan has reserved the right to apply lower rates of customs duties for imports of about 400 goods during the transition period.

For example, a transition period is envisaged for most perishable goods, which include fruits, drugs and medical equipment, feedstock for petrochemical industry, some aluminium items, cellulose, paper products, tools, etc.

For imports of high technology equipment, components and inputs not produced in Kazakhstan there is a mechanism of 'targeted' imports, which, in practice, will allow domestic producers to import these goods free of duty under investment contracts.

In general, the understanding that an indispensable condition for Customs Union operations will be unified trade policies for third countries, there is ongoing work for harmonising all the foreign trade commitments of our countries.

At present, with regard to the positions of the WTO member states as well as experts of the WTO Secretariat based on the rules of this international organisation, there is an option of each Customs Union member state to join the WTO on an individual basis subject to unified terms in the issues related to the Customs Union competence. Such a format of joining the WTO will allow the Customs Union to be fully operational in the context of three countries' membership in WTO.

In the near term major issues of economic policy will be financial and monetary incentives in addition to the stabilisation of the national currency and the banking sector. Kazakhstan ended 2009 with real GDP growth at 1.2 percent and a budget deficit of 3.1 percent of GDP. The deficit appeared to be higher than in 2008. However, it is projected to start reducing in 2010 and 2011 down to 2.3 percent of GDP. The role of the Government in the economy has increased due to the continuing implementation of the 2009-2010 Road Map Bail-out Programme. In 2009, Kazakhstan started implementation of the five-year Plan of Industrial Development and Diversification. Reduced usage of transfers from the National Fund were partially offset by a USD 500 million loan from the Asian Development Bank earmarked for budget financing. In 2010, the National Bank announced widened the Tenge's trading band thus allowing some rise in the exchange rate of tenge. Over the last few months Kazakhstan has seen some improvements in the economy and positive economic growth will recommence in 2010. The key drivers of growth will be continued large investments into the petroleum sector projects and an upward rise in hydrocarbon and metal prices.

The bulk of foreign investment inflows go to the mineral resources sector. Foreign investments in petroleum production account for about one quarter of all investment inflows. The Government has reiterated its commitment to attraction of investments into other sectors as well.

Partnership between the State and the Private Sector in Kazakhstan

The 2010-2020 Development Strategy and Action Plan were followed by the 2003-2015 Strategy of Industrial and Innovative Development and the 2010-2014 Government Programme for Accelerated Industrial and Innovative Development of Kazakhstan as an evidence of the priority role of the private sector in economic diversification and national economic growth in the future. In this context, the mechanisms of public-private partnerships (PPP) become especially important and will be further diversified and reinforced.

In the past, the PPP mechanism was most often applied to infrastructure, energy, public utilities projects (although less to social sector projects), and led to the achievement of the following positive outcomes:

- Private financing in areas important for the Government
- Risk sharing
- Good governance
- Use of innovative and advanced technologies
- Improved business climate and culture

The government emphasises the need to further develop PPP in Kazakhstan as one of key drivers of economic diversification and the transition to more complicated and advanced PPP types/contracts; the legal framework update has been started and will be completed by end of 2010. The Government is also considering application of PPP mechanism in social services (social private partnership).

Progress towards achievement of Target 5:

In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies.

Table 2: Data on a Number of Fixed Line and Cellular Subscribers, Internet Users

Year	Number of fixed line subscribers per 100 population	Number of fixed lines (thousands)	Number of cellular subscribers per 100 population	Number of cellular subscribers	Number of Internet users per 100 population	Number of Internet users
1990	8.08	1,333,454	0	0	0	0
1991	8.65	1,425,213	0	0		
1992	9.1	1,490,384	0	0		
1993	12.18	1,975,840	0	0		
1994	12.38	1,987,001	0	400		84
1995	12.37	1,962,940	0.03	4,600	0.01	1,800
1996	12.22	1,916,592	0.06	9,798	0.03	5,000
1997	11.65	1,805,330	0.07	11,202	0.06	10,000
1998	11.59	1,775,382	0.19	29,700	0.13	20,000
1999	11.61	1,759,769	0.33	49,500	0.46	70,000
2000	12.2	1,834,226	1.31	197,300	0.67	100,000
2001	12.98	1,939,628	3.9	582,000	1	150,000
2002	13.99	2,081,858	6.9	1,027,000	1.1	160,000
2003	15	2,359,500	8.96	1,324,500	1.2	186,000
2004	17.18	2,485,600	16.49	2,445,000	1.6	203,000
2005	18.27	2,674,500	36.41	5,346,000	1.7	229,000
2006	19.77	2,869,500	52.5	7,623,000	2	309,000
2007	20.99	3,136,500	79.9	12,322,676	4	683,000
2008	21.95	3,428,704	96.00	15,674,027	11	3,202,000
2009	24	3,762,932	95.00	14,995,325	32	5,151,325

Source: OECD DAC Database, 2008. Data by countries.

Kazakhstan is continuing to develop information and communication technologies. Considerable progress has been made since 2007 in using ICT by the Government, including an e-government project, which has been implemented, enabling electronic document management, as well as online meetings and discussions. More public services are delivered through Web portals and Public Service Centres. The coverage of fixed lines has expanded as well as cellular communication. Internet access increased considerably as compared to 2006 (Table 2); its further expansion will depend on the reduction of tariffs and prices.

Cooperation and Dialogue between Civil Society and Government

Civil society organisations have an important role in the society, serving as middlemen between the government and citizens. They undertake many functions of social change and address various social challenges such as environmental issues, increasing the role of women in society, consumer rights, issues of youth, single mothers and mothers as head of large families, aid to special groups of the population such as orphans, the disabled and victims of illegal repressions, etc. In Kazakhstan, the mechanism of social contracting started to function in 2005: dedicated allocations from the national and local budgets are directed for grants for NGOs to implement socially important initiatives in various areas. Social contracting alongside with the mechanisms of dialogue and cooperation (public consultations, working groups, councils and Civil Society Forum), is a part of the 2006-2011 NGOs Development Concept approved in 2006. In 2009, prior to the Civil Society Forum, a survey was held amongst NGOs, mass media and representatives of other groups working with NGOs[140]. The purpose of the survey was to evaluate the activities of NGOs in Kazakhstan and to identify areas for further development. The survey found that the priority areas for NGOs include:

- youth
- the disabled
- health
- gender issues
- children and family
- environmental protection
- elderly people
- legal assistance/protection of rights

The survey identified the major constraints that NGOs face in their activities. Some of the key concerns of NGOs are that government authorities tend to control NGOs, as well as deficiencies in NGO-relevant legislation. Most NGOs believe that their opinion is of little importance in the decision-making processes. NGOs note that their activities are not well covered by the mass media, the role of NGOs has not been well understood, volunteer traditions are underdeveloped in the country, as are philanthropy and sponsorship values. NGOs face a lack of qualified human resources for social work along with donor assistance and note that partnerships among NGOs should be further promoted.

These survey findings were discussed in detail by NGOs and Government officials at the Civil Society Forum in November 2009, and all participants emphasised openness and quality of the dialogue building a good base for further partnership development.

CONCLUSIONS

Partnerships at the national and international levels are important factors in achieving development goals and targets. Kazakhstan continues developing cooperation and partnerships at the international level (including trade, donor and financial institutions), and within the country – with the private sector and civil society.

Kazakhstan is an active player on the international arena, and in various regional and international organisations. The international (external) partnerships that the country has developed serve its development goals well; nowadays they are concentrated on trade, investments, finance, ICT and regional and international cooperation.

The country's needs in development assistance have reduced and changed in nature – towards specialised, high-quality knowledge and experience and strengthening national capacities at the sub-national level. Therefore, many bilateral donors have concluded their programmes of assistance and new joint cooperation programmes have been put in place. Kazakhstan aspires to become a new donor country.

The partnerships within the country vary in scope and dynamics. While the partnerships with private sector entities are gaining speed, the dialogue and partnerships with civil society are developing at a slower pace. Domestic partnerships need to focus in the future on priority development issues: inequality and marginalisation, development at the sub-national level, and decent and productive employment for youths and women.

The dialogue between the Government and the private sector in the context of long-term development objectives has increasing depth and breadth. The topic of public-private partnerships is gaining stronger attention for intensified growth. The country has made good progress in ICT development – particularly in the public administration and in education areas. E-government and the use of ICT in all spheres is a high priority and will continue to receive sustained attention and funding.

In the area of civil society partnerships, future efforts need to be focused on strengthening existing mechanisms for dialogue and cooperation, and the creation of new mechanisms. A very important direction is the outsourcing of some social services to NGOs.

---

[140] Review of non-government sector status in Kazakhstan and development perspectives by the Civil Alliance of Kazakhstan, Astana, 2009.

ANNEXES
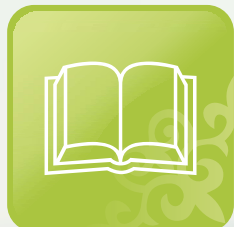
GOAL 1: To Eradicate Extreme Poverty and Hunger

Living Standard Indicators

Indicators	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% of people having income below the subsistence minimum[1]	34.6	38.3	39.0	34.5	31.8	46.7	44.5	37.5	33.9	31.6	18.2	12.7	12.1	8.2
Urban	-	32.7	38.5	32.9	30.0	36.0	33.0	24.7	23.4	20.2	13.6	6.9	8.1	5.6
Rural	-	46	47.7	37.1	34.2	59.4	58.4	53.2	47.1	45.6	24.4	18.1	15.9	12.1
% of people having income below the food basket[1]	-	12.7	16.2	14.5	11.7	16.1	13.8	9.1	6.3	5.2	2.7	1.4	1.2	0.6
Urban	-	-	-	-	-	10.7	8.6	4.9	3.9	2.4	1.8	0.7	0.6	0.2
Rural	-	-	-	-	-	22.6	20.1	14.2	9.4	8.5	3.8	2.1	1.7	0.9
Poverty depth[1], %	11.4	12.1	12.8	13.7	10.3	14.8	13.3	10.2	8.3	7.5	3.9	2.4	2.3	1.3
Incidence of poverty[1], %	5.2	3.1	3.8	5.5	4.0	6.5	5.5	3.9	2.9	2.5	1.3	0.8	0.7	0.3
Household income (used for consumption), per capita, KZT	-	-	3806	4375	5030	5729	6518	7569	8387	9751	13723	16935	20037	21348
Urban	-	-	-	-	-	6787	7799	8988	9860	11504	16121	19865	23365	25008
Rural	-	-	-	-	-	4477	4989	5828	6560	7599	10527	13687	16271	17136
Ratio of income used for consumption to the subsistence minimum, %	-	-	114.1	128.9	125.5	101.3	108.6	117.2	123.6	128.0	163.2	175.4	162.1	168.6
Average nominal income, per capita, KZT	2371	2849	3020	5539	6352	7670	8958	10533	12817	15787	19152	25226	30781	34736[3]
Real income index, %	98.9	102.4	99	104.2	101.3	111.3	110.3	110.5	113.8	114.5	111.7	118.9	104.3	105.2[3]
Average expenditure, per capita, KZT	2318	2770	2992	3327	3954	4918	5671	6674	7500	8800	12602	15516	18324	19718
Urban	3309	3814	4101	4042	4941	6255	7267	8424	9349	10990	15535	19172	22569	24220
Rural	1401	1720	1829	2004	2698	3336	3765	4527	5206	6111	8691	11465	13520	14537
Income ratio from the richest 10% to the poorest 10%[2], times		10.2	11.3	9.4	8.3	8.8	8.1	7.4	6.8	6.8	7.4	7.2	6.2	5.3
Income distribution coefficient (Gini index)	0.319	0.338	0.347	0.332	0.307	0.339	0.328	0.315	0.305	0.304	0.312	0.309	0.288	0.267
Average household size, persons	3.6	3.5	3.5	3.4	3.4	3.7	3.6	3.6	3.5	3.5	3.4	3.4	3.3	3.4
Urban	3.1	3.0	3.0	3.1	3.1	3.2	3.1	3.1	3.1	3.0	3.0	2.9	2.9	3.0
Rural	4.2	4.1	4.3	4.2	4.1	4.6	4.5	4.3	4.3	4.2	4.1	3.9	3.9	4.0

1) For comparability with the 2006 data, the 2001-2005 data was re-estimated in accordance with the new subsistence minimum methodology effective from 1 January 2006. The subsistence minimum was determined using 43 food items and food basket made up 60% of subsistence minimum.

2) The 1990-2000 data is presented following the resource balance and usage of key agricultural products. The data starting from 2001 is presented based on a sample survey of households.

3) Provisional data

GOAL 2: To Achieve Universal Primary Education

Coverage of Children between 7 and 17 with General Secondary Education, by Oblasts

№	Oblasts/cities	2006	2007	2008	2009
1	Akmola Oblast	99.9286367	99.9132003	99.9403634	99.9118767
2	Aktobe Oblast	99.9695134	99.9758623	99.9850314	99.9685013
3	Atyrau Oblast	99.9820255	99.9790315	99.981838	99.9785589
4	Almaty Oblast	99.9752923	99.9681325	99.9712909	99.9556779
5	East Kazakhstan	99.8009733	99.8020664	99.7301808	99.7107306
6	Zhambyl Oblast	99.9558888	99.9580243	99.9537873	99.953747
7	West Kazakhstan	99.9122355	99.8722408	99.9082733	99.9632794
8	Karagandy Oblast	99.9283418	99.8680606	99.8438596	99.9409996
9	Kostanai Oblast	99.971848	99.884407	99.9719371	99.9793667
10	Kyzylorda Oblast	99.9876949	99.9769204	99.9671359	99.9611602
11	Pavlodar Oblast	99.9440832	99.9223148	99.9673712	99.9676001
12	Mangistau Oblast	99.9673393	99.9365936	99.9736136	99.9548594
14	North Kazakhstan	99.883053	99.7391161	99.8785005	99.9344749
13	South Kazakhstan	99.9852442	99.9756057	99.9789153	99.9904989
15	Almaty City	99.981572	99.9731042	99.9803208	99.9793795
16	Astana City	99.8548716	99.9286269	99.9222514	99.9175391
	TOTAL	**99.9471604**	**99.9285766**	**99.9375488**	**99.9452875**

Education coverage of children with disabilities, 2005-2009

№ п/п	Oblast	2005-2006 academic year (%)	2006-2007 academic year (%)	2007-2008 academic year (%)	2008-2009 academic year (%)	2009-2010 academic year (%)
1	Akmola Oblast	40	35.7	54.6	45	46.3
2	Aktobe Oblast	41.6	33.1	55.1	63	40.5
3	Almaty Oblast	11.6	9.7	19.5	33	38.8
4	Atyrau Oblast	45	51.1	45	67	41
5	East Kazakhstan	20.8	17.1	56	80	72.4
6	Zhambyl Oblast	57.1	59.4	48.7	64	60
7	West Kazakhstan	20.8	21.3	25.9	23	63
8	Karagandy Oblast	28.2	31	58.5	69	67
9	Kyzylorda Oblast	7.2	29.4	32.9	34	29.1
10	Kostanai Oblast	30.5	26.5	59.6	61	61
11	Mangistau Oblast	50.1	43.8	13	14	32.1
12	Pavlodar Oblast	30.1	29	52	58	55.5
13	North Kazakhstan	45.8	46	31.2	25	22.9
14	South Kazakhstan	9.3	8.3	9.7	11	13.1
15	Almaty City	100	74.7	66.5	52	44.1
16	Astana City	56.7	57.9	50.2	48	47.1
	TOTAL	**24.7**	**23.3**	**36.0**	**38.0**	**41.4**

Source: Agency for Statistics.

GOAL 3: To Promote Gender Equality and Empower Women

Senate and Senate Secretariat Gender Profile, 2008

	Total, persons	Distribution by Sex (%)			
		Women		Men	
		persons	%	persons	%
Senate Members	47	2	4.3	45	95.7
Senate Secretariat	161	73	45.3	86	54.7
Senate Secretariat Chief of Staff	1	-	-	1	100.0
Senate Secretariat Deputy Chief of Staff	3	-	-	3	100.0
Heads of departments	13	1	7.7	12	92.3
Deputy Heads of Departments	17	6	35.3	11	64.7
Assistants to Senate Chairperson, Deputy Chairperson, Chief of Staff, Advisors	8	-	-	8	100.0
Section Heads	8	3	37.5	5	62.5
Consultants	39	21	53.8	18	46.2
Chief Experts	19	18	94.7	1	5.3
Experts	12	11	91.7	1	8.3
Assistants to Senate Members	41	13	31.7	28	68.3
Total	208	75	36.1	133	63.9

Mazhilis and Mazhilis Secretariat Gender Profile, 2008

	Total, persons	Distribution by Sex (%)			
		Women		Men	
		persons	%	persons	%
Mazhilis Members	106	18	17.0	88	83.0
Mazhilis Secretariat	264	119	45.0	145	55.0
Chief of Staff	1	-	-	1	100.0
Deputy Chief of Staff	2	-	-	2	100.0
Heads of Departments, Secretariats	15	5	33.3	10	66.7
Deputy Heads of Departments, Advisors	19	4	21.1	15	78.9
Assistants to Mazhilis Chairperson, Deputy Chairperson, Chief of Staff, Advisors	6	1	16.7	5	83.3
Section Heads	20	11	55.0	9	45.0
Chief Consultants	58	26	44.8	32	55.2
Chief Experts	18	12	66.7	6	33.3
Experts	19	18	94.7	1	5.3
Assistants to Senate Members	106	42	39.6	64	60.4
Total	370	137	37.0	233	63.0

Gender Profile of Maslikhat Members, 2008

	Maslikhat Members of all levels, persons	Including		Distribution by Sex (%)	
		Women	Men	Women	Men
Kazakhstan	3325	567	2758	17.1	82.9
Akmola Oblast	276	62	214	22.5	77.5
Aktobe Oblast	204	37	167	18.1	81.9
Almaty Oblast	333	55	278	16.5	83.5
Atyrau Oblast	126	14	112	11.1	88.9
West Kazakhstan Oblast	199	32	167	16.1	83.9
Zhambyl Oblast	205	26	179	12.7	87.3
Karagandy Oblast	298	64	234	21.5	78.5
Kostanai Oblast	301	90	211	29.9	70.1
Kyzylorda Oblast	147	17	130	11.6	88.4
Mangistau Oblast	115	15	100	13.0	87.0
South Kazakhstan Oblast	315	12	303	3.8	96.2
Pavlodar Oblast	206	40	166	19.4	80.6
North Kazakhstan Oblast	217	49	168	22.6	77.4
East Kazakhstan Oblast	321	47	274	14.6	85.4
Astana City	25	3	22	12.0	88.0
Almaty City	37	4	33	10.8	89.2

Distribution by sex in the Maslikhats are presented as of October 2008.

Source: 2009 Statistical Yearbook 'Women and Men of Kazakhstan'

Crimes by Types, 2008

	Registered Crimes				
		of which			
	Total	Against women		Against minors	
		Number	%	Number	%
Total number of registered crimes	127,478	35,131	27.6	5,769	4.5
Of which heavy and especially grave crimes	31,268	7,555	24.2	25,626	8.1
Crimes against personality	8,623	3,336	36.7	841	9.8
Intended killing and attempted killing	1,680	352	21.0	79	4.7
of which:					
Killing by a mother of her newborn child	15	2	13.3	15	100.0
Intended grievous bodily harm	1,892	295	15.6	61	3.2
Intended medium bodily harm	1,923	499	25.9	84	4.4
Intended light bodily harm	628	299	47.6	64	10.2
Beating	-	-	-	-	-
Torture	18	14	77.8	5	27.8
Rape	1,298	1,298	100.0	224	17.3
Sexual assault	344	270	78.5	125	36.3
Crimes against family and minors	489	154	31.5	215	44.0
Crimes against property:	83,435	28,133	33.7	3,778	4.5
Theft	52,696	18,989	36.0	635	1.2
Fraud	10,679	3,659	34.3	536	5.0
Robbery	11,231	4,086	34.4	2110	18.8
Robbery with violence	1,950	624	32.0	209	10.7
Extortion	792	107	13.5	262	33.1
Crimes against public security and public order	7,715	1,338	17.3	494	6.4
of which:					
Disorderly behaviour	6,077	1,319	21.7	486	8.0
Crimes against health, people and morality	10,049	29	0.3	4	0.0
of which:					
Drug-related crimes	9,690	4	0.04	2	0.02
Organisation and maintaining of house of prostitution and procuration	227	9	4.0	1	0.4
Crimes against constitutional human rights and freedoms	712	336	47.2	13	1.8
of which:					
Violation of inviolability of housing	549	321	58.5	13	2.4
Other	-	-	-	-	-

Source: 2009 Statistical Yearbook 'Women and Men of Kazakhstan'

GOAL 4: To Reduce Child Mortality

Показатели младенческой и материнской смертности в 2008- 2009* гг.

Oblasts	Младенческая смертность на 1000 родившихся живыми		Материнская смертность на 100 000 родившихся живыми	
	2008	2009	2008	2009
Kazakhstan	20.76	18.38	30.9	36.9
Akmola Oblast	17.71	16.94	23.0	39.0
Aktobe Oblast	20.13	17.43	31.0	17.9
Almaty Oblast	14.73	13.50	34.9	30.8
Atyrau Oblast	21.39	19.15	36.3	56.9
East Kazakhstan Oblast	22.84	22.68	21.0	29.6
Zhambyl Oblast	22.67	18.32	17.4	40.1
West Kazakhstan Oblast	18.30	15.00	43.5	24.3
Karagandy Oblast	19.81	18.47	25.5	42.5
Kyzylorda Oblast	23.86	25.37	67.3	42.6
Kostanai Oblast	20.20	16.83	31.3	15.6
Mangistau Oblast	21.04	20.96	77.4	48.9
Pavlodar Oblast	20.45	17.79	7.8	31.9
North Kazakhstan Oblast	21.29	13.67	22.5	35.2
South Kazakhstan Oblast	25.17	21.56	31.8	37.1
Astana City	13.44	14.33	29.0	31.5
Almaty City	19.11	15.06	11.1	31.8

Data for 2009* is preliminary
Source: MoH

GOAL 5: To Improve Maternal Health

Changes in Annual Maternal Mortality Ratios in Kazakhstan Since 1999
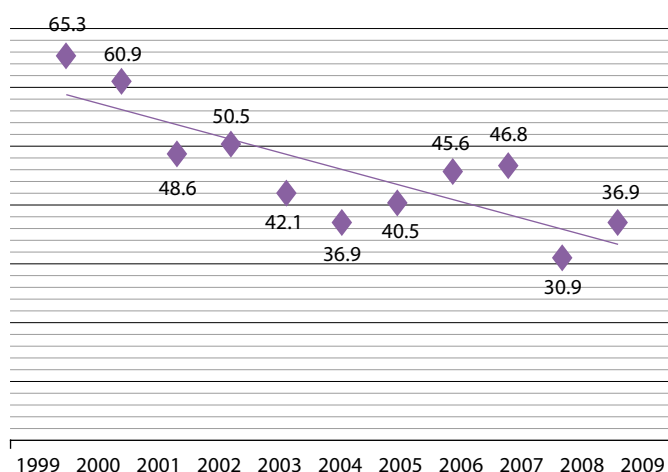
65.3
60.9
50.5
48.6
42.1
40.5
36.9
45.6
46.8
36.9
30.9
36.9

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

Use of Contraceptives by Women Aged 15-49 Currently Married or in Continuous Sexual Partnership, Percentage

Not using any method	Using					
	Intrauterine devices	Pills	Injections	Male condoms	Any modern method	Any traditional method
49.3	36.2	6.7	0.3	4.8	48.7	2.0

Percentage of Childbirths in Kazakhstan Attended by Obstetrician-gynaecologists or Certified Midwifes

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
99.7	99.8	99.9	100	100	99.9	100	100	100	100

Birth Rate Among Teenagers Aged 15-19 in Kazakhstan per 1,000 Teenage Girls

	1999	2006	2007	2008
Urban	31.3	30.5	32.9	35.0
Rural	36.9	24.9	25.9	27.5
Total	33.8	27.9	28.5	31.1

Percentage of Women Visiting a Doctor or a Midwife, at Least Once During Pregnancy

1999	2006	2009
99.4	98.2	98.7

Unsatisfied Needs for Family Planning, Percentage

	1999	2009
Kazakhstan	9	
South Kazakhstan Oblast		14*
Semipalatinsk region		11*

Unsatisfied needs in modern contraception

GOAL 6: To Combat HIV/AIDS and Tuberculosis

Development of HIV-infection Epidemic in the ROK Population in 1987-2009 (Absolute Numbers)
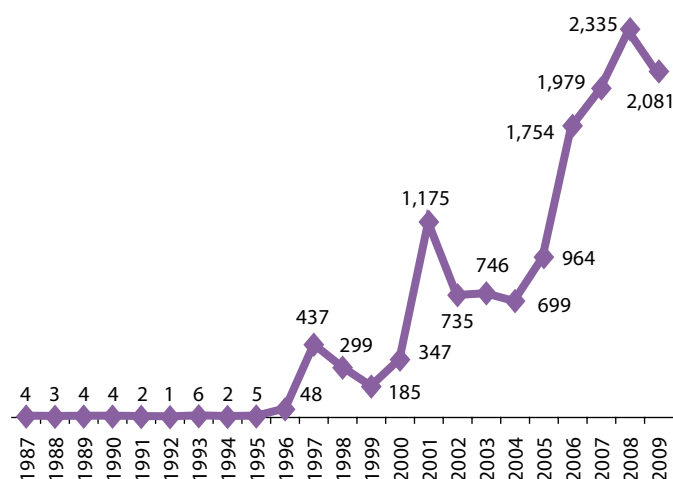
Share of Sexual and Injection (injecting drug use) HIV Transmission Modes, percentage (2001-2009)

intravenous injections   sex
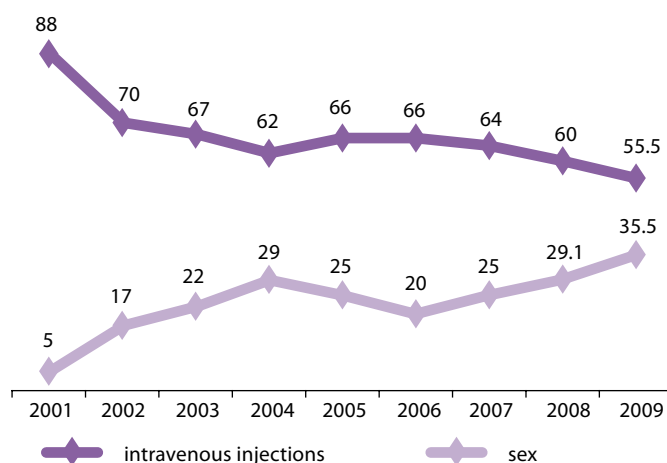
Source: Republican AIDS Centre

Tuberculosis Data in Kazakhstan, 2000-2009

Years	Incidence	Morbidity	Cure rate
2000	327.5	26.4	82.5
2001	354.0	24.5	82
2002	414.5	24.2	81.6
2003	438.2	22.4	81.8
2004	449.5	20.6	70.8
2005	444.5	20.8	73.1
2006	426.0	20.3	71.4
2007	283.6	18.1	71.8
2008	201.4	16.9	68.5
2009	180.0	12.5	64.1

Source: National TB Centre under the MoH

GOAL 7: To Ensure Environmental Sustainability

Key Forestry Indicators

Years	2003	2004	2005	2006	2007	2008	2009	2010*
Total forestry area, mln. ha	26.1	26.5	26.8	26.8	27.8	27.8	27.8	28.4
Woodlands, mln. Ha	11.7	12.4	12.3	12.3	12.3	12.3	12.3	12.3
Total stock of standing wood, mln. m^3	373.6	375.8	375.8	375.8	375.8	380.7	380.7	380.7
Forest-land percentage, %	4.3	4.6	4.5	4.5	4.5	4.5	4.5	4.5

* data of MOA CFH

Total Direct Greenhouse Gas Emissions in Kazakhstan, MMTCDE

IPCC greenhouse gas sources	1990	1992	1994	2000	2005	2006	2007
CO_2	238.3	261.2	243.7	137.3	186.3	193.3	208.23
Energy	220.1	246.3	236.5	126.6	170.2	178	189.71
Fuel combustion	216.8	243	233.9	120.3	163.7	171.3	184.51
Fugitive emissions	3.3	3.3	2.6	6.3	6.5	6.7	5.2
Industrial processes	18.3	14.9	7.2	10.7	16.1	15.3	18.52
Land use change and forestry (sinks)	-8.1	-7.1	-4.8	-7.1	-5.9	-7.5	-9.2
CH_4	65.15	58.34	44.82	23.13	33.63	38.41	35.41
Energy	40.6	34.7	25.1	10.0	17.6	19.4	18.3
Fugitive emissions	39	32.8	23.9	9.6	17	18.6	17.5
Fuel combustion	1.6	1.9	1.2	0.4	0.6	0.8	0.8
Industrial processes	0.05	0.04	0.02	0.03	0.03	0.01	0.01
Agriculture	20.9	20.2	16.7	9.1	11.7	14.5	12.9
Waste	3.6	3.4	3	4	4.3	4.5	4.2
N_2O	4.2	4.1	3.4	1.8	2.3	2.9	3.1
Energy	4.2	4.1	3.4	1.8	2.3	2.9	3.1
Fuel combustion	0.8	0.9	0.9	0.4	0.5	0.6	0.6
Agriculture	2.2	1.9	1.1	0.7	0.9	1.3	1.5
Waste	0.4	0.4	0.5	0.3	0.4	0.4	0.4
Total emissions	307.65	323.64	291.92	162.23	222.23	234.61	246.74
Net emissions (sources minus sinks)	299.55	316.54	287.12	155.13	216.33	227.11	237.54

Percentage of People Having Access to Piped Water

	2001	2002	2003	2004	2005	2006	2007
Republic of Kazakhstan	74.0	73.7	75.1	76.4	77.4	78.7	79.4
Akmola Oblast	77.0	77.7	74.4	76.1	77.8	79.8	79.0
Aktobe Oblast	75.8	76.2	71.3	71.0	71.3	71.7	71.9
Almaty Oblast	77.6	75.9	79.5	81.0	78.6	79.7	80.1
Atyrau Oblast	61.9	63.8	65.6	67.0	68.9	73.5	81.2
East Kazakhstan Oblast	68.7	68.4	70.2	72.4	73.6	74.9	75.3
Zhambyl Oblast	60.6	61.4	64.7	65.5	67.0	68.2	68.2
West Kazakhstan Oblast	56.8	61.2	63.8	65.3	71.7	74.3	76.9
Karagandy Oblast	88.0	88.8	86.7	90.0	91.8	92.2	92.9
Kostanai Oblast	57.1	62.9	64.4	64.8	67.5	68.4	72.2
Kyzylorda Oblast	74.4	76.5	82.4	84.3	86.3	86.7	87.0
Mangistau Oblast	70.1	70.3	70.6	70.4	73.3	72.5	79.8
Pavlodar Oblast	75.4	76.8	73.9	74.4	73.6	75.5	76.7
North Kazakhstan Oblast	51.2	52.3	55.5	56.9	63.2	64.6	71.9
South Kazakhstan Oblast	61.1	62.5	63.7	65.5	65.7	67.5	67.5
Astana City	100	100	100	100	100	99.6	100
Almaty City	100	100	100	100	100	100	100
Transport central health authority	89.2	88.0	93.7	91.8	92.5	94.7	0.0

Source: Protection of Environment and Sustainable Development of Kazakhstan. Statistical Yearbook/Editor A.Meshimbayeva/Astana, 2008.

Major Housing Indicators

	2002	2003	2004	2005	2006	2007	2008
Average housing available per capita, m^2	16.6	17.0	17.3	17.5	17.6	17.9	18.1
including:							
urban	17.3	18.0	18.4	18.7	18.9	19.4	19.7
rural	15.6	15.8	15.9	15.9	15.9	16.2	16.4
Percentage of available housing with:							
water pipe	52.4	52.8	53.5	54.4	54.9	56.3	58.9
sewage system	41.3	43.3	43.7	44.6	45.0	45.6	47.4
central heating			38.1	38.6	38.8	38.9	40.5
baths			37.7	39.5	40.1	40.6	42.4
gas			87.9	87.6	87.3	88.4	87.6
hot water supply			33.7	33.9	34.0	34.0	35.4
electric cooking appliances			7.0	7.3	7.6	7.6	8.5

Source: based on the materials of the statistical yearbook 'Kazakhstan in 2008' (Agency for Statistics of the Republic of Kazakhstan, Astana, 2009) and the 2007 MDG Report for Kazakhstan.

GOAL 8: To Develop a Global Partnership for Development

Target Indicators in Telecommunications Sector, 2001-2009

№	Target indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009
1.	Number of fixed line subscribers	n/a	n/a	2,359,500	2,485,500	2,674,500	2,869,500	3,136,500 or 20 per 100 population	3,428,704 or 2 per 100 population	3,762,932 or 24 per 100 population
2.	Number of cellular subscribers	800,000	900,000	1,324,500	2,445,000	5,346,000	7,623,000	12,195,000 or 80 per 100 population	15,674,027 or 95 per 100 population	14,995,325 or 95.5 per 100 population
3.	Number of Internet users	n/a	n/a	186,000	203,000	229,000	309,000	683,000 or 4 per 100 population	3,202,000 or 11 per 100 population	5,151,325 or 32 per 100 population

GLOSSARY

Goal 1. To Eradicate Extreme Poverty and Hunger

Poverty

Consumption income is estimated from 2001 under the programme of sample household surveys as an underlying criterion for assessing living standards, calculation of poverty and inequality indicators. Such income is the amount of monetary income used for consumption (excluding investments into production activities and savings), cost of home-grown products and in-kind transfers. Consumption income is estimated on the basis of expenditures.

Correlation is a statistical relationship of two or more random variables (or variables that can be considered as such with some acceptable level of accuracy).

Equivalence scale is a statistical tool allowing incomes (consumption expenditures) of families different in composition to be comparable. A family (household) of certain composition is chosen as the base and is taken to be equal to one. Equivalence scale values for other types of families show by how many times their incomes must be higher (lower) compared to the base so that their standards of living would be the same.

Fund coefficient measures the ratio of average incomes of compared population groups in the distribution series of the tenth and first deciles (ratio of richest 10 percent and poorest 10 percent in the country).

Horizontal occupational segregation characterises unequal distribution of men and women across the economic sectors' occupations.

Household is an economic entity consisting of one or more individuals, who live together, combine all or part of their income and property and share consumption of goods and services.

Income inequality ratio (income concentration ratio or Gini coefficient) allows for quantitative assessment of the degree of income inequality. It measures the degree of deviation of actual income distribution by quantitatively equal groups from the equal distribution line. Statistical income equality measure ranges from 0 (absolute income equality among all groups of population) to 1 (absolute inequality when all income is received by one person).

Minimum consumer basket is a minimum set of essential food, goods and services in natural and cost values. It consists of the food basket and a fixed share of expenditures for non-food items and services. For the purposes of assessment of the subsistence minimum, the share of expenditures for essential non-food items and services was established at 40 percent of the cost of the minimum consumer basket.

Monetary expenditures consist of consumption expenditures of the population as well as other non-consumption expenditures.

Monetary income of households is an amount of money received by household members as salary, business income, welfare payments (pensions, scholarships, benefits and other payments), interest income, dividends and other property income, and other money receipts.

Nominal cash incomes of population (estimates) are cash (inclusive of income tax) spent by population on current consumption, production and saving. Their amount is calculated at a macro-level and includes estimates of cash incomes of population from employment and self-employment (adjusted for hidden compensation and failure to cover employed population with statistical reporting) and social transfers.

Oralmans are ethnic Kazakhs, who have migrated to Kazakhstan from other countries, where they have been living due to historical or other reasons.

Percentage of people with income below the subsistence minimum (food basket) is ratio of population having consumption income below the subsistence minimum (food basket) to the total population, measured as a percentage.

Persons with disabilities are persons, whose life activities in a society are limited due to their physical, intellectual, sensory or mental impairment.

Population migration (Latin: migratio – relocation) means movement of people across borders of territories and changing their place of residence forever or for a more or less long term.

Poverty acuteness index shows inequality among the poor, i.e. the extent of the dispersion of incomes of the poor around their median. It is mean deviation square of share of income shortfall of members of surveyed households from the established criterion.

Poverty depth index shows mean deviation of (consumption) income level of people below the subsistence minimum and is expressed as total deficiency of income in relation to the total number of household members.

Real monetary income index is a relative measure characterising the change in the nominal monetary income with respect to the price changes in the reporting period as compared to the reference period. The index is calculated by dividing nominal monetary income index by the consumer price index. Both indices belong to the same time period.

Subsistence minimum is the minimum per capita income equal to the cost of the minimum consumer basket.

Vertical segregation characterises unequal distribution of women and men in official hierarchies.

Hunger

Anaemia (Greek: αναιμία, lack of blood) is a group of clinical and hematologic syndromes common in that there is a decrease in concentration of haemoglobin in blood quite often accompanied by a simultaneous reduction in the number of erythrocytes (or total volume of erythrocytes).

Body mass index (BMI) is a measure describing correspondence between a person's weight and height. BMI indicates indirectly whether a person is underweight, normal or overweight (obese).

Folic acid deficiency is a state of an organism arising when a person's need for folic acid is not satisfied and, therefore, folic acid deficiency develops. Presence of folic acid deficiency is determined by the level of folic acid in human blood serum.

Fortification of food is enrichment of food with nutrients (minerals and vitamins) in order to increase their dietary consumption and prevent deficiency of these nutrients in an organism.

Human nutritional status is a state of the structure, functions and adaptation reserves of a human body, which has developed under the influence of actual nutrition in the past, food consumption conditions and genetically determined nutrient metabolism.

Hunger is a state of an organism caused by insufficient intake of nutrients and energy required to maintain homeostasis.

Iodine deficiency is a state of an organism arising when a person's need for iodine is not satisfied and, therefore, iodine-deficient disorders develop. Presence of iodine deficiency is determined by the level of urinary iodine excretion.

Iodine-deficiency disorder is any condition, for example, cretinism, brain disorders, goiter or hypothyroidism developing due to iodine deficiency and corrected by adequate iodine intake.

Iron deficiency is a state of an organism arising when a person's need for iron is not satisfied and, therefore, iron-deficient anaemia develops. Presence of iron deficiency is determined by the level of ferritin and transferrin receptors in human blood serum.

Iron-deficiency anaemia (IDA) is a hematologic syndrome describing haemoglobin synthesis disorder as a result of iron deficiency and expressed in anaemia. Principal causes of IDA are loss of blood and unfulfilled need for iron.

Nutritional status is a condition of an organism determined by nutrition in these particular circumstances. The nutritional status is an integrated indicator describing the state of nutrition.

Supplementation is an intake of nutrients (minerals and vitamins) in order to increase their dietary consumption and prevent deficiency of these nutrients in an organism.

Vitamin A deficiency is a state of an organism arising when a person's need for vitamin A is not satisfied and, therefore, vitamin A deficiency develops. Presence of vitamin A deficiency is determined by the level of retinol in human blood serum.

Goal 2. To Achieve Universal Primary Education

Access (to education) means real opportunities for school-age persons to attend school. Access depends on the availability of schools within an easily reachable distance from one's home and quality of instruction with regard to the economic status of a child, special conditions for students with special needs, and the language of instruction.

Altyn belgi is an award pin presented to a student finishing school with honours in Kazakhstan. The award was approved by the Republic of Kazakhstan Government Resolution №1253 dated December 21, 2007.

Distance learning (DL) is a set of technologies, which provides for delivery of the main amount of study material to students, interactive student-teacher communication in the education process and granting a student an opportunity for self-study and studies in the education process.

Education is a continuous process of training and upbringing to achieve a high level of moral, intellectual, cultural, and physical development and professional competence of the members of society.

Education for all development index (EDI) is a composite measure of the state of universal primary education (UPE), adult literacy, gender parity and quality of education. EDI was first used in the EFA Global Monitoring Report 2003. Achievement of each of four goals is measured by composite indicators: UPE: primary net enrolment ratio; adult literacy: literacy rate among persons aged 15 and over; gender parity and equality: gender-specific EFA index; quality of education: grade 5 survival rate. Data are insufficiently standardised to allow inclusion of early childhood care and education (Goal 1) and learning needs of youth and adults (Goal 3). (EFA Global Monitoring Report, 2007, UNESCO. Paris).

Global competitiveness index (GCI) was developed for the World Economic Forum by Columbia University Professor Xavier Sala-i-Martin and first published in 2004. GCI consists of 12 competitiveness pillars competitiveness of countries with different levels of economic development. These pillars are Quality of Institutions, Infrastructure, Macroeconomic Stability, Health and Primary Education, Higher Education and Training, Goods Market Efficiency, Labour Market Efficiency, Financial Market Sophistication, Technological Readiness, Market Size, Business Sophistication and Capacity for Innovation.

Human development index (HDI) is a special human development index uniting three indicators (per capita gross domestic product, literacy and life expectancy at birth) and offering a composite estimate of human progress.

Life-long learning (LLL) is a concept of learning as a process that continues throughout life to address an individual's learning needs in many forms and at many levels (EFA Global Monitoring Report. UNESCO. Paris. 2007).

Life skills concept (LSC) is a concept based on national sustainable development and life-long learning priorities.

'Road to School' is an annual republican event for children from poor families, who receive financial aid from entrepreneurs, institutions, organisations and civil society.

Quality of education is a complex characteristics of the process and outcome of learning with a view to their appropriateness to the student and level of achievements vis-á-vis expected outcomes and set targets.

Ungraded school is a general school with a low number of students, combined grades, and a specific form of studies.

Unified National Testing (UNT) is a state attestation measure in the form of secondary school exit test that is unified with the higher education entry exams.

Goal 3. To Promote Gender Equality and Empower Women

Discrimination (Latin: Discriminatio) is limitation of human rights and duties based on a certain characteristic.

Gender equality is a feature of society in which women and men participate equally in social governance and have equal access to public resources.

Gender analysis is analysis of the impact that proposed or existing programmes, legislation, and policies have on women and men; data collection and the detection of gender-related trends in economic and social life.

Violence against women means aggressive behaviour of men towards women to establish authority and compensate inner complexes, manifested through psychological, physical, sexual, and economic violence.

Xenophobia (Greek: ξένος 'stranger' and φόβος 'fear') is intolerance towards someone or something foreign, unfamiliar or unusual.

Goal 4. To Reduce Child Mortality

BABIES Matrix is an adaptable assessment tool allowing a programme manager to collect, arrange, analyse and convert data into information for interventions targeting newborn and infant health protection, which is based on combination and use of two data pieces:

a) age at death of fetus / newborn

b) birth weight group.

Child mortality means the number of deaths of children aged from one to five years.

Early neonatal mortality means deaths within the first seven days of life (the first 168 hours after birth).

Extremely low birth weight means birth weight less than 1,000g (up to and including 999g).

Infant mortality means the number of live-born infants who died in the first year of life.

Late neonatal mortality means deaths after seven full days and before 28 full days of life.

Live birth means complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life – e.g. beating of the

heart, pulsation of the umbilical cord or definite movement of voluntary muscles – whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered to be live born.

Low birth weight means weight less than 2,500 g (up to and including 2,499 g).

Neonatal mortality means infant death rate during the first 28 full days.

Neonatal period commences at birth and ends 28 full days after birth.

Perinatal period commences at the 22nd (154 days) full gestational week (with normal fetus weight of 500g) and ends 7 full days after birth.

Post-neonatal mortality means deaths after 28 full days of life and before 12 months of life.

Stillbirth means death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after such separation, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

Very low birth weight means weight less than 1,500 (up to and including 1,499 g).

Goal 5. To Improve Maternal Health

AIDS is acquired immune deficiency syndrome, the final stage of HIV infection, characterised by immunity declining below a critical level due to death of immune cells; in this case a human body is damaged by microbes, which do not cause diseases when the immunity functions normally. AIDS is considered to have developed when the number of specific immune cells (CD4+T) declines below a level of 200 cells per μL and/or when an HIV-infected person develops such diseases as bronchial and lung candidiasis, brain toxoplasmosis, pneumonia caused by monilia (pneumocytes), disseminated tuberculosis, etc., a total of more than 20 diseases).

Antenatal [period] (Latin ante 'before' + natalis 'birth') means the period of intra-uterine fetus development since formation of a zygote (i.e. a new cell resulting from union of female and male sex cells) until the onset of labour (40 weeks, as a rule).

Antiretroviral therapy means treatment using drugs inhibiting assembly of retrovirus, in particular, HIV virus (usually by suppressing various enzymes participating in retroviral assembly).

Contraception (Latin: contra 'against' + ceptio 'conception') means prevention of pregnancy.

Contraceptives are contraception means.

Counselling [psychological] is psychological assistance rendered to a client, listening to, understanding and providing the customer with personified information; it aims to ensure customer satisfaction and make him/her take responsibility for their lives.

Eclampsia (Greek έκλαμψις 'flash') is a condition arising during pregnancy, labour and post-partum when blood pressure is so high as to jeopardise the life of both mother and child. Characteristic eclampsia symptoms are spasms accompanied by loss of consciousness.

Extragenital [diseases] (Latin extra 'outside' + genitalia) are diseases affecting human body outside of reproductive organs.

Family planning means a set of actions whereby women can avoid unwanted pregnancies, have only children whom they want, regulate an interval between pregnancies, control the timing of childbirth and decide on the number of children in their family.

Fertility is ability to conceive and have children.

Gender is a concept used in social sciences to display the socio-cultural aspect of a person's sexual identity, unlike biological sex, which implies a purely physiological aspect of identity.

HIV – human immunodeficiency virus is a retrovirus (using reverse transcriptase to replicate its genetic material: DNA strand is synthesised on the viral RNA matrix, not vice versa), which primarily affects immune cells and whose intrusion causes HIV infection.

HIV infection means interaction of a human organism with HIV eventually causing the development of certain diseases triggered primarily by progressing death of human immune cells attacked by HIV.

Indicator means a quantitative or qualitative characteristic of a process or a condition of an observed object.

Induced abortion means any artificial termination of pregnancy.

Intranatal [period] (Latin intra 'inside' + natalis – birth) is an entire period of labour: from the commencement of labour pains until birth of placenta (it is divided into three sub-periods: (1) cervical dilatation from the start of pains until full cervical dilatation (2) expulsion from full cervical dilatation and start of expulsive strains until birth of a child and (3) birth of placenta.

Medical abortion means a therapeutic abortion caused by intake of certain medicines.

Perinatal [period] (Greek περί – 'around' + Latin natalis '- 'birth') means the period of intra-uterine fetus development starting from 28 weeks of pregnancy until the 7th day (1 week) after childbirth.

Postnatal [period] (Latin post 'after' and natalis 'birth') is the period between the birth of a child and 42 days (6 weeks).

Programme evaluation measures the extent to which programme activities matched the set targets and to which changes in characteristics of objects and phenomena targeted by programmes were brought about by their fulfilment (rather than by other factors). Programme evaluation is focused on the relevance, efficiency, effectiveness, extent of impact of outcomes on the characteristics of an object subject to change and sustainability.

Programme monitoring is a process of regular collection of information on progress towards programme targets (i.e. obtaining programme outputs and achieving results of a different degree of urgency).

Pro-natal [policies] (Latin pro 'for' + natus 'born') is a policy promoting childbirth.

Prospective (Latin prospect – 'look forward') research means a research when comparative experience data are collected and such experience comes after research objectives are set and research methodology is identified.

Reproductive health is a state of complete physical, mental and social well-being, in all matters relating to the reproductive system and to its functions and processes. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Governments' responsibilities in the area of reproductive health are as follows:

- training, counselling and provision of family-planning services;
- prevention and management of abortion complications;
- training in and provision of antenatal care, obstetric aid and post-natal care;
- treatment of reproductive system disorders;
- prevention and treatment of sexually transmitted infections and HIV/AIDS, awareness-raising;
- training and counselling on human sexuality, responsible motherhood and fatherhood.

Reproductive rights are human rights relating to reproduction matters. According to the Beijing Platform for Action (1995) reproductive rights 'rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health'.

Retrospective (Latin retrospectum – 'look backward') research is a research when data are collected from the experience that happened prior to setting up research objectives and, hence, such data were obtained beyond the pre-set research methodology.

Safe abortion is defined by the WHO as termination of an unwanted pregnancy by someone with the necessary skill and in a place that reaches minimum medical standards.

Sexual health is a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. To date, WHO has not adopted an official definition of sexual health.

Sexuality is a set of biological, mental and social reactions of a person connected with manifestation and satisfaction of sexual desire.

Sexually transmitted infections (STIs) are infections that are primarily transmitted sexually. As a rule, they affect (but are not limited to) reproductive organs and include infections widespread in Kazakhstan such as syphilis, gonorrhoea, urinogenital chlamydiosis, trichomoniasis, anogenital herpes, condyloma acuminado caused by human papilloma virus, etc., including HIV infection.

Syphilis – a an infectious disease caused by bacterium (Treponema pallidum) and usually transmitted sexually or from a sick mother to a child; at present it can be treated rather easily, however, if left untreated, syphilis eventually damages heart, neural tissue, bones; unlike many other STIs, it can be diagnosed quite easily by detecting specific antibodies in blood, which, as a rule, can only be detected when the body has syphilis spirochete.

Therapeutic abortion means artificial termination of pregnancy at a medical facility for medical indications or at a woman's discretion.

Goal 6. To Combat HIV/AIDS and Tuberculosis

HIV/AIDS

AIDS is acquired immune deficiency syndrome, the final stage of HIV infection, characterised by immunity declining below a critical level due to death of immune cells; in this case a human body is damaged by microbes, which do not cause diseases when the immunity functions normally. AIDS is considered to have developed when the number of specific immune cells (CD4+T) declines below a level of 200 cells per μL and/or when an HIV-infected person develops such diseases as bronchial and lung candidiasis, brain toxoplasmosis, pneumonia caused by monilia (pneumocytes), disseminated tuberculosis, etc., a total of more than 20 diseases).

DIU means drug-injecting users

Drug addiction is a person's dependence on drug intake; the disease when a body's vital functions are sustained at a certain level only under the condition of the continuous intake of narcotic substances, leading to the severe exhaustion of physical and mental functions. Drastic termination of narcotic intake leads to the interruption of many functions of an organism.

Drugs (narcotics) (Greek narkotikós 'intoxicating, bringing to the state of stupor') are a group of substances of various nature (vegetative, of synthetic origin), the abuse of which leads to drug addiction.

HIV – human immunodeficiency virus – is a retrovirus (using reverse transcriptase to replicate its genetic material: DNA strand is synthesised on the viral RNA matrix, not vice versa), which primarily affects immune cells and whose intrusion causes HIV infection.

HIV infection means interaction of a human organism with HIV eventually causing the development of certain painful conditions triggered primarily by progressing death of human immune cells attacked by HIV.

MSM are men having sex with men

PLH are people living with HIV. The term includes both HIV-positive people and members of their families.

SS is sentinel surveillance

STI means sexually transmitted infections; the term is used instead of the obsolete 'venereal diseases', and unites a wide range of infections, including chancroid, syphilis, gonorrhoea, urinogenital chlamydiosis, trichomoniasis, and others.

SW stands for 'sex workers' – this term covers people who engage in sexual relations for money or other goods/benefits with people seeking sexual satisfaction. The term 'prostitute' is generally avoided as carrying a negative connotation.

Tuberculosis

TB (tuberculosis) is an infectious disease caused by a group of mycobacteria comprising the so-called Mycobacterium Tuberculosis Complex.

TBF means tuberculosis facilities

DOTS-Plus is a multi-drug resistant tuberculosis control strategy recommended by the World Health Organisation (WHO) and based on the use of second-line medications.

MDR TB is tuberculosis caused by mycobacterium TB strain resistant to at least two of the best anti-TB drugs, isoniazid and rifampicin.

Goal 7. To Ensure Environmental Sustainability

Base year is the year against which the estimates of greenhouse gas emissions for different years are compared. Established quantities of greenhouse gas emissions are set forth in Annex B to Kyoto Protocol as a percentage of the countries' emissions in the base year. 1990 is the base year for a majority of countries. Economies in transit are authorised to choose other base years. The year 1992 was selected for the Republic of Kazakhstan.

CO_2 equivalent is the extent of impact of greenhouse gas on global warming estimated in standard CO_2 equivalent units. Thus, for example, CO2 equivalent equals 1 for carbonic gas, 21 for methane (CH_4), 310 for nitrous oxide (N_2O) and 23,900 for sulphur hexafluoride (SF_6).

GDP energy intensity is an environmental/economic indicator measuring the ratio of total energy consumption to GDP.

Greenhouse effect is a rise in temperature of the lower atmosphere of a planet compared to the effective temperature, i.e. temperature of thermal radiation of the planet observed from the space.

Greenhouse gas emission inventory is collection, structuring, analysis, compilation and archiving of all data required to assess or measure actual anthropogenic greenhouse gas emissions from sources, including preparation of a methodological inventory process, owned by a legal entity or located on the territory of the region or involved in the project within a period established by the parties.

Greenhouse gas emissions are anthropogenic emissions of gases (carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6)) from sources.

Greenhouse gases (GHG) are gases (primarily, carbon dioxide CO_2) which impact on climate change. Greenhouse gases also include methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Housing amenities means equipment of housing with certain amenities: water supply, sewage, heating, gas, hot water supply, bathrooms, etc.

Kyoto Protocol is Kyoto Protocol (1997) to the United Nations Framework Convention on Climate Change establishing quantitative commitments of developed and transition economies to stabilise and decrease greenhouse gas emissions in 2008-2012.

Monitoring of greenhouse gas emissions is a regular inventory of greenhouse gas emissions performed as frequently as determined by parties to UNFCCC.

Population housing level is the ratio of total housing area (in square meters) to number of persons living in housing.

Sustainable development is development of a society that meets the needs of the present without compromising the ability of future generations to meet their own needs.

United Nations Framework Convention on Climate Change is an international treaty setting the framework for its parties' joint efforts to prevent dangerous climate changes and achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Goal 8. To Develop a global partnership for development

HIPC is an international debt relief mechanism for the poorest most heavily indebted countries. In 1996, IMF and the World Bank have proclaimed the HIPC Initiative (HIPC). The initiative calls all multilateral, bilateral and commercial creditors for the voluntary provision of debt relief to poor countries.

Gross domestic product is the market value of all final goods and services (i.e. intended for direct consumption) produced during a year in all economic sectors within a country for consumption, export and saving purposes, irrespective of national origin of production factors used.

Gross national product is the total value of all output of goods and services in current prices (real GNP) or base year prices (nominal GNP) produced within and outside a country using production factors belonging to this country.

Information technologies are a wide range of disciplines and areas of activities relating to data management and processing technologies including computer-aided ones.

Non-governmental organisation is a non-governmental/non-state voluntary association of citizens based on joint interests and goals.

Official development assistance (ODA) is one of key instruments of assistance to developing countries practiced in international development aid policies. ODA is provided in the form of grants, credits (loans) and other transfers in monetary or natural form (goods or services) to partner countries listed by OECD DAC and international multilateral institutions as ODA beneficiaries.

Public Private Partnership (PPP) means all forms of mid- and long-term cooperation between the state and businesses in tackling socially significant problems on mutually advantageous conditions.

World Trade Organisation (WTO) is an international organisation founded in 1995 to liberalise international trade and to regulate trade policy relations of member states.

Bibliography

1. A.Ryabtsev, Chairman of the Water Resources Committee of the Ministry of Agriculture of Republic of Kazakhstan. Report at the 5th World Water Forum. Istanbul, 2009.

2. Assessment of efficiency of activities targeting incidence of micronutrient deficiency among most vulnerable population groups. Almaty, Kazakh Nutrition Academy, 2008

3. Ballew C., Bowman B.A., Sowell A.L., Gillespe C. Serum retinol distributions in residents of the United States: Third National Health and Nutrition Examination Survey, 1988-1994. M. J. Clin. Nutr., 2001, v. 73.

4. Collected works, Education and Science in Figures. Astana. 2009.

5. Daly, L.E., Kirke, P.M., Molloy, A., Weir, D.G. & Scott, J.M. 1995. Folate levels and neural tube defects. Implications for prevention. JAMA, 274: 1698-1702.

6. 'Data on Ungraded Schools in 2007', RoK MOES Collected Works, Astana, 2007.

7. Demographic and Health Survey of Kazakhstan, 1999. // Academy of Preventive Medicine, Kazakhstan and Macro International, USA, November 2000.

8. Demographic Yearbook of Kazakhstan: Statistics Digest, Astana, 2008.

9. Demographic Yearbook of Kazakhstan: Statistics Digest, Astana, 2009.

10. Draft Concept of Development of Inclusive Education in the Republic of Kazakhstan. Astana, 2009.

11. Draft Concept of Development of Ungraded Schools ('US') in the Republic of Kazakhstan for 2010-2020, Astana. 2009.

12. Draft Long-Term Education Development Programme till 2020. Astana. 2009.

13. Fatma Gul Unal, Mirjana Dokmanovic, Rafis Abazov. The Economic and Financial Crises in CEE and CIS. Contribution to the Fifteen-year review of the Implementation of the Beijing Platform for Action arranged by the UN Economic Commission for Europe. UNIFEM. New York, 2009.

14. Health of Population of the Republic of Kazakhstan in 2008 and Activities of Healthcare Providers: Statistic Yearbook, Astana, 2009.

15. Hill K, Thomas K, AbouZahr C, Walker N, Say L, Inoue M, et al.: Estimates of maternal mortality worldwide between 1990 and 2005: an assessment of available data. Lancet 2007, 370:1311-1319.

16. Hogan M., Foreman K.J., Nafhavi M.et al. Maternal mortality for 181 countries, 1980—2008: a systematic analysis of progress towards Millennium Development Goal 5//Lancet, Vol. 375, Issue 9726, P. 1609 – 1623.

17. Human Development Report 2009. Overcoming barriers: Human mobility and development.

18. Impact of the Economic Crisis and Food and Fuel Price Volatility on Children and Women in Kazakhstan, UNCEF, 2009.

19. Informatization Strategy of the Education System of the Republic of Kazakhstan till 2020, Astana. 2008

20. Kazakhstan: Health and Demographic Survey, 1999, Almaty, 2000.

21. Kazakhstan's National Human Development Report 'Education for All: the Key Goal for a New Millennium', 2004

22. Methods of assessing iron status. In: /Iron Deficiency Anemia. Assessment, Prevention and Control. A Guide for programme managers. UNICEF, UNU, WHO, 2001.

23. Multiple Indicator Cluster Survey (MICS) in Kazakhstan. Agency for Statistics of the Republic of Kazakhstan, UNICEF, Kazakh Nutrition Academy, Astana-Almaty, 2006.

24. National Report 'Mid-term Evaluation of Achievement of EFA Goals', 2006.

25. National Report on Education Status and Development. Astana. 2009

26. Needs Assessment of Women Labour Migrants. Public Opinion Survey Centre with the support of UNIFEM Regional Office for CIS. 2009

27. Nutritional Anemia. Edited by Klaus Kraemer Sight and Life Press, Basel, Switzerland, 2007

28. Olmedilla B., Granado F., Southon S. et al. Serum concentrations of carotenoids and vitamins A, E, and C in control subjects from five European countries. Br. J. Nutr., 2001, v. 85.

29. Quantitative Assessment of Greenhouse Gas Emissions / Report of the Kazakh Science and Research Institute of Ecology and Climate, Almaty, 2008.

30. Register of Environmental Issues of the Republic of Kazakhstan. Approved by the Order of the Minister of Environmental Protection No.15 as of February 4, 2008.

31. Report on assessment of youth awareness of reproductive rights and sexual health in South Kazakhstan Oblast: Center for Public Opinion Surveys, Almaty, 2009

32. Research on introduction of effective perinatal technologies and family planning in South Kazakhstan Oblast, Center for Public Opinion Surveys, Almaty, 2009.

33. Research on introduction of effective perinatal technologies and family planning in East Kazakhstan Oblast, Center for Public Opinion Surveys, Almaty, 2009.

34. Review of non-government sector status in Kazakhstan and development perspectives by the Civil Alliance of Kazakhstan, Astana, 2009.

35. RoK MOES 2009-2011 Strategic Plan. Astana, 2008.

36. Saskia de Pee, Omar Dary: Biochemical indicators of vitamin A deficiency: serum retinol and serum retinol binding protein. Presented at the Proceedings of the XX International Vitamin Consultative Group Meeting, Hanoi, Vietnam, February 12-15, 2001. // J. Nutr., Sep. 2002, v. 132, №9S.

37. Scott, J.M. & Weir , D.G. 1996. Homo-cysteine and cardiovascular disease. Q. J. Med., 89: 561-563.

38. Sectoral Programme 'Drinking Waters for 2002-2010' (approved by the Resolution of the Government of the Republic of Kazakhstan №93 dated 23.01.2002).

39. Selhub J et al. Vitamin status and intake as primary determinants of homocysteinemia in an elderly population. Journal of the American Medical Association, 1993, 270: 2693–2698.

40. Standards of Life: Statistic Yearbook. Astana, 2009.

41. State Programme 'Health of the Nation' approved by the Decree of the President of the Republic of Kazakhstan №34153 dated 16.11.98 (with amendments introduced by the Decree of RoK President №1016 dated 15.01.03).

42. Strategic Development Plan of the Republic of Kazakhstan by 2020. Approved by the Decree of the President of Republic of Kazakhstan as of 1 February 2010, No.922.

43. Survey on sexual and reproductive health needs of vulnerable young people in Kazakhstan: results of the survey, Center for Public Opinion Surveys, Almaty, 2009.

44. Tazhibayev Sh., Sharmanov T., Ergalieva A., Dolmatova O., Mukasheva O., Seidakhmetova A., Kushenova R. 'Promotion of Lactation Amenorrhea Method Intervention Trial, Kazakhstan'. //Population Council, Frontiers in Reproductive Health, Washington D.C. May 2004.

45. T.Brody, Barry Shane 'Folic Acid'. In: Handbook of Vitamins. Third Edition, edited by R.B.Bucker, J.W.Suttie, D.B.McCormick and L.J.Machlin. New York, 2001, p. 427-462.

46. The Global Competitiveness Report. 2007-2008 (World Economic Forum, 2007).

47. The Trends in International Mathematics and Science Study – TIMSS.

48. UNGASS National Progress Report, Kazakhstan, Reporting Period: January 2008 – December 2009, 2010.

49. UNGASS National Progress Report, Kazakhstan, Reporting Period: January 2006 – December 2007, 2010.

50. Urinary iodine. In: /Assessment of Iodine Deficiency Disorders and Monitoring their Elimination. A Guide for programme managers. ICCIDD, UNICEF, WHO, 2001.

51. Women and Men of Kazakhstan: Statistic Yearbook. Astana, 2009.

52. World Health Statistics, WHO, Geneva, 2009.

53. WHO Global Report, 2007.

54. Yazbeck A.S. Challenges in measuring maternal mortality//Lancet 2007, vol. 370, issue 9595, P. 1291-1292).

55. 2000 National Report on Human Development in Kazakhstan, Astana, 2001.

56. 2006 Multiple Indicator Cluster Survey in Kazakhstan, final report, Astana, 2007

57. 2007 National Report on the State of Environment in the Republic of Kazakhstan / Editor M.K.Baekenova, RoK Ministry of Environmental Protection. Kazakh Science and Research Institute of Ecology and Climate – Almaty, 2008

Authors and Consultative Board:

GOAL 1.   **To Eradicate Extreme Poverty and Hunger**

Target «1+»   To halve the proportion of people in rural areas whose income is below subsistence minimum

Authors: Y.Shokamanov, Professor, Doctor of Economics, Executive Secretary of the Agency for Statistics of the Republic of Kazakhstan.

G.Moldakulova, Associate Professor, PhD in Economics, MPh, Coordinator of Population and Development Programmes, UNFPA Kazakhstan.

Target 2.   To halve, between 1990 and 2015, the proportion of people having no access to balanced nutrition

Author: S.Tazhibayev, Doctor of Medicine, Professor., Vice-President of Kazakh Academy of Nutrition.

GOAL 2.   **To Achieve Universal Primary Education**

Target «3+»   To ensure universal secondary education

Author: V.Beloslyudtseva, Candidate of Pedagogic Science, Associate Professor, Expert of Education for All in Kazakhstan Association.

Consultative Board: I.Melnikova, Doctor of Pedagogic Sciences (PhD), Education Programme Specialist, UNESCO Cluster Office for Kazakhstan, Kyrgyzstan and Tajikistan.

A.Khalafova, Education Officer, UNESCO Cluster Office for Kazakhstan, Kyrgyzstan and Tajikistan.

GOAL 3.   **To Promote Gender Equality and Empower Women**

Задачи «4+»   To ensure adoption and implementation of measures aimed to increase representation of women in legislative and executive bodies.

To ensure legislative and executive measures to prevent and eliminate violence against women.

To ensure sustainable gender mainstreaming of national planning and budgeting, especially aiming at minimising gender wage gaps.

Author: A.Ilyassova, PhD in Economics, National Expert.

Consultative Board: R.Naubetova, Consultant of the National Commission for Family Affairs and Gender Policy under the President of the Republic of Kazakhstan.

S.Nurakhmetova, Expert of the National Commission for Family Affairs and Gender Policy under the President of the Republic of Kazakhstan.

D.Sartbayeva, UNIFEM Regional Programme Director for CIS.

Y.Kudryavtseva, UNIFEM Regional Programme Officer Director for CIS.

GOAL 4.   **To Reduce Child Mortality**

Target 5.   To reduce by two-thirds, between 1990-2015, the under-five mortality ratio

Author: T.Chuvakova, Doctor of Medicine, Professor, Neonatology Subdepartment Head in Astana Medical University, Lifelong Department.

Consultative Board: I.Ivasiv, Ph.D. in Medical Science, Senior Consultant of U.S. Centers for Disease Control and Prevention in Central Asian Region (CDC/CAR).

O.Abuova, Doctor in Medical Sciences, Professor, WHO National Programme Officer for Mother and Child Health.

GOAL 5.   **To Improve Maternal Health**

Target 6.   To reduce by three quarters, between 1990 and 2015, the maternal mortality ratio. By 2015 achieve universal access to reproductive health

Authors: A.Kossukhin, Doctor in Medical Sciences, Programme Coordinator, UNFPA in Kazakhstan.

K.Biktasheva, Ph.D. in Medical Science, Head of the department for organisational systems, National Research Centre for Obstetrics, Gynecology and Neonatology of the Ministry of Healthcare of the Republic of Kazakhstan.

Consultative Board: A.Bayev, Ph.D. in Medical Sciences, Deputy Director of Dermatovenerologic Research Institute of the Ministry of the Health of the Republic of Kazakhstan.

T.Dzhusubaliyeva, Ph.D. in Medical Sciences, President of the Kazakh Association for Sexual and Reproductive Health.

S.Dikanbayeva, Doctor in Medical Sciences, Professor, General Director of the National Center for Healthy Lifestyle Formation Issues of the Ministry of the Health of the Republic of Kazakhstan.

T.Kudaibergenov, Doctor in Medical Sciences, Professor, Director of the Research Center of Obstetrics, Gynaecology and Perinatology of the Health of the Republic of Kazakhstan.

T.Ukybasova, Doctor in Medical Sciences, Professor, Deputy Director of the National Research Maternity and Childhood Center of the National Medical Holding.

GOAL 6. **To Combat HIV/AIDS, Malaria and Other Diseases**

Target 7. To halt, by 2015, and begin to reverse the spread of HIV/AIDS

Authors: V.Slesarev, Doctor in Medical Sciences, General Director of the Republican AIDS Center.

A.Yelizarieva, Head of Monitoring and Evaluation Department of the Republican AIDS Center.

Consultative Board: A.Bokazhanova, UNAIDS National Coordinator in Kazakhstan.

I.Savchenko, UNAIDS Coordinator in Kazakhstan and Turkmenistan.

Target 8. Halt by 2015 and begin to reverse the incidence of tuberculosis

Authors: K.Baimukhanova, Ph.D. in Medical Sciences, Head of TB Epidemiology and TB Combat Interventions unit, National TB Center in Kazakhstan.

M.Idrissova, TB Programme Advisor, KNCV Representative Office in Central Asia.

GOAL 7. **To Ensure Environmental Sustainability**

Target 9. To integrate the principles of sustainable development into the country policies and programmes and reverse the loss of environmental resources

Target 10. To halve, by 2015, the proportion of people without sustainable access to clean drinking water and main sanitary technical facilities

Target 11. To achieve, by 2020, a significant improvement in the lives of the rural population residing in the most unfavourable social, housing and ecological environment

Author: A.Atrtemyev, Ph.D. in Technical Sciences, Head of Tourism Sub-department in Al-Farabi Kazakh National University.

Consultative Board: N.Atshabarov, Head of Ishim Basin Inspection for Regulation of Use and Protection of Water Resources of the RoK MoA Committee for Water Resources.

K.Ustemirov, Head of Forestry and PAs Department of the RoK MoA Forestry and Hunting Committee.

D.Khassanov, MSc, Programme Analyst, UNDP Energy and Environment Unit.

GOAL 8. **To Develop a Global Partnership for Development**

Target 12. To develop further an open, rule-based, predictable, non-discriminatory trading and financial system (Includes a commitment to good governance, development and poverty reduction – both nationally and internationally)

Target 13. In cooperation with pharmaceutical companies, to provide access to affordable essential drugs in developing countries

Target 14. In cooperation with the private sector, to make available the benefits of new technologies, especially information and communications

Author: S.Nedera, MSc, UNDP Deputy Resident Representative.